Addendum No. 1

Date: 03/10/2026

Project: Pam Bay Gymatorium

DAG Project #: 22019

1A-1 General

1. The following changes and/or additions to the plans and specifications are hereby made part of same and are incorporated in full as part of the Contract documents.
2. The following are the front-end documents that were provided by the owner and shall supersede that currently in the original specifications:

    a. Bid bond
    b. Bid form
    c. Bid form checklist
    d. Certified resolution
    e. Contract
    f. Foreign Corporations
    g. Instructions to Bidders
    h. Invitation to bid
    i. Non-Collusive affidavit
    j. Notice of Award
    k. Notice to Proceed
    l. Payment Bond
    m. Performance Bond
    n. References
    o. Special Conditions
    p. Subcontractors

1A-2 Specifications

1. Specification 01 21 00 Allowances
2. Specification 13 66 13 Telescopic Seating
3. Specification 22 01 00 Plumbing General
4. Specification 22 07 00 Insulation for Plumbing equipment and Piping
5. Specification 22 11 13 Potable Water System
6. Specification 22 13 16 Soil, Waste, and Vent System

7. Specification 22 30 00 Plumbing Fixtures, Equipment, Trim and Schedule
8. Specification 09 64 66 Wood Gymnasium Flooring
9. Specification 11 66 23 Gymnasium Equipment
10. Specification 27 41 00 Audio-Visual Systems
11. Specification 07 24 19 Sto Therm ci
12. Specification 09 91 13 Exterior Painting
13. Specification 09 91 23 Interior Painting

1A-3 Drawings

1. M001- HVAC Legend, Schedules, and Notes (Re-Bid Revision No. 1 dated 2/24/26)
2. M101- HVAC Plan (Re-Bid Revision No. 1 dated 2/24/26)
3. P001- Plumbing Legend, Schedule, Notes, and Details (Re-Bid Revision No. 1 dated 2/24/26)
4. P002- Plumbing Details (Re-Bid Revision No. 1 dated 2/24/26)
5. P101- Plumbing Plan- Sanitary (Re-Bid Revision No. 1 dated 2/24/26)
6. P201- Plumbing Riser Diagrams (Re-Bid Revision No. 1 dated 2/24/26)
7. FP001- Fire Protection Legend, Notes, and Site Plan (Re-Bid Revision No. 1 dated 2/24/26)
8. FP101- Fire Protection Plan (Re-Bid Revision No. 1 dated 2/24/26)
9. A501.A – Alternate Door and Window Schedule (Reduced Scope dated 2/6/26)
10. E001 – Legend and Notes dated 3/12/26
11. E101 – Site Plan – Electrical dated 3/12/26
12. E201 Floor Plan – Power dated 3/12/26
13. E202- Floor Plan HVAC Power dated 3/12/26
14. E203 – Floor Plan Fire Alarm dated 3/12/26
15. E204 – Floor Plan Lighting – dated 3/12/26
16. E205 – Floor plan AV Power & Theatrical Lighting
17. E206 – Mezzanine Plan – Electrical dated 3/12/26
18. E301 – Electrical Details dated 3/12/26
19. E302 – Lightinh Fixture Schedule and Controls dated 3/12/26
20. E303 – Lighting Controls Details dated 3/12/26
21. E304 – Lighting Controls Details dated 3/12/26
22. E401 – Single Line Power & Fire Alarm Riser Diagrams
23. E501 – Mechanical Equipment & Panel Schedules
24. E601- Grounding Details

1A-4 Answers & Clarifications to Bidder Questions & Comments

1. Bid form CORRECTION(s); Retainage
   Retainage @ 5%

2. Bid form CORRECTION(s); Invoicing
   PBEG confirmed 80% of the GC's monthly invoice will be paid by PBEG within fifteen (15) days of an invoice approved by the Architect of Record (AOR) with the remaining 20% less 5% retainage to be paid by PBEG upon PBEG's receipt of project funds from FEMA and/or FDEM.

3. Bid Form Correction(s); Funding = PBEG + FEMA/FDEM.
   Project Funding = PBEG + FEMA/FDEM.

4. FEMA Language to be included in FRONT END Specification from PBEG, Inc., ATTORNEY
   To receive FEMA/FDEM funding the General Contractors' invoice SHALL include the person(s) name, hours, date, description of exact work being performed and requested for reimbursement. General Contractor SHALL provide a complete and accurate explanation.

5. Days bid is valid (60 days from BID date ~ 05/06/25)
   PBEG has confirmed to DAG, accepted bids will be valid for sixty (60) days.

6. Project duration (days from NTP)
   PBEG has confirmed to DAG, a project duration of fourteen (14) months (420 calendar days) for Substantial Completion from the date an executed Notice to Proceed (NTP) is signed by the Owner.

7. Liquidated damages amount per day
   PBEG has confirmed to DAG that there will be NO Liquidated Damage Charges assessed.

8. AIA Contract type (AIA 133) currently called out in the Front-End documents is for a CM with a GMP. Is this correct?
   NO! the AIA contract referenced in the front-end specifications will be corrected to accommodate a competitive hard bid (stipulated lump sum bid). **AIA Document A101-2017**. See attached.

9. Geotechnical Report provided by PBEG.
   Geotechnical Report attached and included in Addendum #1, dated 04/16/2025.

10. The specification for Security Cameras (Section 27 00 50), Intercom Systems (Section 27 50 00) and Access Control (Section 28 10 00) specify including an ALLOWANCE as part of the base bid. To ensure uniformity between bids, will a specific allowance be provided to the bidders?

Premier Engineering Group, LLC provided on 04/03/25 the ALLOWANCE for a Turn-Key Intercom System (Intercom/PA System **Section 27 50 00**) from JSC Systems = $64,914.00. Premier Engineering Group, LLC provided on 04/04/25 the ALLOWANCE for the Security Access Control/Intrusion Alarm **(Section 28 10 00)** and Security Camera System **(Section 27 00 50)** from MCA = $80,360.71. These allaowances will be revised due to reduced scope in a later addendum.

11. Per Plan Sheet S101 ~ Mark TS-108 is found on Sheet S101 however mark TS-108 is not reflected on the footing schedule. Can the type of footing being called out be confirmed?
    Per the SEOR ~ TS-108 is a 9' (wide) x 16" (deep) thickened slab with eleven (11) continuous #5 longitudinal bars and #5 ~ 8'-6" transverse bars @ 18" o.c.

12. Per Plan Sheet C7 there is a detail showing curb however, there is not a curb call out on the plans. Sheet C2 shows a bold line along the 11th Steet side of the parking lot and drive lane that vaguely resembles a curb line. Can it be confirmed there is a curb to be located along the 11th Street side of the parking lot and the drive lane?
    Per the CEOR there is no proposed curb (per CEOR - PEI). The detail can be ignored.

13. The pre-engineered building requires a 100 lb. live load. I've never seen a live load this high on a roof. Typically, I see 20 lbs./sf. Sometimes reducible, sometimes not.
    Per the SEOR this is a Plan TYPO, **it is 20lbs./sf**

14. There's a contradictory roof spec. One paragraph calls for a vertical leg standing seam panel and the other calls for an exposed fastener R panel. Which is correct?
    Per the AOR ~ Standing Seam Vertical Leg to meet design pressure criteria.

15. They're calling for a three (3) coat finish on the panels. Our coil supplier has had a lot of trouble with the three-part system and we can only provide the two-part system.
    Per SEOR and AOR ~ Contractor should price this way and provide details in quote.

16. I cannot find any deflection criteria. Generally, it is H/180 for the sidesway limit.
    Per SEOR and AOR what is being referenced?

17. There's a reference to Factory Mutual. Can you find out if a Factory Mutual design is required or if the panels just have to be Factory Mutual approved. There's a pretty big difference. At minimum , Factory Mutual requires a 22 ga. Panel.
    Per SEOR and AOR what is being referenced?

18. The specifications call for a 16" wide by 3" deep wall panel with concealed fasteners. American does not carry a panel like that. Is there a specific manufacturer that they want, or will our standard Architectural panel work?
    Per AOR see Specification 07 42 13.13 – Formed Metal Wall Panels, Section 2.2. Basis of Design: Pac Clad 7/8" Corrugated Metal Panel. See attached cut sheet.

19. Room 102 - The Finish Schedule (A502) shows the stage being wood, The Finish Plan (A101.3) shows it being LVT. Which is correct?
    Per the AOR ~ LVT, follow Finish Plan, A101.3

20. The basis of design is Armstrong Mesa 2x2x3/4. (LR not less than .85 NRC not less than .70, CAC not less than .42). This tile does not meet those specifications.
    Per the AOR the Basis of Design is acceptable.

21. The reflected ceiling plan (A101.2) and Finish Schedule (A502) do not correlate, corridors, equipment, storage, warming kitchen, telecom, entry vestibule call for gypsum board ceilings. On the RCP these are hatched for ceiling tile. The total square footage for these areas is about 420 SF. Should I follow the Finish Schedule or the RCP page?
    Per the AOR follow the RCP (Reflected Ceiling Plan).

22. The Finish Schedule for Supplies Room #115 to be ACT, but the RCP page shows it to be Gypsum Board. Should I follow the Finish or RCP page?
    Per the AOR ~ ACT follow the Finish Schedule.

23. Division 7 for the EIFS it is showing STO as the manufacture and list it as the only manufacturer, will the architect/owner allow Dryvit's Outsulation Plus MD (Moisture Drainage) System to be used in lieu of what they have specified.
    Per the AOR ~ STO as the BASIS of Design “or equal”.

24. AMA Lighting Technology & Controls Solutions ~ "Prior Approval Submittal Package submitted by Kevin Blake".
    Approved as Noted (AAN) ~ HG Engineers, Inc. (CC).

25. Bell & McCoy Lighting and Controls ~ "Prior Approval Submittal Package submitted by Bryan Sheffield"
    Approved as Noted (AAN) ~ HG Engineers, Inc. (CC).

26. Per plan Sheets A601.1 and A601.2, regarding the Wall Tile in the bathrooms and the accent band do we have any additional information about these selected tiles? Also, how are these needing to be intermingled amongst each other within those accent bands along the wall? What mix, the percentage of each, in the mixed tile areas?
    Per the AOR ~ Match Existing ~ Contractor Shall Field Verify.

27. Specification Section 093013 does not call out a manufacturer for the wall tile.
    Per the AOR ~ DAL Tile Basis of Design - Match Existing - Contractor Shall Field Verify.

28. The Finish Schedule on Plan Sheet A502 states CPT1 or LVT, without specifying which type is required. Could the Finish Schedule be updated to indicate which product is required?
    Per the AOR ~ Follow the FINISH Plan ~ See A101.3.

29. Engineered Shop Drawings ~ Will engineered shop drawings need to be provided for steel framing of the new addition.
    Per the SEOR, if the reference is regarding the PEMB, then YES engineered shop drawings would be required and typically provided by the supplier of the PEMB. (2.) Per the SEOR, if the reference is regarding cold form steel, bar joist, etc…. Then YES engineered shop drawings would be required. (3.) Per the SEOR see Plan Sheet S001, Structural General Notes.

30. If the GC is already pre-qualified with Bay District Schools (BDS), is it mandatory to submit an A305, Contractor's Qualification Statement with the bid?
    Per the AOR, if a General Contractor who attended the Palm Bay Gymatorium mandatory pre-bid on 03/25/25 has already been pre-qualified with BDS, then that General Contractor DOES NOT need to submit form A305, Contractor's Qualification Statement.

31. Division 23 (Mechanical) Specification, Paragraph 1.8.1, calls for a five (5) warranty on all labor, materials, and equipment. Is this a TYPO or is the five (5) year warranty required?
    Per the AOR, The warranty period associated with the Division 23 (Mechanical) Specification, Paragraph 1.8.1 will be REVISED to state a one (1) year warranty on labor, materials, and equipment is required.

36. Division 09 (Finishes) Specification, 09 64 66, Wood Gymnasium Flooring, General Contractor Request Substitution, ACTION Floor Systems, LLC.

    Per the AOR in accordance with Section 1.2 Quality Assurance, the Basis of Design shall be Robbins, Inc., Section 1.3 Warranty, Paragraph A., "flooring materials supplied by ~~HORNER~~ Robbins, Inc.," Section 2.1 MATERIAL, Paragraph A., First Grade.

37. DDC System General Note #1 on Sheet M301 states that DDC Contractor is to connect the existing Daikin Building Management DDC System. Please confirm that the existing is Daikin or can a system be provided that is designed to tie into just and open-protocol (non-proprietary) front end?

    MEOR (a) Revised (Attached in LINK) Division 23, Specification 23 08 00, HVAC System (b) Revised (Attached in LINK) Division 23, Specification 23 09 23, Direct Digital Controls and (c) Revised (Attached in LINK) Plan Sheet M301.

38. Plan Sheet S101 notes a 4-inch concrete topping slab with reinforcing on 26-gauge Vulcraft non-composite metal deck. Plan Sheet S102 shows a 20-gauge Vulcraft roof deck over bar joist but does not have any concrete to be poured. Detail 3/A313 shows a 4-inch concrete slab over a 1-1/2" metal deck over bar joist. Please confirm if concrete is to be poured for the two (2) mezzanine decks and if so, please specify the required reinforcement.

Plan Sheet S101 refers to the stage condition and the SEOR called for a concrete slab to be placed. On Plan Sheet S102 the conditions reference the framing for the mezzanine and the SEOR omitted the concrete as this was a platform for mechanical equipment.

39. Plan Sheet S101 shows a typical CIP Pier and footing and Detail F/S501 shows reinforcement of typical pier details is provided. Can the SEOR provide the required height of the piers?
    Per Atlas (AEC - SEOR) the final pier height will depend on final grading and FFE (Finished Floor Elevation). For pricing
    purposes assume a 30" (30-inch) pier height.

40. Wireless enclosure note on Plan Sheet T302. General Contractor requests the wireless access make and model number.
    The General Contractor should base its Bid on the WAP enclosure called out on Plan Sheet T302. After the AWARD, the General Contractor (GC) shall submit an RFI during the product submittal period.

41. Drawing SEC 101 has iPro cameras associated with this project, however the note on SEC 200 states one must be Avigilon Certified. Which camera system is the Palm Bay Gymatorium project going with?
    The security cameras shall be furnished and installed by the IP Security Camera System Integrator as described in the Allowance for IP Security Camera System Integrator note on Sheet SEC200 with all related references in the drawings and specifications. See Addendum No. 1 for the allowance statement provided by the Integrator with cost to be included in the base bid and the Integrator to be a subcontractor to the General Contractor. Also see IP Security Camera System Integrator Allowance paragraph 1.3 in Specification Section 27 00 50. The Integrator will provide Avigilon cameras equivalent in the judgement of the Engineer to the iPro cameras listed on Plan Sheet SEC 101. In addition, see related ALLOWANCE FOR ACCESS CONTROL SYSTEM note on Sheet ACS 301 and Paragraph 1.2, ACCESS CONTROL SYSTEM CONTRACTOR ALLOWANCE in Specification Section 28 10 00 – ACCESS CONTROL & INTRUSION
    ALARM SYSTEM. The Access Control System Contractor shall also be a subcontractor to the General Contractor. See Addendum No. 1 for the ALLOWANCE statement provided by the Access Control System Contractor with cost to be included in the base bid.

42. REVISED – BID Delivery Location
    Tuesday, April 20, 2026 @ 2:00 PM CDT, opened and read aloud in Ron Danzey's office/conference room (same location where mandatory pre-bid meeting was held).
    Other revised dates:
    Last Day for Questions: April 7, 2026
    Last Day for A/E Response: April 14, 2026
    Bid Opening: April 20, 2026
    Board Approval: April 23, 2026

43. Division 27, Specification 27 41 00 added to comply with Plan Sheets AV100, AV200, AV300, AV 400, and AV401

AVEOR added (Attached in LINK) Division 27, Specification 27 41 00.

47. After researching the "Owner's Contingency" item further, it was noticed in Addendum #1 a specification for Allowances (Section 01 21 00) was issued. Included in the Allowances specification, Section 1.7, Item C, states all bidders (i.e., General Contractors) are instructed to include a $100,000.00 allowance in their base bids for owners' use related to Building scope refinements that may become necessary during the construction process.

    Addendum #2, Item #42 indicates the bidders are to include a 5% Owner Contingency.

    Bidder (i.e., General Contractor) shall carry in its bid proposal the $100,000.00 allowance for Building Design and Owner Scope Contingency as specified in Section 01 21 00 - ALLOWANCES, Section 1.7, Item C., **in lieu of** a 5% Owner's Contingency.

DRAFT

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

and the Contractor:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

«»
«»
«»

The Architect:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

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[« »] Not later than « » (« ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » ($ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

« »

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« »

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » (« ») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

.1 That portion of the Contract Sum properly allocable to completed Work;

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

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§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

« »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

« »

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

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User Notes: (728397645)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[« »] Litigation in a court of competent jurisdiction

[« »] Other *(Specify)*

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

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User Notes: (728397645)

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

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User Notes: (728397645)

« »

[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
« »« »	« »« »
(Printed name and title)	*(Printed name and title)*

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User Notes: (728397645)

MAGNUM ENGINEERING INC
GEOTECHNICAL ENGINEERING CONSULTANTS

GEOTECHNICAL ENGINEERING REPORT

PALM BAY GYMATORIUM
PANAMA CITY, FLORIDA
MEI FILE NO: M125-120-979

PREPARED FOR:

Mr. Tim McGuffin
DAG Architects, Inc.
455 Harrison Avenue, Suite B
Panama City, Florida 32401

429 FLORIDA AVENUE
LYNN HAVEN, FLORIDA 32444
TELEPHONE (850) 258.0994
Magnum.engineering@yahoo.com

MAGNUM ENGINEERING INC
GEOTECHNICAL ENGINEERING CONSULTANTS

March 21, 2025

Mr. Tim McGuffin
DAG Architects, Inc.
455 Harrison Avenue, Suite B
Panama City, Florida 32401

SUBJECT: Palm Bay Gymatorium – Geotechnical Services
Panama City, Florida
MEI Project No. M125-120-979

Dear Mr. McGuffin:

This letter forwards the results of our Geotechnical exploration for the proposed development. The subsurface exploration was conducted to provide soil related information needed in the design of an effective foundation for the referenced development. The following report presents the results of our study as well as our evaluation and recommendations pertaining to the geotechnical aspects of the project. Upon completion of our field testing, the samples were brought back to the office for visual inspection, classification, and analysis by our engineering staff.

Our exploration consisted of Four (4) 50-feet deep Standard Penetration Test (SPT) borings in the proposed building footprint. **Note that boring B-3 was moved to the west due to buried debris encountered at the original location.**

Project Information

The subject site is located at the existing Palm Bay Charter School which is north of 11th Street and east of Balboa Avenue in Panama City, Florida. At the time of our exploration the subject area where the proposed administration building will be located was clear and easily accessible with our track mounted drill rig. Based on visual observations, the site appeared relatively level with less than 3 feet of grade change across the site.

The site was previously developed with a church sanctuary present on site. This building was razed around 2019. Remnants of debris from the structure were encountered around the original location of boring B-3.

We understand the proposed structure will be a pre-engineered metal building with a plan area of roughly single-story administration building with a plan area of approximately 30,000 square feet.

Structural loads provided by Mr. Cody Hardin, P.E. with Atlas Engineering, Inc. indicate maximum wall loads will be less than 3 kips per linear feet and maximum column loads will be less than 75 kips. No grading information was available, for engineering purposes we have assumed less than 3 feet of fill will be required to achieve finished floor elevation.

If any of the above information is incorrect, please inform Magnum Engineering, Inc. (MEI) so that we can review and update our recommendations, as needed.

Subsurface Conditions

Figure #1 show the Boring Location Plan and Figure #2 shows the Logs of Borings for the SPT borings B-1 through B-4. The test locations were established in the field using the provided site plan with LAT/LONG coordinates and our hand-held GPS unit. Therefore, the borings should be considered only as accurate as the GPS unit (+/- 9 feet).

The Standard Penetration Test (SPT) borings were performed in accordance with ASTM D-1586. The borings were advanced using mud-rotary techniques. Split-Spoon samples were obtained using a 2-inch O.D. split spoon sampler every two feet in the top 10 feet of the borings and every 5 feet thereafter until the boring termination depth was reached. The top 4 feet of the SPT borings were advanced using a Hand Auger to avoid hitting any unmarked underground utilities.

Building Borings

The building borings (B-1 through B-4) generally encountered very loose to medium dense slightly silty fine sands and silty fine sands from the existing ground surface to approximately 33 feet to 38 feet below existing grade underlain by soft clay to approximately 48 feet below existing grade underlain by medium dense slightly silty and silty fine sands to the boring termination depth of 50 feet below existing grade.

The above subsurface descriptions are of a generalized nature, provided to highlight the major soil strata encountered. The Logs of Borings should be reviewed for specific subsurface conditions at each boring location. The stratifications shown on the Logs of Borings represent the subsurface conditions at the actual boring locations only, and variations in the subsurface conditions can and may occur between boring locations and should therefore be expected. The stratifications represent the approximate boundary between subsurface materials, and the transitions between strata may be gradual.

Please refer to the attached Logs of Borings presented as Figure #2 for a detailed description of the subsurface conditions encountered.

Groundwater Conditions

Groundwater was encountered at depths shown on the attached boring logs ranging from 2.0 feet to 4.0 feet below the ground surface at the time of drilling (February 26, 2025), which was during a period of normal seasonal rainfall. Groundwater levels will fluctuate with rainfall and could vary several feet during typical seasonal fluctuations. Larger fluctuations are possible under severe weather conditions. We recommend that the Contractor verify the actual groundwater levels at the time of construction to determine potential impacts groundwater will have on construction procedures.

CONCLUSIONS AND RECOMMENDATIONS

General

The following geotechnical related design recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions encountered. If there are any changes in these project criteria, including project location on the site, a review should be made by MEI to determine if modifications to the recommendations are warranted.

Once final design plans and specifications are available, a general review by MEI is required as a means to confirm the evaluations and recommendations made in preparation of this report are correct and that the earthwork, stormwater and foundation recommendations are properly interpreted and implemented.

Site Preparation

In the proposed building area, clear and grub the existing surface to remove all stumps, root systems, and any deleterious material (to include all existing underground utilities and previous building foundation remnants). As a minimum, it is recommended the clearing operations extend at least five feet beyond the development perimeters.

As stated previously, buried debris was encountered in the area of the original boring B-3 location. We recommend that this material be removed and replaced with clean fill as specified below.

Engineered Fill

All fill and backfill soils to be used should consist of sandy soils with less than 15 percent passing the No. 200 sieve. These soils should be free of rubble, organics, clay, debris and other unsuitable material. Fill should be placed in lifts on the order of 12 inches or less (in loose thickness) and compacted to 95 percent of the soil's Modified Proctor maximum dry density, per ASTM D-1557.

Foundations

With proper subgrade preparation and compaction/densification as described herein, the site soils should be capable of supporting the proposed structure on shallow foundations. The existing near surface soils and fill soils should be prepared as previously recommended to improve foundation support and reduce total and differential settlements.

Based on the anticipated construction and site preparation requirements recommended herein, it is our opinion that the building can be supported on shallow foundations designed for a net maximum allowable bearing pressure of 1,500 pounds per square foot (psf). The following geotechnical related recommendations should be used for design and construction of the foundations.

- The foundation and floor slab should bear on properly improved existing subgrade or on properly placed and compacted cohesionless (sand) fill.
- The soils to a depth of one foot below the footings and floor slabs and all new fill should be compacted to 95 percent of the soil's Modified Proctor (ASTM D-1557) density.
- Exterior footings should be embedded so that the bottom of the foundation is a minimum of 18 inches below the adjacent compacted grades.
- Strip or wall footings should be a minimum of 18 inches wide and pad or column footings should be a minimum of three feet wide. The minimum footing sizes should be used regardless of whether or not the foundation loads and allowable bearing pressures dictate a smaller size.
- All footings should be constructed in a "dry" fashion.
- Structural elements should be centered on the footings such that the load is transferred evenly unless the footings are proportioned for eccentric loads.

Settlement

The settlement of shallow foundations supported by sandy soils should occur rapidly after loading. The majority of expected settlement should occur during construction as dead loads are imposed. Total settlements of footings are estimated to be less than 1 inch, with differential settlement on the order of 50 percent of the total settlements. Total and differential settlements of these magnitudes are usually considered tolerable for the anticipated construction; however, tolerance of the proposed structures to the predicted total and differential settlements should be confirmed by the structural engineer.

Warranty and Limitations of Study

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied. MEI is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

Soil conditions at other locations may differ from those encountered in the test borings, and the passage of time may cause the soils conditions to change from those described in this report.

This report is intended for use by the designers of this project. While we have no objections to it being provided for review by parties to this project, it is not a specification document and is not to be used as a part of the specifications. If desired, we can assist in the development of specifications for this project based upon our exploration.

The nature and extent of variation and change in the subsurface conditions at the site may not become evident until the course of construction. Construction monitoring by the geotechnical engineer or his representative is therefore considered necessary to verify the subsurface conditions at the time of construction and to verify the recommendations made in the preparation of this report are properly carried out. If significant variations or changes are in evidence, it may be necessary to reevaluate the recommendations in this report.

Furthermore, if the project characteristics are altered significantly from those discussed in this report, if the project information contained in this report is incorrect or if additional information becomes available, a review must be made by this office to determine if any modifications in the recommendations will be necessary.

We hope this letter provides sufficient information for the present. If you have any questions or comments, please feel free to call.

Sincerely,
MAGNUM ENGINEERING, INC.

JAMES T. VICKERS, P.E.
Geotechnical Engineer
Florida Registration # 56813

Attachments: Figure #1 – Boring Location Plan
Figure #2 – Logs of Borings

JAMES T. VICKERS LICENSE No. 56813 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by James T. Vickers, P.E. on 3/21/2025.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

MAGNUM ENGINEERING INC
GEOTECHNICAL ENGINEERING CONSULTANTS

BORING LOCATION PLAN

FIGURE # 1

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22019
PROJECT STATUS
Issue Date

BLOCK BUILDING

COVERED WALK

PROPOSED BUILDING

B-1

B-2

B-3 (new)

B-3 (original)

B-4

HC RAMP

DWS

6" HIGH, 24" WIDE SPEED BUMP

PALN TREE

EXISTING SIGN

NOTE:
LOWER TOP OF EXISTING MANHOLE BY 12" AND REPLACE SOLID COVER WITH STORMWATER GRATE

SITE NOTES:

1. ABOVE GROUND STRUCTURES ARE SHOWN ON THIS SHEET.
2. ALL TRAFFIC STRIPING TO BE PAINT PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
3. CONTRACTOR TO FIELD VERIFY ALL UTILITIES AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
4. ALL DEMOLISHED MATERIALS (i.e. SIGNS, CONCRETE, ASPHALT, ETC.) TO BE REMOVED AND DISPOSED OF IN LEGAL MANNER.
5. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
6. SEED AND MULCH ALL DISTURBED AREAS, EXCEPT WHERE SOD IS SPECIFIED.
7. SOD ALL AREAS AS SHOWN OR AS REQUIRED FOR EROSION CONTROL.
8. SOD AND SEED SHALL BE BERMUDA.
9. ALL REGULATORY SIGNS SHALL BE INSTALLED PER FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LEGEND

- PROPOSED CONSTRUCTION
- EXISTING TO REMAIN
- SIGN
- HANDICAP PARKING
- PROPOSED ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING CONCRETE
- DETECTABLE WARNING SURFACE (DWS)
- (10) PARKING COUNT IN ROW

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

SCALE: 1" = 20'

0' 10' 20' 40'
SCALE: 1" = 20'

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 Fax (850)763-5200 www.panhandleengineering.com

DAG
ARCHITECTS
DAG Architects AR0009694
455 Harrison Ave., Panama City, FL 32401
850.387.1671
www.DAGarchitects.com

100% CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION

(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

HAND AUGER EXHIBIT

Project Number	133407
Dated	01/31/2025
Drawn By	JNF
Approved By	JDC
PM	JDC

EX-1

MAGNUM ENGINEERING INC
GEOTECHNICAL ENGINEERING CONSULTANTS

LOGS OF BORINGS

FIGURE # 2

Magnum Engineering, Inc.
429 Florida Avenue
Lynn Haven, Florida 32444
Telephone: 8502658332

BORING NUMBER B-1

CLIENT DAG Architects, Inc. **PROJECT NAME** Palm Bay Gymatorium

PROJECT NUMBER M125-120-979 **PROJECT LOCATION** Panama City, Florida

DATE STARTED 2/26/25 **COMPLETED** 2/26/25 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR GeoDrill Tech, LLC **GROUND WATER LEVELS:**

DRILLING METHOD Standard Penetration Test (SPT) ▽ **DEPTH TO GROUNDWATER AT TIME OF DRILLING** 4.0 ft

LOGGED BY J. Governale **CHECKED BY** J. Vickers **ESTIMATED SEASONAL HIGH GWT** ---

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		Tan/Gray Slightly Silty Fine SAND (SP-SM)	AU									
		Gray Silty Fine SAND (SM) ▽										
		Tan/Gray Silty Fine SAND (SM)	SS 1		1-2-1-2 (3)							
		Brown Silty Fine SAND (SM)	SS 2		3-6-9-10 (15)							
10		Gray/Brown Slightly Silty Fine SAND (SP-SM)	SS 3		2-3-3-4 (6)							
		Gray Slightly Silty Fine SAND (SP-SM)	SS 4		3-3-3 (6)							
20			SS 5		8-11-12 (23)							
			SS 6		10-13-15 (28)							
30		Gray/Tan Slightly Silty Fine SAND (SP-SM)	SS 7		5-3-3 (6)							
		Gray CLAY (CL)	SS 8		1-1-2 (3)							
40			SS 9		1-2-1 (3)							
			SS 10		1-2-2 (4)							
50		Gray Slightly Silty Fine SAND (SP-SM)	SS 11		5-7-11 (18)							
		Boring Termination Depth at 50.0 feet.										

GEOTECH BH COLUMNS PALM BAY GYMATORIUM.GPJ GINT STD US LAB.GDT 3/18/25

Magnum Engineering, Inc.
429 Florida Avenue
Lynn Haven, Florida 32444
Telephone: 8502658332

BORING NUMBER B-2

CLIENT DAG Architects, Inc. **PROJECT NAME** Palm Bay Gymatorium

PROJECT NUMBER M125-120-979 **PROJECT LOCATION** Panama City, Florida

DATE STARTED 2/26/25 **COMPLETED** 2/26/25 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR GeoDrill Tech, LLC **GROUND WATER LEVELS:**

DRILLING METHOD Standard Penetration Test (SPT) ▽ **DEPTH TO GROUNDWATER AT TIME OF DRILLING** 4.0 ft

LOGGED BY J. Governale **CHECKED BY** J. Vickers **ESTIMATED SEASONAL HIGH GWT** ---

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		Tan Slightly Silty Fine SAND (SP-SM)	AU									
		Brown/Gray Slightly Silty Fine SAND (SP-SM)										
		▽ Tan Slightly Silty Fine SAND (SP-SM)	SS 1		6-6-8-12 (14)							
		Tan Silty Fine SAND (SM)	SS 2		8-12-14-17 (26)							
10		Brown Slightly Silty Fine SAND (SP-SM)	SS 3		6-3-2-2 (5)							
		Gray/Brown Slightly Silty Fine SAND (SP-SM)	SS 4		2-2-3 (5)							
20			SS 5		8-9-9 (18)							
			SS 6		10-18-18 (36)							
30			SS 7		7-7-5 (12)							
		Gray CLAY (CL)	SS 8		1-1-2 (3)							
40			SS 9		1-1-2 (3)							
			SS 10		1-2-2 (4)							
50		Gray Slightly Silty Fine SAND (SP-SM)	SS 11		5-7-12 (19)							
		Boring Termination Depth at 50.0 feet.										

GEOTECH BH COLUMNS PALM BAY GYMATORIUM.GPJ GINT STD US LAB.GDT 3/18/25

Magnum Engineering, Inc.
429 Florida Avenue
Lynn Haven, Florida 32444
Telephone: 8502658332

BORING NUMBER B-3

CLIENT DAG Architects, Inc. **PROJECT NAME** Palm Bay Gymatorium

PROJECT NUMBER M125-120-979 **PROJECT LOCATION** Panama City, Florida

DATE STARTED 2/26/25 **COMPLETED** 2/26/25 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR GeoDrill Tech, LLC **GROUND WATER LEVELS:**

DRILLING METHOD Standard Penetration Test (SPT) ▽ **DEPTH TO GROUNDWATER AT TIME OF DRILLING** 4.0 ft

LOGGED BY J. Governale **CHECKED BY** J. Vickers **ESTIMATED SEASONAL HIGH GWT** ---

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		Tan Slightly Silty Fine SAND (SP-SM)	AU									
		Gray/Tan Slightly Silty Fine SAND (SP-SM) ▽										
		Tan Silty Fine SAND (SM)	SS 1		2-3-2-3 (5)							
		Gray/Brown Slightly Silty Fine SAND (SP-SM)	SS 2		2-6-10-12 (16)							
		Tan Slightly Silty Fine SAND (SP-SM)	SS 3		4-3-2-2 (5)							
10												
		Gray Slightly Silty Fine SAND (SP-SM)	SS 4		2-3-3 (6)							
		Gray/Brown Slightly Silty Fine SAND (SP-SM)	SS 5		8-8-10 (18)							
20			SS 6		9-10-13 (23)							
		Brown Slightly Silty Fine SAND (SP-SM)	SS 7		10-11-12 (23)							
30		Gray/Brown Silty Fine SAND (SM)	SS 8		3-2-2 (4)							
		Gray CLAY (CL)	SS 9		1-1-2 (3)							
40			SS 10		2-1-2 (3)							
		Gray Slightly Silty Fine SAND (SP-SM)	SS 11		3-6-10 (16)							
50		Boring Termination Depth at 50.0 feet.										

GEOTECH BH COLUMNS PALM BAY GYMATORIUM.GPJ GINT STD US LAB.GDT 3/18/25

Magnum Engineering, Inc.
429 Florida Avenue
Lynn Haven, Florida 32444
Telephone: 8502658332

BORING NUMBER B-4

CLIENT DAG Architects, Inc. **PROJECT NAME** Palm Bay Gymatorium

PROJECT NUMBER M125-120-979 **PROJECT LOCATION** Panama City, Florida

DATE STARTED 2/26/25 **COMPLETED** 2/26/25 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR GeoDrill Tech, LLC **GROUND WATER LEVELS:**

DRILLING METHOD Standard Penetration Test (SPT) ▽ **DEPTH TO GROUNDWATER AT TIME OF DRILLING** 2.0 ft

LOGGED BY J. Governale **CHECKED BY** J. Vickers **ESTIMATED SEASONAL HIGH GWT** ---

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		Gray/Brown Slightly Silty Fine SAND (SP-SM)	AU									
		Gray Silty Fine SAND (SM)	SS 1		1-2-1-2 (3)							
		Gray Slightly Silty Fine SAND (SP-SM)	SS 2		1-3-8-11 (11)							
10			SS 3		3-4-3-4 (7)							
			SS 4		3-3-3 (6)							
20			SS 5		8-10-13 (23)							
			SS 6		13-14-16 (30)							
30		Gray/Tan Slightly Silty Fine SAND (SP-SM)	SS 7		9-5-5 (10)							
		Gray CLAY (CL)	SS 8		1-1-3 (4)							
40			SS 9		1-1-2 (3)							
			SS 10		2-2-2 (4)							
50		Gray Silty Fine SAND (SM)	SS 11		6-8-12 (20)							
		Boring Termination Depth at 50.0 feet.										

GEOTECH BH COLUMNS PALM BAY GYMATORIUM.GPJ GINT STD US LAB.GDT 3/18/25

1.800.515.5613
www.jscsystems.net
info@jscsystems.net

April 2, 2025

Re: Palm Bay Charter School Gymnatorium

JSC Systems, Inc. is pleased to furnish pricing for the following scope of work on the above referenced project. Pricing is based only on drawings and specs sheets dated 1/31/2025, any changes/additions will be an added cost. We acknowledge 0 addendums at this time. Drawings are stamped by an Engineer of Record as required by codes. Third party electrical engineer stamp is not included in proposal.

Intercom System – Specification Section 27 50 00 - JSC Systems proposes to provide and install an Intercom system.

- JSC Systems proposes to provide and install an Intercom system that includes a SS32, Three (3) admin station and call-in stations
- Master stations allow for zone paging, all-call paging, and direct call, while the call-in panels allow for direct call to the admin stations
- Backing by Others
- Lift is included in the price

This proposal is based on JSC Systems, Inc

1. Furnishing material, wire, and labor for installation of the above listed system(s) in the quantities as shown on the drawings. We shall provide wire, system devices and complete final control panel terminations, with the exception of conduit, standard electrical boxes, terminal cabinets, plywood backboards, Main 120VAC power wiring, which are to be supplied and installed by your firm
2. Furnishing City / County / State permit fees, if applicable.
3. Furnishing submittals, shop drawings, as-built drawings, owner, and maintenance manuals as required.
4. Providing termination of central equipment, programming, and one man for final testing, inspection, certification, and owner instruction for the above referenced system(s).
5. Providing our standard insurance coverage for this project. If additional insurance is required including “additional insured’s,” we reserve the right to amend our proposal to include the additional insurance and pricing will be adjusted accordingly. The “additional insured” fee is established at $575.00 per “additional insured”.

Your firm to:

1. Furnish and install all conduit, standard boxes, all terminal cabinets, 120VAC power and 120VAC power wiring. All conduit shall be furnished with nylon pull string.
2. Work with JSC Systems, Inc. to establish a project schedule with appropriate updates for our use in order to schedule manpower, long lead time equipment items, etc.
3. Work with JSC Systems, Inc. to establish inspection dates, completion dates, change in work, and other contractor coordination, etc. in a timely manner.
4. Furnish fire stop material for all wall and floor penetrations.

5. Furnish Auto Cad 2000 or newer backgrounds for our use in developing submittal and permit drawings. If electronic background drawings are not available, an additional fee of $75.00 per hour will be charged to develop electronic background drawings from which we will develop our shop drawings.
6. Furnish all patching and painting, etc. as necessary.

Pricing is as follows:

Turn-Key Intercom System – Price: $64,914.00

Terms and Exclusions:

- System price is based of acceptance within 30 (Thirty) days of the proposal date.
- Proposal is based on project specifications and project electrical system sheets, any alterations to quantities and/or functions by the Owner, Architect, Engineer, Local and/or State Fire Marshal's office shall incur a change in the proposed system price.
- This proposal is based upon all wire being in conduit. If free wire is used, or Plenum rated cable is required, we reserve the right to revise our proposal for Plenum rated cable and cable management.
- Surge suppression is included for our systems (if specified).
- A bond is currently not included in our proposal pricing.
- JSC Systems, Inc. shall provide a 1 (one) year warranty covering material furnished by our company, excluding Acts of God, fire, theft, vandalism or tampering by unauthorized personnel. All warranty work shall be completed during normal working hours, Monday through Friday. If warranty work is requested after business hours or on holidays, it will be billed at our after hours and holiday service rates.
- Monthly billing is rendered based on work in place on the 25th of the month. Payment of completed work during the month shall be due on the 10th of the following month. JSC Systems, Inc. shall have the right to stop work without penalty for non- payment within terms upon 10 (ten) days of written notification. JSC Systems, Inc. shall have title to and the right to possession of the equipment as outlined above until receipt of total payment.
- JSC Systems, Inc. reserves the right to deny any contract which may result from this proposal should it not be in full compliance with standard AIA contracts and documents.

We appreciate the opportunity to work with your firm on this project.
Please contact us if there any questions.

Sincerely,

Shannon Gustavson
Pre-Con Coordinator
Proposal # 33583522078

_____
Accepted By: Date

_____
Print Name

Mobile Communications America

Quote: 2002 / Date: 4/4/2025
Project Number: Q23-1026

Customer

Bidding General Contractors

Mobile Communications America
4475 Union Road
Tifton, GA
31794, US
(229) 396-5800

Prepared By:
Tony Cooper
(229) 881-1308
tonycooper@callmc.com

Project: **General Contractors | Section 27 00 50 - IP Security Camera System**

Scope of Work

MCA is pleased to provide this proposal to install an Avigilon video surveillance and Access Control systems for the Palm Bay Charter Schools Gymnatorium Building project per the most recent project plans, and specifications dated 01/31/2025. MCA will be quoting specification section 27 00 50 – Security Cameras, and 28 10 00 – Access Control Intrusion Alarm System.

All 120VAC power, conduits/junction boxes, wall penetrations/firestopping, CAT6 cabling, patch panels, network switches, UPS, and network racks to be furnished and installed by other trades. A new 24TB network video recorder will be installed in the rack in Telecom Room #114. The server will include 24 Avigilon ACC7 Enterprise Licenses and 3-Year Enterprise Smart Plan software support agreement. The recorder has been sized based on motion recording with an 8 hour/day duty cycle for all cameras at full framerate and resolution, for an estimated 30-day retention period.

A total of 24 cameras will be installed:

5 - 32MP (4x 8MP imagers) Outdoor Multi-Sensor Cameras w/ Illuminators and Corner Mounts

6 - 5MP H6SL Indoor IR Dome Camera with 3.4-10.5mm Lens, In-Ceiling Mount

4 - 8MP H6A Indoor IR Dome Camera with 4.4-9.3mm Lens

5 - 8MP H6A Outdoor IR Dome Camera with 4.4-9.3mm Lens, Pendant Wall Mount

4 - 12MP Acoustic Ceiling Mount Panoramic “Fisheye” Camera

24 - ACC7 Enterprise Camera Licenses

See attached drawing for camera locations.

MCA is to provide and install the video surveillance cameras, mounts, Halo sensors, licensing, UPS, and recorder appliance/NVR6. All video surveillance CAT6 cable and conduit will be pre-installed and stubbed out at each camera location and homerun back to the rack by Others. All access control conduit and door hardware will be provided and installed by Others. MCA will provide and install the door position switches and readers for the doors, lockdown/control switch, mini control pushbuttons, countertop intercom, door controller with power supply, and all cabling needed.

MCA will install the video surveillance system according to the provided drawings. MCA will provide and install (5) 32MP 4x8MP H5A Multi-sensor corner mounted exterior cameras, (5) 8MP H6A outdoor IR dome wall mounted cameras; (6) 5MP H6SL indoor in-ceiling mounted IR dome cameras throughout the corridors; (4) 8MP H6A indoor surface mounted IR dome cameras in the interior corners of the gym/basketball court; (4) 12MP H5A Fisheye acoustic ceiling mounted IR dome cameras in the vestibules, hallway intersection, and reception area; (2) HALO IoT Smart Sensor 3C with HALO3C backbox one in each restroom. In the Communications Room #114 will be installed (1) Interactive Smart-UPS 1500VA/1000W with NEMA 5-15R Outlets, and (1) NVR6 STD FORM D 24TB 2U Rack Mounted recording server in the equipment rack provided and installed by Others. Customer to provide IP address schema and camera nomenclature prior to installation. The customer to be responsible for assigning recording schedules and access rights to live and recorded video feeds.

MCA will install the access control system according to the provided drawings. At the Reception desk, MCA will provide and install (1) Fixed Lockdown\Panic Switch, (2) Mini-Station Control Pushbutton, (3) Wiremold shallow single-gang box with single-gang stainless steel weatherproof blank box cover, and (1) Talk-thru counter mount intercom with noise cancellation at the receptionist’s window. Each one will have a new 22/6 conductor stranded shielded copper cable run with 3/16" ID Stainless Steel Armored Cable strapped down with steel armored cable clamps. All access control door hardware, locking devices, and cabling conduit will be provided and installed by Others. For the doors, MCA will provide and install (14) 3/4" SPDT Recessed Door Contacts, and (12) wall mount

Signo40; OSDP/Wiegand; mobile ready with HID R40 reader gaskets. The left two sets of double doors of vestibule #106 at the front main entrance, will be monitored only and have no control devices or readers. MCA will provide and install (1) Avigilon 12-Door Mercury Control Panel w/ 16-door lock power enclosure & batteries wall mounted in the Communication Closet #114 across from the equipment racks. MCA will provide and install the yellow plenum 4-element access control composite cable in the pre-installed conduit by Others, homerun from each door to the communications closet #114. Customer to provide IP address schema and door nomenclature prior to installation. The customer to be responsible for assigning door schedules and access rights to the system.

Customer responsibilities are to provide the required equipment rack, CAT6 cable runs, cable pathways, conduit, CAT6 patch panels, door hardware, locking devices, access control main server, video surveillance main central server, and 120VAC power. All cabling will be plenum rated CAT6 cable. Cabling in office areas will be supported by J-hooks, concealed above the acoustic ceiling. Cabling in any open ceiling/open air areas will be exposed and supported with beam clamp J-hooks.

Warramty:

The access control/intrusion systems, and the CCTV shall have a full 1-year labor warranty on all parts and materials. The CCTV system shall have a 3-year parts and material warranty.

Head-End Equipment

	Quantity
NVR5-STD-32TB-S19-NA - NVR5 Standard 32TB 2U Rack Mount, Windows Server 2019 NA Description: NVR5 Standard 32TB 2U Rack Mount, Windows Server 2019 NA	1 ea
ACC7-ENT - ACC 7 Enterprise camera channel Description: ACC 7 Enterprise camera channel	15 ea
ACC-ENT-SMART-3YR - ACC Enterprise Smart Plan; 3 year Description: ACC Enterprise Smart Plan; 3 year	15 ea

Cameras

	Quantity

Mobile Communications America

Quote: 2002 / Date: 4/4/2025
Project Number: Q23-1026

	Quantity
32C-H4A-4MH-360 - 4x 8MP H4 Multisensor Camera Module with 4mm Lens, Clear Dome, Corner Mount Description: Includes 32C-H4A-4MH-360, H4AMH-AD-PEND1 - Pendant Mount Adapter for H4 Multisensor, IRPTZ-MNT-WALL1 - Wall Arm for H4 IRPTZ or H4 Multisensor, H4-MT-CRNR1 - Avigilon Corner Mount Adapter, and H4AMH-DO-COVR1 - Outdoor Dome Cover for H4 Multisensor	5 ea
H4A Multisensor Camera Illuminator Ring Kit Option w/ 60W PoE Injector Description: Includes H4AMH-AD-IRIL1 - IR Illuminator Ring for H4 Multisensor and POE-INJ-BT-60W-NA - POE++ Injector; 802.3bt; 60W; NA	5 ea
6.0C-H5A-DO1-IR - 6MP H5A Outdoor IR Dome Camera with 4.9-8mm Lens Description: 6.0 MP WDR; LightCatcher; Day/Night; Outdoor Dome; 4.9-8mm f/1.8 P-iris lens; Integrated IR; Next-Generation Analytics	13 ea
12.0W-H5A-FE-DO1-IR - 12MP H5A Fisheye IR Dome Camera, Acoustic Ceiling Mount Description: Includes 12.0W-H5A-FE-DO1-IR and Caddy 512 T-Grid Hanger	1 ea

Non-Installation Labor

	Quantity
Test Functionality of Cameras Description: Test Functionality of Cameras	15 ea
Technician Travel Description: Technician Travel Labor	21 hrs
Programming Description: Programming Labor	8 hrs
Engineering Description: Design Engineer Labor	2 hrs
CAD Technician Description: CAD Technician Labor	8 hrs
Training Description: Customer Training Labor	4 hrs
Project Manager Description: Project Manager Labor	8 hrs

Mobile Communications America

Quote: 2002 / Date: 4/4/2025
Project Number: Q23-1026

Other Costs

	Quantity
Misc. Hardware Description: Misc. Hardware, Fasteners, Supplies, & Consumables	1 ea
Freight Description: Freight Costs	1 ea
Per Diem Description: Per Diem Meals & Expenses	6 ea
Lodging Description: Lodging/Hotel Costs	4 ea
Warranty Description: Warranty Labor Costs	3 ea

Included (+)

1. Shop Drawings & Submittals
2. As-Built Drawings
3. Installation of Field Devices
4. Video Recorders/Servers
5. Video Surveillance System Licenses
6. Video Surveillance System Software Maintenance Agreement
7. 3-Year Warranty & Software Support Agreement

Excluded (-)

1. Permits & Inspections
2. Installation of System Cabling
3. Conduits & Junction Boxes
4. 120VAC Power & Conduit
5. CAT6 Cabling
6. CAT6 Patch Panels
7. CAT6 Cabling Testing/Certification
8. Fiber Optic Cabling
9. Fiber Optic Patch Panels
10. Network Racks
11. Network Switches
12. Uninterruptible Power Supplies
13. Workstations & Monitors

Mobile Communications America

Quote: 2002 / Date: 4/4/2025
Project Number: Q23-1026

Excluded (-)
14. Patching/Painting, and preparation for painting
15. Estimated Sales Tax
16. Wall Penetrations/Firestopping
17. Manlift Rental
18. Excludes repair or replacement of equipment that has been damaged due to accident, neglect, misuse, abuse, or acts of God or nature, modification of service or equipment by persons other than an MCA service representative, operation of the equipment outside the manufacturer's environmental specifications, failure of electrical power or power surge, air conditioning, or humidity control, or causes other than ordinary use.
19. Assumption is the work area will be readily available during MCA's normal business hours of Monday through Friday 08:00 A.M. to 05:00 P.M.
20. Customer will provide network support for project where applicable.
21. Any materials or services not listed in this proposal shall be considered excluded and not part of the project.

Notes

This proposal is valid for 30 days.

Summary

Subtotal	$80,360.71
Taxes	$0.00

$80,360.71

Accepted By .....

Date .....

AMA LIGHTING
813 DOWNTOWNER BLVD
SUITE A
MOBILE, AL 36609-5419
Phone: 251-343-7693
Fax: 251-343-7748
Contact: Blake, Kevin

Palm Bay Gymatorium

25-48063-0

4/4/2025

Submission Type

- [x] Prior Approval
- [ ] Resubmittal for Approval
- [ ] Approval
- [ ] Corrections
- [ ] Your Use
- [ ] Other

HG Engineers Submittal Review:
This review is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component.
Contractor is responsible for: dimensions to be confirmed and correlated at the job site; quantities of materials; coordination of the contractor's work with that of all other trades; and for performing all work in a safe and satisfactory manner.

- [ ] Approved
- [x] Approved As Noted
- [ ] Rejected

Signed: Christian Casey

Dated: 04/09/2025

HGE COMMENTS:

REFER TO INDIVIDUAL FIXTURE SHEETS FOR COMMENTS REGARDING EACH SELECTION.

Project 25-48063-0
Palm Bay Gymatorium

Submitted By
AMA LIGHTING

Type	Manufacturer/Brand	Catalog Number
CA	ABL-Lithonia Lighting	CNY LED ALO SWW2 UVOLT PE PIR WH M2
CAE	ABL-Lithonia Lighting	CNY LED ALO SWW2 UVOLT PE PIR WH M2
CAE	ABL-Lithonia Lighting	CNYEK E7WC M12
DLA	ABL-Lithonia Lighting	EVO6 40/10 WD MVOLT GZ10 AR LSS
DLAE	ABL-Lithonia Lighting	EVO6 40/10 WD MVOLT GZ10 E10WCP AR LSS
DLB	ABL-Lithonia Lighting	EVO6 40/15 WD MVOLT GZ10 AR LSS
DLBE	ABL-Lithonia Lighting	EVO6 40/15 WD MVOLT GZ10 E10WCP AR LSS
HB	All Green Lighting	UFO-150W-90-WH-120CL-40K-PMC 3/4-DM-WG
HBE	All Green Lighting	UFO-150W-90-WH-120CL-40K-PMC 3/4-DM-WG
L14E	ABL-Lithonia Lighting	BLT4 60L ADP GZ10 E10WLCP LP840
L22A	ABL-Lithonia Lighting	2BLT2 33L ADP GZ10 LP840
L22AE	ABL-Lithonia Lighting	2BLT2 33L ADP GZ10 E10WLCP LP840
L22B	ABL-Lithonia Lighting	2BLT2 40L ADP GZ10 LP840
L22BE	ABL-Lithonia Lighting	2BLT2 40L ADP GZ10 E10WLCP LP840
PLA	ABL-Lithonia Lighting	RSX1 LED P4 40K R3 MVOLT RPA PER7 DDBXD
PT	ABL-Lithonia Lighting	EVO6PC 40/30 WD MVOLT GZ10 JBX PCAN S4 AR LSS DWH
PTE	ABL-Lithonia Lighting	EVO6PC 40/30 WD MVOLT GZ10 JBX PCAN S4 AR LSS DWH
SF	ABL-Lithonia Lighting	BLWP4 30L ADPT GZ10 LP840
SFE	ABL-Lithonia Lighting	BLWP4 30L ADPT GZ10 E10WLCP LP840
V6	EcoSense	O1-RAM-6-840-LF-1D-SW-SW-SC-3-4CPF
V9	EcoSense	O1-RAM-CR9-840-LF-1D-SW-SW-SC-3-4CPF
WB	ABL-Lithonia Lighting	ARC1 LED P2 40K MVOLT DDBXD
WBE	ABL-Lithonia Lighting	ARC1 LED P2 40K MVOLT E4WH DDBXD
WC	ABL-Lithonia Lighting	TWX2 LED P3 50K MVOLT DDBXD
X	ABL-Lithonia Lighting	LQM S W 3 R MVOLT EL N SD M6
XC	ABL-Lithonia Lighting	LQM S W 3 R MVOLT EL N SD M6
XWG	ABL-Lithonia Lighting	LQM S W 3 R MVOLT EL N SD M6
XWG	ABL-Lithonia Lighting	ELA WG1
PL(POLE)	ABL-Lithonia Lighting	RTA 18 5C DM19AS DDBXD

MISSING 'SB' FIXTURE TYPE.

MISSING INVERTER SELECTION.

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: CNY LED ALO SWW2 UVOLT PE PIR WH M2 Note:	Type CA

APPROVED

Catalog Number
Notes
Type

Contractor Select™

CNY LED ALO

Canopy Luminaire Adjustable+Switchable+Photocell +Occupancy Sensor

The Lithonia Lighting CNY LED ALO canopy luminaire is a versatile, energy-efficient solution for surface-mount applications for walkways, overhangs, and parking garages. Adjustable switch panel easily changes lumen output, color temperature, integrated photocell, and integrated motion sensor. The low profile frosted lens creates a visually comfortable illumination and even distribution.

FEATURES:

- 3 power levels deliver 5,000 - 10,000 lumens.
- Switchable CCT (30K/40K/50K) offers warm, cool, and daylight in a single fixture
- Integrated On/Off photocell
- Integrated occupancy sensor can be turned on, off, or set to 10% dim
- Install by surface mount, junction box, or pendant mount
- IK08 Impact resistant polycarbonate frosted lens
- IP65 rated, die cast aluminum housing

Adjustable Lumen Output ALO

Switchable CCT SWW2

Integrated Photocell

Integrated Motion Sensor

DLC LISTED PREMIUM · 65 IP RATED · LED · C SP US · WET LOCATION™ · 5 YEAR warranty

Catalog Number	Adjustable Lumen Output ALO			Switchable CCT SWW2	Photocell Operation	Occupancy Sensor	Input Voltage	CRI	Finish
CNY LED ALO SWW2 UVOLT PE PIR DDB M2	5,000 Lumens	7,500 Lumens	10,000 Lumens	Switchable 3000K, 4000K,5000K	Included Standard, Selectable On/Off	Included Standard, Selectable On/Off/10% Dim	120-347V	80CRI	Dark Bronze
CNY LED ALO SWW2 UVOLT PE PIR WH M2	5,000 Lumens	7,500 Lumens	10,000 Lumens	Switchable 3000K, 4000K,5000K	Included Standard, Selectable On/Off	Included Standard, Selectable On/Off/10% Dim	120-347V	80CRI	White

CNY Stock Options

Catalog Number	UPC	Ci Code	Number of fixtures per pallet	Tradtional Replacement
CNY LED ALO SWW2 UVOLT PE PIR DDB M2	00197589495041	*284HU8	180	Up to 250W HID
CNY LED ALO SWW2 UVOLT PE PIR WH M2	00197589495126	*284HUH	180	Up to 250W HID

Accessories: *Order as separate catalog number.*

CNYBCP DDB	14 Inch x 14 Inch Beauty Cover Plate
CNYEK E7WC M12	Field installable emergency battery; 7W, UVOLT compatible, Minimum operating temp of 0°C

Lumen Output:

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.

Lumen Output	Input Wattage	CCT/80CRI	Delivered Lumens	Lumens Per Watt
5,000	34	3000K	4709	139
		4000K	4794	147
		5000K	4777	143
7,500	52	3000K	7169	133
		4000K	7403	144
		5000K	7291	137
10,000	75	3000K	9504	123
		4000K	9894	136
		5000K	9529	125

CS CONTRACTOR SELECT™

LITHONIA LIGHTING®

Specifications

INTENDED USE:

The CNY LED ALO canopy luminaire is ideal for surface mount application such as canopies over building entrances, walkways, loading docks, and covered parking areas. The products traditional style does not detract from current building aesthetics, creating a seamless upgrade. These products are energy-efficient replacements of existing surface mount products; up to 250W metal halide.

CNY LED ALO features adjustable lumen output include low, medium, and high. Switchable CCT includes 3000K (warm), 4000K (neutral), or 5000K (daylight), a selectable integral photocell that automatically turns the fixture on in the evening and off the next morning, and a selectable integral occupancy sensor that can turn on the fixture when motion is detected and be set to maintain 10% illumination or fully off when no motion is detected.

CONSTRUCTION:

The CNY LED ALO has a cast-aluminum housing with powder coat finish for lasting durability. The IK08 impact rated frosted lens is designed for uniform light distribution while providing visually comfortable illumination. The lens is sealed with a one piece gasket creating an IP65 rated fixture. Rated for temps -25C to 25C.

ELECTRICAL:

Standard 6kV surge protection tested in accordance to ANSI/IEEE C62.41.2 Category C. CNY LED ALO luminaires use UVOLT (120-347V). Adjustable lumen output is achieved with 0-10V continuous dimming capable drivers, ensuring system power factor>90% and THD <20%. High-efficiency LEDs maintains over 70% of light output at 100,000 hours (L70>100,000 hours).

INSTALLATION:

The CNY LED ALO canopy luminaire features a quick-mount plate that makes mounting to a recessed junction box or conduit entry point both quick and trouble free. The quick-mount plate can be separated for surface mounting and reattached via a hinge for support while wiring. Four 3/4" NPT conduit entry points are built into the quick-mount plate to allow fast and confident alignment for surface-conduit wiring.

LISTINGS:

UL Listed to U.S. and Canadian safety standards for wet locations. Tested in accordance with IESNA LM-79 and LM-80 standards.

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Can be used to comply with California Title 24, Part 6 High Efficacy LED light Source Requirements

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

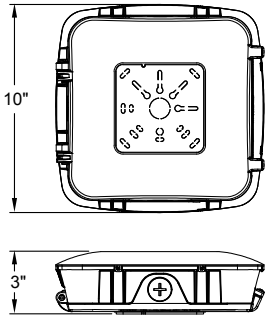
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

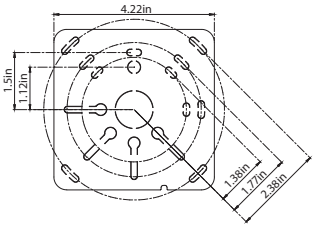
Dimensions

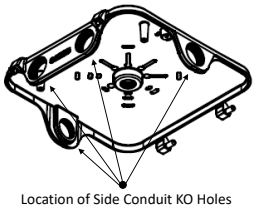
CNY LED ALO

Width: 10" (25.4cm)
Height 3" (7.62cm)
Depth: 10" (25.4cm)
Weight: 4.8lbs (2.18kg)

All dimensions are inches (centimeters) unless otherwise indicated.

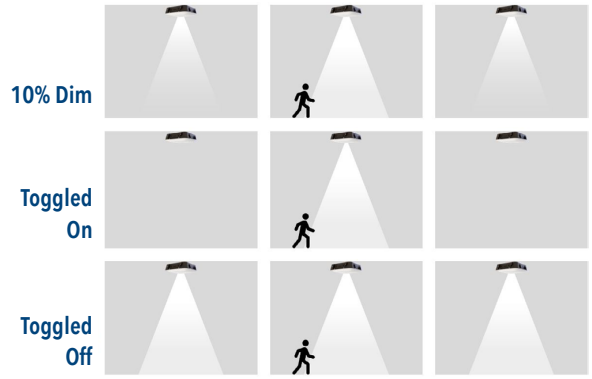




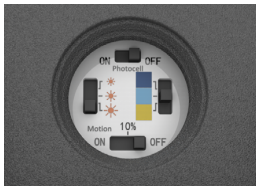


Location of Side Conduit KO Holes

Occupancy Sensor Settings



Time to Off with No Occupancy is 10 minutes



Factory Settings	
Lumen Output	10,000
CCT	4000K
Photocell	Off
Occupancy Sensor	Off

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: CNY LED ALO SWW2 UVOLT PE PIR WH M2 Note:	Type CAE

APPROVED

Catalog Number
Notes
Type

Contractor Select™

CNY LED ALO

Canopy Luminaire Adjustable+Switchable+Photocell +Occupancy Sensor

The Lithonia Lighting CNY LED ALO canopy luminaire is a versatile, energy-efficient solution for surface-mount applications for walkways, overhangs, and parking garages. Adjustable switch panel easily changes lumen output, color temperature, integrated photocell, and integrated motion sensor. The low profile frosted lens creates a visually comfortable illumination and even distribution.

FEATURES:

- 3 power levels deliver 5,000 - 10,000 lumens.
- Switchable CCT (30K/40K/50K) offers warm, cool, and daylight in a single fixture
- Integrated On/Off photocell
- Integrated occupancy sensor can be turned on, off, or set to 10% dim
- Install by surface mount, junction box, or pendant mount
- IK08 Impact resistant polycarbonate frosted lens
- IP65 rated, die cast aluminum housing

Adjustable Lumen Output ALO

Switchable CCT SWW2

Integrated Photocell

Integrated Motion Sensor

DLC LISTED PREMIUM · 65 IP RATED · LED · C SP US · WET LOCATION™ · 5 YEAR warranty

Catalog Number	Adjustable Lumen Output ALO			Switchable CCT SWW2	Photocell Operation	Occupancy Sensor	Input Voltage	CRI	Finish
CNY LED ALO SWW2 UVOLT PE PIR DDB M2	5,000 Lumens	7,500 Lumens	10,000 Lumens	Switchable 3000K, 4000K,5000K	Included Standard, Selectable On/Off	Included Standard, Selectable On/Off/10% Dim	120-347V	80CRI	Dark Bronze
CNY LED ALO SWW2 UVOLT PE PIR WH M2	5,000 Lumens	7,500 Lumens	10,000 Lumens	Switchable 3000K, 4000K,5000K	Included Standard, Selectable On/Off	Included Standard, Selectable On/Off/10% Dim	120-347V	80CRI	White

CNY Stock Options

Catalog Number	UPC	Ci Code	Number of fixtures per pallet	Tradtional Replacement
CNY LED ALO SWW2 UVOLT PE PIR DDB M2	00197589495041	*284HU8	180	Up to 250W HID
CNY LED ALO SWW2 UVOLT PE PIR WH M2	00197589495126	*284HUH	180	Up to 250W HID

Accessories: *Order as separate catalog number.*

CNYBCP DDB	14 Inch x 14 Inch Beauty Cover Plate
CNYEK E7WC M12	Field installable emergency battery; 7W, UVOLT compatible, Minimum operating temp of 0°C

Lumen Output:

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.

Lumen Output	Input Wattage	CCT/80CRI	Delivered Lumens	Lumens Per Watt
5,000	34	3000K	4709	139
		4000K	4794	147
		5000K	4777	143
7,500	52	3000K	7169	133
		4000K	7403	144
		5000K	7291	137
10,000	75	3000K	9504	123
		4000K	9894	136
		5000K	9529	125

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: CNY LED ALO SWW2 UVOLT PE PIR WH M2 Note:	Type CAE

CS CONTRACTOR SELECT™

LITHONIA LIGHTING®

Specifications

INTENDED USE:
The CNY LED ALO canopy luminaire is ideal for surface mount application such as canopies over building entrances, walkways, loading docks, and covered parking areas. The products traditional style does not detract from current building aesthetics, creating a seamless upgrade. These products are energy-efficient replacements of existing surface mount products; up to 250W metal halide.

CNY LED ALO features adjustable lumen output include low, medium, and high. Switchable CCT includes 3000K (warm), 4000K (neutral), or 5000K (daylight), a selectable integral photocell that automatically turns the fixture on in the evening and off the next morning, and a selectable integral occupancy sensor that can turn on the fixture when motion is detected and be set to maintain 10% illumination or fully off when no motion is detected.

CONSTRUCTION:
The CNY LED ALO has a cast-aluminum housing with powder coat finish for lasting durability. The IK08 impact rated frosted lens is designed for uniform light distribution while providing visually comfortable illumination. The lens is sealed with a one piece gasket creating an IP65 rated fixture. Rated for temps -25C to 25C.

ELECTRICAL:
Standard 6kV surge protection tested in accordance to ANSI/IEEE C62.41.2 Category C. CNY LED ALO luminaires use UVOLT (120-347V). Adjustable lumen output is achieved with 0-10V continuous dimming capable drivers, ensuring system power factor>90% and THD <20%. High-efficiency LEDs maintains over 70% of light output at 100,000 hours (L70>100,000 hours).

INSTALLATION:
The CNY LED ALO canopy luminaire features a quick-mount plate that makes mounting to a recessed junction box or conduit entry point both quick and trouble free. The quick-mount plate can be separated for surface mounting and reattached via a hinge for support while wiring. Four 3/4" NPT conduit entry points are built into the quick-mount plate to allow fast and confident alignment for surface-conduit wiring.

LISTINGS:
UL Listed to U.S. and Canadian safety standards for wet locations. Tested in accordance with IESNA LM-79 and LM-80 standards.

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Can be used to comply with California Title 24, Part 6 High Efficacy LED light Source Requirements

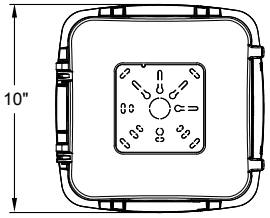
WARRANTY:
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

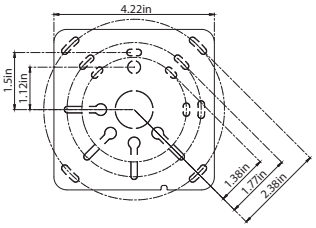
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

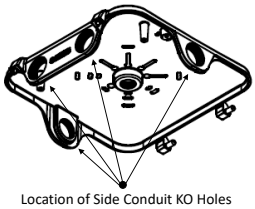
Dimensions

CNY LED ALO
Width: 10" (25.4cm)
Height 3" (7.62cm)
Depth: 10" (25.4cm)
Weight: 4.8lbs (2.18kg)

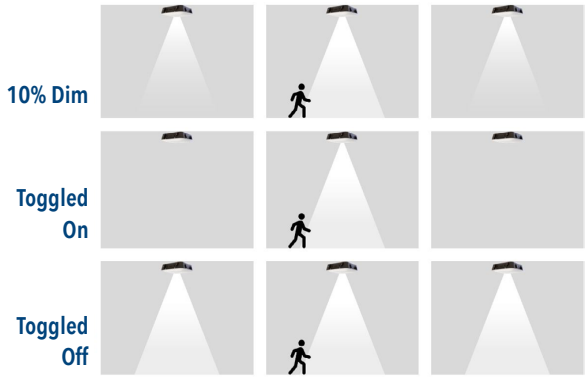
All dimensions are inches (centimeters) unless otherwise indicated.



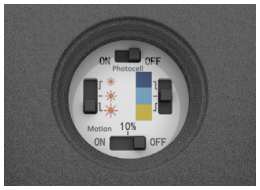



Location of Side Conduit KO Holes

Occupancy Sensor Settings



Time to Off with No Occupancy is 10 minutes



Factory Settings	
Lumen Output	10,000
CCT	4000K
Photocell	Off
Occupancy Sensor	Off

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/10 WD MVOLT GZ10 AR LSS Note:	Type DLA

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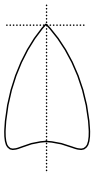
Multiple Layers of Light

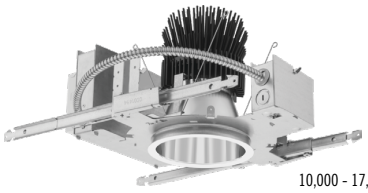


Luminaire Type:

Catalog Number:

General Illumination Round Downlight 6"

250 - 8,000 lumens

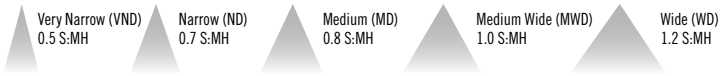


10,000 - 17,500 lumens

Feature Set

- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- ENERGY STAR® certified product*
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution



design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.

*See ordering tree for details

Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000	15,000	17,500
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332	15776	17801
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115.0	150.9	175.3
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2	104.5	101.5

*Based on 3500K AR LSS MWD 80CRI

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

OVERVIEW

COMPLIMENTARY PRODUCTS

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/10 WD MVOLT GZ10 AR LSS Note:	Type DLA

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6" General Illumination Round Downlight

ORDERING INFORMATION

Design Select options indicated by this color background.

Luminaire Type:

Catalog Number:

EXAMPLE: EVO6 35/150 AR MWD LSS MVOLT EZ1

Series	Color Temperature	Nominal Lumen Values		Reflector & Flange Color	Trim Style	Finish
EVO6	27/ 2700 K	02 250 lumens	40 4000 lumens	AR Clear	(blank) Self-flanged	LSS Semi-specular
	30/ 3000 K	05 500 lumens	45 4500 lumens	PR Pewter	FL Flangeless	LD Matte-diffuse
	35/ 3500 K	07 750 lumens	50 5000 lumens	WTR Wheat		LS Specular
	40/ 4000 K	10 1000 lumens	60 6000 lumens	GR Gold		
	50/ 5000 K	15 1500 lumens	80 8000 lumens	WR[1] White		
		20 2000 lumens	100 10000 lumens	BR[1] Black		
		25 2500 lumens	120 12000 lumens	WRAMF[1] White Anti-microbial		
		30 3000 lumens	150 15000 lumens	TRALTBD[1,2] RAL paint for pricing only		
		35 3500 lumens	175 17500 lumens	TCPC[1] Custom paint color		

Distribution	Voltage	Driver[5]	
VND Very Narrow (0.5 s/mh)	MVOLT	GZ10 0-10V driver dims to 10%	EDXB eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Includes termination resistor. Refer to DMXR Manual. Minimum 1000 lumens/Maximum 15000 lumens.
ND Narrow (0.7 s/mh)	120	GZ1 0-10V driver dims to 1%	ECOD[6] Lutron Ecosystem digital Hi-Lume 1% soft-on, fade to black. Max: 4000LM.
MD Medium (0.9 s/mh)	277	EZ10 eldoLED 0-10V ECOdrive. Linear dimming to 10% min.	
MWD Medium Wide (1.0 s/mh)	347[3,4]	EZ1 eldoLED 0-10V ECOdrive. Linear dimming to 1% min.	
WD Wide (1.2 s/mh)		EZB eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	
		EDAB eldoLED SOLOdrive DALI. Logarithmic dimming to <1%.	

Control Interface	Emergency Options	Options
NLT[7] nLight® dimming pack controls	EL Emergency battery pack, 10W, with integral test switch	SF Single fuse. Specify 120V or 277V.
NLTER[3,7,8] nLight® dimming pack controls emergency circuit	ELR Emergency battery pack, 10W, with remote test switch	TRW[11] White painted flange
NLTAIR2[9,10] nLight® AIR enabled	ELSD Emergency battery pack, 10W, with self-diagnostics, integral test switch	TRBL[12] Black painted flange
NLTAIRER2[3,8,10] nLight® AIR enabled emergency	ELRSD Emergency battery pack, 10W, with self-diagnostics, remote test switch	FRALTBD[2] Flange ring only RAL color for pricing only
NLTAIREM2[3,9] nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit with battery pack options.	E10WCP Emergency battery pack, 10W Constant Power, CA Title 20 compliant with integral test switch	FCPC Flange custom paint color
	E10WCPR Emergency battery pack, 10W Constant Power, CA Title 20 compliant with remote test switch	N80[13] nLight® Lumen Compensation
	BGTD Bodine generator transfer device. Specify 120V or 277V.	GTD generator transfer device. Specify 120V or 277V
		90CRI High CRI (90+)
		CP[14] Chicago Plenum. Specify 120V or 277V for 5000lm and above.
		HAO[15] HAO High Ambient Option (40°C)
		RRL_ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only with RRLA, RRLB, RRLAE, and RRLC12S. Refer to RRL spec sheet on www.acuitybrands.com for RELOC® product specifications. Above ceiling access required.

ACCESSORIES – order as separate catalog numbers (shipped separately)

SCA6	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D. Refer to TECH-190.
CTA EVO6	6" Aperture ceiling thickness adapter, for up to 8,000LM (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YK	4"-8" Aperture ceiling thickness adapter for use with EDXB or CP up to 8,000LM, or nTune options (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YKHL	6" Aperture ceiling thickness adapter, for 10,000LM and up (extends mounting frame to accommodate ceiling thickness up to 5"). For use with CWW/DWW trims, EDXB, CP or nTune options.
ISD BC	0-10V wallbox dimmer. Refer to ISD-BC.

ORDERING NOTES

1. Not available with finishes.
2. Replace with applicable RAL number and finish when ready to order. See RAL BROCHURE for available color options. Not available with emergency battery pack options.
3. Not available with emergency battery pack options.
4. Supplied with factory installed step down transformer. Max 5000LM.
5. Refer to TECH-240 for compatible dimmers.
6. Not available with nLight®.
7. Specify voltage.
8. ER for use with generator supply power. Will require an emergency hot feed and normal hot feed.
9. Not available DALI or DMX drivers. Not available with CP or N80 options. Not recommended for metal ceiling installations.
10. When combined with the EZ1, EZ10, or EZB option, normal luminaires (non-emergency) can be used as a normal power sensing device for nearby nLight AIR devices and luminaires with EM emergency options.
11. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with WR (white reflector) or FL (flangeless) option.
12. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with BR (black reflector) or FL (flangeless) option.
13. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
14. 12,000LM max with EL or nLight® options. 5,000LM max with Lutron drivers combined with EL. Not available with ELR, HAO, or EXAB, or any nLight® AIR dimming options.
15. Only available 5000LM - 15,000LM with eldoLED drivers.

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6" **General Illumination Round Downlight**

SPECIFICATIONS

Optical Assembly
Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top-down flash characteristic for superior glare control.
Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment.

Electrical
The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.
Input wires shall be 18AWG, 300V minimum, solid copper.

Controls
Luminaire shall be equipped with interface for nLight wired or wireless network with integral power supply as per specification.

Dimming
The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.
eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.
Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction
Fully serviceable and upgradeable lensed LED light engine, both the driver and light engine are suitable for field maintenance and are serviceable from above or below the ceiling.
Luminaire housing shall be constructed of 16-gauge galvanized steel and have preinstalled telescopic mounting bars with maximum 32" and minimum 15" extension and 4" vertical adjustment.
Luminaires shall be suitable for installation in ceilings up to 1½" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 5").
Tool-less adjustments shall be possible after installation.
The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration.
25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise). 40°C high ambient optional.

Listings
Fixtures are CSA certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, wet location covered ceiling. Luminaire configurations are Energy Star certified through testing in EPA–recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit www.energystar.gov for specific configurations listed. *Not all configurations are Energy Star listed.

BUY AMERICAN ACT
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

Photometrics
LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.
Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:
Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

A+ Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.
To learn more about A+, visit www.acuitybrands.com/aplus.

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com
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6" General Illumination Round Downlight

Marked Spacing in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
500-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EXA1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic	Linear
EXAB	<1%	Logarithmic	Linear
EDXB	<1%	Square	Linear

Marked Spacing in Inches 40°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
5000	24	12	5
6000			
8000	48	24	9
10000			
12000			
15000	72	36	9

Marked Spacing Chicago Plenum Open Frame in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

Marked Spacing Chicago Plenum Enclosure in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-6000	None	None	None
8000	36	18	6
10000	48	24	3
12000			

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

How to Estimate Delivered Lumens in Emergency Mode

Delivered Lumens = 1.25 x P x LPW

P = Output power of emergency driver. P = 10W for PS1055CP

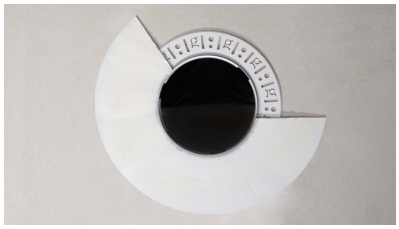
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

Flangeless Installation

Gotham's flangeless option utilizes a micro-thin polymer mud ring that minimizes the amount of drywall compound required to finish the ceiling. The end result is a virtually undetectable flangeless downlight installation.

The polymer mud ring is installed independent of the of the recessed frame, therefore floating with the ceiling. This innovation minimizes any surface cracks during reflector installation, ceiling movement and any future service to the recessed frame, wiring, electronics, etc.

Partially finished mud ring, showing cross-section detail.



An EVO downlight requires only approximately 3" of plaster to finish.

EVO with flangeless trim

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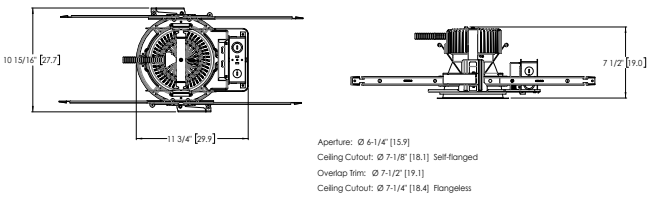
6" General Illumination Round Downlight

DIMENSIONAL DATA

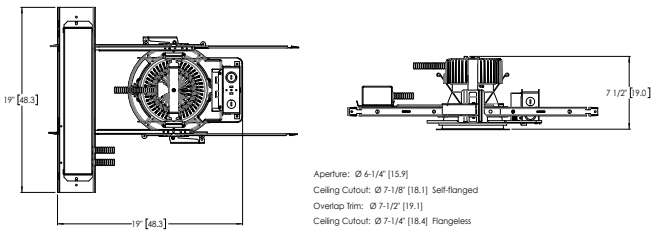
*Dimensions in inches [centimeters]

Aperture: 6 1/4" [15.9)]	Ceiling Opening: 7 1/8" [18.1] self-flanged
Overlap Trim: 7 1/2" [19.1]	7 1/4" [18.4] flangeless

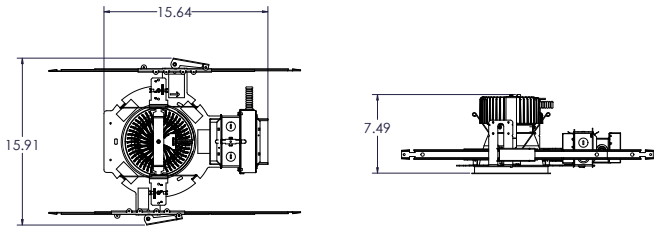
250LM-5000LM Standard



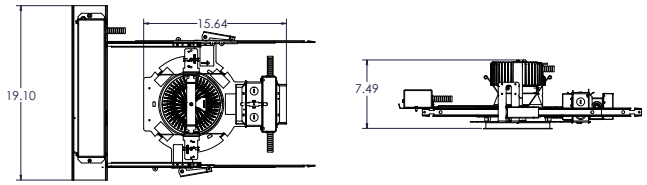
250LM-5000LM Battery Pack



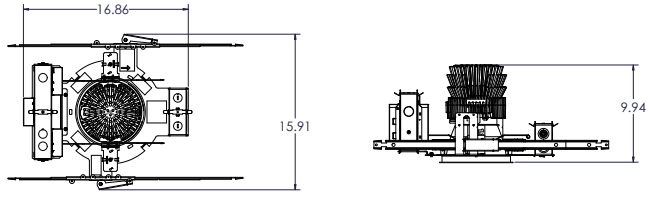
6000LM-8000LM Standard



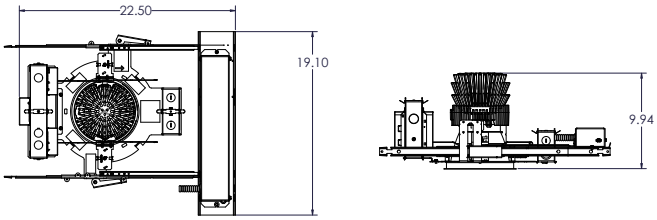
6000LM-8000LM Battery Pack



10,000LM-17,500LM Standard



10,000LM-17,500LM Battery Pack



GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com
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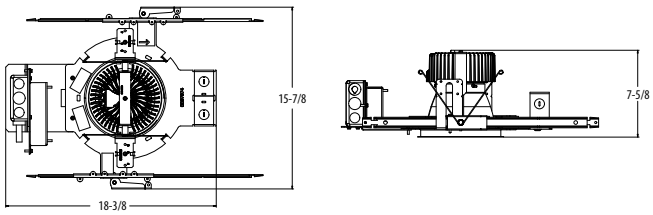
6" General Illumination Round Downlight

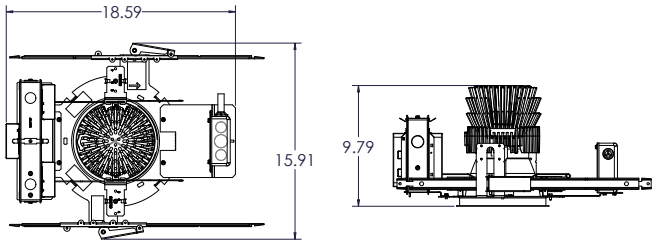
DIMENSIONAL DATA

*Dimensions in inches [centimeters]

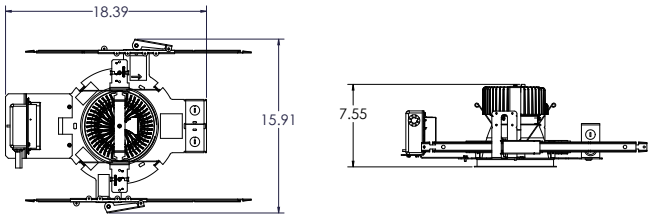
250LM-4500LM CP



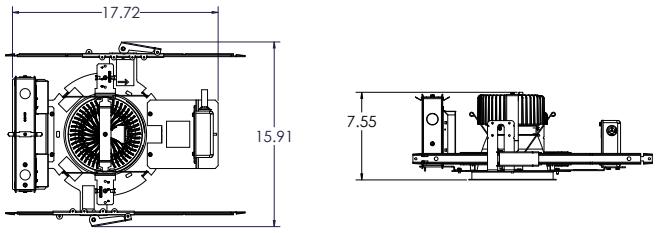
10000LM - 17,500LM Lumen Open Frame CP



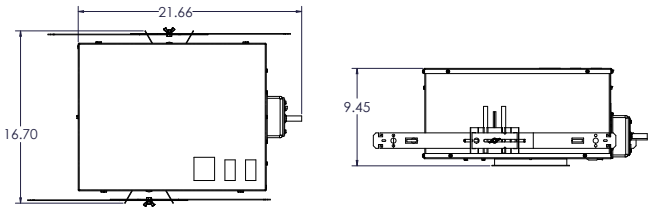
5000LM ECO/SOLO Drive Open Frame CP



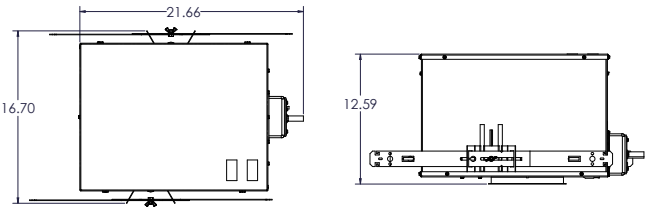
5000LM (Lutron & POWER Drive Only), 6000LM & 8000LM Open Frame CP



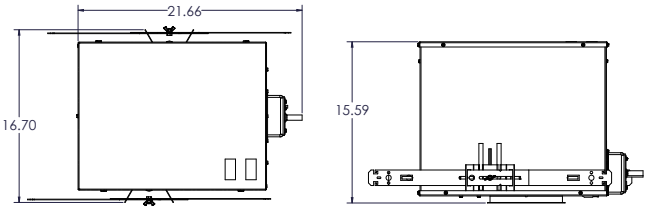
250LM - 6000LM CP Enclosed with Battery Pack and/or nLight™ Only



8,000LM CP Enclosed with Battery Pack and/or nLight™ Only



10,000LM-12,000LM CP Enclosed with Battery Pack and/or nLight™ Only



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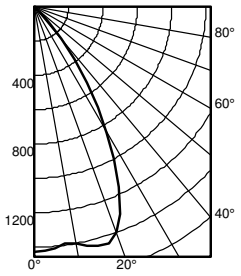
6" **General Illumination Round Downlight**

Photometry

EV06 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P1505

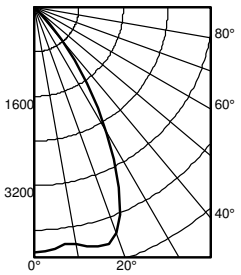


	Ave	Lumens
0	1431	
5	1410	134
15	1442	405
25	1161	523
35	540	332
45	78	72
55	3	4
65	1	1
75	0	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1061.4	72.2
0° - 40°	1393.5	94.7
0° - 60°	1469.5	99.9
0° - 90°	1470.9	100.0
90° - 180°	0.0	0.0
0° - 180°	1470.9	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	47.3	5.7	23.7	8.9	4.7
10.0	25.4	7.7	12.7	12.1	2.5
12.0	15.9	9.8	7.9	15.3	1.6
14.0	10.8	11.8	5.4	18.6	1.1
16.0	7.9	13.9	3.9	21.8	0.8

EV06 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P1649

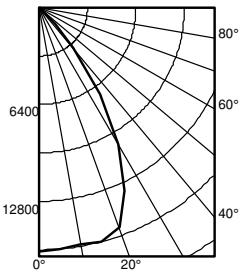


	Ave	Lumens
0	4411	
5	4346	413
15	4443	1247
25	3578	1610
35	1665	1024
45	242	222
55	8	12
65	2	3
75	1	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	3270.7	72.2
0° - 40°	4294.2	94.7
0° - 60°	4528.3	99.9
0° - 90°	4532.7	100.0
90° - 180°	0.0	0.0
0° - 180°	4532.7	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	145.8	5.7	72.9	8.9	14.6
10.0	78.4	7.7	39.2	12.1	7.8
12.0	48.9	9.8	24.4	15.3	4.9
14.0	33.4	11.8	16.7	18.6	3.3
16.0	24.2	13.9	12.1	21.8	2.4

EV06 35/175 AR MWD LS INPUT WATTS: 175.3, DELIVERED LUMENS: 17801LM, LPW=101.5, 1.06 S/MH, TEST NO. ISF 34035P268



	Ave	Lumens
0	16146	
5	15998	1521
15	16006	4479
25	13362	6001
35	7018	4289
45	1470	1299
55	100	156
65	37	38
75	13	14
85	2	2
90	0	

Zone	Lumens	% Lamp
0° - 30°	12002.3	67.4
0° - 40°	16291.0	91.5
0° - 60°	17746.3	99.7
0° - 90°	17801.0	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	17801.0	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 55.7° Diameter	50% beam - 55.7° FC	10% beam - 79.8° Diameter	10% beam - 79.8° FC
8.0	533.7	5.8	266.9	9.2	53.4
10.0	287.0	7.9	143.5	12.5	28.7
12.0	178.9	10.0	89.4	15.9	17.9
14.0	122.1	12.1	61.0	19.2	12.2
16.0	88.6	14.3	44.3	22.6	8.9

Lumen Output Multiplier		
CRI	CCT	Multplier
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

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6" General Illumination Round Downlight

NLIGHT AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

nLight® AIR Control Accessories

Order as separate catalog number. Visit nLight AIR.

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

nLight® AIR Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

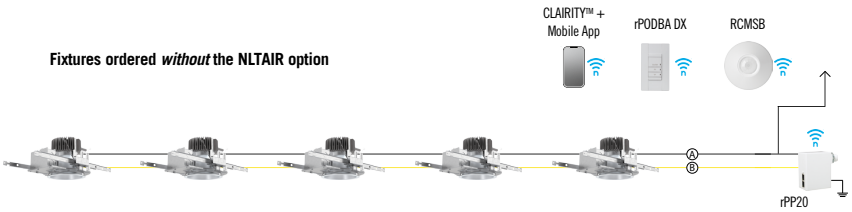
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

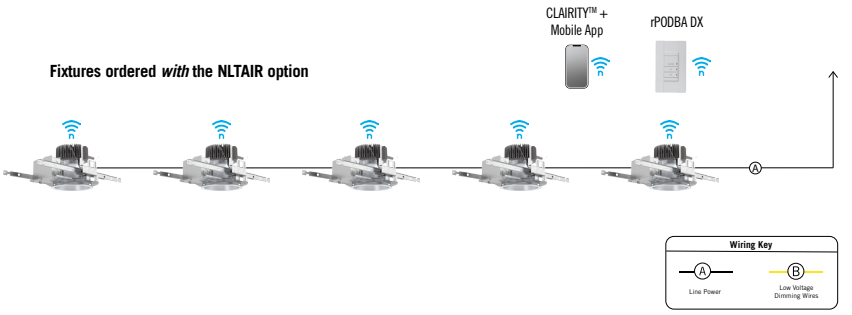
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

Possibilites for nLight® AIR

Fixtures ordered *without* the NLTAIR option



Fixtures ordered *with* the NLTAIR option



NLIGHT

nLight® The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

nLight® Wired Control Accessories

Order as separate catalog number. Visit nLight.

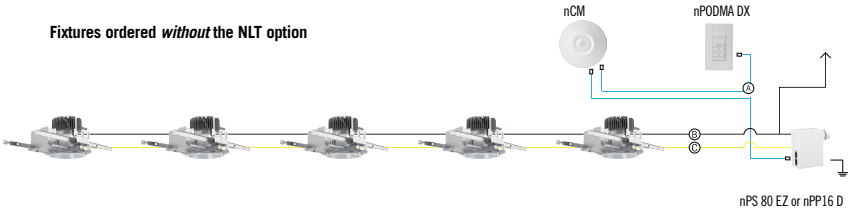
Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)
Photocell Controls	
Dimming	nCM ADCX

nLight® Wired Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX
Cat-5 Cables (plenum rated)	
10', CAT5	CAT5 10FT J1
15', CAT5	CAT5 15FT J1

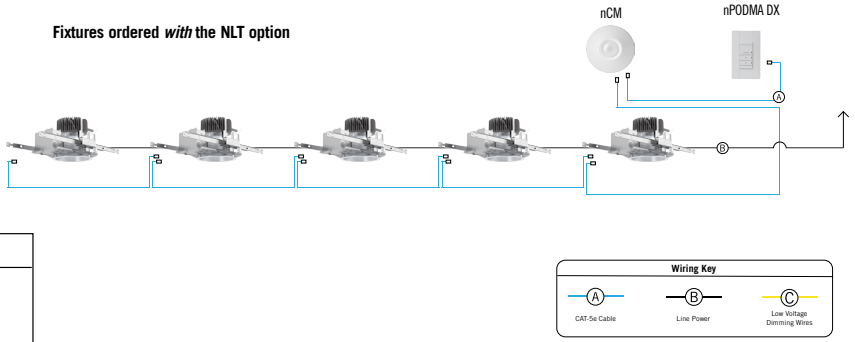
Possibilites for nLight® wired

Fixtures ordered *without* the NLT option



nPS 80 EZ or nPP16 D

Fixtures ordered *with* the NLT option



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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/10 WD MVOLT GZ10 E10WCP AR LSS Note:	Type DLAE

APPROVED

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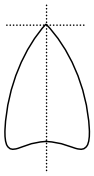
Multiple Layers of Light

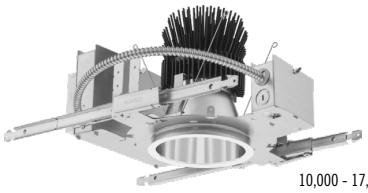


Luminaire Type:

Catalog Number:

General Illumination Round Downlight 6"

250 - 8,000 lumens

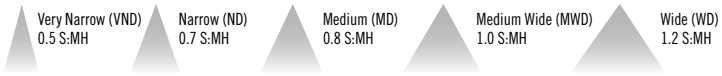


10,000 - 17,500 lumens

Feature Set

- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- ENERGY STAR® certified product*
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution



design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.

*See ordering tree for details

Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000	15,000	17,500
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332	15776	17801
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115.0	150.9	175.3
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2	104.5	101.5

*Based on 3500K AR LSS MWD 80CRI

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

OVERVIEW

COMPLIMENTARY PRODUCTS

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/10 WD MVOLT GZ10 E10WCP AR LSS Note:	Type DLAE

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6" General Illumination Round Downlight

ORDERING INFORMATION

Design Select options indicated by this color background.

Luminaire Type:

Catalog Number:

EXAMPLE: EVO6 35/150 AR MWD LSS MVOLT EZ1

Series	Color Temperature	Nominal Lumen Values		Reflector & Flange Color	Trim Style	Finish
EVO6	27/ 2700 K	02 250 lumens	40 4000 lumens	AR Clear	(blank) Self-flanged	LSS Semi-specular
	30/ 3000 K	05 500 lumens	45 4500 lumens	PR Pewter	FL Flangeless	LD Matte-diffuse
	35/ 3500 K	07 750 lumens	50 5000 lumens	WTR Wheat		LS Specular
	40/ 4000 K	10 1000 lumens	60 6000 lumens	GR Gold		
	50/ 5000 K	15 1500 lumens	80 8000 lumens	WR[1] White		
		20 2000 lumens	100 10000 lumens	BR[1] Black		
		25 2500 lumens	120 12000 lumens	WRAMF[1] White Anti-microbial		
		30 3000 lumens	150 15000 lumens	TRALTBD[1,2] RAL paint for pricing only		
		35 3500 lumens	175 17500 lumens	TCPC[1] Custom paint color		

Distribution	Voltage	Driver[5]	
VND Very Narrow (0.5 s/mh)	MVOLT	GZ10 0-10V driver dims to 10%	EDXB eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Includes termination resistor. Refer to DMXR Manual. Minimum 1000 lumens/Maximum 15000 lumens.
ND Narrow (0.7 s/mh)	120	GZ1 0-10V driver dims to 1%	ECOD[6] Lutron Ecosystem digital Hi-Lume 1% soft-on, fade to black. Max: 4000LM.
MD Medium (0.9 s/mh)	277	EZ10 eldoLED 0-10V ECOdrive. Linear dimming to 10% min.	
MWD Medium Wide (1.0 s/mh)	347[3,4]	EZ1 eldoLED 0-10V ECOdrive. Linear dimming to 1% min.	
WD Wide (1.2 s/mh)		EZB eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	
		EDAB eldoLED SOLOdrive DALI. Logarithmic dimming to <1%.	

Control Interface	Emergency Options	Options
NLT[7] nLight® dimming pack controls	EL Emergency battery pack, 10W, with integral test switch	SF Single fuse. Specify 120V or 277V.
NLTER[3,7,8] nLight® dimming pack controls emergency circuit	ELR Emergency battery pack, 10W, with remote test switch	TRW[11] White painted flange
NLTAIR2[9,10] nLight® AIR enabled	ELSD Emergency battery pack, 10W, with self-diagnostics, integral test switch	TRBL[12] Black painted flange
NLTAIRER2[3,8,10] nLight® AIR enabled emergency	ELRSD Emergency battery pack, 10W, with self-diagnostics, remote test switch	FRALTBD[2] Flange ring only RAL color for pricing only
NLTAIREM2[3,9] nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit with battery pack options.	E10WCP Emergency battery pack, 10W Constant Power, CA Title 20 compliant with integral test switch	FCPC Flange custom paint color
	E10WCPR Emergency battery pack, 10W Constant Power, CA Title 20 compliant with remote test switch	N80[13] nLight® Lumen Compensation
	BGTD Bodine generator transfer device. Specify 120V or 277V.	GTD generator transfer device. Specify 120V or 277V
		90CRI High CRI (90+)
		CP[14] Chicago Plenum. Specify 120V or 277V for 5000lm and above.
		HAO[15] HAO High Ambient Option (40°C)
		RRL_ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only with RRLA, RRLB, RRLAE, and RRLC12S. Refer to RRL spec sheet on www.acuitybrands.com for RELOC® product specifications. Above ceiling access required.

ACCESSORIES – order as separate catalog numbers (shipped separately)

SCA6	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D. Refer to TECH-190.
CTA EVO6	6" Aperture ceiling thickness adapter, for up to 8,000LM (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YK	4"-8" Aperture ceiling thickness adapter for use with EDXB or CP up to 8,000LM, or nTune options (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YKHL	6" Aperture ceiling thickness adapter, for 10,000LM and up (extends mounting frame to accommodate ceiling thickness up to 5"). For use with CWW/DWW trims, EDXB, CP or nTune options.
ISD BC	0-10V wallbox dimmer. Refer to ISD-BC.

ORDERING NOTES

1. Not available with finishes.
2. Replace with applicable RAL number and finish when ready to order. See RAL BROCHURE for available color options. Not available with emergency battery pack options.
3. Not available with emergency battery pack options.
4. Supplied with factory installed step down transformer. Max 5000LM.
5. Refer to TECH-240 for compatible dimmers.
6. Not available with nLight®.
7. Specify voltage.
8. ER for use with generator supply power. Will require an emergency hot feed and normal hot feed.
9. Not available DALI or DMX drivers. Not available with CP or N80 options. Not recommended for metal ceiling installations.
10. When combined with the EZ1, EZ10, or EZB option, normal luminaires (non-emergency) can be used as a normal power sensing device for nearby nLight AIR devices and luminaires with EM emergency options.
11. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with WR (white reflector) or FL (flangeless) option.
12. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with BR (black reflector) or FL (flangeless) option.
13. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
14. 12,000LM max with EL or nLight® options. 5,000LM max with Lutron drivers combined with EL. Not available with ELR, HAO, or EXAB, or any nLight® AIR dimming options.
15. Only available 5000LM - 15,000LM with eldoLED drivers.

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6" **General Illumination Round Downlight**

SPECIFICATIONS

Optical Assembly
Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top-down flash characteristic for superior glare control.
Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment.

Electrical
The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.
Input wires shall be 18AWG, 300V minimum, solid copper.

Controls
Luminaire shall be equipped with interface for nLight wired or wireless network with integral power supply as per specification.

Dimming
The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.
eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.
Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction
Fully serviceable and upgradeable lensed LED light engine, both the driver and light engine are suitable for field maintenance and are serviceable from above or below the ceiling.
Luminaire housing shall be constructed of 16-gauge galvanized steel and have preinstalled telescopic mounting bars with maximum 32" and minimum 15" extension and 4" vertical adjustment.
Luminaires shall be suitable for installation in ceilings up to 1½" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 5").
Tool-less adjustments shall be possible after installation.
The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration.
25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise). 40°C high ambient optional.

Listings
Fixtures are CSA certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, wet location covered ceiling. Luminaire configurations are Energy Star certified through testing in EPA–recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit www.energystar.gov for specific configurations listed. *Not all configurations are Energy Star listed.

BUY AMERICAN ACT
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

Photometrics
LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.
Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:
Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

A+ Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.
To learn more about A+, visit www.acuitybrands.com/aplus.

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com
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6" General Illumination Round Downlight

Tables of Use

Marked Spacing in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
500-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EXA1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic	Linear
EXAB	<1%	Logarithmic	Linear
EDXB	<1%	Square	Linear

Marked Spacing in Inches 40°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
5000	24	12	5
6000			
8000	48	24	9
10000			
12000			
15000	72	36	9

Marked Spacing Chicago Plenum Open Frame in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

Marked Spacing Chicago Plenum Enclosure in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-6000	None	None	None
8000	36	18	6
10000	48	24	3
12000			

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

How to Estimate Delivered Lumens in Emergency Mode

Delivered Lumens = 1.25 x P x LPW

P = Output power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

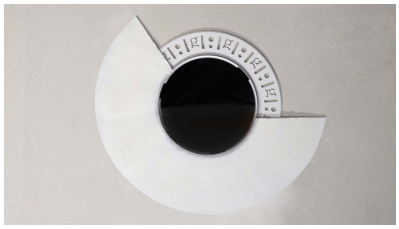
Flangeless

Flangeless Installation

Gotham's flangeless option utilizes a micro-thin polymer mud ring that minimizes the amount of drywall compound required to finish the ceiling. The end result is a virtually undetectable flangeless downlight installation.

The polymer mud ring is installed independent of the of the recessed frame, therefore floating with the ceiling. This innovation minimizes any surface cracks during reflector installation, ceiling movement and any future service to the recessed frame, wiring, electronics, etc.

Partially finished mud ring, showing cross-section detail.



An EVO downlight requires only approximately 3" of plaster to finish.

EVO with flangeless trim

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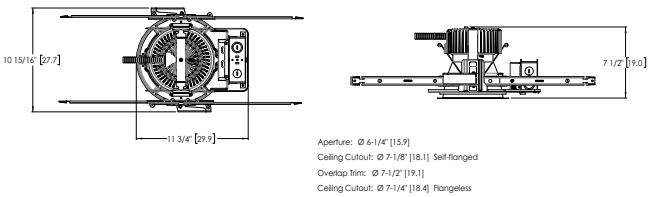
6" General Illumination Round Downlight

DIMENSIONAL DATA

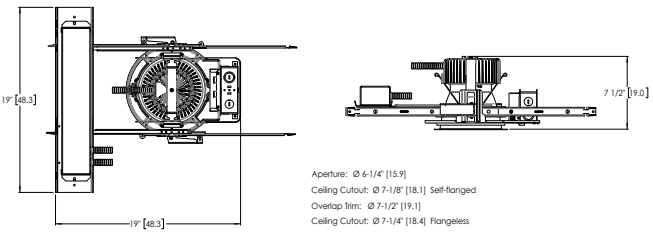
*Dimensions in inches [centimeters]

Aperture: 6 1/4" [15.9)]	Ceiling Opening: 7 1/8" [18.1] self-flanged
Overlap Trim: 7 1/2" [19.1]	7 1/4" [18.4] flangeless

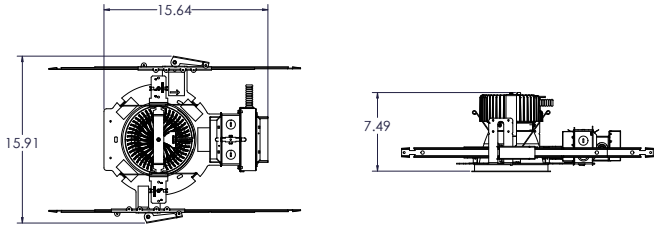
250LM-5000LM Standard



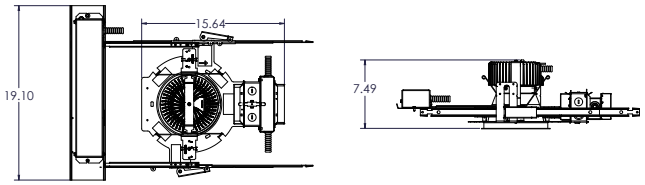
250LM-5000LM Battery Pack



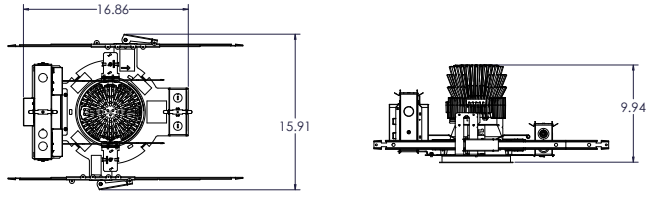
6000LM-8000LM Standard



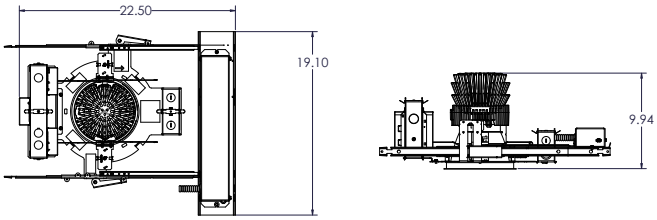
6000LM-8000LM Battery Pack



10,000LM-17,500LM Standard



10,000LM-17,500LM Battery Pack



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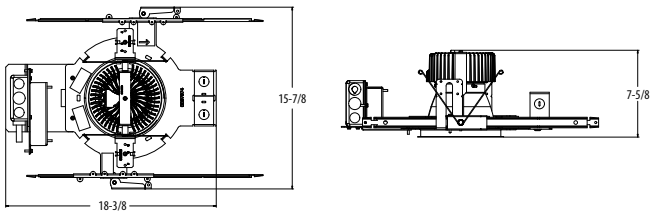
6" **General Illumination Round Downlight**

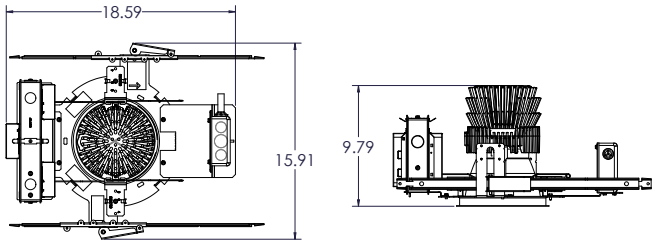
DIMENSIONAL DATA

*Dimensions in inches [centimeters]

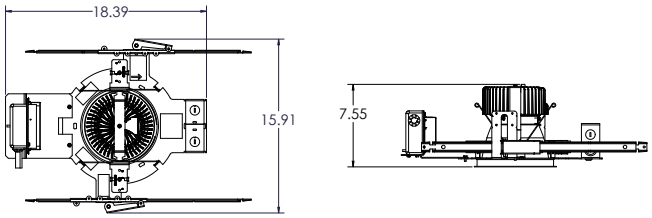
250LM-4500LM CP



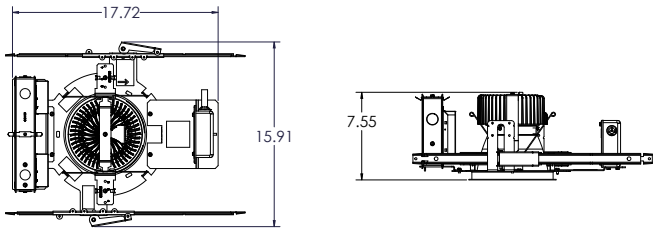
10000LM - 17,500LM Lumen Open Frame CP



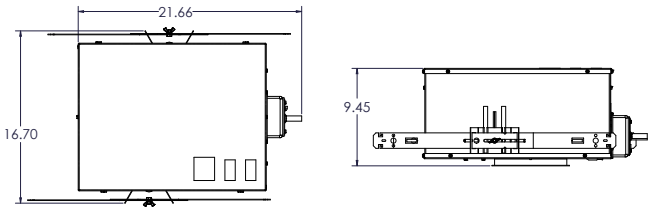
5000LM ECO/SOLO Drive Open Frame CP



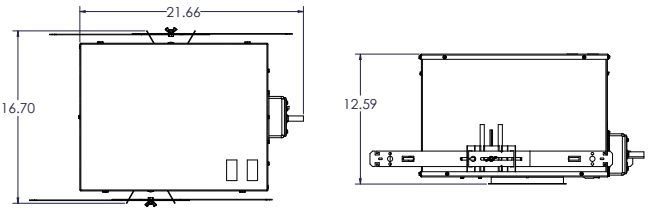
5000LM (Lutron & POWER Drive Only), 6000LM & 8000LM Open Frame CP



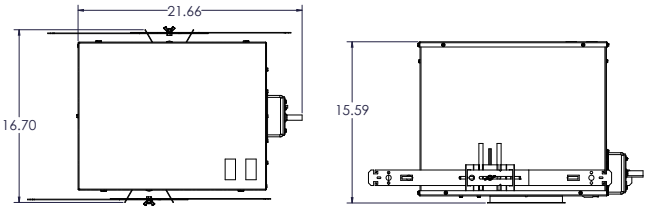
250LM - 6000LM CP Enclosed with Battery Pack and/or nLight™ Only



8,000LM CP Enclosed with Battery Pack and/or nLight™ Only



10,000LM-12,000LM CP Enclosed with Battery Pack and/or nLight™ Only



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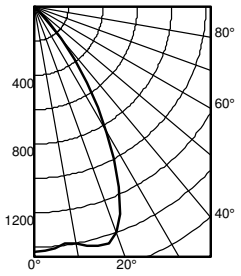
6" **General Illumination Round Downlight**

Photometry

EV06 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P1505

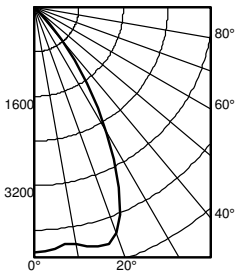


	Ave	Lumens
0	1431	
5	1410	134
15	1442	405
25	1161	523
35	540	332
45	78	72
55	3	4
65	1	1
75	0	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1061.4	72.2
0° - 40°	1393.5	94.7
0° - 60°	1469.5	99.9
0° - 90°	1470.9	100.0
90° - 180°	0.0	0.0
0° - 180°	1470.9	*100.0
	*Efficiency	

		50% beam - 54.4°		10% beam - 77.9°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	47.3	5.7	23.7	8.9	4.7
10.0	25.4	7.7	12.7	12.1	2.5
12.0	15.9	9.8	7.9	15.3	1.6
14.0	10.8	11.8	5.4	18.6	1.1
16.0	7.9	13.9	3.9	21.8	0.8

EV06 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P1649

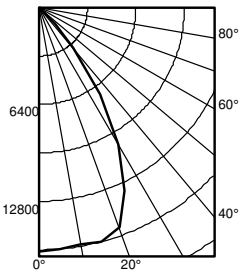


	Ave	Lumens
0	4411	
5	4346	413
15	4443	1247
25	3578	1610
35	1665	1024
45	242	222
55	8	12
65	2	3
75	1	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	3270.7	72.2
0° - 40°	4294.2	94.7
0° - 60°	4528.3	99.9
0° - 90°	4532.7	100.0
90° - 180°	0.0	0.0
0° - 180°	4532.7	*100.0
	*Efficiency	

		50% beam - 54.4°		10% beam - 77.9°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	145.8	5.7	72.9	8.9	14.6
10.0	78.4	7.7	39.2	12.1	7.8
12.0	48.9	9.8	24.4	15.3	4.9
14.0	33.4	11.8	16.7	18.6	3.3
16.0	24.2	13.9	12.1	21.8	2.4

EV06 35/175 AR MWD LS INPUT WATTS: 175.3, DELIVERED LUMENS: 17801LM, LPW=101.5, 1.06 S/MH, TEST NO. ISF 34035P268



	Ave	Lumens
0	16146	
5	15998	1521
15	16006	4479
25	13362	6001
35	7018	4289
45	1470	1299
55	100	156
65	37	38
75	13	14
85	2	2
90	0	

Zone	Lumens	% Lamp
0° - 30°	12002.3	67.4
0° - 40°	16291.0	91.5
0° - 60°	17746.3	99.7
0° - 90°	17801.0	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	17801.0	*100.0
	*Efficiency	

		50% beam - 55.7°		10% beam - 79.8°	
Mounting Height	Inital FC Center Beam	Diameter	FC	Diameter	FC
8.0	533.7	5.8	266.9	9.2	53.4
10.0	287.0	7.9	143.5	12.5	28.7
12.0	178.9	10.0	89.4	15.9	17.9
14.0	122.1	12.1	61.0	19.2	12.2
16.0	88.6	14.3	44.3	22.6	8.9

Lumen Output Multiplier		
CRI	CCT	Multplier
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

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6" General Illumination Round Downlight

NLIGHT AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

nLight® AIR Control Accessories

Order as separate catalog number. Visit nLight AIR.

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

nLight® AIR Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

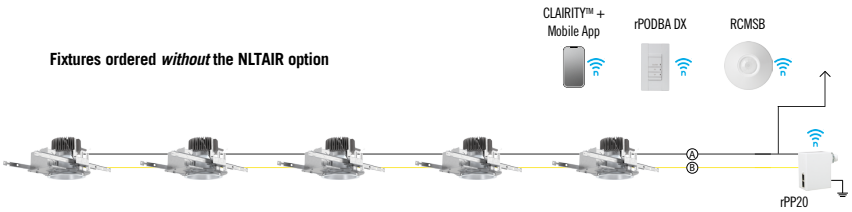
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

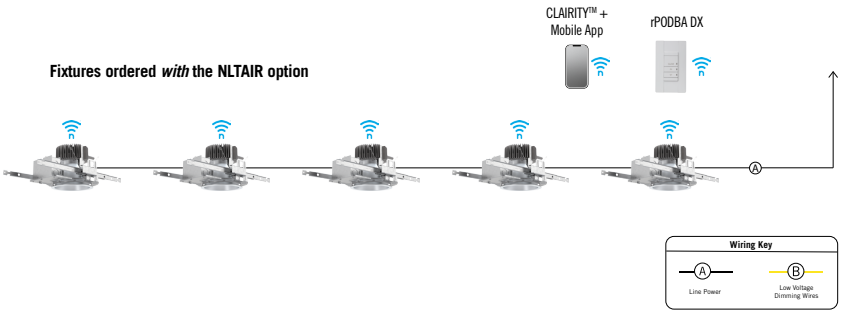
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

Possibilites for nLight® AIR

Fixtures ordered *without* the NLTAIR option



Fixtures ordered *with* the NLTAIR option



NLIGHT

nLight® The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

nLight® Wired Control Accessories

Order as separate catalog number. Visit nLight.

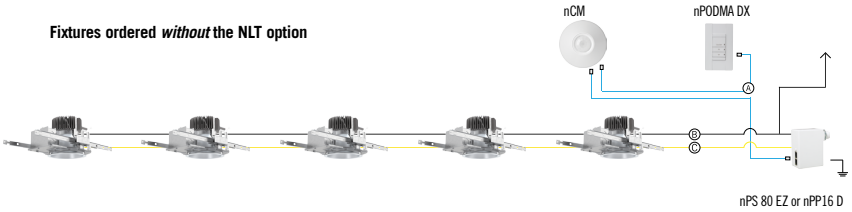
Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)
Photocell Controls	
Dimming	nCM ADCX

nLight® Wired Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX
Cat-5 Cables (plenum rated)	
10', CAT5	CAT5 10FT J1
15', CAT5	CAT5 15FT J1

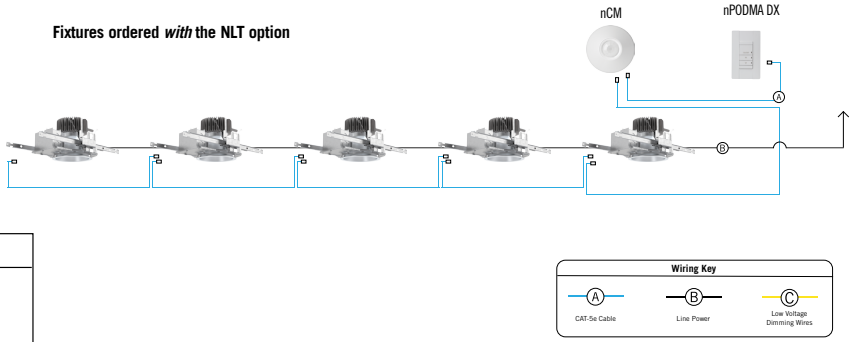
Possibilites for nLight® wired

Fixtures ordered *without* the NLT option



nPS 80 EZ or nPP16 D

Fixtures ordered *with* the NLT option



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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/15 WD MVOLT GZ10 AR LSS Note:	Type DLB

APPROVED

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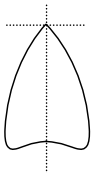
Multiple Layers of Light

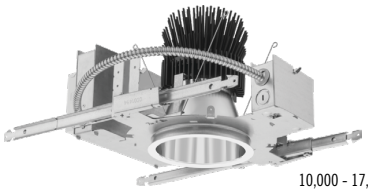


Luminaire Type:

Catalog Number:

General Illumination Round Downlight 6"

250 - 8,000 lumens

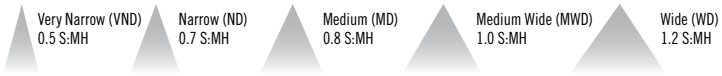


10,000 - 17,500 lumens

Feature Set

- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- ENERGY STAR® certified product*
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution



design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.

*See ordering tree for details

Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000	15,000	17,500
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332	15776	17801
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115.0	150.9	175.3
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2	104.5	101.5

*Based on 3500K AR LSS MWD 80CRI

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

OVERVIEW

COMPLIMENTARY PRODUCTS

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/15 WD MVOLT GZ10 AR LSS Note:	Type DLB

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6" General Illumination Round Downlight

ORDERING INFORMATION

Design Select options indicated by this color background.

Luminaire Type:

Catalog Number:

EXAMPLE: EVO6 35/150 AR MWD LSS MVOLT EZ1

Series	Color Temperature	Nominal Lumen Values		Reflector & Flange Color	Trim Style	Finish
EVO6	27/ 2700 K	02 250 lumens	40 4000 lumens	AR Clear	(blank) Self-flanged	LSS Semi-specular
	30/ 3000 K	05 500 lumens	45 4500 lumens	PR Pewter	FL Flangeless	LD Matte-diffuse
	35/ 3500 K	07 750 lumens	50 5000 lumens	WTR Wheat		LS Specular
	40/ 4000 K	10 1000 lumens	60 6000 lumens	GR Gold		
	50/ 5000 K	15 1500 lumens	80 8000 lumens	WR[1] White		
		20 2000 lumens	100 10000 lumens	BR[1] Black		
		25 2500 lumens	120 12000 lumens	WRAMF[1] White Anti-microbial		
		30 3000 lumens	150 15000 lumens	TRALTBD[1,2] RAL paint for pricing only		
		35 3500 lumens	175 17500 lumens	TCPC[1] Custom paint color		

Distribution	Voltage	Driver[5]	
VND Very Narrow (0.5 s/mh)	MVOLT	GZ10 0-10V driver dims to 10%	EDXB eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Includes termination resistor. Refer to DMXR Manual. Minimum 1000 lumens/Maximum 15000 lumens.
ND Narrow (0.7 s/mh)	120	GZ1 0-10V driver dims to 1%	ECOD[6] Lutron Ecosystem digital Hi-Lume 1% soft-on, fade to black. Max: 4000LM.
MD Medium (0.9 s/mh)	277	EZ10 eldoLED 0-10V ECOdrive. Linear dimming to 10% min.	
MWD Medium Wide (1.0 s/mh)	347[3,4]	EZ1 eldoLED 0-10V ECOdrive. Linear dimming to 1% min.	
WD Wide (1.2 s/mh)		EZB eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	
		EDAB eldoLED SOLOdrive DALI. Logarithmic dimming to <1%.	

Control Interface	Emergency Options	Options
NLT[7] nLight® dimming pack controls	EL Emergency battery pack, 10W, with integral test switch	SF Single fuse. Specify 120V or 277V.
NLTER[3,7,8] nLight® dimming pack controls emergency circuit	ELR Emergency battery pack, 10W, with remote test switch	TRW[11] White painted flange
NLTAIR2[9,10] nLight® AIR enabled	ELSD Emergency battery pack, 10W, with self-diagnostics, integral test switch	TRBL[12] Black painted flange
NLTAIRER2[3,8,10] nLight® AIR enabled emergency	ELRSD Emergency battery pack, 10W, with self-diagnostics, remote test switch	FRALTBD[2] Flange ring only RAL color for pricing only
NLTAIREM2[3,9] nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit with battery pack options.	E10WCP Emergency battery pack, 10W Constant Power, CA Title 20 compliant with integral test switch	FCPC Flange custom paint color
	E10WCPR Emergency battery pack, 10W Constant Power, CA Title 20 compliant with remote test switch	N80[13] nLight® Lumen Compensation
	BGTD Bodine generator transfer device. Specify 120V or 277V.	GTD generator transfer device. Specify 120V or 277V
		90CRI High CRI (90+)
		CP[14] Chicago Plenum. Specify 120V or 277V for 5000lm and above.
		HAO[15] HAO High Ambient Option (40°C)
		RRL_ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only with RRLA, RRLB, RRLAE, and RRLC12S. Refer to RRL spec sheet on www.acuitybrands.com for RELOC® product specifications. Above ceiling access required.

ACCESSORIES – order as separate catalog numbers (shipped separately)

SCA6	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D. Refer to TECH-190.
CTA EVO6	6" Aperture ceiling thickness adapter, for up to 8,000LM (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YK	4"-8" Aperture ceiling thickness adapter for use with EDXB or CP up to 8,000LM, or nTune options (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YKHL	6" Aperture ceiling thickness adapter, for 10,000LM and up (extends mounting frame to accommodate ceiling thickness up to 5"). For use with CWW/DWW trims, EDXB, CP or nTune options.
ISD BC	0-10V wallbox dimmer. Refer to ISD-BC.

ORDERING NOTES

1. Not available with finishes.
2. Replace with applicable RAL number and finish when ready to order. See RAL BROCHURE for available color options. Not available with emergency battery pack options.
3. Not available with emergency battery pack options.
4. Supplied with factory installed step down transformer. Max 5000LM.
5. Refer to TECH-240 for compatible dimmers.
6. Not available with nLight®.
7. Specify voltage.
8. ER for use with generator supply power. Will require an emergency hot feed and normal hot feed.
9. Not available DALI or DMX drivers. Not available with CP or N80 options. Not recommended for metal ceiling installations.
10. When combined with the EZ1, EZ10, or EZB option, normal luminaires (non-emergency) can be used as a normal power sensing device for nearby nLight AIR devices and luminaires with EM emergency options.
11. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with WR (white reflector) or FL (flangeless) option.
12. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with BR (black reflector) or FL (flangeless) option.
13. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
14. 12,000LM max with EL or nLight® options. 5,000LM max with Lutron drivers combined with EL. Not available with ELR, HAO, or EXAB, or any nLight® AIR dimming options.
15. Only available 5000LM - 15,000LM with eldoLED drivers.

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6" **General Illumination Round Downlight**

SPECIFICATIONS

Optical Assembly
Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top-down flash characteristic for superior glare control.
Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment.

Electrical
The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.
Input wires shall be 18AWG, 300V minimum, solid copper.

Controls
Luminaire shall be equipped with interface for nLight wired or wireless network with integral power supply as per specification.

Dimming
The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.
eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.
Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction
Fully serviceable and upgradeable lensed LED light engine, both the driver and light engine are suitable for field maintenance and are serviceable from above or below the ceiling.
Luminaire housing shall be constructed of 16-gauge galvanized steel and have preinstalled telescopic mounting bars with maximum 32" and minimum 15" extension and 4" vertical adjustment.
Luminaires shall be suitable for installation in ceilings up to 1½" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 5").
Tool-less adjustments shall be possible after installation.
The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration.
25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise). 40°C high ambient optional.

Listings
Fixtures are CSA certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, wet location covered ceiling. Luminaire configurations are Energy Star certified through testing in EPA–recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit www.energystar.gov for specific configurations listed. *Not all configurations are Energy Star listed.

BUY AMERICAN ACT
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

Photometrics
LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.
Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:
Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

A+ Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.
To learn more about A+, visit www.acuitybrands.com/aplus.

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6" General Illumination Round Downlight

Tables of Use

Marked Spacing in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
500-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EXA1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic	Linear
EXAB	<1%	Logarithmic	Linear
EDXB	<1%	Square	Linear

Marked Spacing in Inches 40°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
5000	24	12	5
6000			
8000	48	24	9
10000			
12000			
15000	72	36	9

Marked Spacing Chicago Plenum Open Frame in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

Marked Spacing Chicago Plenum Enclosure in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-6000	None	None	None
8000	36	18	6
10000	48	24	3
12000			

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

How to Estimate Delivered Lumens in Emergency Mode

Delivered Lumens = 1.25 x P x LPW

P = Output power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

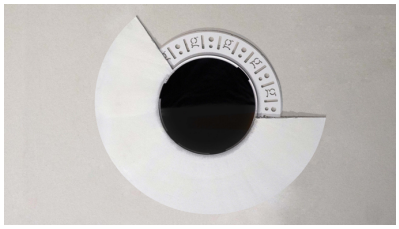
Flangeless

Flangeless Installation

Gotham's flangeless option utilizes a micro-thin polymer mud ring that minimizes the amount of drywall compound required to finish the ceiling. The end result is a virtually undetectable flangeless downlight installation.

The polymer mud ring is installed independent of the of the recessed frame, therefore floating with the ceiling. This innovation minimizes any surface cracks during reflector installation, ceiling movement and any future service to the recessed frame, wiring, electronics, etc.

Partially finished mud ring, showing cross-section detail.



An EVO downlight requires only approximately 3" of plaster to finish.

EVO with flangeless trim

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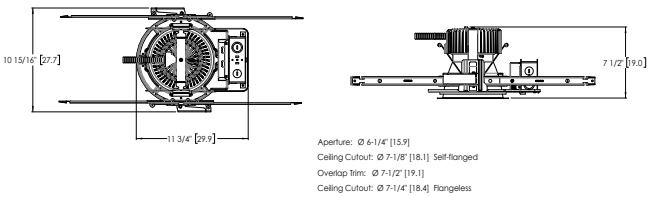
6" General Illumination Round Downlight

DIMENSIONAL DATA

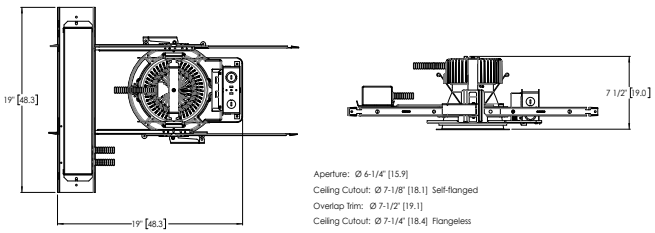
*Dimensions in inches [centimeters]

Aperture: 6 1/4" [15.9)]	Ceiling Opening: 7 1/8" [18.1] self-flanged
Overlap Trim: 7 1/2" [19.1]	7 1/4" [18.4] flangeless

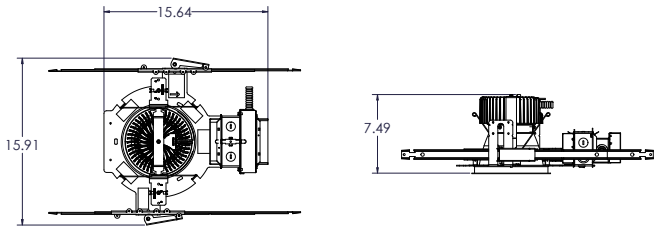
250LM-5000LM Standard



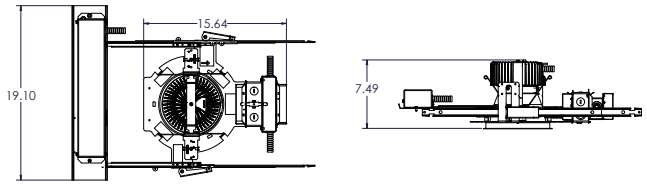
250LM-5000LM Battery Pack



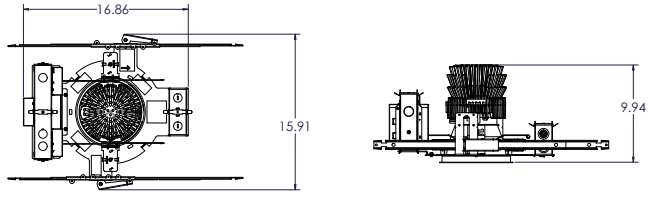
6000LM-8000LM Standard



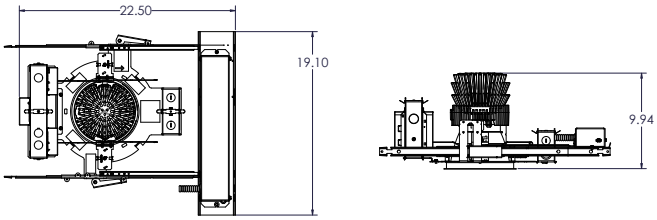
6000LM-8000LM Battery Pack



10,000LM-17,500LM Standard



10,000LM-17,500LM Battery Pack



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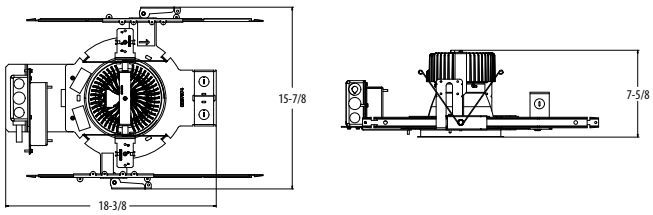
6" General Illumination Round Downlight

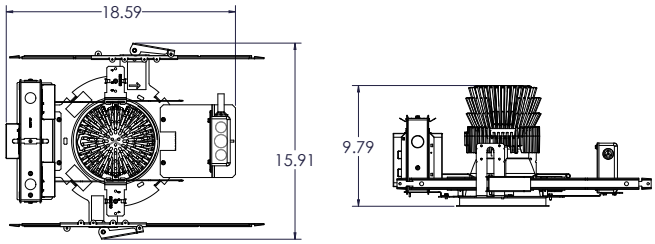
DIMENSIONAL DATA

*Dimensions in inches [centimeters]

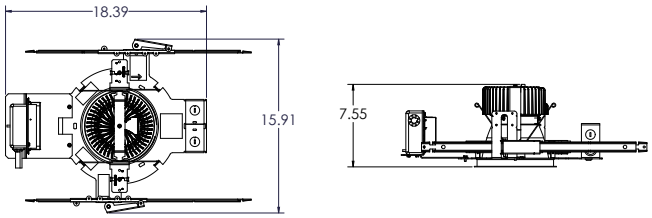
250LM-4500LM CP



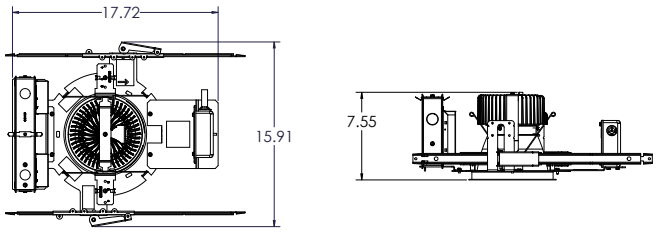
10000LM - 17,500LM Lumen Open Frame CP



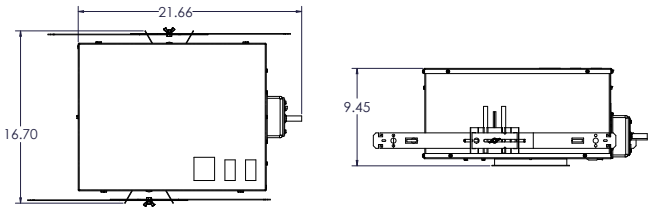
5000LM ECO/SOLO Drive Open Frame CP



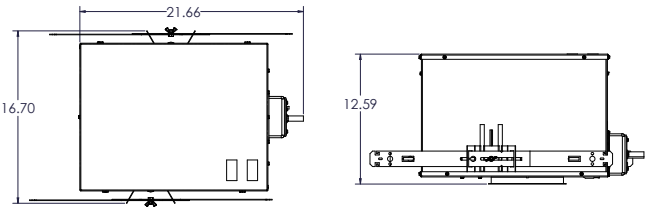
5000LM (Lutron & POWER Drive Only), 6000LM & 8000LM Open Frame CP



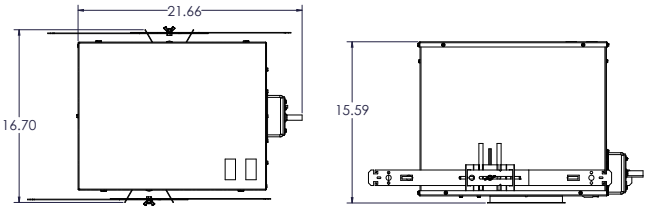
250LM - 6000LM CP Enclosed with Battery Pack and/or nLight™ Only



8,000LM CP Enclosed with Battery Pack and/or nLight™ Only



10,000LM-12,000LM CP Enclosed with Battery Pack and/or nLight™ Only



GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com
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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/15 WD MVOLT GZ10 AR LSS Note:	Type DLB

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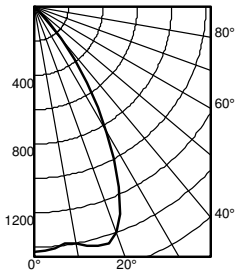
6" **General Illumination Round Downlight**

Photometry

EV06 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P1505

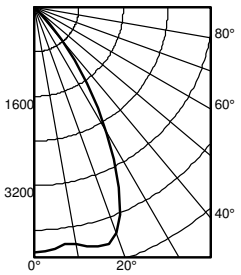


	Ave	Lumens
0	1431	
5	1410	134
15	1442	405
25	1161	523
35	540	332
45	78	72
55	3	4
65	1	1
75	0	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1061.4	72.2
0° - 40°	1393.5	94.7
0° - 60°	1469.5	99.9
0° - 90°	1470.9	100.0
90° - 180°	0.0	0.0
0° - 180°	1470.9	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	47.3	5.7	23.7	8.9	4.7
10.0	25.4	7.7	12.7	12.1	2.5
12.0	15.9	9.8	7.9	15.3	1.6
14.0	10.8	11.8	5.4	18.6	1.1
16.0	7.9	13.9	3.9	21.8	0.8

EV06 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P1649

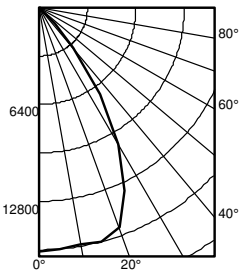


	Ave	Lumens
0	4411	
5	4346	413
15	4443	1247
25	3578	1610
35	1665	1024
45	242	222
55	8	12
65	2	3
75	1	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	3270.7	72.2
0° - 40°	4294.2	94.7
0° - 60°	4528.3	99.9
0° - 90°	4532.7	100.0
90° - 180°	0.0	0.0
0° - 180°	4532.7	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	145.8	5.7	72.9	8.9	14.6
10.0	78.4	7.7	39.2	12.1	7.8
12.0	48.9	9.8	24.4	15.3	4.9
14.0	33.4	11.8	16.7	18.6	3.3
16.0	24.2	13.9	12.1	21.8	2.4

EV06 35/175 AR MWD LS INPUT WATTS: 175.3, DELIVERED LUMENS: 17801LM, LPW=101.5, 1.06 S/MH, TEST NO. ISF 34035P268



	Ave	Lumens
0	16146	
5	15998	1521
15	16006	4479
25	13362	6001
35	7018	4289
45	1470	1299
55	100	156
65	37	38
75	13	14
85	2	2
90	0	

Zone	Lumens	% Lamp
0° - 30°	12002.3	67.4
0° - 40°	16291.0	91.5
0° - 60°	17746.3	99.7
0° - 90°	17801.0	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	17801.0	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 55.7° Diameter	50% beam - 55.7° FC	10% beam - 79.8° Diameter	10% beam - 79.8° FC
8.0	533.7	5.8	266.9	9.2	53.4
10.0	287.0	7.9	143.5	12.5	28.7
12.0	178.9	10.0	89.4	15.9	17.9
14.0	122.1	12.1	61.0	19.2	12.2
16.0	88.6	14.3	44.3	22.6	8.9

Lumen Output Multiplier		
CRI	**CCT**	**Multplier**
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Reflector Finish Multiplier	
Reflector Finish	**Multiplier**
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Distributions		
Nomenclature	**Beam Angle**	**Field Angle**
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

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6" General Illumination Round Downlight

NLIGHT AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

nLight® AIR Control Accessories

Order as separate catalog number. Visit nLight AIR.

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

nLight® AIR Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

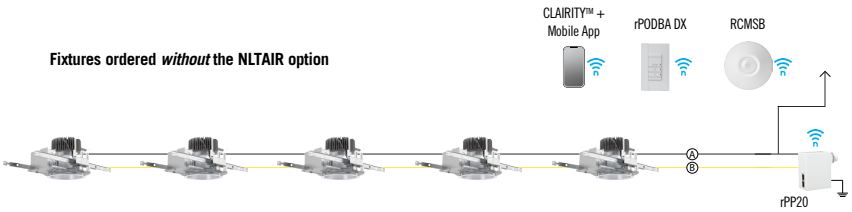
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

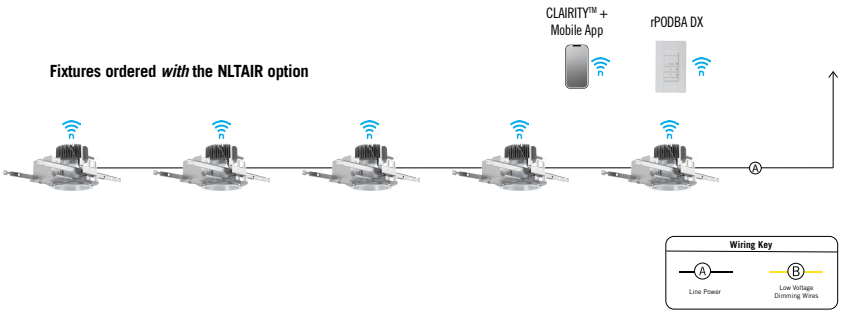
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

Possibilites for nLight® AIR

Fixtures ordered *without* the NLTAIR option



Fixtures ordered *with* the NLTAIR option



NLIGHT

nLight® The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

nLight® Wired Control Accessories

Order as separate catalog number. Visit nLight.

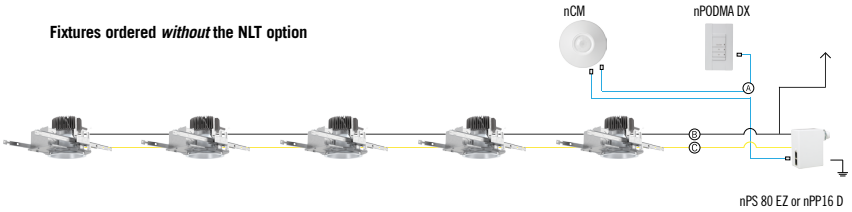
Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)
Photocell Controls	
Dimming	nCM ADCX

nLight® Wired Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX
Cat-5 Cables (plenum rated)	
10', CAT5	CAT5 10FT J1
15', CAT5	CAT5 15FT J1

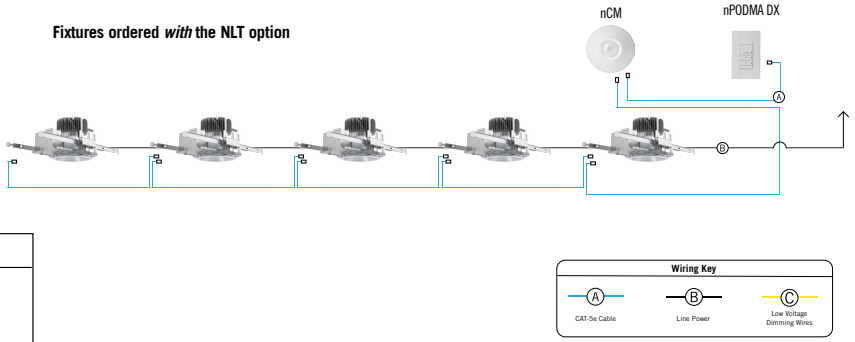
Possibilites for nLight® wired

Fixtures ordered *without* the NLT option



nPS 80 EZ or nPP16 D

Fixtures ordered *with* the NLT option



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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/15 WD MVOLT GZ10 E10WCP AR LSS Note:	Type DLBE

APPROVED

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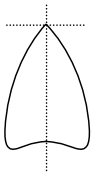
Multiple Layers of Light

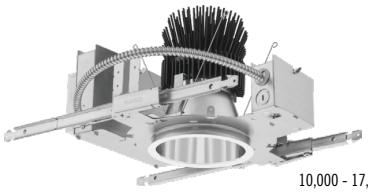


Luminaire Type:

Catalog Number:

General Illumination Round Downlight 6"

250 - 8,000 lumens

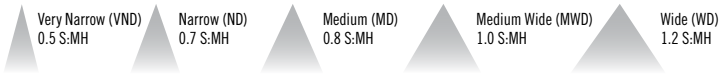


10,000 - 17,500 lumens

Feature Set

- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- ENERGY STAR® certified product*
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution



design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.

*See ordering tree for details

Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000	15,000	17,500
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332	15776	17801
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115.0	150.9	175.3
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2	104.5	101.5

*Based on 3500K AR LSS MWD 80CRI

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

OVERVIEW

COMPLIMENTARY PRODUCTS

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/15 WD MVOLT GZ10 E10WCP AR LSS Note:	Type DLBE

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6" General Illumination Round Downlight

ORDERING INFORMATION

Design Select options indicated by this color background.

Luminaire Type:

Catalog Number:

EXAMPLE: EVO6 35/150 AR MWD LSS MVOLT EZ1

Series	Color Temperature	Nominal Lumen Values		Reflector & Flange Color	Trim Style	Finish
EVO6	27/ 2700 K	02 250 lumens	40 4000 lumens	AR Clear	(blank) Self-flanged	LSS Semi-specular
	30/ 3000 K	05 500 lumens	45 4500 lumens	PR Pewter	FL Flangeless	LD Matte-diffuse
	35/ 3500 K	07 750 lumens	50 5000 lumens	WTR Wheat		LS Specular
	40/ 4000 K	10 1000 lumens	60 6000 lumens	GR Gold		
	50/ 5000 K	15 1500 lumens	80 8000 lumens	WR[1] White		
		20 2000 lumens	100 10000 lumens	BR[1] Black		
		25 2500 lumens	120 12000 lumens	WRAMF[1] White Anti-microbial		
		30 3000 lumens	150 15000 lumens	TRALTBD[1,2] RAL paint for pricing only		
		35 3500 lumens	175 17500 lumens	TCPC[1] Custom paint color		

Distribution	Voltage	Driver[5]	
VND Very Narrow (0.5 s/mh)	MVOLT	GZ10 0-10V driver dims to 10%	EDXB eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Includes termination resistor. Refer to DMXR Manual. Minimum 1000 lumens/Maximum 15000 lumens.
ND Narrow (0.7 s/mh)	120	GZ1 0-10V driver dims to 1%	ECOD[6] Lutron Ecosystem digital Hi-Lume 1% soft-on, fade to black. Max: 4000LM.
MD Medium (0.9 s/mh)	277	EZ10 eldoLED 0-10V ECOdrive. Linear dimming to 10% min.	
MWD Medium Wide (1.0 s/mh)	347[3,4]	EZ1 eldoLED 0-10V ECOdrive. Linear dimming to 1% min.	
WD Wide (1.2 s/mh)		EZB eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	
		EDAB eldoLED SOLOdrive DALI. Logarithmic dimming to <1%.	

Control Interface	Emergency Options	Options
NLT[7] nLight® dimming pack controls	EL Emergency battery pack, 10W, with integral test switch	SF Single fuse. Specify 120V or 277V.
NLTER[3,7,8] nLight® dimming pack controls emergency circuit	ELR Emergency battery pack, 10W, with remote test switch	TRW[11] White painted flange
NLTAIR2[9,10] nLight® AIR enabled	ELSD Emergency battery pack, 10W, with self-diagnostics, integral test switch	TRBL[12] Black painted flange
NLTAIRER2[3,8,10] nLight® AIR enabled emergency	ELRSD Emergency battery pack, 10W, with self-diagnostics, remote test switch	FRALTBD[2] Flange ring only RAL color for pricing only
NLTAIREM2[3,9] nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit with battery pack options.	E10WCP Emergency battery pack, 10W Constant Power, CA Title 20 compliant with integral test switch	FCPC Flange custom paint color
	E10WCPR Emergency battery pack, 10W Constant Power, CA Title 20 compliant with remote test switch	N80[13] nLight® Lumen Compensation
	BGTD Bodine generator transfer device. Specify 120V or 277V.	GTD generator transfer device. Specify 120V or 277V
		90CRI High CRI (90+)
		CP[14] Chicago Plenum. Specify 120V or 277V for 5000lm and above.
		HAO[15] HAO High Ambient Option (40°C)
		RRL_ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Available only with RRLA, RRLB, RRLAE, and RRLC12S. Refer to RRL spec sheet on www.acuitybrands.com for RELOC® product specifications. Above ceiling access required.

ACCESSORIES – order as separate catalog numbers (shipped separately)

SCA6	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D. Refer to TECH-190.
CTA EVO6	6" Aperture ceiling thickness adapter, for up to 8,000LM (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YK	4"-8" Aperture ceiling thickness adapter for use with EDXB or CP up to 8,000LM, or nTune options (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YKHL	6" Aperture ceiling thickness adapter, for 10,000LM and up (extends mounting frame to accommodate ceiling thickness up to 5"). For use with CWW/DWW trims, EDXB, CP or nTune options.
ISD BC	0-10V wallbox dimmer. Refer to ISD-BC.

ORDERING NOTES

1. Not available with finishes.
2. Replace with applicable RAL number and finish when ready to order. See RAL BROCHURE for available color options. Not available with emergency battery pack options.
3. Not available with emergency battery pack options.
4. Supplied with factory installed step down transformer. Max 5000LM.
5. Refer to TECH-240 for compatible dimmers.
6. Not available with nLight®.
7. Specify voltage.
8. ER for use with generator supply power. Will require an emergency hot feed and normal hot feed.
9. Not available DALI or DMX drivers. Not available with CP or N80 options. Not recommended for metal ceiling installations.
10. When combined with the EZ1, EZ10, or EZB option, normal luminaires (non-emergency) can be used as a normal power sensing device for nearby nLight AIR devices and luminaires with EM emergency options.
11. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with WR (white reflector) or FL (flangeless) option.
12. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with BR (black reflector) or FL (flangeless) option.
13. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
14. 12,000LM max with EL or nLight® options. 5,000LM max with Lutron drivers combined with EL. Not available with ELR, HAO, or EXAB, or any nLight® AIR dimming options.
15. Only available 5000LM - 15,000LM with eldoLED drivers.

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6" **General Illumination Round Downlight**

SPECIFICATIONS

Optical Assembly
Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top-down flash characteristic for superior glare control.
Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment.

Electrical
The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.
Input wires shall be 18AWG, 300V minimum, solid copper.

Controls
Luminaire shall be equipped with interface for nLight wired or wireless network with integral power supply as per specification.

Dimming
The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.
eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.
Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction
Fully serviceable and upgradeable lensed LED light engine, both the driver and light engine are suitable for field maintenance and are serviceable from above or below the ceiling.
Luminaire housing shall be constructed of 16-gauge galvanized steel and have preinstalled telescopic mounting bars with maximum 32" and minimum 15" extension and 4" vertical adjustment.
Luminaires shall be suitable for installation in ceilings up to 1½" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 5").
Tool-less adjustments shall be possible after installation.
The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration.
25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise). 40°C high ambient optional.

Listings
Fixtures are CSA certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, wet location covered ceiling. Luminaire configurations are Energy Star certified through testing in EPA–recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit www.energystar.gov for specific configurations listed. *Not all configurations are Energy Star listed.

BUY AMERICAN ACT
This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

Photometrics
LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.
Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:
Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

A+ Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.
To learn more about A+, visit www.acuitybrands.com/aplus.

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com
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6" General Illumination Round Downlight

Tables of Use

Marked Spacing in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
500-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EXA1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic	Linear
EXAB	<1%	Logarithmic	Linear
EDXB	<1%	Square	Linear

Marked Spacing in Inches 40°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
5000	24	12	5
6000			
8000	48	24	9
10000			
12000			
15000	72	36	9

Marked Spacing Chicago Plenum Open Frame in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-5000	None	None	None
6000	24	12	5
8000	36	18	11
10000			9
12000			
15000			
17500	72	36	

Marked Spacing Chicago Plenum Enclosure in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-6000	None	None	None
8000	36	18	6
10000	48	24	3
12000			

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

How to Estimate Delivered Lumens in Emergency Mode

Delivered Lumens = 1.25 x P x LPW

P = Output power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

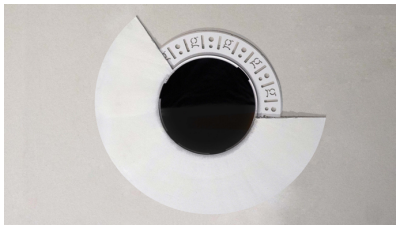
Flangeless

Flangeless Installation

Gotham's flangeless option utilizes a micro-thin polymer mud ring that minimizes the amount of drywall compound required to finish the ceiling. The end result is a virtually undetectable flangeless downlight installation.

The polymer mud ring is installed independent of the of the recessed frame, therefore floating with the ceiling. This innovation minimizes any surface cracks during reflector installation, ceiling movement and any future service to the recessed frame, wiring, electronics, etc.

Partially finished mud ring, showing cross-section detail.



An EVO downlight requires only approximately 3" of plaster to finish.

EVO with flangeless trim

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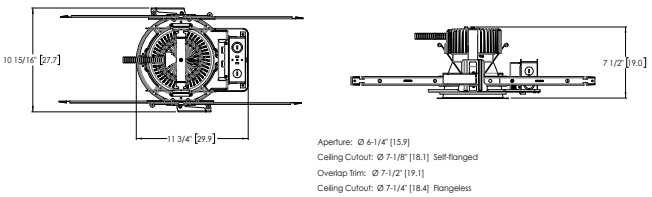
6" General Illumination Round Downlight

DIMENSIONAL DATA

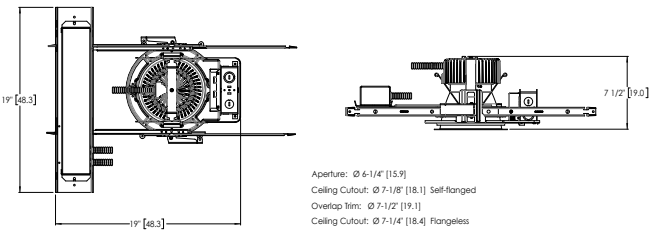
*Dimensions in inches [centimeters]

Aperture: 6 1/4" [15.9)]	Ceiling Opening: 7 1/8" [18.1] self-flanged
Overlap Trim: 7 1/2" [19.1]	7 1/4" [18.4] flangeless

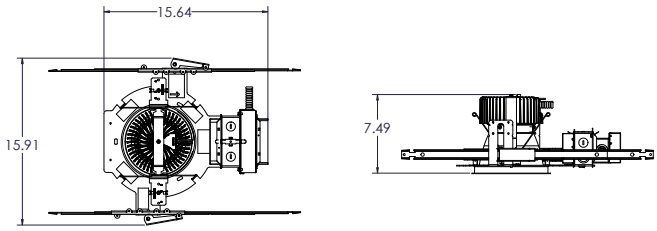
250LM-5000LM Standard



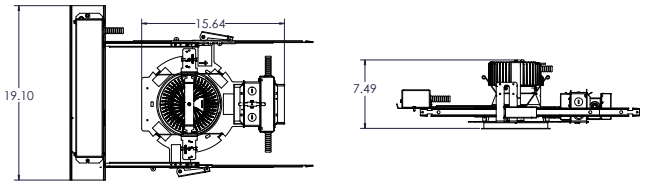
250LM-5000LM Battery Pack



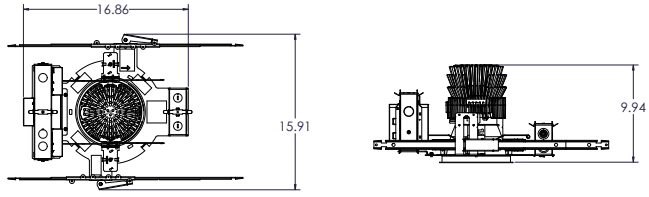
6000LM-8000LM Standard



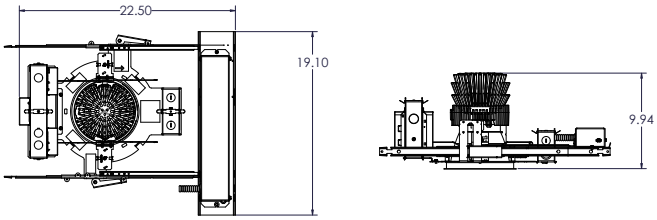
6000LM-8000LM Battery Pack



10,000LM-17,500LM Standard



10,000LM-17,500LM Battery Pack



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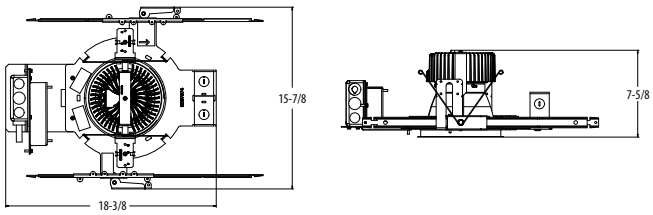
6" General Illumination Round Downlight

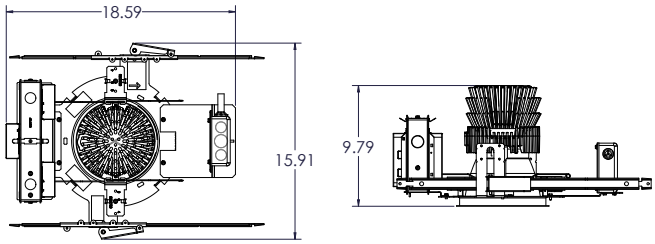
DIMENSIONAL DATA

*Dimensions in inches [centimeters]

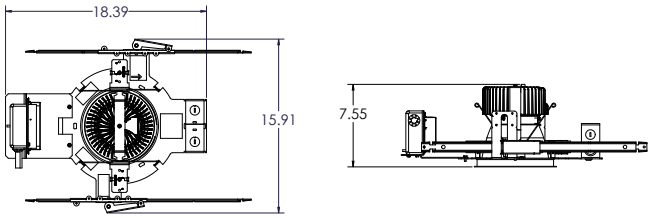
250LM-4500LM CP



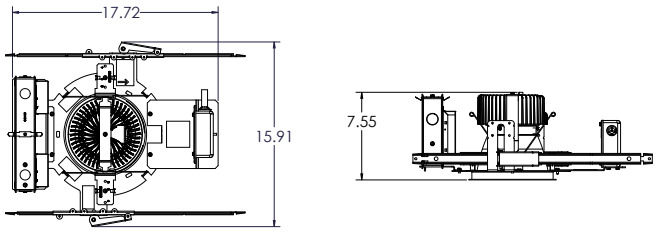
10000LM - 17,500LM Lumen Open Frame CP



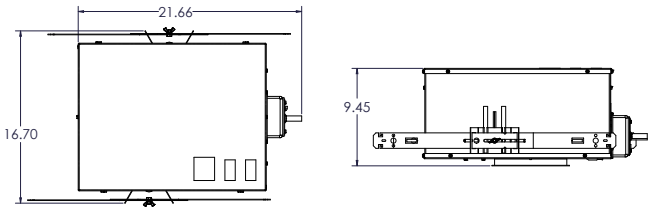
5000LM ECO/SOLO Drive Open Frame CP



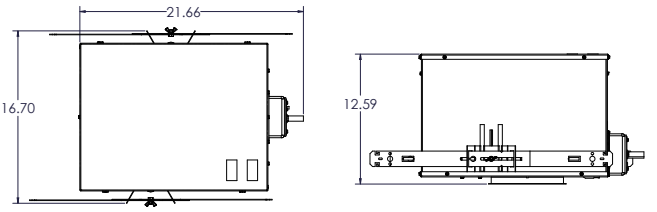
5000LM (Lutron & POWER Drive Only), 6000LM & 8000LM Open Frame CP



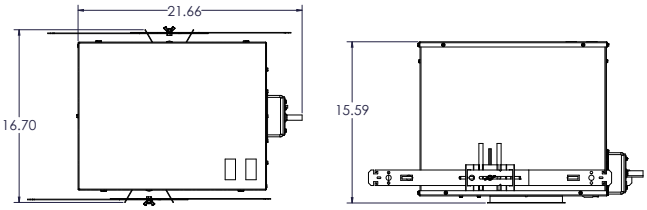
250LM - 6000LM CP Enclosed with Battery Pack and/or nLight™ Only



8,000LM CP Enclosed with Battery Pack and/or nLight™ Only



10,000LM-12,000LM CP Enclosed with Battery Pack and/or nLight™ Only



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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6 40/15 WD MVOLT GZ10 E10WCP AR LSS Note:	Type DLBE

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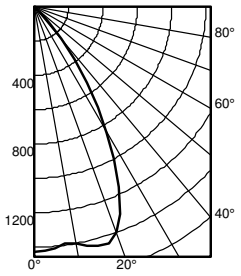
6" **General Illumination Round Downlight**

Photometry

EV06 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P1505

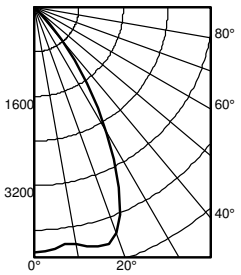


	Ave	Lumens
0	1431	
5	1410	134
15	1442	405
25	1161	523
35	540	332
45	78	72
55	3	4
65	1	1
75	0	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1061.4	72.2
0° - 40°	1393.5	94.7
0° - 60°	1469.5	99.9
0° - 90°	1470.9	100.0
90° - 180°	0.0	0.0
0° - 180°	1470.9	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	47.3	5.7	23.7	8.9	4.7
10.0	25.4	7.7	12.7	12.1	2.5
12.0	15.9	9.8	7.9	15.3	1.6
14.0	10.8	11.8	5.4	18.6	1.1
16.0	7.9	13.9	3.9	21.8	0.8

EV06 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P1649

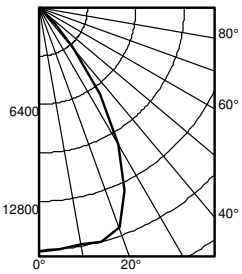


	Ave	Lumens
0	4411	
5	4346	413
15	4443	1247
25	3578	1610
35	1665	1024
45	242	222
55	8	12
65	2	3
75	1	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	3270.7	72.2
0° - 40°	4294.2	94.7
0° - 60°	4528.3	99.9
0° - 90°	4532.7	100.0
90° - 180°	0.0	0.0
0° - 180°	4532.7	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	145.8	5.7	72.9	8.9	14.6
10.0	78.4	7.7	39.2	12.1	7.8
12.0	48.9	9.8	24.4	15.3	4.9
14.0	33.4	11.8	16.7	18.6	3.3
16.0	24.2	13.9	12.1	21.8	2.4

EV06 35/175 AR MWD LS INPUT WATTS: 175.3, DELIVERED LUMENS: 17801LM, LPW=101.5, 1.06 S/MH, TEST NO. ISF 34035P268



	Ave	Lumens
0	16146	
5	15998	1521
15	16006	4479
25	13362	6001
35	7018	4289
45	1470	1299
55	100	156
65	37	38
75	13	14
85	2	2
90	0	

Zone	Lumens	% Lamp
0° - 30°	12002.3	67.4
0° - 40°	16291.0	91.5
0° - 60°	17746.3	99.7
0° - 90°	17801.0	100.0
90° - 120°	0.0	0.0
90° - 130°	0.0	0.0
90° - 150°	0.0	0.0
90° - 180°	0.0	0.0
0° - 180°	17801.0	*100.0
	*Efficiency	

Mounting Height	Inital FC Center Beam	50% beam - 55.7° Diameter	50% beam - 55.7° FC	10% beam - 79.8° Diameter	10% beam - 79.8° FC
8.0	533.7	5.8	266.9	9.2	53.4
10.0	287.0	7.9	143.5	12.5	28.7
12.0	178.9	10.0	89.4	15.9	17.9
14.0	122.1	12.1	61.0	19.2	12.2
16.0	88.6	14.3	44.3	22.6	8.9

Lumen Output Multiplier		
CRI	CCT	Multplier
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

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6" General Illumination Round Downlight

NLIGHT AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

nLight® AIR Control Accessories
Order as separate catalog number. Visit nLight AIR.

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

nLight® AIR Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

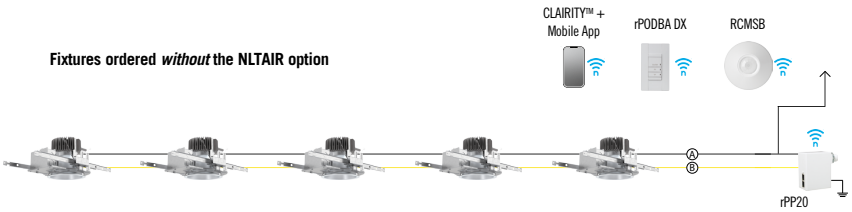
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

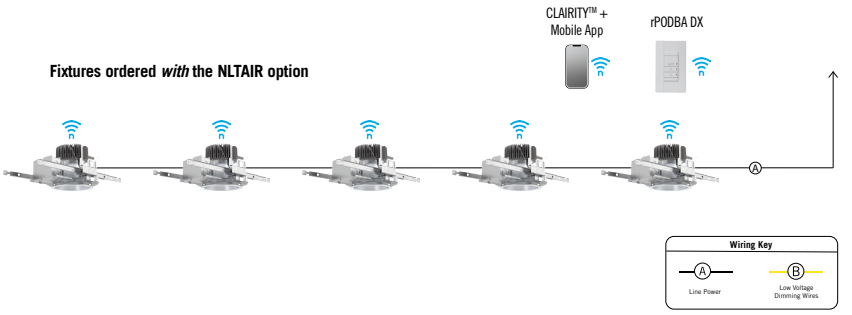
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

Possibilites for nLight® AIR

Fixtures ordered *without* the NLTAIR option



Fixtures ordered *with* the NLTAIR option



NLIGHT

nLight® The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

nLight® Wired Control Accessories
Order as separate catalog number. Visit nLight.

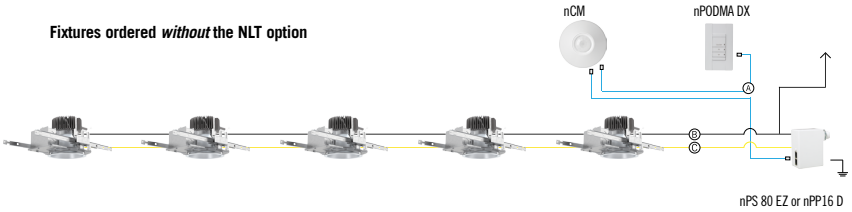
Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)
Photocell Controls	
Dimming	nCM ADCX

nLight® Wired Control Accessories *(cont.)*

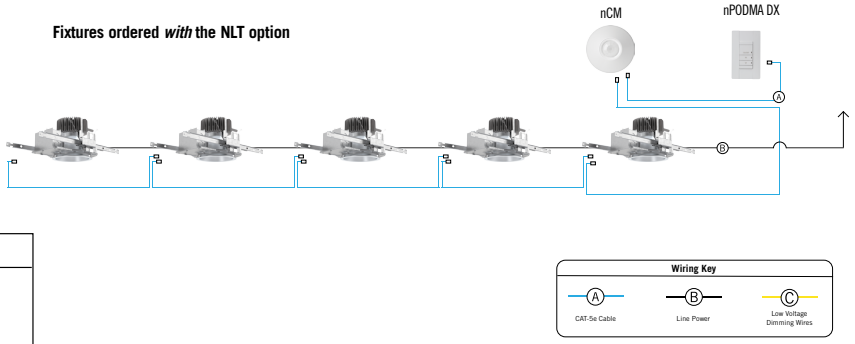
Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX
Cat-5 Cables (plenum rated)	
10', CAT5	CAT5 10FT J1
15', CAT5	CAT5 15FT J1

Possibilites for nLight® wired

Fixtures ordered *without* the NLT option



Fixtures ordered *with* the NLT option



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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: UFO-150W-90-WH-120CL-40K-PMC 3/4-DM-WG Note:	Type HB

APPROVED

ALL GREEN LIGHTING, INC.

UFO Series

Product Description:

The UFO Series delivers exceptional lumens with an efficacy of up to 135 lm/w. This luminaire has a life span of over 100,000 calculated hours and can be mounted in a variety of ways such as via hanging ring, hook, wall mount, and also pendant mount using an adapter connector. The mounting options can be customized upon special request. This luminaire is popular for its sleek and modern design, and has been nationally lab-tested in accordance to IES standards and is highly resistant to shock and vibration.

Features:

- **Application:** LED High Bay
- **Mounting:** Hook / Hanging Ring / Pendant / Wall
- **Warranty:** 5 Years (fixture) 2 Years (EM battery)
- **LED Driver:** Meanwell
- **LED Source:** Philips Lumileds Luxeon 3030
- **Operating Temperature:** -40˚F ~ 122˚F

Technical Data:

Certifications	**ETL**
CRI	**70/80**
IP Rating	**IP65 (IP67 optional)**
CCT	**3000K ~ 5700K**
Input Voltage	**90-305V or 347-480V**

Specifications:

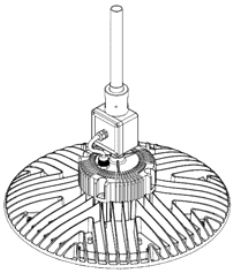
Fixture Model	Total Lumens (5000K)	Efficacy (lm/w)	Dimensions (diameter x height in inches)	Weight (lbs)	Beam Angle
UFO-70W	10,500 lm	>135 lm/W	12.6" x 6.7"	8.8	120˚ Symmetric Circular Spread
UFO-90W	13,900 lm	>135 lm/W	12.6" x 6.7"	8.8	
UFO-120W	18,200 lm	>135 lm/W	16.9" x 6.2"	14.08	
UFO-150W	21,624 lm	>135 lm/W	16.9" x 6.2"	14.08	
UFO-200W	25,586 lm	>127 lm/W	16.9" x 6.3"	14.96	

Mounting Options:

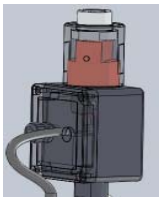
Wall Mount:

Hanging Ring:

Pendant Mount:



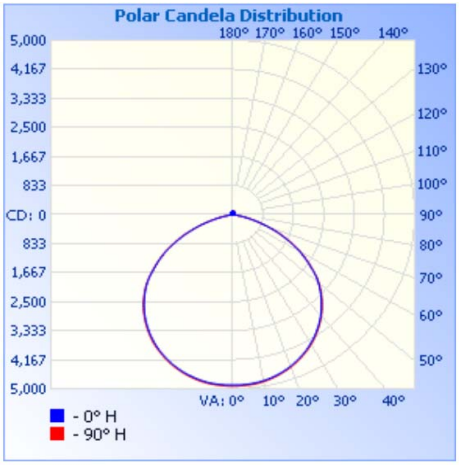
1/2"NPT or 3/4" NPT

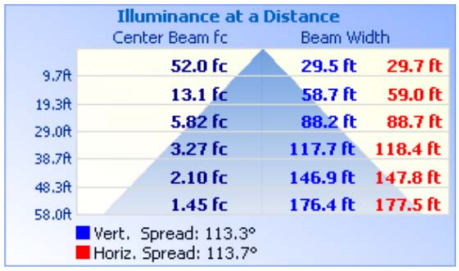


AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: UFO-150W-90-WH-120CL-40K-PMC 3/4-DM-WG Note:	Type HB

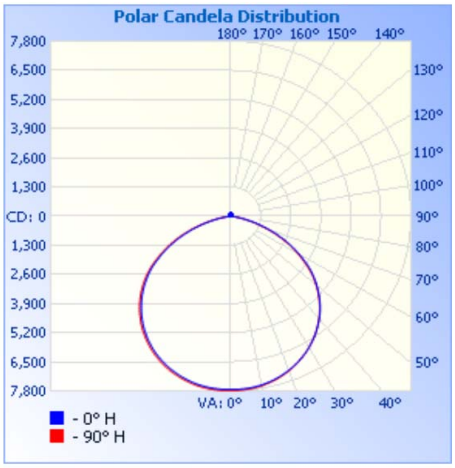
Photometrics:

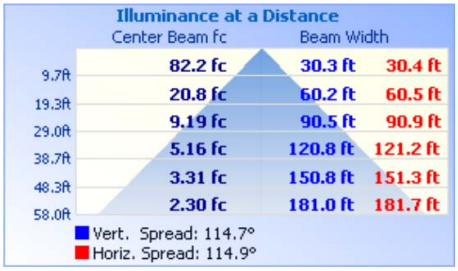
UFO-90W-120deg





UFO-150W-120deg





Ordering Guide:

UFO-150W	90-	WH	120° CL	40K	PMC 1/2"	IP67 - EMIP65

Wattage:
70W
90W
120W
150W
200W

Voltage:
90-305V
347-480V

Color:
BL: Black
WH: White

Lens:
Clear Lens
120° CL
Frosted Lens
120° FR

CCT:
30K
40K
50K
57K

Mount:
HR: Hanging Ring
WM: Wall
YM: Yoke Mount
(can be used for Pendant)
PMC 1/2: 1/2" NPT
Pendant Connector
PMC 3/4: 3/4" NPT
Pendant Connector

Optional Accessories:
DM: 0-10V Dimming
IP67: IP67 rating
MS: Motion Sensor

PCR:
PC Reflector

WG: Wire Guard

UL: 8W Up-Light

EMIP40: IP40 Emergency Back up Battery
EMIP65: IP65 Emergency Back up Battery

IP65CC-Length: Cord with IP65 connector + Length (standard is 1 ft)

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: UFO-150W-90-WH-120CL-40K-PMC 3/4-DM-WG Note: FIXTURE FED FROM INVERTER	Type HBE

APPROVED

ALL GREEN LIGHTING, INC.

UFO Series

Product Description:

The UFO Series delivers exceptional lumens with an efficacy of up to 135 lm/w. This luminaire has a life span of over 100,000 calculated hours and can be mounted in a variety of ways such as via hanging ring, hook, wall mount, and also pendant mount using an adapter connector. The mounting options can be customized upon special request. This luminaire is popular for its sleek and modern design, and has been nationally lab-tested in accordance to IES standards and is highly resistant to shock and vibration.

Features:

- **Application:** LED High Bay
- **Mounting:** Hook / Hanging Ring / Pendant / Wall
- **Warranty:** 5 Years (fixture) 2 Years (EM battery)
- **LED Driver:** Meanwell
- **LED Source:** Philips Lumileds Luxeon 3030
- **Operating Temperature:** -40˚F ~ 122˚F

Technical Data:

Certifications	**ETL**
CRI	**70/80**
IP Rating	**IP65 (IP67 optional)**
CCT	**3000K ~ 5700K**
Input Voltage	**90-305V or 347-480V**

Specifications:

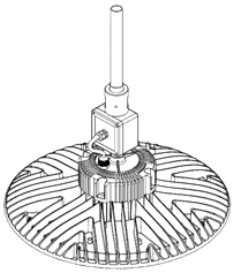
Fixture Model	Total Lumens (5000K)	Efficacy (lm/w)	Dimensions (diameter x height in inches)	Weight (lbs)	Beam Angle
UFO-70W	10,500 lm	>135 lm/W	12.6" x 6.7"	8.8	120˚ Symmetric Circular Spread
UFO-90W	13,900 lm	>135 lm/W	12.6" x 6.7"	8.8	
UFO-120W	18,200 lm	>135 lm/W	16.9" x 6.2"	14.08	
UFO-150W	21,624 lm	>135 lm/W	16.9" x 6.2"	14.08	
UFO-200W	25,586 lm	>127 lm/W	16.9" x 6.3"	14.96	

Mounting Options:

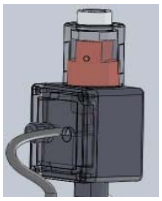
Wall Mount:

Hanging Ring:

Pendant Mount:



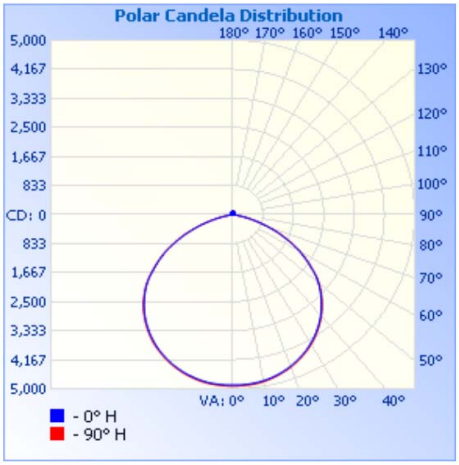
1/2"NPT or 3/4" NPT

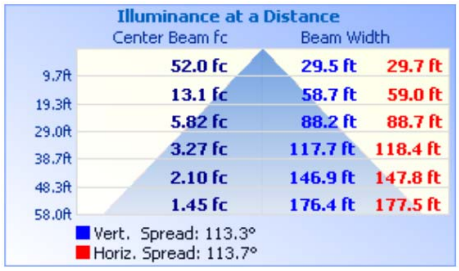


AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: UFO-150W-90-WH-120CL-40K-PMC 3/4-DM-WG Note: FIXTURE FED FROM INVERTER	Type HBE

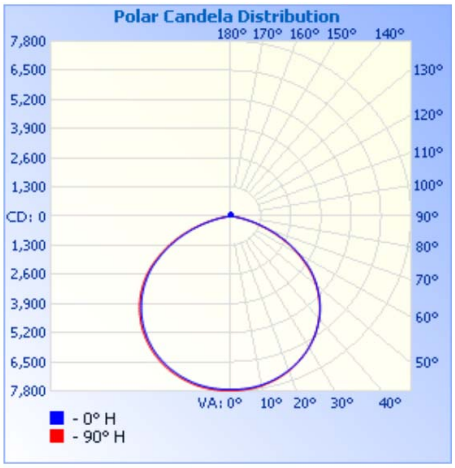
Photometrics:

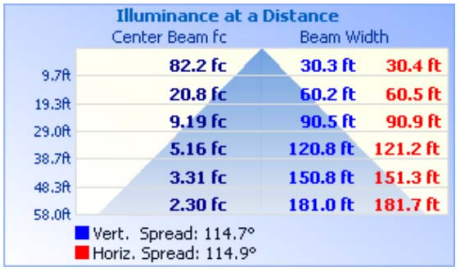
UFO-90W-120deg





UFO-150W-120deg





Ordering Guide:

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Lens:
Clear Lens
120° CL
Frosted Lens
120° FR

CCT:
30K
40K
50K
57K

Mount:
HR: Hanging Ring
WM: Wall
YM: Yoke Mount
(can be used for Pendant)
PMC 1/2: 1/2" NPT
Pendant Connector
PMC 3/4: 3/4" NPT
Pendant Connector

Optional Accessories:
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PCR:
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WG: Wire Guard

UL: 8W Up-Light

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IP65CC-Length: Cord with IP65 connector + Length (standard is 1 ft)

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: BLT4 60L ADP GZ10 E10WLCP LP840 Note:	Type L14E

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/4") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The BLT reflector is available in both smooth and ribbed finishes. Choose RB from the fixture style section below for a ribbed finish.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A typically configured BLT4 features a **Unified Glare Rating (UGR)** starting at 17, UGR data available on page 8. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless RIO, RES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive mobile app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

SENSOR — Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CL**AIR**ITY+, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — The BLT's low profile design of only 2-3/4" provides increased installation flexibility especially in restrictive plenum applications. Designed for use in NEMA standard Type G (1" & 15/16"), NFG (9/16"), and SS (9/16") grid ceilings. Consult factory about other ceiling types.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. Tested in accordance with ISO 14644-1; suitable for use in ISO 5-9 positive and negative pressure clean rooms.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Catalog Number
Notes
Type

BLT Series LED

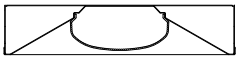
BLT4

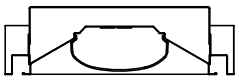
1' x 4'
LED

Specifications

Length: 47-3/4 (121.2)
Width: 11-3/4 (29.8)
Depth: 2-3/4 (6.9)
Depth with Air supply/return: 3-5/8 (9.2)

All dimensions are inches (centimeters) unless otherwise specified.


Static


Air Supply/Return

Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

BLT Volumetric Recessed Lighting 1'x4'

DIGITAL NAVIGATION | Home | Ordering | nLight Platform | Sensor Switch JOT | Photometrics | Performance Data

Design Select options indicated by this color background.

CURVED, SMOOTH PREFERRED

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: BLT4 30L ADP EZ1 LP835

BLT4

Series	Fixture Style	Air function	Lumens ‡		Diffuser	Voltage	Driver	Color temperature
BLT4 1x4 BLT	(blank) Smooth Reflector	(blank) Static	Standard efficiency (>100 LPW)	High efficiency ‡ (>130 LPW)	ADP Curved, ribbed	(blank) MVOLT	EZ1 eldoLED dims to 1% (0-10 volt dimming)	LP830 82CRI, 3000 K
	RB Ribbed Reflector	A Air supply/ return ‡	15L 1500	15LHE 1500	ADSM Curved, smooth	120 120V	GZ1 Dims to 1% (0-10V dimming)	LP835 82CRI, 3500 K
			20L 2000	20LHE 2000	SDP Square, ribbed	277 277V	GZ10 Dims to 10% (0-10V dimming)	LP840 82CRI, 4000 K
			30L 3000	30LHE 3000	SDSM Square, smooth	347 347V ‡	SLD Step-level dimming ‡	LP850 82CRI, 5000 K
			40L 4000	40LHE 4000	LUGR Low UGR lens ‡			LP930 90CRI, 3000K
			48L 4800	48LHE 4800	**Includes trim rings to match sensored version**			LP935 90CRI, 3500K
			60L 6000	60LHE 6000	ADPT Curved, ribbed			LP940 90CRI, 4000K
					ADSMT Curved, smooth			LP950 90CRI, 5000K
					SDPT Square, ribbed			
					SDSMT Square, smooth			
					LUGRT Low UGR lens with trim ‡			

nLight Interface

nLight Wired

(blank)	no nLight ® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management For use with generator supply EM power ‡
N100	nLight without lumen management
N100EMG	nLight without lumen management For use with generator supply EM power ‡

nLight Wireless

(blank)	no nLight ® interface
NLTAIR2	nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired

(blank)	No sensor control
NES7	nLight™ nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless

RES7	nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
RES7PDT	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell ‡
RIO	nLight AIR radio module without sensor ‡
RES7EM	nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RES7PDTEM	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RIOEM	nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell ‡
MSDPDT7ADCX	PDT integral occupancy sensor with automatic dimming control photocell ‡
JOT	Wireless room control with "Just One Touch" pairing ‡
JOTVTX15	Wireless occupancy sensor with "Just One Touch" pairing ‡

Standy Mode

NOC	NOC Occupancy sensor disabled ‡

Options

BDP Disconnect Plug

EL7L	700 lumen battery pack (Noncompliant with CA T20) ‡
EL14L	1400 lumen battery pack (Noncompliant with CA T20) ‡
E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS ‡
E10WSTAR	Emergency battery pack, Enabled with STAR ‡

CP	Chicago plenum ‡
BGTD	Bodine Generator Transfer Device ‡
PWS1836	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
PWS1846	6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
PWS1846 PWSLV	Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge ‡
PWS1856LV	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/low voltage wires ‡

GLR	Fast-blowing fuse ‡
GMF	Slow-blowing fuse ‡
NPLT	Narrow pallet
RRL_	RELOC®-ready luminaire ‡
LATC	Earthquake clip
WH	Glossy White
DWAM	Anti-Microbial paint
BAA	Buy America(n) Act and/or Build America Buy America Qualified

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

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BLT Volumetric Recessed Lighting 1'x4'

DIGITAL NAVIGATION | Home | Ordering | nLight Platform | Sensor Switch JOT | Photometrics | Performance Data

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with SLD, EL7L, or E10WLCP options.
A	Not available with RB fixture style, consult factory for air flow data.
BGTD	Not available with JOT, JOTVTX15 sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
Control	Must specify diffuser with trim rings.
CP	Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.
E10WSTAR	Not compatible with 347V.
EL7L, EL14L, E10WLCP	When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
JOT, JOTVTX15	Not available with SLD, nLight, NLTAIR2, NOC, or BGTD options.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com. Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
LUGR, LUGRT	Due to the unique optics used to drive the low UGR distribution, the LUGR lens is not uniformly lit and presents visible striping.
MSD7ADCX, MSDPDT7ADCX	Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must order with nLight Wireless option from Control section. Not available with GZ10 driver.
NOC	Can only be ordered in conjunction with EZ1 or GZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
N80EMG, N100EMG	nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
PWS1846 PWSLV, PWS1856LV	Not available with nLIGHT wired network or individual controls
RES7, RES7PDT, RIO	See UL 924 Sequence of Operation chart on page 3. When combined with the EZ1 option, can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
RES7EM, RES7PDTEM, RIOEM	See UL924 Sequence of Operation chart on page 3. Not available with GZ10 or GZ1 driver.
RRL_	For ordering logic consult: RRL_2013.
SLD	Not available with any nLight Interface or Control options.

Multiple Diffuser Options

ADP Curved Ribbed

ADSM Curved Smooth

SDP Square Ribbed

SDSM Square Smooth

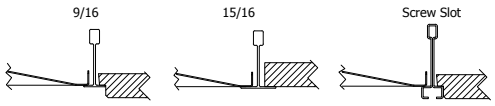
LUGR Low UGR

Non-Configurable BLT

Non-Configurable BLT								
Stock/MTO	**Catalog Description ***	**UPC**	**Lumens**	**Wattage**	**LPW**	**Color Temperature**	**Voltage**	**Pallet Qty**
Stock	BLT4 40L ADP LP835	00190887466218	4114	33.09	124.31	3500K/82 CRI	120-277	39
	BLT4 40L ADP LP840	00190887465228	4179.68	33.09	126.3	4000K/82 CRI	120-277	39
	BLT4 40L ADP EL14L LP835	00190887466621	4114	33.09	124.31	3500K/82 CRI	120-277	39
	BLT4 40L ADP EL14L LP840	00190887466614	4179.68	33.09	126.3	4000K/82 CRI	120-277	39

*Generic 0-10V Dimming to 10%.

MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

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BLT Volumetric Recessed Lighting 1'x4'

Accessories & Replacement Parts

Accessories: *Order as separate catalog number.*

DGA14	Drywall grid adapter for 1x4 recessed fixture
1X4SMKSHP PAF	Surface Mount Troffer Kit Post Paint
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

Replacement Parts: *Order as separate catalog number.*

*249P36	DBLT48 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P3C	DBLT48 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P3H	DBLT48 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P3L	DBLT48 SDSM LENS ASSEMBLY	2 ft. replacement lens
*239UJR	DBLT48 ADPT LENS ASSEMBLY	2 ft. replacement lens
*239TXC	DBLT48 SDPT LENS ASSEMBLY	2 ft. replacement lens
*239UK6	DBLT48 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*239UK6	DBLT48 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*239TVV	DBLT48 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*239TXM	DBLT48 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*239UKG	DBLT48 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*239U0K	DBLT48 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter/ 2-hour Runtime
ILB CP10 A	10W	90	1200	
ILB CP10 HE AELR A	10W	90	1200	Title 20; Enabled with Self Testing, Automated Reporting (STAR)
ILBLP CP10 HE SD A	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

BSE Labeling Options

BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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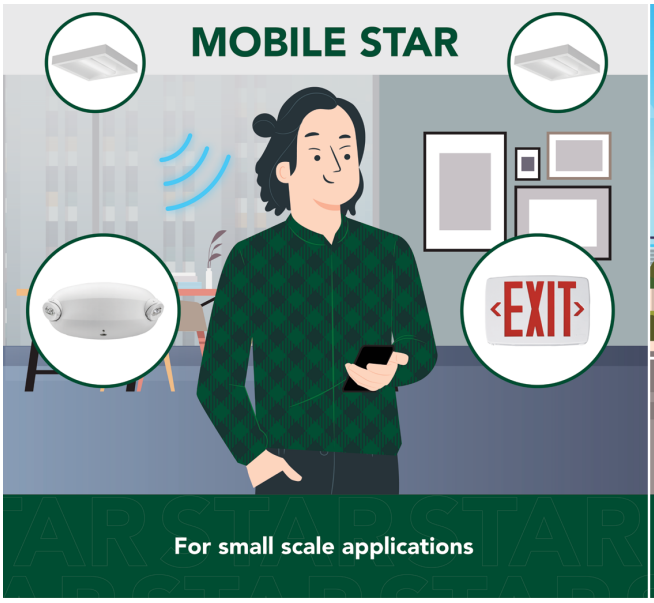
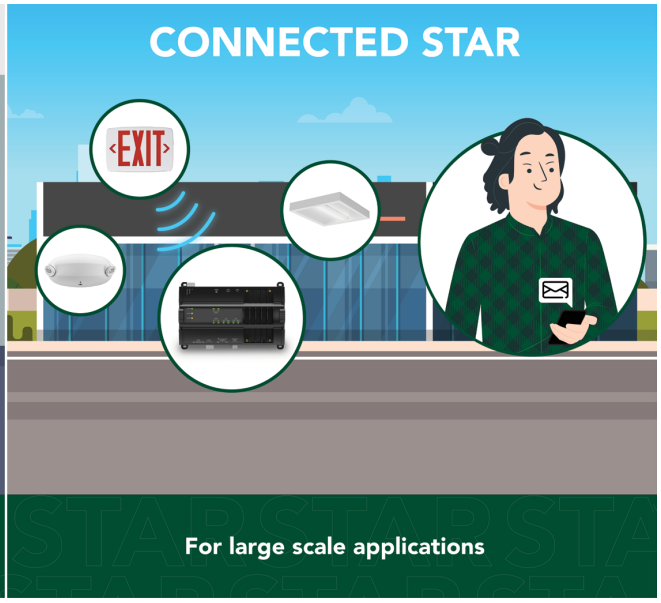
Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the ClAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

Life Safety Code NFPA 101 testing and reporting requirements for emergency lighting include:

- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction





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BLT Volumetric Recessed Lighting 1'x4'

JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. Power: Install JOT enabled fixtures and controls as instructed.
2. Pair: Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. Play: Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

BLT Series

Sensor Switch
WSXA JOT

BLT Series
with integrated
JOT OCC
Sensors

Sensor Switch
SPODMRA JOT

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BLT Volumetric Recessed Lighting 1'x4'

DIGITAL NAVIGATION | Home | Ordering | nLight Platform | Sensor Switch JOT | Photometrics | Performance Data

nLight Platform

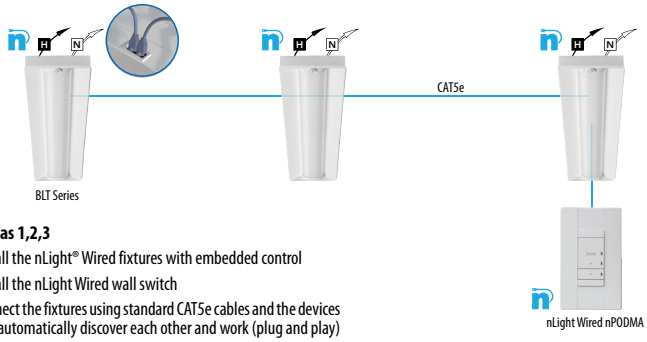
nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pa ir the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking



Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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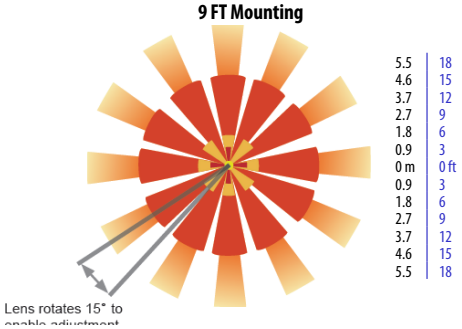
BLT Volumetric Recessed Lighting 1'x4'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

9 FT Mounting



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight AIR Wireless

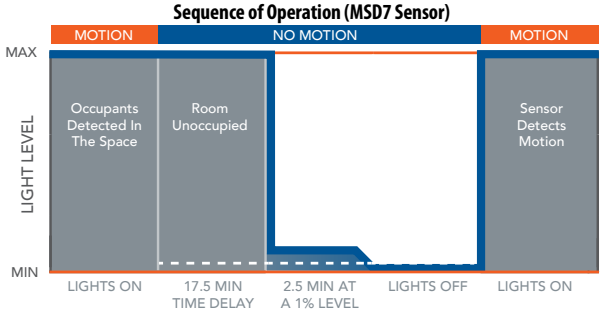
nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

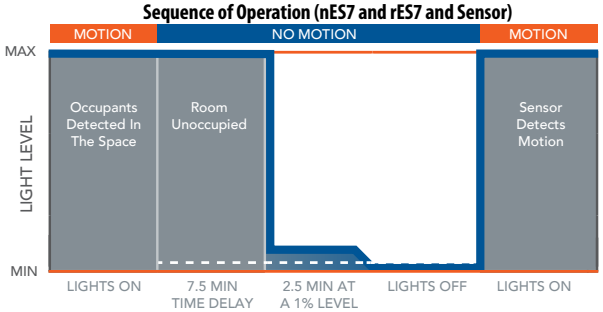
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation (MSD7 Sensor)



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation (nES7 and rES7 and Sensor)



*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

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BLT Volumetric Recessed Lighting 1'x4'

Controls Accessories

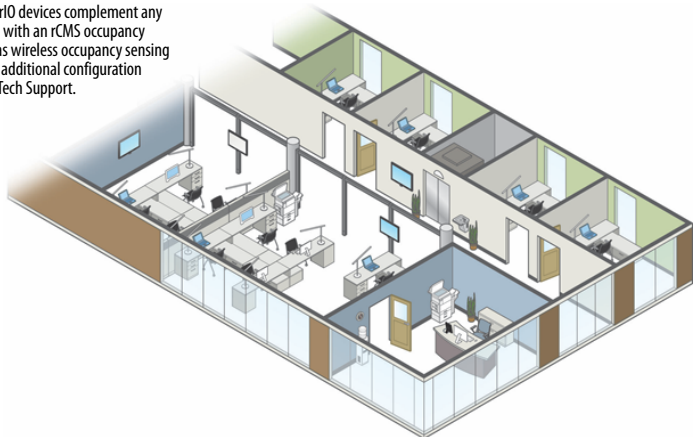
nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

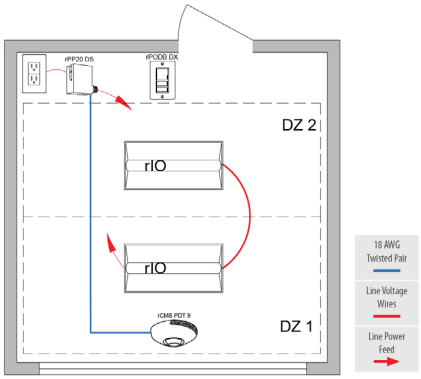
WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODMA [Color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODMA DX [Color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD TOUCH [Color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	Model number	Cat-5 cable (plenum rated)	Model number
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODBA [color] G2
On/Off two pole	rPODB A2P [color] G2
On/Off & raise/lower single pole	rPODBA DX [color] G2
On/Off & raise/lower two pole	rPODBA 2P DX [color] G2

BLT fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.





rCMS[1] — Example: RCMS PDT 10 AR G2

Series / Detection	Power Supply[1]	Occupancy Detection	Lens (Required)	Operating Mode	Generation
RCMS nLight AIR occupancy and daylight sensor	[blank] Power Supply ordered separately PS 150 Standard 150 mA Power Supply	[blank] PIR Detection PDT Dual Tech PIR/ Microphonics	10 Large Motion/ Extended Range 360° 9 Small Motion/ Extended Range 360° 6 High Bay 360° Lens	[BLANK] None AR Auxiliary Relay	G2 Generation 2 compatibility

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

Sensor Switch WSX

nLight WIRED NPOD UNITOUCH

nLight WIRED nPODMA DX

nLight AIR rPODBA

BLT with rIO | rPODBA | RCMS

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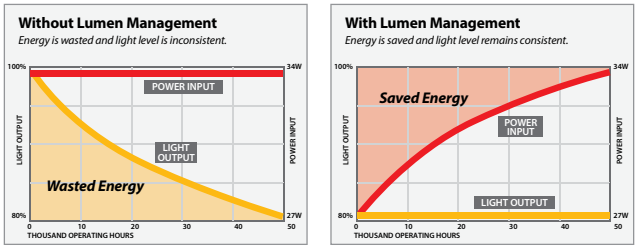
BLT Volumetric Recessed Lighting 1'x4'

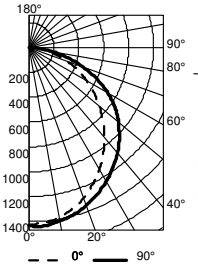
Constant Lumen Management

Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.



PHOTOMETRICS

BLT4 40L ADP LP835, 4114 delivered lumens, test no. ISF35685P49, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1429	1429
5°	1413	1439
15°	1343	1390
25°	1211	1300
35°	1039	1175
45°	843	1025
55°	638	841
65°	429	608
75°	226	328
85°	55	66
90	0	0

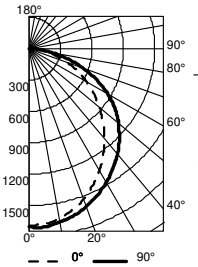
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	98	90	83	88	82	76	85	79	74
3	90	79	71	77	70	63	74	68	62
4	82	70	61	68	60	54	66	59	53
5	75	62	53	61	53	46	59	51	46
6	69	56	47	55	46	40	53	46	40
7	64	51	42	50	41	35	48	41	35
8	60	46	38	46	37	32	44	37	31
9	56	42	34	42	34	28	41	33	28
10	52	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1103	26.8	26.8
0° - 40°	1799	43.7	43.7
0° - 60°	3194	77.6	77.6
0° - 90°	4114	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	4114	100.0	100.0

BLT4 48L ADP LP835, 4888 delivered lumens, test no. ISF35685P114, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1697	1697
5°	1679	1710
15°	1596	1651
25°	1438	1544
35°	1234	1396
45°	1002	1218
55°	758	1000
65°	510	722
75°	268	389
85°	66	78
90	0	0

Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116	111	111	111
1	109	104	99	101	97	94	97	94	91
2	98	90	83	88	82	76	85	79	74
3	90	79	71	77	70	63	74	68	62
4	82	70	61	68	60	54	66	59	53
5	75	62	53	61	53	46	59	51	46
6	69	56	47	55	46	40	53	46	40
7	64	51	42	50	41	35	48	41	35
8	60	46	38	46	37	32	44	37	31
9	56	42	34	42	34	28	41	33	28
10	52	39	31	39	31	26	38	31	26

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1310	26.8	26.8
0° - 40°	2137	43.7	43.7
0° - 60°	3795	77.6	77.6
0° - 90°	4888	100.0	100.0
90° - 120°	0	0.0	0.0
90° - 130°	0	0.0	0.0
90° - 150°	0	0.0	0.0
90° - 180°	0	0.0	0.0
0° - 180°	4888	100.0	100.0

UNIFIED GLARE RATING (UGR)

Lumen Package	UGR Values of BLT 1x4 @ **80CRI** and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)																			
	ADP		ADPT		ADSM		ADSMT		SDP		SDPT		SDSM		SDSMT		LUGR		LUGRT	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
15L	16.9	18.4	17	18.2	17	18.3	16.9	18.4	17	18.4	16.8	18.2	17.2	18.3	16.9	18.1	16.7	14.9	16.7	14.9
15LHE	17	18.5	17.1	18.4	17.2	18.5	17	18.5	17.2	18.5	17	18.4	17.3	18.4	17.1	18.2	16.8	15	16.8	15
20L	18.2	21.7	18.2	21.6	18.4	21.7	18.1	21.3	18.4	21.4	18.2	21.2	18.4	21.1	18.2	21.1	17.6	15.8	17.5	15.8
20LHE	17.9	19.4	18	19.2	18.1	19.4	17.9	19.4	18.1	19.4	17.9	19.3	18.2	19.3	18	19.1	17.7	15.9	17.6	15.9
30L	19.6	23.1	19.6	23	19.8	23.1	19.5	22.7	19.8	22.8	19.5	22.6	19.8	22.5	19.6	22.5	19	17.2	19	17.2
30LHE	19.5	23.1	19.5	20.8	19.6	20.9	19.4	20.9	19.6	21	19.4	20.8	19.7	20.8	19.5	20.6	19.1	17.3	19.1	17.3
40L	20.5	22	20.1	23.5	20.3	23.6	20.1	23.2	20.3	23.4	20.1	23.1	20.3	23.1	20.1	23	20	18.2	20	18.2
40LHE	20.6	22.1	20.7	22	20.8	22.1	20.6	22.1	20.8	22.2	20.6	22	20.9	22	20.7	21.8	20.1	18.3	20.1	18.3
48L	21.1	22.6	21	24.4	21.2	24.5	21	24.1	21.2	24.3	21	24	21.2	24	21	23.9	20.7	18.9	20.7	18.9
48LHE	20.8	24.3	20.8	24.2	21	24.3	20.7	23.9	21	24	20.8	23.8	21	23.7	20.8	23.7	20.6	18.8	20.6	18.8
60L	21.6	25.2	21.6	25	21.8	25.1	21.6	24.7	21.9	24.9	21.6	24.6	21.8	24.6	21.6	24.5	21.5	19.7	21.4	19.7
60LHE	21.3	24.8	21.3	24.7	21.5	24.8	21.2	24.4	21.5	24.5	21.2	24.3	21.5	24.2	21.3	24.2	21.4	19.6	21.4	19.6

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values.
To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

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BLT Volumetric Recessed Lighting 1'x4'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
BLT4 15L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	1576	135.27	11.7	Premium	PITJ7LZR
BLT4 15L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	1549	132.93	11.7	Premium	PGT9ZM85
BLT4 20L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	1965	124.83	15.7	Premium	P6TRMV97
BLT4 20L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	2019	128.25	15.7	Premium	PYGYBGA4
BLT4 20L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	1984	126.03	15.7	Premium	P62XJ7B5
BLT4 20L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	1931	122.99	15.7		
BLT4 20L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	1965	125.16	15.7		
BLT4 30L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	2979	131.41	22.7	Premium	PFTQCVDN
BLT4 30L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	3060	135.01	22.7	Premium	PXYBVAFH
BLT4 30L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	2927	129.14	22.7	Premium	PQB9V6BJ
BLT4 30L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	3007	132.68	22.7	Premium	P8UXM7NX
BLT4 40L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4010	125.04	32.1	Premium	PMYRQ49V
BLT4 40L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4120	128.47	32.1	Premium	PGGU8V31
BLT4 40L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4049	126.25	32.1	Premium	PUEDT9VY
BLT4 40L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3941	122.88	32.1	Standard	P42QKXVC
BLT4 48L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4851	125.02	38.8	Premium	PYZ4KMD4
BLT4 48L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4983	128.45	38.8	Premium	PQX799PT
BLT4 48L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4897	126.23	38.8	Premium	PNTGHKEN
BLT4 48L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4767	122.86	38.8	Standard	P22X8T1X
BLT4 60L ADP EZ1 (GZ1, GZ10) LP840 [All Options]	6212	127.58	48.7	Premium	P2DSW9MV
BLT4 60L ADP EZ1 (GZ1, GZ10) LP835 [All Options]	6046	124.18	48.7	Premium	PWMC3RXH
BLT4 60L ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	5941	122.03	48.7	Standard	P7JXFEX8
BLT4 60L ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	6104	125.38	48.7	Premium	PJZS4XAG

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

How to Estimate Delivered Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Delivered Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option. LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
BLT4 15LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	1583	136.37	11.6	Premium	PTAG2QWR
BLT4 15LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	1627	140.11	11.6	Premium	PW6HZMN4
BLT4 15LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	1556	134.02	11.6	Premium	PM80L4KU
BLT4 15LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	1599	137.69	11.6	Premium	P3SW8CVO
BLT4 20LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	2027	128.39	15.8	Premium	PPE50BKI
BLT4 20LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	2082	131.9	15.8	Premium	PNVCY7R2
BLT4 20LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	1992	126.16	15.8	Premium	PH4BQPK3
BLT4 20LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	2046	129.62	15.8	Premium	PX3ZLUGW
BLT4 30LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	3074	135.32	22.7	Premium	PVOLKMTV
BLT4 30LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	3159	139.02	22.7	Premium	PQSG0MWX
BLT4 30LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3021	132.98	22.7	Premium	P0YU2QG4
BLT4 30LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	3104	136.62	22.7	Premium	P7IA04ZL
BLT4 40LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4063	130.84	31.1	Premium	PTFZPNFT
BLT4 40LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4175	134.43	31.1	Premium	PU2IGL4P
BLT4 40LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	3993	128.58	31.1	Premium	PHHEA92E
BLT4 40LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4102	132.1	31.1	Premium	PPVT5JFT
BLT4 48LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	4752	133.88	35.5	Premium	PJT47YU5
BLT4 48LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	4882	137.55	35.5	Premium	PX9KVBY3
BLT4 48LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	4669	131.56	35.5	Premium	PBQR558K
BLT4 48LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	4797	135.17	35.5	Premium	PRTND692
BLT4 60LHE ADP EZ1 (GZ1, GZ10) LP835 [All Options]	5937	131.13	45.3	Premium	PD35F85D
BLT4 60LHE ADP EZ1 (GZ1, GZ10) LP840 [All Options]	6100	134.72	45.3	Premium	PYKY93GZ
BLT4 60LHE ADPT EZ1 (GZ1, GZ10) LP835 [All Options]	5834	128.86	45.3	Premium	PM297Q4P
BLT4 60LHE ADPT EZ1 (GZ1, GZ10) LP840 [All Options]	5994	132.39	45.3	Premium	PSB3FUK4

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 LP840 Note:	Type L22A

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The BLT reflector is available in both smooth and ribbed finishes. Choose RB from the fixture style section below for a ribbed finish.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A typically configured 2BLT2 features a **Unified Glare Rating (UGR)** starting at 18, UGR data available on page 8. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless rIO and rES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive model app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CLAIRITY+, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. Designed for use in NEMA standard Type G (1" & 15/16") , NFG (9/16"), and SS (9/16") grid ceilings. Consult factory about other ceiling types.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. Tested in accordance with ISO 14644-1; suitable for use in ISO 5-9 positive and negative pressure clean rooms.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

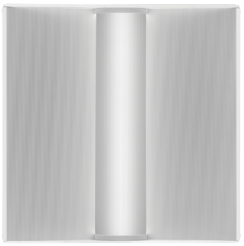
Catalog Number
Notes
Type

BLT Series LED

2BLT2

2' x 2'
LED

ADP Diffuser Option

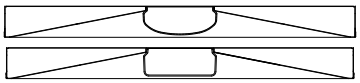


Ribbed Reflector Option

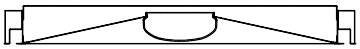
Specifications

Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)

All dimensions are inches (centimeters) unless otherwise specified.



Static



Air Supply/Return

Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

AMA LIGHTING	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 LP840 Note:	Type L22A

2BLT Volumetric Recessed Lighting 2'x2'

Design Select options indicated by this color background.

CURVED, SMOOTH PREFERRED

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT2 33L ADP EZ1 LP835

2BLT2

Series	Fixture Style	Air function	Lumens ‡	Diffuser	Voltage	Driver	Color temperature
2BLT2 2X2 BLT	(blank) Smooth Reflector RB Ribbed Reflector	(blank) Static A Air supply/return ‡	**Standard efficiency ‡ (>125 LPW)** 20L 2000 33L 3300 40L 4000 48L 4800 **High efficiency ‡ (>130 LPW)** 20LHE 2000 33LHE 3300 40LHE 4000 48LHE 4800	ADP Curved, ribbed ADSM Curved, smooth SDP Square, ribbed SDSM Square, smooth LUGR Low UGR lens ‡ **Includes trim rings to match sensored version** ADPT Curved, ribbed ADSMT Curved, smooth SDPT Square, ribbed SDSMT Square, smooth LUGRT Low UGR lens with trim ‡	(blank) MVOLT 120 120V 277 277V 347 347V ‡	EZ1 eldoLED dims to 1% (0-10 volt dimming) GZ1 Dims to 1% (0-10V dimming) GZ10 Dims to 10% (0-10V dimming) SLD Step-level dimming ‡	LP830 82CRI, 3000 K LP835 82CRI, 3500 K LP840 82CRI, 4000 K LP850 82CRI, 5000 K LP930 90CRI, 3000K LP935 90CRI, 3500K LP940 90CRI, 4000K LP950 90CRI, 5000K

nLight Interface

nLight Wired

(blank)	no nLight® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management For use with generator supply EM power ‡
N100	nLight without lumen management
N100EMG	nLight without lumen management For use with generator supply EM power ‡

nLight Wireless

(blank)	no nLight® interface
NLTAIR2	nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired

(blank)	No sensor control
NES7	nLight™ nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control ‡
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless

RES7	nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
RES7PDT	nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
RIO	nLight AIR radio module without sensor ‡
RES7EM	nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RES7PDTEM	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RIOEM	nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell ‡
MSDPDT7ADCX	PDT integral occupancy sensor with automatic dimming control photocell ‡
JOT	Wireless room control with "Just One Touch" pairing ‡
JOTVTX15	Wireless occupancy sensor with "Just One Touch" pairing ‡

Standy Mode

NOC	NOC Occupancy sensor disabled ‡

Options

BDP Disconnect Plug

EL7L	700 lumen battery pack (Noncompliant with CA T20) ‡
EL14L	1400 lumen battery pack (Noncompliant with CA T20) ‡
E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS ‡
E10WSTAR	Emergency battery pack, Enabled with STAR ‡

CP	Chicago plenum ‡
BGTD	Bodine Generator Transfer Device ‡
PWS1836	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
PWS1846	6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
PWS1846 PWSLV	Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge ‡
PWS1856LV	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/ low voltage wires ‡

GLR	Fast-blowing fuse ‡
GMF	Slow-blowing fuse ‡
NPLT	Narrow pallet
RRL_	RELOC®-ready luminaire ‡
LATC	Earthquake clip
WH	Glossy White
DWAM	Anti-Microbial paint
JP28	Job packaging ‡
JP44	Job packaging ‡
IP5X	Gasketed diffuser compartment to meet IP5X rating ‡
BAA	Buy America(n) Act and/or Build America Buy America Qualified

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 LP840 Note:	Type L22A

2BLT Volumetric Recessed Lighting 2'x2'

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with SLD, EL7L, EL14L, or E10WLCP options.
A	Not available with RB fixture style, consult factory for air flow data. If a job pack is selected, use JP28 only.
BGTD	Not available with JOT, JOTVTX15 sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
Control	Must specify diffuser with trim rings.
CP	Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.
E10WSTAR	Not compatible with 347V.
EL7L, EL14L, E10WLCP	When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
IP5X	Not available with air supply/return or Wired Networking (NES_) and Individual Control (MSD_) sensors.
JOT, JOTVTX15	Not available with SLD, nLight, NLTAIR2, NOC, or BGTD options.
JP28	Only available with options: NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, JOT, JOTVTX15. Not available when sensor options combined with 'A' air supply return option.
JP44	Not available with NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, JOT, JOTVTX15. Not available 'A' air supply return option. Not available with battery and PWS together.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com. Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
LUGR, LUGRT	Due to the unique optics used to drive the low UGR distribution, the LUGR lens is not uniformly lit and presents visible striping.
MSD7ADCX, MSDPDT7ADCX	Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must order with nLight Wireless option from Control section. Not available with GZ10 driver.
NOC	Can only be ordered in conjunction with EZ1 or GZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
N80EMG, N100EMG	nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
PWS1846 PWSLV, PWS1856LV	Not available with nLIGHT wired network or individual controls
RES7, RES7PDT, RIO	See UL 924 Sequence of Operation chart on page 3. When combined with the EZ1 option, can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
RES7EM, RES7PDTEM, RIOEM	See UL924 Sequence of Operation chart on page 3. Not available with GZ10 or GZ1 driver.
RRL_	For ordering logic consult: RRL_2013.
SLD	Not available with any nLight Interface or Control options.

Multiple Diffuser Options

ADP Curved Ribbed | **ADSM** Curved Smooth | **SDP** Square Ribbed | **SDSM** Square Smooth | **LUGR** Low UGR

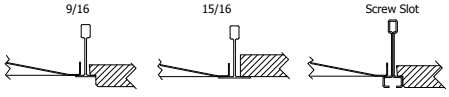
SDSM Diffuser Option

Non-Configurable BLT

Stock/MTO	Catalog Description *	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet Qty
Stock	2BLT2 33L ADP LP835	190887529708	3332	26.67	124.92	3500K/82 CRI	120-277	56
	2BLT2 33L ADP LP840	190887529739	3385	26.67	126.91	4000K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP835	190887529890	3332	26.67	124.92	3500K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP840	190887529937	3385	26.67	126.91	4000K/82CRI	120-277	56

*Generic 0-10V Dimming to 10%.

MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

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2BLT Volumetric Recessed Lighting 2'x2'

Accessories & Replacement Parts

Accessories: *Order as separate catalog number.*	
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X2SMKSHP PAF	Surface Mount Troffer Kit Post Paint
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

Replacement Parts: *Order as separate catalog number.*		
*247WJV	2DBLT24 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P2P	2DBLT24 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P2W	2DBLT24 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P32	2DBLT24 SDSM LENS ASSEMBLY	2 ft. replacement lens
*237LT1	2DBLT24 ADPT LENS ASSEMBLY	2 ft. replacement lens
*237LT3	2DBLT24 SDPT LENS ASSEMBLY	2 ft. replacement lens
*237LT5	2DBLT24 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT7	2DBLT24 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT9	2DBLT24 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M4Y	2DBLT24 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M57	2DBLT24 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M5H	2DBLT24 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter/ 2-hour Runtime
ILB CP10 A	10W	90	1200	
ILB CP10 HE AELR A	10W	90	1200	Title 20; Enabled with Self Testing, Automated Reporting (STAR)
ILBLP CP10 HE SD A	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

BSE Labeling Options	
BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 LP840 Note:	Type L22A

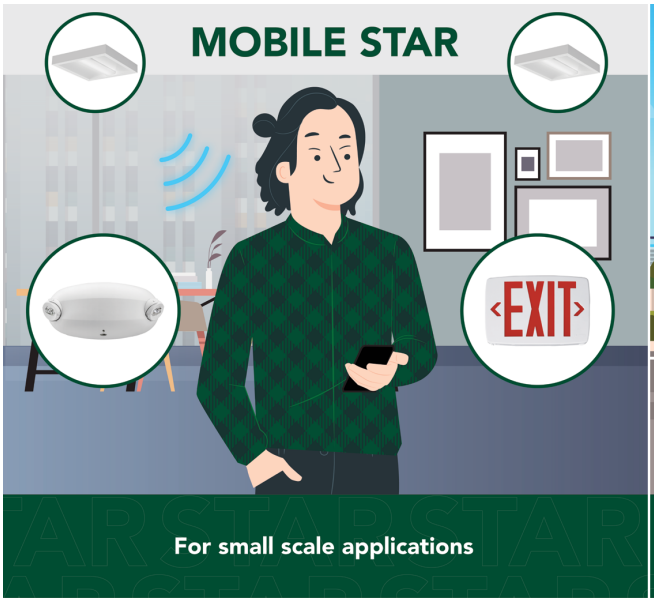
2BLT Volumetric Recessed Lighting 2'x2'

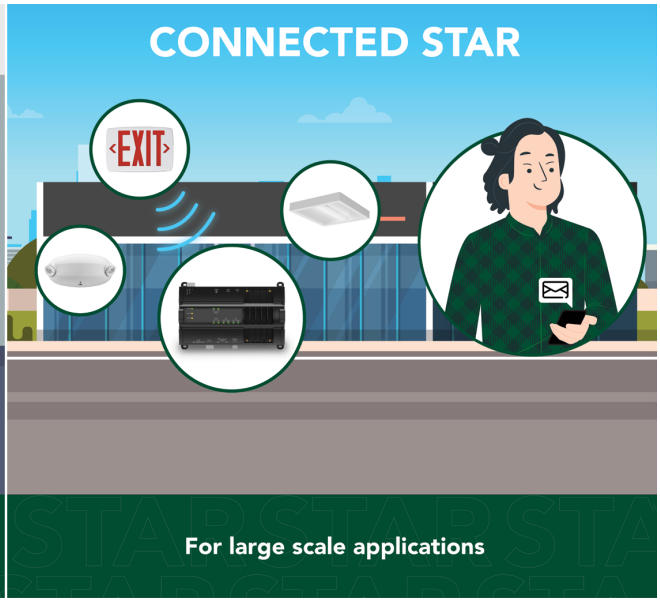
Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the ClAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

Life Safety Code NFPA 101 testing and reporting requirements for emergency lighting include:

- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction





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2BLT Volumetric Recessed Lighting 2'x2'

JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. Power: Install JOT enabled fixtures and controls as instructed.
2. Pair: Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. Play: Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

BLT Series

Sensor Switch
WSXA JOT

BLT Series
with integrated
JOT OCC
Sensors

Sensor Switch
SPODMRA JOT

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2BLT Volumetric Recessed Lighting 2'x2'

nLight Platform

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking

Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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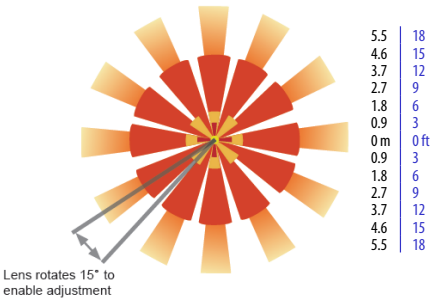
2BLT Volumetric Recessed Lighting 2'x2'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

9 FT Mounting



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight AIR Wireless

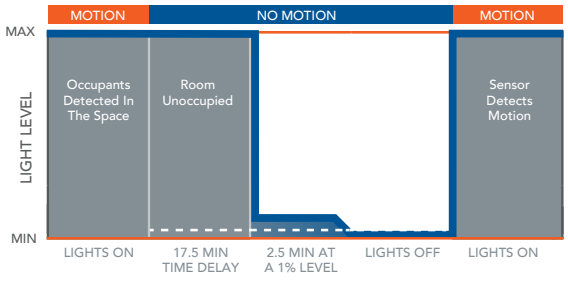
nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

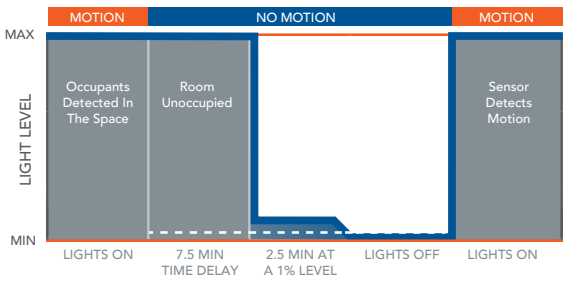
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation (MSD7 Sensor)



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation (nES7 and rES7 and Sensor)



*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 LP840 Note:	Type L22A

2BLT Volumetric Recessed Lighting 2'x2'

Controls Accessories

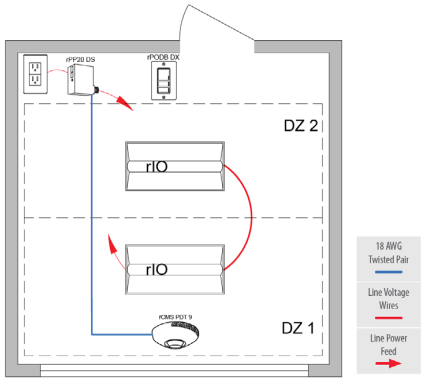
nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODMA [Color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODMA DX [Color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD TOUCH [Color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODBA [color] G2
On/Off two pole	rPODB A2P [color] G2
On/Off & raise/lower single pole	rPODBA DX [color] G2
On/Off & raise/lower two pole	rPODBA 2P DX [color] G2

BLT fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.



rCMS[1] — **Example: RCMS PDT 10 AR G2**

Series / Detection		Power Supply[1]		Occupancy Detection		Lens (Required)		Operating Mode		Generation	
RCMS	nLight AIR occupancy and daylight sensor	[blank]	Power Supply ordered separately	[blank]	PIR Detection	10	Large Motion/ Extended Range 360°	[BLANK]	None	G2	Generation 2 compatibility
		PS 150	Standard 150 mA Power Supply	PDT	Dual Tech PIR/ Microphonics	9	Small Motion/ Extended Range 360°	AR	Auxiliary Relay		
						6	High Bay 360° Lens				

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

Sensor Switch WSX

nLight WIRED NPOD UNITOUCH

nLight WIRED nPODMA DX

nLight AIR rPODBA

BLT with rIO **rPODBA** **RCMS**

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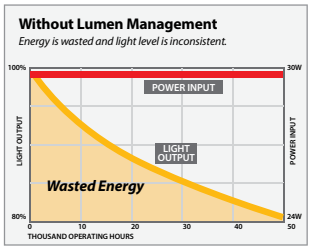
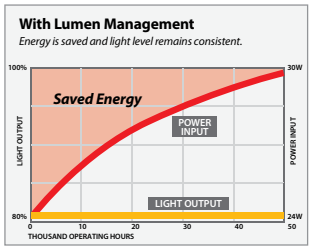
2BLT Volumetric Recessed Lighting 2'x2'

Constant Lumen Management

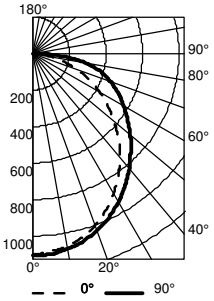
Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





PHOTOMETRICS

2BLT2 33L ADP LP835, 3332 delivered lumens, test no. ISF36900P19, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1103	1103
5°	1090	1104
15°	1042	1064
25°	946	989
35°	817	881
45°	664	757
55°	500	634
65°	340	517
75°	177	383
85°	40	164
90	1	14

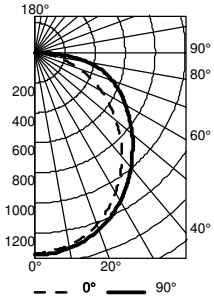
Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	853	25.6	25.6
0° - 40°	1390	41.7	41.7
0° - 60°	2466	74.0	74.0
0° - 90°	3330	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	3332	100.0	100.0

2BLT2 40L ADP LP835, 4041 delivered lumens, test no. ISF36900P35, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1338	1338
5°	1322	1339
15°	1263	1291
25°	1148	1199
35°	991	1069
45°	805	918
55°	607	769
65°	412	627
75°	214	465
85°	48	199
90	1	17

Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1035	25.6	25.6
0° - 40°	1686	41.7	41.7
0° - 60°	2991	74.0	74.0
0° - 90°	4039	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	4041	100.0	100.0

UNIFIED GLARE RATING (UGR)

Lumen Package	UGR Values of BLT 2x2 @ **80CRI** and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)																			
	ADP		ADPT		ADSM		ADSMT		SDP		SDPT		SDSM		SDSMT		LUGR		LUGRT	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
20L	17.8	21.6	17.8	21.8	17.7	21.4	18	21.1	18.3	21.3	18	21	18.1	21.5	18	20.9	16.3	17.9	17.6	18.2
20LHE	17.6	21.5	17.6	21.6	19.5	22.8	17.6	21.5	17.8	21.4	17.6	21.5	17.9	21.3	17.9	21.4	16.1	17.7	17.4	18
33L	19.5	23.3	19.5	22.8	19.9	23.2	19.3	22.4	19.6	22.6	19.3	22.3	19.6	22.3	19.4	22.2	18	19.6	19.3	19.8
33LHE	19.7	23.3	19.7	23.1	20.5	23.7	19.7	22.8	20	23	19.7	22.7	19.8	23.2	19.8	22.6	17.9	19.5	19.2	19.8
40L	20.2	24	20.3	23.7	20.5	23.8	20.2	24	20.5	23.5	20.2	23.2	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
40LHE	20.2	24.1	20.3	23.7	20.9	24.6	20.2	23.4	20.5	23.5	20.2	23.3	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
48L	20.8	24.6	20.7	24.8	20.9	24.6	20.8	24.6	21	24.5	20.7	24.6	21	24.5	21	24.5	19.4	21.1	20.7	21.3
48LHE	20.7	24.3	20.7	24.1	20.9	24.2	20.8	24.6	21	24	20.7	23.7	20.9	23.7	20.8	23.6	19.4	21	20.7	21.2

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values.
To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

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2BLT Volumetric Recessed Lighting 2'x2'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP840	2092	127.8	16.4	Premium	PM92196A
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP835	2036	124.4	16.4	Premium	P6445UVD
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP840	2061	125.9	16.37		
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP835	2008	122.7	16.37		
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP835	3300	124.6	26.5	Premium	PHSXHE8F
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP840	3391	128.1	26.5	Premium	PD18CKQ8
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP840	3343	126.3	26.5	Premium	PF98CZ2H
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP835	3254	122.9	26.5	Premium	S-OIDCZL
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP835	4034	130.2	31	Premium	P1XWW9GV
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP840	4144	133.8	31	Premium	PHCQ2CQF
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP835	3977	128.4	31	Premium	PW6RMMJ4
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP840	4086	131.9	31	Premium	P5YYDAA8
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP835	5022	117.2	42.9	Standard	PJRH1R1G
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP840	5159	120.4	42.9	Standard	P8G93YOK
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP835	4951	115.5	42.9	Standard	PITU3V6X
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP840	5087	118.7	42.9	Standard	P5X2XU76

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

How to Estimate Delivered Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Delivered Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP835	1939	132.3	14.7	Premium	PUQCZNQI
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP840	1992	135.9	14.7	Premium	PJCZRW21
2BLT2 20LHE ADPT EZ1 (GZ1, GZ10) LP840	1964	134.0	14.7	Premium	PLC4RF4L
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP835	3247	133.0	24.4	Premium	PXXZN9PH
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP840	3336	136.7	24.4	Premium	PKPJYYRF
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP835	3202	131.1	24.4	Premium	PZC8BZSS
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP840	3290	134.7	24.4	Premium	PM5G8AFU
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP835	4044	135.5	29.9	Premium	PJ55XFFP
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP840	4155	139.2	29.9	Premium	PEGFHPZD
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP835	3987	133.6	29.9	Premium	P8E16E9B
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP840	4096	137.2	29.9	Premium	PFRSSSVG
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP835	4944	139.8	35.4	Premium	P558XUZP
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP840	5080	143.6	35.4	Premium	P1863H56
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP835	4875	137.8	35.4	Premium	PHPTG5M8
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP840	5009	141.6	35.4	Premium	PBKN954Z

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The BLT reflector is available in both smooth and ribbed finishes. Choose RB from the fixture style section below for a ribbed finish.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A typically configured 2BLT2 features a **Unified Glare Rating (UGR)** starting at 18, UGR data available on page 8. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless rIO and rES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive model app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CLAIRITY+, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. Designed for use in NEMA standard Type G (1" & 15/16") , NFG (9/16"), and SS (9/16") grid ceilings. Consult factory about other ceiling types.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. Tested in accordance with ISO 14644-1; suitable for use in ISO 5-9 positive and negative pressure clean rooms.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

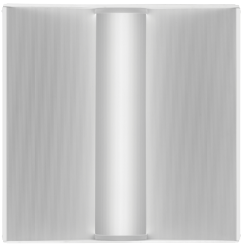
Catalog Number
Notes
Type

BLT Series LED

2BLT2

2' x 2'
LED

ADP Diffuser Option

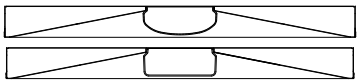


Ribbed Reflector Option

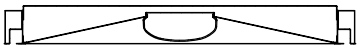
Specifications

Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)

All dimensions are inches (centimeters) unless otherwise specified.



Static



Air Supply/Return

Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

AMA LIGHTING	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

2BLT Volumetric Recessed Lighting 2'x2'

Design Select options indicated by this color background.

CURVED, SMOOTH PREFERRED

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT2 33L ADP EZ1 LP835

2BLT2

Series
- 2BLT2 2X2 BLT

Fixture Style
- (blank) Smooth Reflector
- RB Ribbed Reflector

Air function
- (blank) Static
- A Air supply/return ‡

Lumens ‡

Standard efficiency ‡ (>125 LPW)
- 20L 2000
- 33L 3300
- 40L 4000
- 48L 4800

High efficiency ‡ (>130 LPW)
- 20LHE 2000
- 33LHE 3300
- 40LHE 4000
- 48LHE 4800

Diffuser
- ADP Curved, ribbed
- ADSM Curved, smooth
- SDP Square, ribbed
- SDSM Square, smooth
- LUGR Low UGR lens‡

Includes trim rings to match sensored version
- ADPT Curved, ribbed
- ADSMT Curved, smooth
- SDPT Square, ribbed
- SDSMT Square, smooth
- LUGRT Low UGR lens with trim‡

Voltage
- (blank) MVOLT
- 120 120V
- 277 277V
- 347 347V ‡

Driver
- EZ1 eldoLED dims to 1% (0-10 volt dimming)
- GZ1 Dims to 1% (0-10V dimming)
- GZ10 Dims to 10% (0-10V dimming)
- SLD Step-level dimming ‡

Color temperature
- LP830 82CRI, 3000 K
- LP835 82CRI, 3500 K
- LP840 82CRI, 4000 K
- LP850 82CRI, 5000 K
- LP930 90CRI, 3000K
- LP935 90CRI, 3500K
- LP940 90CRI, 4000K
- LP950 90CRI, 5000K

nLight Interface

nLight Wired
- (blank) no nLight ® interface
- N80 nLight with 80% lumen management
- N80EMG nLight with 80% lumen management For use with generator supply EM power ‡
- N100 nLight without lumen management
- N100EMG nLight without lumen management For use with generator supply EM power ‡

nLight Wireless
- (blank) no nLight ® interface
- NLTAIR2 nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired
- (blank) No sensor control
- NES7 nLight™ nES 7 PIR integral occupancy sensor ‡
- NESPDT7 nLight™ nES PDT 7 dual technology integral occupancy control ‡
- NES7ADCX nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
- NESPDT7ADCX nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless
- RES7 nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
- RES7PDT nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
- RIO nLight AIR radio module without sensor ‡
- RES7EM nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
- RES7PDTEM nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
- RIOEM nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control
- MSD7ADCX PIR integral occupancy sensor with automatic dimming control photocell ‡
- MSDPDT7ADCX PDT integral occupancy sensor with automatic dimming control photocell ‡
- JOT Wireless room control with "Just One Touch" pairing ‡
- JOTVTX15 Wireless occupancy sensor with "Just One Touch" pairing ‡

Standy Mode
- NOC NOC Occupancy sensor disabled ‡

Options

BDP Disconnect Plug
- EL7L 700 lumen battery pack (Noncompliant with CA T20) ‡
- EL14L 1400 lumen battery pack (Noncompliant with CA T20) ‡
- E10WLCP EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS ‡
- E10WSTAR Emergency battery pack, Enabled with STAR ‡

- CP Chicago plenum ‡
- BGTD Bodine Generator Transfer Device ‡
- PWS1836 6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
- PWS1846 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
- PWS1846 PWSLV Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge ‡
- PWS1856LV 6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/ low voltage wires ‡

- GLR Fast-blowing fuse ‡
- GMF Slow-blowing fuse ‡
- NPLT Narrow pallet
- RRL_ RELOC®-ready luminaire ‡
- LATC Earthquake clip
- WH Glossy White
- DWAM Anti-Microbial paint
- JP28 Job packaging ‡
- JP44 Job packaging ‡
- IP5X Gasketed diffuser compartment to meet IP5X rating ‡
- BAA Buy America(n) Act and/or Build America Buy America Qualified

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

2BLT Volumetric Recessed Lighting 2'x2'

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with SLD, EL7L, EL14L, or E10WLCP options.
A	Not available with RB fixture style, consult factory for air flow data. If a job pack is selected, use JP28 only.
BGTD	Not available with J0T, J0TVTX15 sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
Control	Must specify diffuser with trim rings.
CP	Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.
E10WSTAR	Not compatible with 347V.
EL7L, EL14L, E10WLCP	When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
IP5X	Not available with air supply/return or Wired Networking (NES_) and Individual Control (MSD_) sensors.
J0T, J0TVTX15	Not available with SLD, nLight, NLTAIR2, NOC, or BGTD options.
JP28	Only available with options: NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, J0T, J0TVTX15. Not available when sensor options combined with 'A' air supply return option.
JP44	Not available with NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, J0T, J0TVTX15. Not available 'A' air supply return option. Not available with battery and PWS together.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com. Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
LUGR, LUGRT	Due to the unique optics used to drive the low UGR distribution, the LUGR lens is not uniformly lit and presents visible striping.
MSD7ADCX, MSDPDT7ADCX	Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must order with nLight Wireless option from Control section. Not available with GZ10 driver.
NOC	Can only be ordered in conjunction with EZ1 or GZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
N80EMG, N100EMG	nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
PWS1846 PWSLV, PWS1856LV	Not available with nLIGHT wired network or individual controls
RES7, RES7PDT, RIO	See UL 924 Sequence of Operation chart on page 3. When combined with the EZ1 option, can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
RES7EM, RES7PDTEM, RIOEM	See UL924 Sequence of Operation chart on page 3. Not available with GZ10 or GZ1 driver.
RRL_	For ordering logic consult: RRL_2013.
SLD	Not available with any nLight Interface or Control options.

Multiple Diffuser Options

ADP Curved Ribbed | **ADSM** Curved Smooth | **SDP** Square Ribbed | **SDSM** Square Smooth | **LUGR** Low UGR

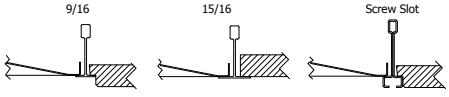
SDSM Diffuser Option

Non-Configurable BLT

Stock/MTO	Catalog Description *	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet Qty
Stock	2BLT2 33L ADP LP835	190887529708	3332	26.67	124.92	3500K/82 CRI	120-277	56
	2BLT2 33L ADP LP840	190887529739	3385	26.67	126.91	4000K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP835	190887529890	3332	26.67	124.92	3500K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP840	190887529937	3385	26.67	126.91	4000K/82CRI	120-277	56

*Generic 0-10V Dimming to 10%.

MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

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2BLT Volumetric Recessed Lighting 2'x2'

Accessories & Replacement Parts

Accessories: *Order as separate catalog number.*	
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X2SMKSHP PAF	Surface Mount Troffer Kit Post Paint
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

Replacement Parts: *Order as separate catalog number.*		
*247WJV	2DBLT24 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P2P	2DBLT24 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P2W	2DBLT24 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P32	2DBLT24 SDSM LENS ASSEMBLY	2 ft. replacement lens
*237LT1	2DBLT24 ADPT LENS ASSEMBLY	2 ft. replacement lens
*237LT3	2DBLT24 SDPT LENS ASSEMBLY	2 ft. replacement lens
*237LT5	2DBLT24 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT7	2DBLT24 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT9	2DBLT24 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M4Y	2DBLT24 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M57	2DBLT24 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M5H	2DBLT24 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter/ 2-hour Runtime
ILB CP10 A	10W	90	1200	
ILB CP10 HE AELR A	10W	90	1200	Title 20; Enabled with Self Testing, Automated Reporting (STAR)
ILBLP CP10 HE SD A	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

BSE Labeling Options	
BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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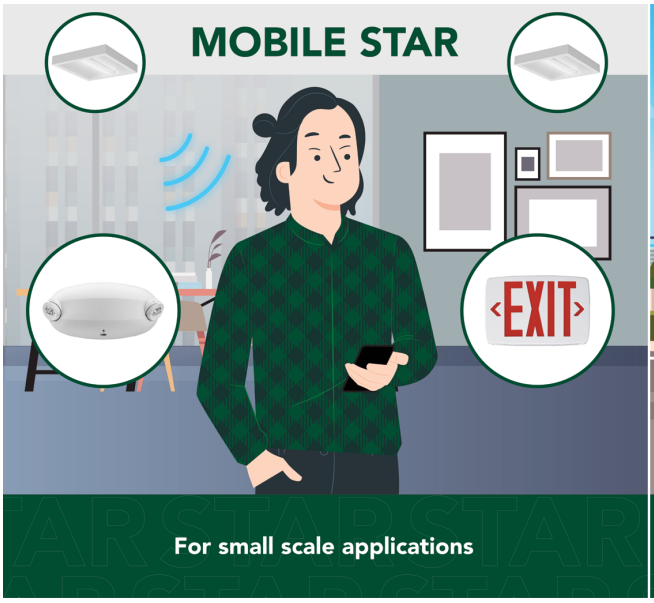
2BLT Volumetric Recessed Lighting 2'x2'

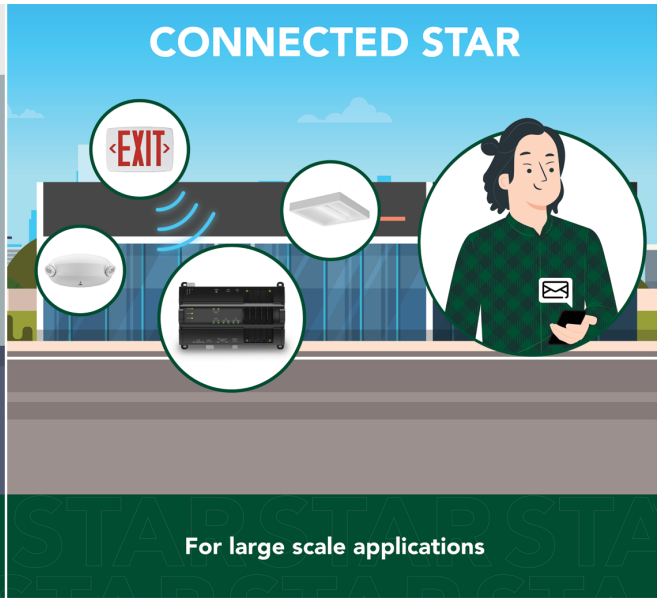
Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the ClAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

Life Safety Code NFPA 101 testing and reporting requirements for emergency lighting include:

- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction





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2BLT Volumetric Recessed Lighting 2'x2'

JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. Power: Install JOT enabled fixtures and controls as instructed.
2. Pair: Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. Play: Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

BLT Series

Sensor Switch
WSXA JOT

BLT Series
with integrated
JOT OCC
Sensors

Sensor Switch
SPODMRA JOT

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2BLT Volumetric Recessed Lighting 2'x2'

nLight Platform

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking

Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

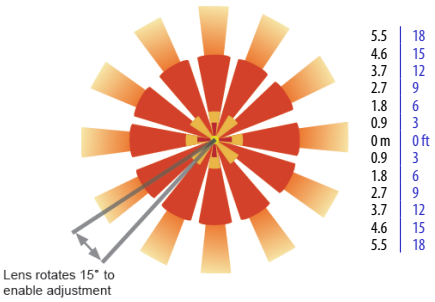
2BLT Volumetric Recessed Lighting 2'x2'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

9 FT Mounting



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight AIR Wireless

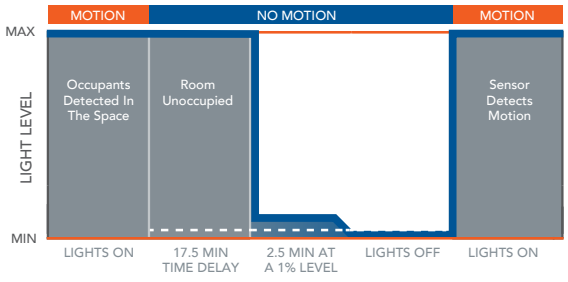
nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

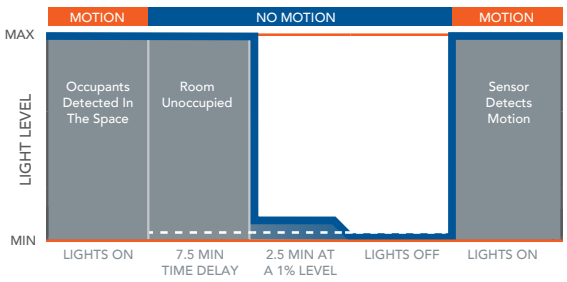
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation (MSD7 Sensor)



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation (nES7 and rES7 and Sensor)



*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

2BLT Volumetric Recessed Lighting 2'x2'

Controls Accessories

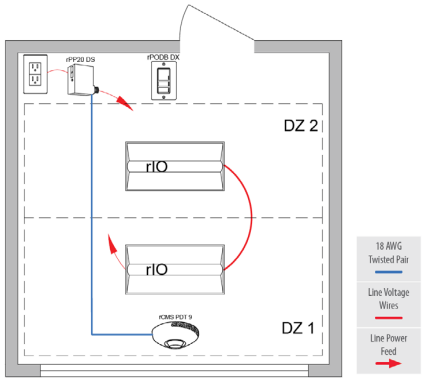
nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODMA [Color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODMA DX [Color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD TOUCH [Color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODBA [color] G2
On/Off two pole	rPODB A2P [color] G2
On/Off & raise/lower single pole	rPODBA DX [color] G2
On/Off & raise/lower two pole	rPODBA 2P DX [color] G2

BLT fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.



rCMS[1] — **Example: RCMS PDT 10 AR G2**

Series / Detection		Power Supply[1]		Occupancy Detection		Lens (Required)		Operating Mode		Generation	
RCMS	nLight AIR occupancy and daylight sensor	[blank]	Power Supply ordered separately	[blank]	PIR Detection	10	Large Motion/ Extended Range 360°	[BLANK]	None	G2	Generation 2 compatibility
		PS 150	Standard 150 mA Power Supply	PDT	Dual Tech PIR/ Microphonics	9	Small Motion/ Extended Range 360°	AR	Auxiliary Relay		
						6	High Bay 360° Lens				

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

Sensor Switch WSX

nLight WIRED NPOD UNITOUCH

nLight WIRED nPODMA DX

nLight AIR rPODBA

BLT with rIO **rPODBA** **RCMS**

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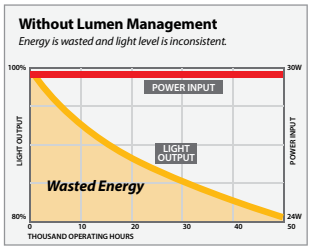
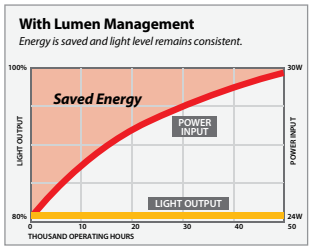
AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

2BLT Volumetric Recessed Lighting 2'x2'

Constant Lumen Management

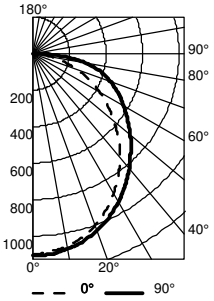
Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





PHOTOMETRICS

2BLT2 33L ADP LP835, 3332 delivered lumens, test no. ISF36900P19, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1103	1103
5°	1090	1104
15°	1042	1064
25°	946	989
35°	817	881
45°	664	757
55°	500	634
65°	340	517
75°	177	383
85°	40	164
90	1	14

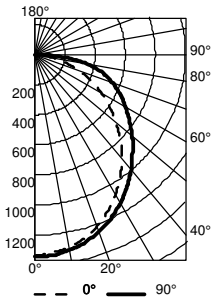
Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	853	25.6	25.6
0° - 40°	1390	41.7	41.7
0° - 60°	2466	74.0	74.0
0° - 90°	3330	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	3332	100.0	100.0

2BLT2 40L ADP LP835, 4041 delivered lumens, test no. ISF36900P35, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1338	1338
5°	1322	1339
15°	1263	1291
25°	1148	1199
35°	991	1069
45°	805	918
55°	607	769
65°	412	627
75°	214	465
85°	48	199
90	1	17

Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1035	25.6	25.6
0° - 40°	1686	41.7	41.7
0° - 60°	2991	74.0	74.0
0° - 90°	4039	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	4041	100.0	100.0

UNIFIED GLARE RATING (UGR)

Lumen Package	UGR Values of BLT 2x2 @ **80CRI** and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)																			
	ADP		ADPT		ADSM		ADSMT		SDP		SDPT		SDSM		SDSMT		LUGR		LUGRT	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
20L	17.8	21.6	17.8	21.8	17.7	21.4	18	21.1	18.3	21.3	18	21	18.1	21.5	18	20.9	16.3	17.9	17.6	18.2
20LHE	17.6	21.5	17.6	21.6	19.5	22.8	17.6	21.5	17.8	21.4	17.6	21.5	17.9	21.3	17.9	21.4	16.1	17.7	17.4	18
33L	19.5	23.3	19.5	22.8	19.9	23.2	19.3	22.4	19.6	22.6	19.3	22.3	19.6	22.3	19.4	22.2	18	19.6	19.3	19.8
33LHE	19.7	23.3	19.7	23.1	20.5	23.7	19.7	22.8	20	23	19.7	22.7	19.8	23.2	19.8	22.6	17.9	19.5	19.2	19.8
40L	20.2	24	20.3	23.7	20.5	23.8	20.2	24	20.5	23.5	20.2	23.2	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
40LHE	20.2	24.1	20.3	23.7	20.9	24.6	20.2	23.4	20.5	23.5	20.2	23.3	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
48L	20.8	24.6	20.7	24.8	20.9	24.6	20.8	24.6	21	24.5	20.7	24.6	21	24.5	21	24.5	19.4	21.1	20.7	21.3
48LHE	20.7	24.3	20.7	24.1	20.9	24.2	20.8	24.6	21	24	20.7	23.7	20.9	23.7	20.8	23.6	19.4	21	20.7	21.2

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values.
To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 33L ADP GZ10 E10WLCP LP840 Note:	Type L22AE

2BLT Volumetric Recessed Lighting 2'x2'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP840	2092	127.8	16.4	Premium	PM92196A
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP835	2036	124.4	16.4	Premium	P6445UVD
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP840	2061	125.9	16.37		
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP835	2008	122.7	16.37		
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP835	3300	124.6	26.5	Premium	PHSXHE8F
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP840	3391	128.1	26.5	Premium	PD18CKQ8
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP840	3343	126.3	26.5	Premium	PF98CZ2H
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP835	3254	122.9	26.5	Premium	S-OIDCZL
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP835	4034	130.2	31	Premium	P1XWW9GV
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP840	4144	133.8	31	Premium	PHCQ2CQF
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP835	3977	128.4	31	Premium	PW6RMMJ4
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP840	4086	131.9	31	Premium	P5YYDAA8
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP835	5022	117.2	42.9	Standard	PJRH1R1G
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP840	5159	120.4	42.9	Standard	P8G93YOK
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP835	4951	115.5	42.9	Standard	PITU3V6X
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP840	5087	118.7	42.9	Standard	P5X2XU76

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP835	1939	132.3	14.7	Premium	PUQCZNQI
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP840	1992	135.9	14.7	Premium	PJCZRW21
2BLT2 20LHE ADPT EZ1 (GZ1, GZ10) LP840	1964	134.0	14.7	Premium	PLC4RF4L
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP835	3247	133.0	24.4	Premium	PXXZN9PH
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP840	3336	136.7	24.4	Premium	PKPJYYRF
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP835	3202	131.1	24.4	Premium	PZC8BZSS
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP840	3290	134.7	24.4	Premium	PM5G8AFU
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP835	4044	135.5	29.9	Premium	PJ55XFFP
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP840	4155	139.2	29.9	Premium	PEGFHPZD
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP835	3987	133.6	29.9	Premium	P8E16E9B
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP840	4096	137.2	29.9	Premium	PFRSSSVG
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP835	4944	139.8	35.4	Premium	P558XUZP
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP840	5080	143.6	35.4	Premium	P1863H56
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP835	4875	137.8	35.4	Premium	PHPTG5M8
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP840	5009	141.6	35.4	Premium	PBKN954Z

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

How to Estimate Delivered Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Delivered Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 LP840 Note:	Type L22B

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The BLT reflector is available in both smooth and ribbed finishes. Choose RB from the fixture style section below for a ribbed finish.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A typically configured 2BLT2 features a **Unified Glare Rating (UGR)** starting at 18, UGR data available on page 8. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless rIO and rES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive model app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CL**AIR**ITY+, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. Designed for use in NEMA standard Type G (1" & 15/16") , NFG (9/16"), and SS (9/16") grid ceilings. Consult factory about other ceiling types.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. Tested in accordance with ISO 14644-1; suitable for use in ISO 5-9 positive and negative pressure clean rooms.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

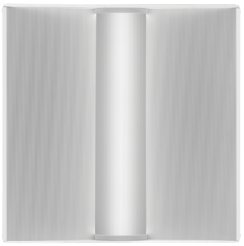
Catalog Number
Notes
Type

BLT Series LED

2BLT2

2' x 2'
LED

ADP Diffuser Option

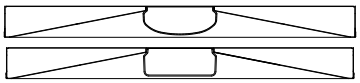


Ribbed Reflector Option

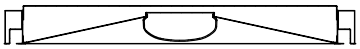
Specifications

Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)

All dimensions are inches (centimeters) unless otherwise specified.



Static



Air Supply/Return

Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

AMA LIGHTING	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 LP840 Note:	Type L22B

2BLT Volumetric Recessed Lighting 2'x2'

Design Select options indicated by this color background.

CURVED, SMOOTH PREFERRED

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT2 33L ADP EZ1 LP835

2BLT2

Series	Fixture Style	Air function	Lumens ‡	Diffuser	Voltage	Driver	Color temperature
2BLT2 2X2 BLT	(blank) Smooth Reflector RB Ribbed Reflector	(blank) Static A Air supply/return ‡	**Standard efficiency ‡ (>125 LPW)** 20L 2000 33L 3300 40L 4000 48L 4800 **High efficiency ‡ (>130 LPW)** 20LHE 2000 33LHE 3300 40LHE 4000 48LHE 4800	ADP Curved, ribbed ADSM Curved, smooth SDP Square, ribbed SDSM Square, smooth LUGR Low UGR lens ‡ **Includes trim rings to match sensored version** ADPT Curved, ribbed ADSMT Curved, smooth SDPT Square, ribbed SDSMT Square, smooth LUGRT Low UGR lens with trim ‡	(blank) MVOLT 120 120V 277 277V 347 347V ‡	EZ1 eldoLED dims to 1% (0-10 volt dimming) GZ1 Dims to 1% (0-10V dimming) GZ10 Dims to 10% (0-10V dimming) SLD Step-level dimming ‡	LP830 82CRI, 3000 K LP835 82CRI, 3500 K LP840 82CRI, 4000 K LP850 82CRI, 5000 K LP930 90CRI, 3000K LP935 90CRI, 3500K LP940 90CRI, 4000K LP950 90CRI, 5000K

nLight Interface

nLight Wired

(blank)	no nLight® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management For use with generator supply EM power ‡
N100	nLight without lumen management
N100EMG	nLight without lumen management For use with generator supply EM power ‡

nLight Wireless

(blank)	no nLight® interface
NLTAIR2	nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired

(blank)	No sensor control
NES7	nLight™ nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control ‡
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless

RES7	nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
RES7PDT	nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
RIO	nLight AIR radio module without sensor ‡
RES7EM	nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RES7PDTEM	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RIOEM	nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell ‡
MSDPDT7ADCX	PDT integral occupancy sensor with automatic dimming control photocell ‡
JOT	Wireless room control with "Just One Touch" pairing ‡
JOTVTX15	Wireless occupancy sensor with "Just One Touch" pairing ‡

Standy Mode

NOC	NOC Occupancy sensor disabled ‡

Options

BDP Disconnect Plug

EL7L	700 lumen battery pack (Noncompliant with CA T20) ‡
EL14L	1400 lumen battery pack (Noncompliant with CA T20) ‡
E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS ‡
E10WSTAR	Emergency battery pack, Enabled with STAR ‡

CP	Chicago plenum ‡
BGTD	Bodine Generator Transfer Device ‡
PWS1836	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
PWS1846	6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
PWS1846 PWSLV	Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge ‡
PWS1856LV	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/ low voltage wires ‡

GLR	Fast-blowing fuse ‡
GMF	Slow-blowing fuse ‡
NPLT	Narrow pallet
RRL_	RELOC®-ready luminaire ‡
LATC	Earthquake clip
WH	Glossy White
DWAM	Anti-Microbial paint
JP28	Job packaging ‡
JP44	Job packaging ‡
IP5X	Gasketed diffuser compartment to meet IP5X rating ‡
BAA	Buy America(n) Act and/or Build America Buy America Qualified

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 LP840 Note:	Type L22B

2BLT Volumetric Recessed Lighting 2'x2'

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with SLD, EL7L, EL14L, or E10WLCP options.
A	Not available with RB fixture style, consult factory for air flow data. If a job pack is selected, use JP28 only.
BGTD	Not available with J0T, J0TVTX15 sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
Control	Must specify diffuser with trim rings.
CP	Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.
E10WSTAR	Not compatible with 347V.
EL7L, EL14L, E10WLCP	When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
IP5X	Not available with air supply/return or Wired Networking (NES_) and Individual Control (MSD_) sensors.
J0T, J0TVTX15	Not available with SLD, nLight, NLTAIR2, NOC, or BGTD options.
JP28	Only available with options: NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, J0T, J0TVTX15. Not available when sensor options combined with 'A' air supply return option.
JP44	Not available with NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, J0T, J0TVTX15. Not available 'A' air supply return option. Not available with battery and PWS together.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com. Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
LUGR, LUGRT	Due to the unique optics used to drive the low UGR distribution, the LUGR lens is not uniformly lit and presents visible striping.
MSD7ADCX, MSDPDT7ADCX	Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must order with nLight Wireless option from Control section. Not available with GZ10 driver.
NOC	Can only be ordered in conjunction with EZ1 or GZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
N80EMG, N100EMG	nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
PWS1846 PWSLV, PWS1856LV	Not available with nLIGHT wired network or individual controls
RES7, RES7PDT, RIO	See UL 924 Sequence of Operation chart on page 3. When combined with the EZ1 option, can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
RES7EM, RES7PDTEM, RIOEM	See UL924 Sequence of Operation chart on page 3. Not available with GZ10 or GZ1 driver.
RRL_	For ordering logic consult: RRL_2013.
SLD	Not available with any nLight Interface or Control options.

Multiple Diffuser Options

ADP Curved Ribbed | **ADSM** Curved Smooth | **SDP** Square Ribbed | **SDSM** Square Smooth | **LUGR** Low UGR

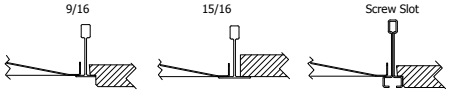
SDSM Diffuser Option

Non-Configurable BLT

Stock/MTO	Catalog Description *	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet Qty
Stock	2BLT2 33L ADP LP835	190887529708	3332	26.67	124.92	3500K/82 CRI	120-277	56
	2BLT2 33L ADP LP840	190887529739	3385	26.67	126.91	4000K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP835	190887529890	3332	26.67	124.92	3500K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP840	190887529937	3385	26.67	126.91	4000K/82CRI	120-277	56

*Generic 0-10V Dimming to 10%.

MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

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2BLT Volumetric Recessed Lighting 2'x2'

Accessories & Replacement Parts

Accessories: *Order as separate catalog number.*	
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X2SMKSHP PAF	Surface Mount Troffer Kit Post Paint
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

Replacement Parts: *Order as separate catalog number.*		
*247WJV	2DBLT24 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P2P	2DBLT24 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P2W	2DBLT24 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P32	2DBLT24 SDSM LENS ASSEMBLY	2 ft. replacement lens
*237LT1	2DBLT24 ADPT LENS ASSEMBLY	2 ft. replacement lens
*237LT3	2DBLT24 SDPT LENS ASSEMBLY	2 ft. replacement lens
*237LT5	2DBLT24 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT7	2DBLT24 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT9	2DBLT24 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M4Y	2DBLT24 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M57	2DBLT24 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M5H	2DBLT24 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter/ 2-hour Runtime
ILB CP10 A	10W	90	1200	
ILB CP10 HE AELR A	10W	90	1200	Title 20; Enabled with Self Testing, Automated Reporting (STAR)
ILBLP CP10 HE SD A	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

BSE Labeling Options	
BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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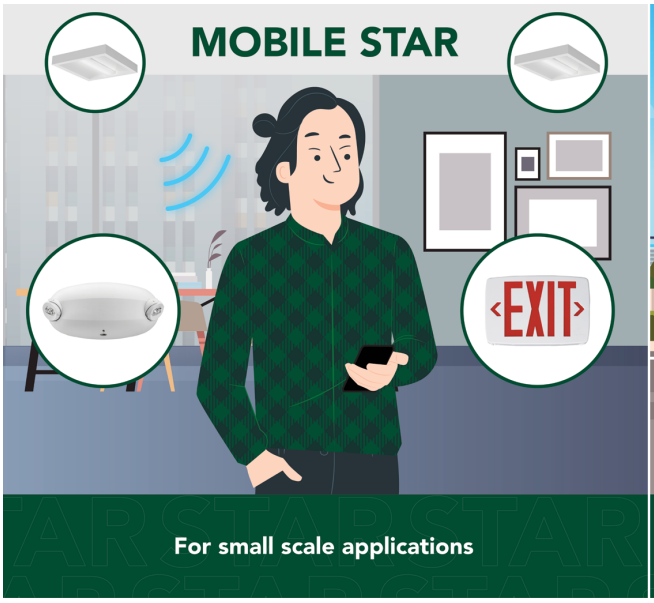
2BLT Volumetric Recessed Lighting 2'x2'

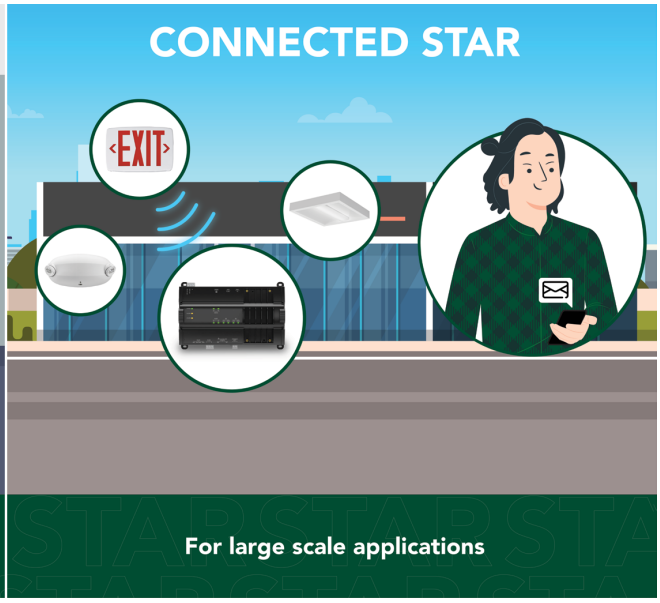
Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the ClAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

Life Safety Code NFPA 101 testing and reporting requirements for emergency lighting include:

- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction





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2BLT Volumetric Recessed Lighting 2'x2'

JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. Power: Install JOT enabled fixtures and controls as instructed.
2. Pair: Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. Play: Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

BLT Series

Sensor Switch
WSXA JOT

BLT Series
with integrated
JOT OCC
Sensors

Sensor Switch
SPODMRA JOT

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2BLT Volumetric Recessed Lighting 2'x2'

nLight Platform

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking

Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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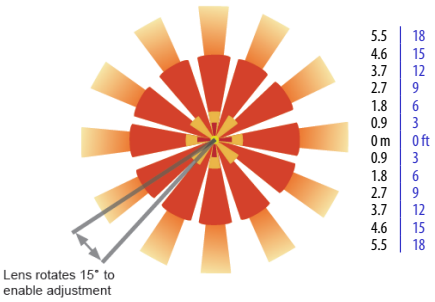
2BLT Volumetric Recessed Lighting 2'x2'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

9 FT Mounting



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight AIR Wireless

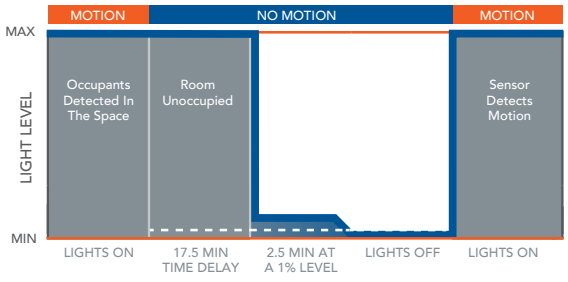
nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

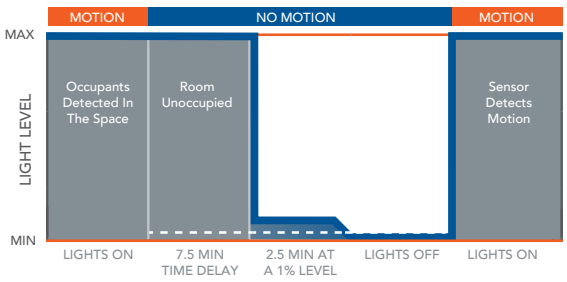
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation (MSD7 Sensor)



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation (nES7 and rES7 and Sensor)



*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

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2BLT Volumetric Recessed Lighting 2'x2'

Controls Accessories

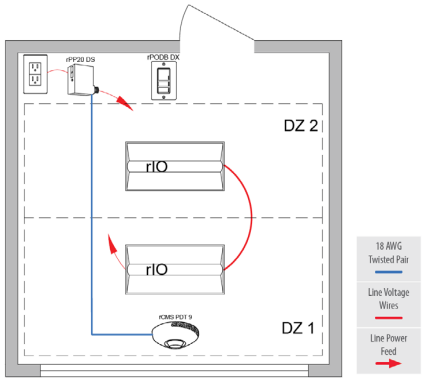
nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODMA [Color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODMA DX [Color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD TOUCH [Color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODBA [color] G2
On/Off two pole	rPODB A2P [color] G2
On/Off & raise/lower single pole	rPODBA DX [color] G2
On/Off & raise/lower two pole	rPODBA 2P DX [color] G2

BLT fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.



rCMS[1] — **Example: RCMS PDT 10 AR G2**

Series / Detection		Power Supply[1]		Occupancy Detection		Lens (Required)		Operating Mode		Generation	
RCMS	nLight AIR occupancy and daylight sensor	[blank]	Power Supply ordered separately	[blank]	PIR Detection	10	Large Motion/ Extended Range 360°	[BLANK]	None	G2	Generation 2 compatibility
		PS 150	Standard 150 mA Power Supply	PDT	Dual Tech PIR/ Microphonics	9	Small Motion/ Extended Range 360°	AR	Auxiliary Relay		
						6	High Bay 360° Lens				

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

Sensor Switch WSX

nLight WIRED NPOD UNITOUCH

nLight WIRED nPODMA DX

nLight AIR rPODBA

BLT with rIO **rPODBA** **RCMS**

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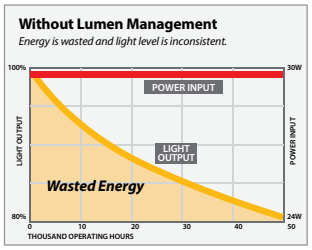
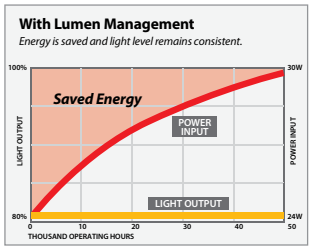
AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 LP840 Note:	Type L22B

2BLT Volumetric Recessed Lighting 2'x2'

Constant Lumen Management

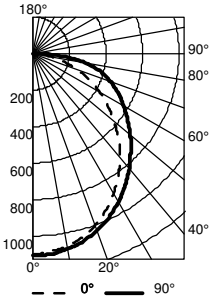
Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





PHOTOMETRICS

2BLT2 33L ADP LP835, 3332 delivered lumens, test no. ISF36900P19, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1103	1103
5°	1090	1104
15°	1042	1064
25°	946	989
35°	817	881
45°	664	757
55°	500	634
65°	340	517
75°	177	383
85°	40	164
90	1	14

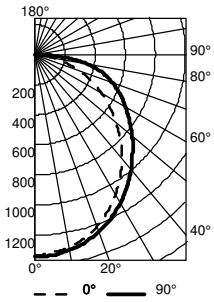
Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	853	25.6	25.6
0° - 40°	1390	41.7	41.7
0° - 60°	2466	74.0	74.0
0° - 90°	3330	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	3332	100.0	100.0

2BLT2 40L ADP LP835, 4041 delivered lumens, test no. ISF36900P35, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1338	1338
5°	1322	1339
15°	1263	1291
25°	1148	1199
35°	991	1069
45°	805	918
55°	607	769
65°	412	627
75°	214	465
85°	48	199
90	1	17

Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1035	25.6	25.6
0° - 40°	1686	41.7	41.7
0° - 60°	2991	74.0	74.0
0° - 90°	4039	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	4041	100.0	100.0

UNIFIED GLARE RATING (UGR)

Lumen Package	UGR Values of BLT 2x2 @ **80CRI** and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)																			
	ADP		ADPT		ADSM		ADSMT		SDP		SDPT		SDSM		SDSMT		LUGR		LUGRT	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
20L	17.8	21.6	17.8	21.8	17.7	21.4	18	21.1	18.3	21.3	18	21	18.1	21.5	18	20.9	16.3	17.9	17.6	18.2
20LHE	17.6	21.5	17.6	21.6	19.5	22.8	17.6	21.5	17.8	21.4	17.6	21.5	17.9	21.3	17.9	21.4	16.1	17.7	17.4	18
33L	19.5	23.3	19.5	22.8	19.9	23.2	19.3	22.4	19.6	22.6	19.3	22.3	19.6	22.3	19.4	22.2	18	19.6	19.3	19.8
33LHE	19.7	23.3	19.7	23.1	20.5	23.7	19.7	22.8	20	23	19.7	22.7	19.8	23.2	19.8	22.6	17.9	19.5	19.2	19.8
40L	20.2	24	20.3	23.7	20.5	23.8	20.2	24	20.5	23.5	20.2	23.2	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
40LHE	20.2	24.1	20.3	23.7	20.9	24.6	20.2	23.4	20.5	23.5	20.2	23.3	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
48L	20.8	24.6	20.7	24.8	20.9	24.6	20.8	24.6	21	24.5	20.7	24.6	21	24.5	21	24.5	19.4	21.1	20.7	21.3
48LHE	20.7	24.3	20.7	24.1	20.9	24.2	20.8	24.6	21	24	20.7	23.7	20.9	23.7	20.8	23.6	19.4	21	20.7	21.2

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values.
To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 LP840 Note:	Type L22B

2BLT Volumetric Recessed Lighting 2'x2'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP840	2092	127.8	16.4	Premium	PM92196A
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP835	2036	124.4	16.4	Premium	P6445UVD
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP840	2061	125.9	16.37		
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP835	2008	122.7	16.37		
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP835	3300	124.6	26.5	Premium	PHSXHE8F
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP840	3391	128.1	26.5	Premium	PD18CKQ8
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP840	3343	126.3	26.5	Premium	PF98CZ2H
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP835	3254	122.9	26.5	Premium	S-OIDCZL
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP835	4034	130.2	31	Premium	P1XWW9GV
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP840	4144	133.8	31	Premium	PHCQ2CQF
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP835	3977	128.4	31	Premium	PW6RMMJ4
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP840	4086	131.9	31	Premium	P5YYDAA8
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP835	5022	117.2	42.9	Standard	PJRH1R1G
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP840	5159	120.4	42.9	Standard	P8G93YOK
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP835	4951	115.5	42.9	Standard	PITU3V6X
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP840	5087	118.7	42.9	Standard	P5X2XU76

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

How to Estimate Delivered Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Delivered Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP835	1939	132.3	14.7	Premium	PUQCZNQI
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP840	1992	135.9	14.7	Premium	PJCZRW21
2BLT2 20LHE ADPT EZ1 (GZ1, GZ10) LP840	1964	134.0	14.7	Premium	PLC4RF4L
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP835	3247	133.0	24.4	Premium	PXXZN9PH
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP840	3336	136.7	24.4	Premium	PKPJYYRF
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP835	3202	131.1	24.4	Premium	PZC8BZSS
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP840	3290	134.7	24.4	Premium	PM5G8AFU
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP835	4044	135.5	29.9	Premium	PJ55XFFP
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP840	4155	139.2	29.9	Premium	PEGFHPZD
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP835	3987	133.6	29.9	Premium	P8E16E9B
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP840	4096	137.2	29.9	Premium	PFRSSSVG
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP835	4944	139.8	35.4	Premium	P558XUZP
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP840	5080	143.6	35.4	Premium	P1863H56
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP835	4875	137.8	35.4	Premium	PHPTG5M8
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP840	5009	141.6	35.4	Premium	PBKN954Z

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 E10WLCP LP840 Note:	Type L22BE

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLT Best-in-Value Low Profile LED luminaire features a popular center basket design that offers a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLT the perfect choice for many lighting applications including schools, offices and other commercial spaces, retail, hospitals and healthcare facilities. The low profile BLT design (2-3/8") also makes it an excellent choice for renovation projects.

CONSTRUCTION — Prior to fabrication, BLT components are coated with a proprietary paint blend and die-formed for dimensional consistency.

The BLT reflector is available in both smooth and ribbed finishes. Choose RB from the fixture style section below for a ribbed finish.

End plates contain easy-to-position integral T-bar clips for securely attaching the luminaire to the T-grid. For additional T-grid security, optional screw on T-bar clips are available.

Diffusers are extruded from impact modified acrylic for increased durability.

LED boards and drivers are accessible from the plenum.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A typically configured 2BLT2 features a **Unified Glare Rating (UGR)** starting at 18, UGR data available on page 8. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Color Variation within 3-step MacAdam ellipse (3SDCM).

Non-Configurable BLT: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLT: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless rIO and rES7 sensors, or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. nLight AIR is commissioned easily through an intuitive model app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX ((Passive infrared (PIR)) or MSDPDT7ADCX ((PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 4 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or a microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CL**AIR**ITY+, which allows for simple sensor adjustment. See page 4 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — The BLT's low profile design of only 2-3/8" provides increased installation flexibility especially in restrictive plenum applications. Designed for use in NEMA standard Type G (1" & 15/16") , NFG (9/16"), and SS (9/16") grid ceilings. Consult factory about other ceiling types.

For recessed mounting in hard ceiling applications, Drywall Grid Adapters (DGA) are available as an accessory. See Accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. Tested in accordance with ISO 14644-1; suitable for use in ISO 5-9 positive and negative pressure clean rooms.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

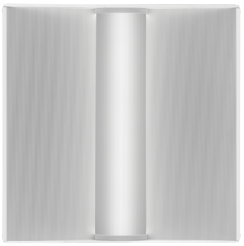
Catalog Number
Notes
Type

BLT Series LED

2BLT2

2' x 2'
LED

ADP Diffuser Option

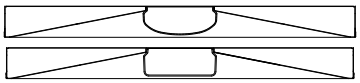


Ribbed Reflector Option

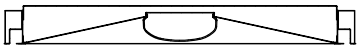
Specifications

Length: 23-3/4 (60.3)
Width: 23-3/4 (60.3)
Depth: 2-3/8 (6.0)
Depth with Air supply/return: 2-3/4 (6.9)

All dimensions are inches (centimeters) unless otherwise specified.



Static



Air Supply/Return

Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

AMA LIGHTING	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 E10WLCP LP840 Note:	Type L22BE

2BLT Volumetric Recessed Lighting 2'x2'

Design Select options indicated by this color background.

CURVED, SMOOTH PREFERRED

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT2 33L ADP EZ1 LP835

2BLT2

Series	Fixture Style	Air function	Lumens ‡		Diffuser	Voltage	Driver	Color temperature
2BLT2 2X2 BLT	(blank) Smooth Reflector RB Ribbed Reflector	(blank) Static A Air supply/ return ‡	**Standard efficiency ‡ (>125 LPW)** 20L 2000 33L 3300 40L 4000 48L 4800	**High efficiency ‡ (>130 LPW)** 20LHE 2000 33LHE 3300 40LHE 4000 48LHE 4800	ADP Curved, ribbed ADSM Curved, smooth SDP Square, ribbed SDSM Square, smooth LUGR Low UGR lens ‡ **Includes trim rings to match sensored version** ADPT Curved, ribbed ADSMT Curved, smooth SDPT Square, ribbed SDSMT Square, smooth LUGRT Low UGR lens with trim ‡	(blank) MVOLT 120 120V 277 277V 347 347V ‡	EZ1 eldoLED dims to 1% (0-10 volt dimming) GZ1 Dims to 1% (0-10V dimming) GZ10 Dims to 10% (0-10V dimming) SLD Step-level dimming ‡	LP830 82CRI, 3000 K LP835 82CRI, 3500 K LP840 82CRI, 4000 K LP850 82CRI, 5000 K LP930 90CRI, 3000K LP935 90CRI, 3500K LP940 90CRI, 4000K LP950 90CRI, 5000K

nLight Interface

nLight Wired

(blank)	no nLight® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management For use with generator supply EM power ‡
N100	nLight without lumen management
N100EMG	nLight without lumen management For use with generator supply EM power ‡

nLight Wireless

(blank)	no nLight® interface
NLTAIR2	nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired

(blank)	No sensor control
NES7	nLight™ nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control ‡
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless

RES7	nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
RES7PDT	nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
RIO	nLight AIR radio module without sensor ‡
RES7EM	nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RES7PDTEM	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RIOEM	nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell ‡
MSDPDT7ADCX	PDT integral occupancy sensor with automatic dimming control photocell ‡
JOT	Wireless room control with "Just One Touch" pairing ‡
JOTVTX15	Wireless occupancy sensor with "Just One Touch" pairing ‡

Standy Mode

NOC	NOC Occupancy sensor disabled ‡

Options

BDP Disconnect Plug

EL7L	700 lumen battery pack (Noncompliant with CA T20) ‡
EL14L	1400 lumen battery pack (Noncompliant with CA T20) ‡
E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS ‡
E10WSTAR	Emergency battery pack, Enabled with STAR ‡

CP	Chicago plenum ‡
BGTD	Bodine Generator Transfer Device ‡
PWS1836	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit
PWS1846	6' pre-wire, 3/8" diameter, 18 gauge, 2 circuit
PWS1846 PWSLV	Two cables: one 6' pre-wire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge ‡
PWS1856LV	6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/ low voltage wires ‡

GLR	Fast-blowing fuse ‡
GMF	Slow-blowing fuse ‡
NPLT	Narrow pallet
RRL_	RELOC®-ready luminaire ‡
LATC	Earthquake clip
WH	Glossy White
DWAM	Anti-Microbial paint
JP28	Job packaging ‡
JP44	Job packaging ‡
IP5X	Gasketed diffuser compartment to meet IP5X rating ‡
BAA	Buy America(n) Act and/or Build America Buy America Qualified

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 E10WLCP LP840 Note:	Type L22BE

2BLT Volumetric Recessed Lighting 2'x2'

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with SLD, EL7L, EL14L, or E10WLCP options.
A	Not available with RB fixture style, consult factory for air flow data. If a job pack is selected, use JP28 only.
BGTD	Not available with J0T, J0TVTX15 sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
Control	Must specify diffuser with trim rings.
CP	Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.
E10WSTAR	Not compatible with 347V.
EL7L, EL14L, E10WLCP	When using pre-wire option, use PWS1846 or PWS1846 PWSLV.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
IP5X	Not available with air supply/return or Wired Networking (NES_) and Individual Control (MSD_) sensors.
J0T, J0TVTX15	Not available with SLD, nLight, NLTAIR2, NOC, or BGTD options.
JP28	Only available with options: NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, J0T, J0TVTX15. Not available when sensor options combined with 'A' air supply return option.
JP44	Not available with NES7, NESPDT7, NES7ADCX, NESPDT7ADCX, MSD7ADCX, MSDPDT7ADCX, RES7, RES7PDT, RIO, J0T, J0TVTX15. Not available 'A' air supply return option. Not available with battery and PWS together.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com. Air supply/return option, 90 CRI, and versions with integral sensor trim rings may not achieve 130 LPW.
LUGR, LUGRT	Due to the unique optics used to drive the low UGR distribution, the LUGR lens is not uniformly lit and presents visible striping.
MSD7ADCX, MSDPDT7ADCX	Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must order with nLight Wireless option from Control section. Not available with GZ10 driver.
NOC	Can only be ordered in conjunction with EZ1 or GZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
N80EMG, N100EMG	nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
PWS1846 PWSLV, PWS1856LV	Not available with nLIGHT wired network or individual controls
RES7, RES7PDT, RIO	See UL 924 Sequence of Operation chart on page 3. When combined with the EZ1 option, can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
RES7EM, RES7PDTEM, RIOEM	See UL924 Sequence of Operation chart on page 3. Not available with GZ10 or GZ1 driver.
RRL_	For ordering logic consult: RRL_2013.
SLD	Not available with any nLight Interface or Control options.

Multiple Diffuser Options

ADP Curved Ribbed

ADSM Curved Smooth

SDP Square Ribbed

SDSM Square Smooth

LUGR Low UGR

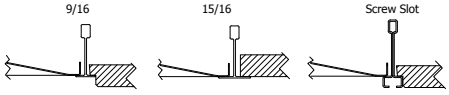
SDSM Diffuser Option

Non-Configurable BLT

Stock/MTO	Catalog Description *	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet Qty
Stock	2BLT2 33L ADP LP835	190887529708	3332	26.67	124.92	3500K/82 CRI	120-277	56
	2BLT2 33L ADP LP840	190887529739	3385	26.67	126.91	4000K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP835	190887529890	3332	26.67	124.92	3500K/82CRI	120-277	56
	2BLT2 33L ADP EL14L LP840	190887529937	3385	26.67	126.91	4000K/82CRI	120-277	56

*Generic 0-10V Dimming to 10%.

MOUNTING DATA	
Ceiling Type	**Appropriate Trim Type**
Exposed grid tee (1' and 9/16")	G
Concealed grid tee	G
Plaster or plasterboard	G*



*DGA accessory available to provide ceiling trim flange and fixture support for plaster or plasterboard ceiling. Recommended rough-in dimensions for DGA installation is 24-3/4" x 24-3/4" (Tolerance is +1/8", -0").

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

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2BLT Volumetric Recessed Lighting 2'x2'

Accessories & Replacement Parts

Accessories: *Order as separate catalog number.*	
DGA22	Drywall grid adapter for 2x2 recessed fixture
2X2SMKSHP PAF	Surface Mount Troffer Kit Post Paint
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

Replacement Parts: *Order as separate catalog number.*		
*247WJV	2DBLT24 ADP LENS ASSEMBLY	2 ft. replacement lens
*249P2P	2DBLT24 SDP LENS ASSEMBLY	2 ft. replacement lens
*249P2W	2DBLT24 ADSM LENS ASSEMBLY	2 ft. replacement lens
*249P32	2DBLT24 SDSM LENS ASSEMBLY	2 ft. replacement lens
*237LT1	2DBLT24 ADPT LENS ASSEMBLY	2 ft. replacement lens
*237LT3	2DBLT24 SDPT LENS ASSEMBLY	2 ft. replacement lens
*237LT5	2DBLT24 ADSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT7	2DBLT24 SDSMT LENS ASSEMBLY	2 ft. replacement lens
*237LT9	2DBLT24 ADPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M4Y	2DBLT24 SDPT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M57	2DBLT24 ADSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens
*237M5H	2DBLT24 SDSMT SENSOR LENS ASSEMBLY	2 ft. replacement lens

Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter/ 2-hour Runtime
ILB CP10 A	10W	90	1200	
ILB CP10 HE AELR A	10W	90	1200	Title 20; Enabled with Self Testing, Automated Reporting (STAR)
ILBLP CP10 HE SD A	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

BSE Labeling Options	
BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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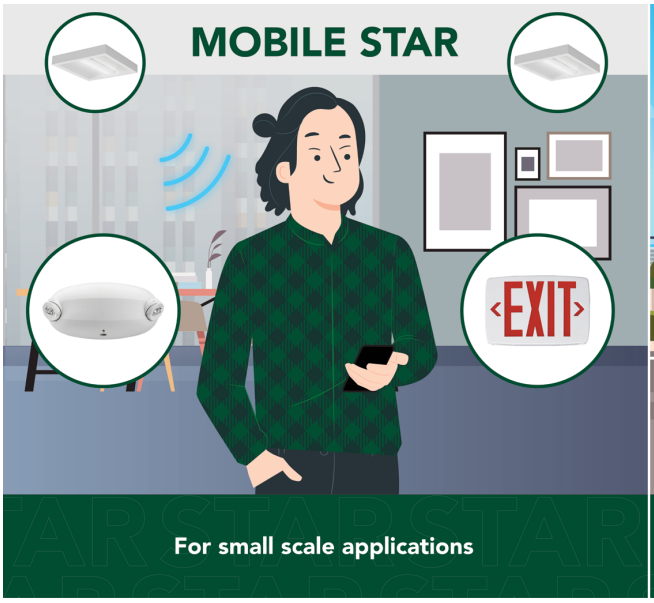
2BLT Volumetric Recessed Lighting 2'x2'

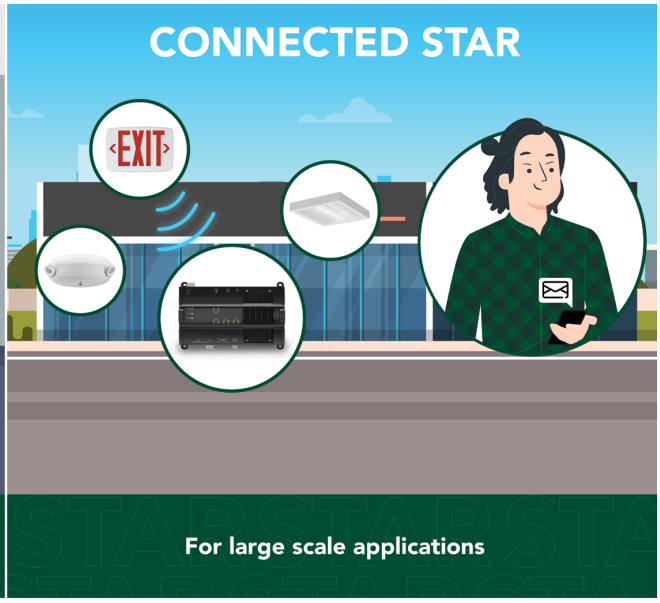
Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the ClAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

Life Safety Code NFPA 101 testing and reporting requirements for emergency lighting include:

- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction





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2BLT Volumetric Recessed Lighting 2'x2'

JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. Power: Install JOT enabled fixtures and controls as instructed.
2. Pair: Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. Play: Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

BLT Series

Sensor Switch
WSXA JOT

BLT Series
with integrated
JOT OCC
Sensors

Sensor Switch
SPODMRA JOT

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2BLT Volumetric Recessed Lighting 2'x2'

nLight Platform

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking

Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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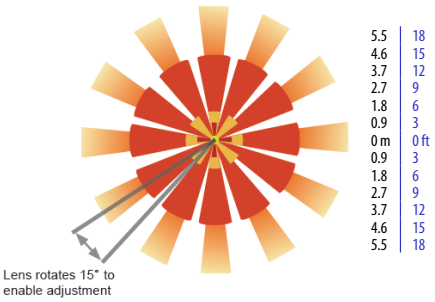
2BLT Volumetric Recessed Lighting 2'x2'

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RESPDT7	X	X	X		X

Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

9 FT Mounting



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight AIR Wireless

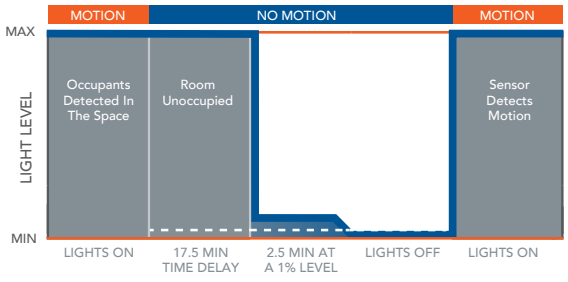
nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

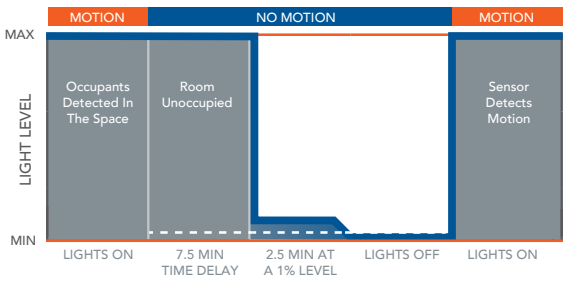
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation (MSD7 Sensor)



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation (nES7 and rES7 and Sensor)



*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

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2BLT Volumetric Recessed Lighting 2'x2'

Controls Accessories

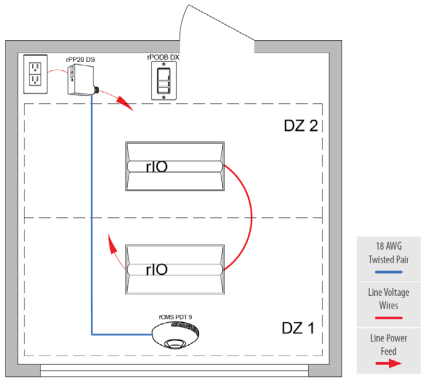
nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODMA [Color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODMA DX [Color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD TOUCH [Color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODBA [color] G2
On/Off two pole	rPODB A2P [color] G2
On/Off & raise/lower single pole	rPODBA DX [color] G2
On/Off & raise/lower two pole	rPODBA 2P DX [color] G2

BLT fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.



rCMS[1] — **Example: RCMS PDT 10 AR G2**

Series / Detection		Power Supply[1]		Occupancy Detection		Lens (Required)		Operating Mode		Generation	
RCMS	nLight AIR occupancy and daylight sensor	[blank]	Power Supply ordered separately	[blank]	PIR Detection	10	Large Motion/ Extended Range 360°	[BLANK]	None	G2	Generation 2 compatibility
		PS 150	Standard 150 mA Power Supply	PDT	Dual Tech PIR/ Microphonics	9	Small Motion/ Extended Range 360°	AR	Auxiliary Relay		
						6	High Bay 360° Lens				

Notes
1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.

Sensor Switch WSX

nLight WIRED NPOD UNITOUCH

nLight WIRED nPODMA DX

nLight AIR rPODBA

BLT with rIO **rPODBA** **RCMS**

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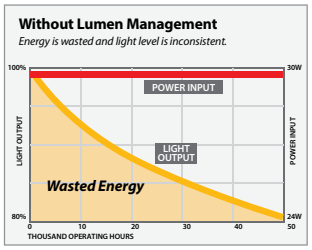
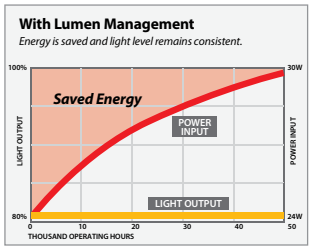
2BLT Volumetric Recessed Lighting 2'x2'

Constant Lumen Management

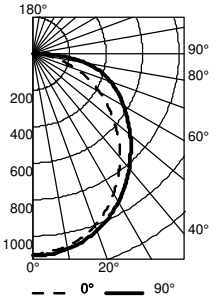
Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





PHOTOMETRICS

2BLT2 33L ADP LP835, 3332 delivered lumens, test no. ISF36900P19, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1103	1103
5°	1090	1104
15°	1042	1064
25°	946	989
35°	817	881
45°	664	757
55°	500	634
65°	340	517
75°	177	383
85°	40	164
90	1	14

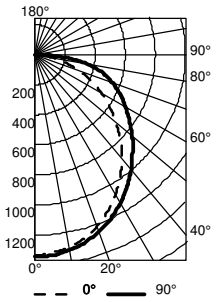
Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	853	25.6	25.6
0° - 40°	1390	41.7	41.7
0° - 60°	2466	74.0	74.0
0° - 90°	3330	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	3332	100.0	100.0

2BLT2 40L ADP LP835, 4041 delivered lumens, test no. ISF36900P35, tested in accordance to IESNA LM-79



CP Summary

	0°	90
0°	1338	1338
5°	1322	1339
15°	1263	1291
25°	1148	1199
35°	991	1069
45°	805	918
55°	607	769
65°	412	627
75°	214	465
85°	48	199
90	1	17

Coefficients of Utilization

RCR	pf 20% pc 80% 70%50%30%	70% 50%30%10%	50% 50%30%10%
0	119 119 119	116 116 116	111 111 111
1	108 102 97	100 96 92	96 92 89
2	97 88 81	86 80 74	83 77 72
3	88 77 69	76 68 61	72 66 60
4	81 68 59	67 58 52	64 57 51
5	74 61 51	60 51 44	57 50 44
6	68 55 45	54 45 39	52 44 38
7	63 50 40	49 40 34	47 39 34
8	59 45 36	44 36 30	43 36 30
9	55 41 33	41 33 27	40 32 27
10	52 38 30	38 30 25	37 30 25

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1035	25.6	25.6
0° - 40°	1686	41.7	41.7
0° - 60°	2991	74.0	74.0
0° - 90°	4039	100.0	100.0
90° - 120°	2	0.0	0.0
90° - 130°	2	0.0	0.0
90° - 150°	2	0.0	0.0
90° - 180°	2	0.0	0.0
0° - 180°	4041	100.0	100.0

UNIFIED GLARE RATING (UGR)

Lumen Package	UGR Values of BLT 2x2 @ **80CRI** and 3500K UGR (70% 50% 20% reflectance using a 4H x 8H room size)																			
	ADP		ADPT		ADSM		ADSMT		SDP		SDPT		SDSM		SDSMT		LUGR		LUGRT	
	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise	Crosswise	Endwise
20L	17.8	21.6	17.8	21.8	17.7	21.4	18	21.1	18.3	21.3	18	21	18.1	21.5	18	20.9	16.3	17.9	17.6	18.2
20LHE	17.6	21.5	17.6	21.6	19.5	22.8	17.6	21.5	17.8	21.4	17.6	21.5	17.9	21.3	17.9	21.4	16.1	17.7	17.4	18
33L	19.5	23.3	19.5	22.8	19.9	23.2	19.3	22.4	19.6	22.6	19.3	22.3	19.6	22.3	19.4	22.2	18	19.6	19.3	19.8
33LHE	19.7	23.3	19.7	23.1	20.5	23.7	19.7	22.8	20	23	19.7	22.7	19.8	23.2	19.8	22.6	17.9	19.5	19.2	19.8
40L	20.2	24	20.3	23.7	20.5	23.8	20.2	24	20.5	23.5	20.2	23.2	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
40LHE	20.2	24.1	20.3	23.7	20.9	24.6	20.2	23.4	20.5	23.5	20.2	23.3	20.5	23.2	20.3	23.2	18.7	20.3	20	20.5
48L	20.8	24.6	20.7	24.8	20.9	24.6	20.8	24.6	21	24.5	20.7	24.6	21	24.5	21	24.5	19.4	21.1	20.7	21.3
48LHE	20.7	24.3	20.7	24.1	20.9	24.2	20.8	24.6	21	24	20.7	23.7	20.9	23.7	20.8	23.6	19.4	21	20.7	21.2

UGR varies based on luminaire options and is affected by application dependent parameters. Numbers depicted here are considered "Luminaire-UGR and/or "Point-UGR" values.
To determine a more precise maximum UGR value ("Application-UGR"), a full lighting design layout should be completed with the selected luminaire configuration for each application

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: 2BLT2 40L ADP GZ10 E10WLCP LP840 Note:	Type L22BE

2BLT Volumetric Recessed Lighting 2'x2'

Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP840	2092	127.8	16.4	Premium	PM92196A
2BLT2 20L ADP EZ1 (GZ1, GZ10) LP835	2036	124.4	16.4	Premium	P6445UVD
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP840	2061	125.9	16.37		
2BLT2 20L ADPT EZ1 (GZ1, GZ10) LP835	2008	122.7	16.37		
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP835	3300	124.6	26.5	Premium	PHSXHE8F
2BLT2 33L ADP EZ1 (GZ1, GZ10) LP840	3391	128.1	26.5	Premium	PD18CKQ8
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP840	3343	126.3	26.5	Premium	PF98CZ2H
2BLT2 33L ADPT EZ1 (GZ1, GZ10) LP835	3254	122.9	26.5	Premium	S-OIDCZL
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP835	4034	130.2	31	Premium	P1XWW9GV
2BLT2 40L ADP EZ1 (GZ1, GZ10) LP840	4144	133.8	31	Premium	PHCQ2CQF
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP835	3977	128.4	31	Premium	PW6RMMJ4
2BLT2 40L ADPT EZ1 (GZ1, GZ10) LP840	4086	131.9	31	Premium	P5YYDAA8
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP835	5022	117.2	42.9	Standard	PJRH1R1G
2BLT2 48L ADP EZ1 (GZ1, GZ10) LP840	5159	120.4	42.9	Standard	P8G93YOK
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP835	4951	115.5	42.9	Standard	PITU3V6X
2BLT2 48L ADPT EZ1 (GZ1, GZ10) LP840	5087	118.7	42.9	Standard	P5X2XU76

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

HE Performance Data					
Model Number	**Lumens**	**LPW**	**Watts**	**DLC Listing**	**DLC ID**
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP835	1939	132.3	14.7	Premium	PUQCZNQI
2BLT2 20LHE ADP EZ1 (GZ1, GZ10) LP840	1992	135.9	14.7	Premium	PJCZRW21
2BLT2 20LHE ADPT EZ1 (GZ1, GZ10) LP840	1964	134.0	14.7	Premium	PLC4RF4L
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP835	3247	133.0	24.4	Premium	PXXZN9PH
2BLT2 33LHE ADP EZ1 (GZ1, GZ10) LP840	3336	136.7	24.4	Premium	PKPJYYRF
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP835	3202	131.1	24.4	Premium	PZC8BZSS
2BLT2 33LHE ADPT EZ1 (GZ1, GZ10) LP840	3290	134.7	24.4	Premium	PM5G8AFU
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP835	4044	135.5	29.9	Premium	PJ55XFFP
2BLT2 40LHE ADP EZ1 (GZ1, GZ10) LP840	4155	139.2	29.9	Premium	PEGFHPZD
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP835	3987	133.6	29.9	Premium	P8E16E9B
2BLT2 40LHE ADPT EZ1 (GZ1, GZ10) LP840	4096	137.2	29.9	Premium	PFRSSSVG
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP835	4944	139.8	35.4	Premium	P558XUZP
2BLT2 48LHE ADP EZ1 (GZ1, GZ10) LP840	5080	143.6	35.4	Premium	P1863H56
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP835	4875	137.8	35.4	Premium	PHPTG5M8
2BLT2 48LHE ADPT EZ1 (GZ1, GZ10) LP840	5009	141.6	35.4	Premium	PBKN954Z

DLC information is subject to change, for the most up-to-date information please refer to www.dlc.org. Above listings do not cover 347v or SLD.

How to Estimate Delivered Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Delivered Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet. LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RSX1 LED P4 40K R3 MVOLT RPA PER7 DDBXD Note:	Type PLA

APPROVED

RSX1 LED
Area Luminaire

Catalog Number

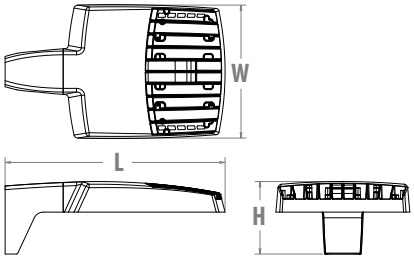
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA (ft²@0°):	0.57 ft² (0.05 m²)
Length:	21.8" (55.4 cm) (SPA mount)
Width:	13.3" (33.8 cm)
Height:	3.0" (7.6 cm) Main Body 7.2" (18.4 cm) Arm
Weight: (SPA mount):	22.0 lbs (10.0 kg)



Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX1 delivers 7,000 to 17,000 lumens allowing it to replace 70W to 400W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

Design Select options indicated by this color background.

Ordering Information

EXAMPLE: RSX1 LED P4 40K R3 MVOLT SPA DDBXD

RSX1 LED

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX1 LED	P1	30K 3000K	R2 Type 2 Wide	MVOLT (120V-277V) [2]	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°)
	P2	40K 4000K	R3 Type 3 Wide	HVOLT (347V-480V) [3]	RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°)
	P3	50K 5000K	R3S Type 3 Short	XVOLT (277V-480V) [4]	MA Mast arm adaptor (fits 2-3/8" OD horizontal tenon)
	P4		R4 Type 4 Wide	(use specific voltage for options as noted)	IS Adjustable slipfitter (fits 2-3/8" OD tenon) [6]
			R4S Type 4 Short	120 [3] 277 [5]	WBA Wall bracket [1]
			R5 Type 5 Wide [1]	208 [3] 347 [5]	WBASC Wall bracket with surface conduit box
			R5S Type 5 Short [1]	240 [3] 480 [5]	AASP Adjustable tilt arm square pole mounting [6]
			AFR Automotive Front Row		AARP Adjustable tilt arm round pole mounting [6]
			AFRR90 Automotive Front Row Right Rotated		AAWB Adjustable tilt arm with wall bracket [6]
			AFRL90 Automotive Front Row Left Rotated		AAWSC Adjustable tilt arm wall bracket and surface conduit box [6]

Options

Shipped Installed

HS	House-side shield [7]
PE	Photocontrol, button style [8,9]
PER7	Seven-wire twist-lock receptacle only (no controls) [9,10,11]
SF	Single fuse (120, 277, 347) [5]
DF	Double fuse (208, 240, 480) [5]
SPD20KV	20KV Surge pack (10KV standard)
FAO	Field adjustable output [9]
DMG	0-10V dimming extend out back of housing for external control (control ordered separate) [9]

Shipped Installed

***Standalone and Networked Sensors/Controls (factory default settings, see table page 9)**

NLTAIR2 PIRHN	nLight AIR generation 2, with Networked, Bi-Level motion/ambient sensor [9,12,13,14]
BAA	Buy America(n) Act and/or Build America Buy America Qualified
CCE	Coastal Construction [15]

*Note: NLTAIR2 PIRHN with nLight Air can be used as a standalone or networked solution. Sensor coverage pattern is affected when luminaire is tilted.

Shipped Separately (requires some field assembly)

EGS	External glare shield [7]
EGFV	External glare full visor (360° around light aperture) [7]
BS	Bird spikes [16]

Finish

DDBXD	Dark Bronze
DBLXD	Black
DNAXD	Natural Aluminum
DWHXD	White
DDBTXD	Textured Dark Bronze
DBLBXD	Textured Black
DNATXD	Textured Natural Aluminum
DWHGXD	Textured White

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Ordering Information

Accessories

Ordered and shipped separately.

RSX1HS	RSX1 House side shield (includes 1 shield)
RSX1HSAFRR U	RSX1 House side shield for AFR rotated optics (includes 1 shield)
RSX1EGS (FINISH) U	External glares hield (specify finish)
RSX1EGFV (FINISH) U	External glare full visor (specify finish)
RSXRPA (FINISH) U	RSX Universal round pole adaptor plate (specify finish)
RSXWBA (FINISH) U	RSX WBA wall bracket (specify finish) [1]
RSXSCB (FINISH) U	RSX Surface conduit box (specify finish, for use with WBA, WBA not included)
DLL127F 1.5 JU	Photocell -SSL twist-lock (120-277V) [17]
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) [17]
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) [17]
DSHORT SBK U	Shorting cap [17]

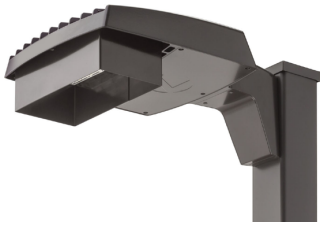
NOTES

1. Any Type 5 distribution, is not available with WBA.
2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
4. XVOLT driver not available with P1 or P2. XVOLT driver operates on any line voltage from 277V-480V (50/60 Hz). XVOLT not available with fusing (SF or DF) and not available with PE.
5. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
6. Maximum tilt is 90° above horizontal.
7. It may be ordered as an accessory.
8. Requires MVOLT or 347V.
9. Two or more of the following options cannot be combined including PE, DMG, PER7, FAO and NLTAIR2 PIRHN. (Exception: PE and FAO can be combined; also PE and DMG can be combined.)
10. Compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming signals. Wire 4/Wire 5 wired to dimming leads on driver. Wire6/Wire7 capped inside luminaire. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
11. For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
12. Must be ordered with PIRHN.
13. Requires MVOLT or HVOLT.
14. Must be ordered with NLTAIR2. For additional information on PIRHN visit here.
15. CCE option not available with WBA, WBASC, AASP, AARP, AAWB, AAWBSC, EGS, EGFV and BS.
16. Must be ordered with fixture for factory pre-drilling.
17. Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

External Shields

House Side Shield

External Glare Shield

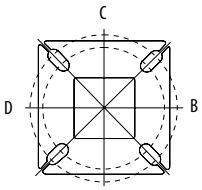


External 360 Full Visor

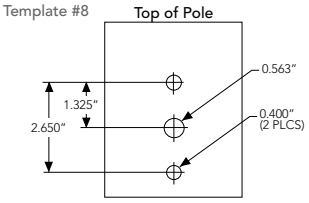
Pole/Mounting Informatiion

Accessories including bullhorns, cross arms and other adpaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

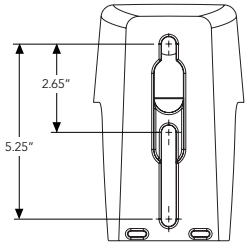
HANDHOLE ORIENTATION



RSX POLE DRILLING



RSX STANDARD ARM & ADJUSTABLE ARM



Round Tenon Mount - Pole Top Slipfitters

Tenon O.D.	RSX Mounting	Single	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2 - 3/8"	RPA, AARP	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 320	AS3-5 390	AS3-5 490
2 - 7/8"	RPA, AARP	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	RPA, AARP	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Drill/Side Location by Configuration Type

Drilling Template	Mounting Option	Single	2 @ 180	2 @ 90	3 @ 120	3 @ 90	4 @ 90
	Head Location	Side B	Side B & D	Side B & C	Round Pole Only	Side B, C & D	Side A, B, C & D
#8	Drill Nomenclature	DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS

RSX1 - Luminaire EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
Mounting Type	Tilt									
SPA - Square Pole Adaptor	0 °	0.57	1.03	1.05	1.52	1.36	2.03	1.31	1.7	2.26
RPA - Round Pole Adaptor		0.62	1.08	1.15	1.62	1.46	2.13	1.36	1.8	2.36
MA - Mast Arm Adaptor		0.49	0.95	0.89	1.36	1.2	1.87	1.23	1.54	2.1
IS - Integral Slipfitter AASP/AARP - Adjustable Arm Square/Round Pole	0 °	0.57	1.03	1.05	1.52	1.36	2.03	1.31	1.7	2.26
	10°	0.68	1.34	1.33	2	1.74	2.64	1.35	2.03	2.71
	20°	0.87	1.71	1.73	2.56	2.26	3.42	1.75	2.62	3.49
	30°	1.24	2.19	2.3	3.21	2.87	4.36	2.49	3.73	4.97
	40°	1.81	2.68	2.98	3.85	3.68	5.30	3.62	5.43	7.24
	45°	2.11	2.92	3.44	4.2	4.08	5.77	4.22	6.33	8.44
	50°	2.31	3.17	3.72	4.52	4.44	6.26	4.62	6.94	9.25
	60°	2.71	3.66	4.38	5.21	5.15	7.24	5.43	8.14	10.86
	70°	2.78	3.98	4.54	5.67	5.47	7.91	5.52	8.27	11.03
	80°	2.76	4.18	4.62	5.97	5.76	8.31	5.51	8.27	11.03
	90°	2.73	4.25	4.64	6.11	5.91	8.47	5.45	8.18	10.97

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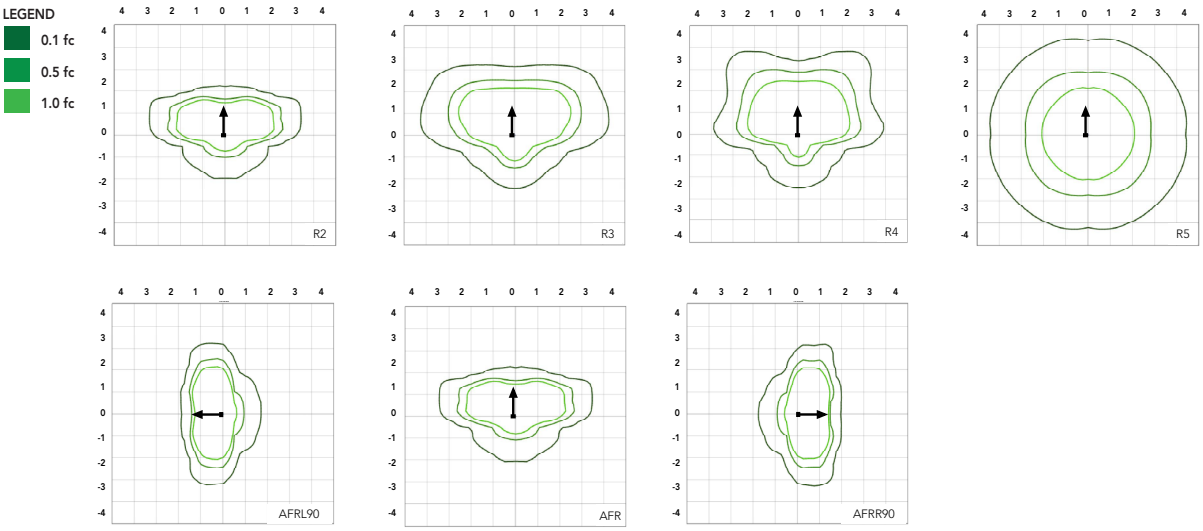
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's RSX Area homepage.

Isofootcandle plots for the RSX1 LED P4 40K. Distances are in units of mounting height (20').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

		Current (A)					
Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
P1	51W	0.42	0.25	0.21	0.19	0.14	0.11
P2	72W	0.60	0.35	0.30	0.26	0.21	0.15
P3	109W	0.91	0.52	0.45	0.39	0.31	0.23
P4	133W	1.11	0.64	0.55	0.48	0.38	0.27

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution. Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	51W	R2	6,482	1	0	1	126	7,121	1	0	1	139	7,121	1	0	1	139
		R3	6,459	1	0	2	127	7,096	1	0	2	139	7,096	1	0	2	139
		R3S	6,631	1	0	1	129	7,286	1	0	2	142	7,286	1	0	2	142
		R4	6,543	1	0	2	128	7,189	1	0	2	141	7,189	1	0	2	141
		R4S	6,313	1	0	1	124	6,936	1	0	1	136	6,936	1	0	1	136
		R5	6,631	3	0	2	130	7,286	3	0	2	143	7,286	3	0	2	143
		R5S	6,807	3	0	1	133	7,479	3	0	1	147	7,479	3	0	1	147
		AFR	6,473	1	0	1	127	7,112	1	0	1	139	7,112	1	0	1	139
		AFRR90	6,535	2	0	2	127	7,179	2	0	2	140	7,179	2	0	2	140
		AFRL90	6,562	2	0	1	128	7,210	2	0	2	140	7,210	2	0	2	140
P2	72W	R2	8,991	2	0	1	123	9,878	2	0	1	135	9,878	2	0	1	135
		R3	8,959	2	0	2	124	9,843	2	0	2	137	9,843	2	0	2	137
		R3S	9,198	2	0	2	126	10,106	2	0	2	139	10,106	2	0	2	139
		R4	9,077	2	0	2	126	9,972	2	0	2	139	9,972	2	0	2	139
		R4S	8,757	1	0	2	122	9,622	2	0	2	134	9,622	2	0	2	134
		R5	9,198	4	0	2	128	10,106	4	0	2	140	10,106	4	0	2	140
		R5S	9,443	3	0	1	131	10,374	3	0	1	144	10,374	3	0	1	144
		AFR	8,979	2	0	1	125	9,865	2	0	1	137	9,865	2	0	1	137
		AFRR90	9,064	3	0	2	124	9,959	3	0	2	137	9,959	3	0	2	137
		AFRL90	9,102	3	0	2	125	10,001	3	0	2	137	10,001	3	0	2	137
P3	109W	R2	12,808	2	0	1	117	14,072	2	0	2	129	14,072	2	0	2	129
		R3	12,763	2	0	2	117	14,023	2	0	2	129	14,023	2	0	2	129
		R3S	13,104	2	0	2	120	14,397	2	0	2	132	14,397	2	0	2	132
		R4	12,930	2	0	2	119	14,206	2	0	2	130	14,206	2	0	2	130
		R4S	12,475	2	0	2	114	13,707	2	0	2	126	13,707	2	0	2	126
		R5	13,104	4	0	2	120	14,397	4	0	2	132	14,397	4	0	2	132
		R5S	13,452	3	0	2	123	14,779	3	0	2	136	14,779	3	0	2	136
		AFR	12,791	2	0	1	117	14,053	2	0	2	129	14,053	2	0	2	129
		AFRR90	12,913	3	0	3	118	14,187	3	0	3	130	14,187	3	0	3	130
		AFRL90	12,967	3	0	2	118	14,247	3	0	3	130	14,247	3	0	3	130
P4	133W	R2	14,943	2	0	2	112	16,417	2	0	2	123	16,417	2	0	2	123
		R3	14,890	2	0	3	112	16,360	2	0	3	123	16,360	2	0	3	123
		R3S	15,287	2	0	2	115	16,796	2	0	2	126	16,796	2	0	2	126
		R4	15,085	2	0	3	113	16,574	2	0	3	125	16,574	2	0	3	125
		R4S	14,554	2	0	2	109	15,991	2	0	2	120	15,991	2	0	2	120
		R5	15,287	4	0	2	115	16,796	4	0	2	126	16,796	4	0	2	126
		R5S	15,693	4	0	2	118	17,242	4	0	2	130	17,242	4	0	2	130
		AFR	14,923	2	0	2	112	16,395	2	0	2	123	16,395	2	0	2	123
		AFRR90	15,065	3	0	3	113	16,551	3	0	3	124	16,551	3	0	3	124
		AFRL90	15,128	3	0	3	114	16,621	3	0	3	125	16,621	3	0	3	125

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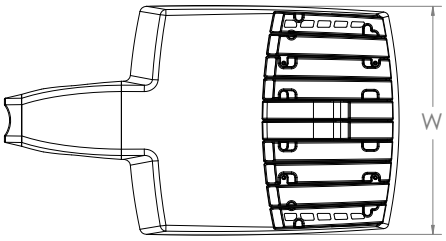
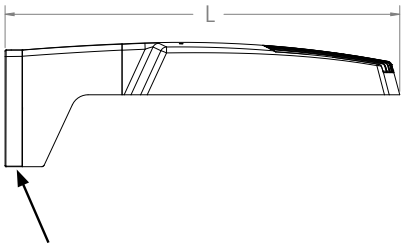
Dimensions & Weights

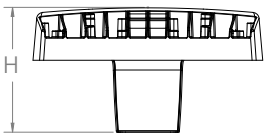
Luminaire Weight by Mounting Type

Mounting Configuration	Total Luminaire Weight
SPA	22 lbs
RPA	24 lbs
MA	22 lbs
WBA	25 lbs
WBASC	28 lbs
IS	25 lbs
AASP	25 lbs
AARP	27 lbs
AAWB	28 lbs
AAWSC	31 lbs

RSX1 with Round Pole Adapter (RPA)



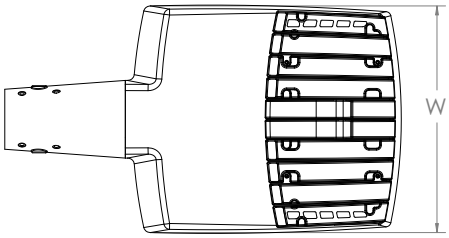


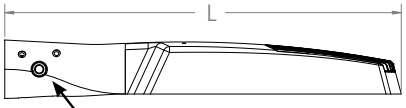


Note: RPA — Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

Length: 22.8" (57.9 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.4 cm) Arm

RSX1 with Mast Arm Adapter (MA)

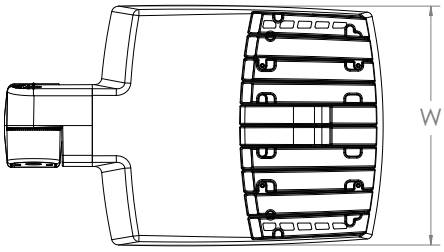


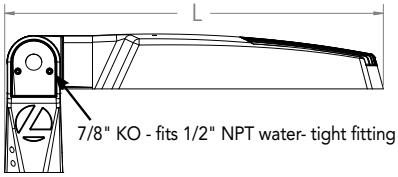


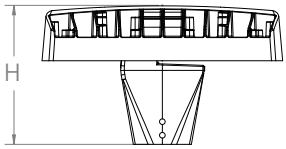
7/16" locking thru bolt/nut provided

Length: 23.2" (59.1 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
3.5" (8.9 cm) Arm

RSX1 with Adjustable Slipfitter (IS)







Length: 20.7" (52.7 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
7.6" (19.3 cm) Arm

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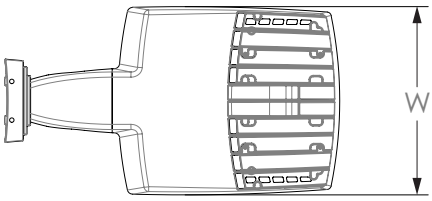
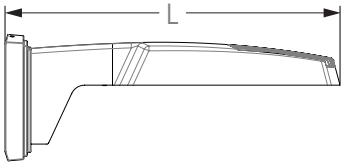
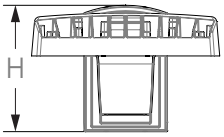
Dimensions

RSX1 with Wall Bracket (WBA)

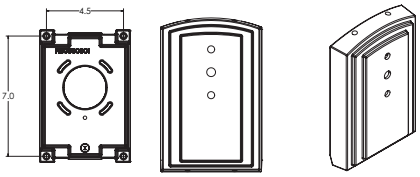




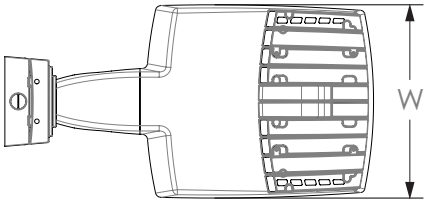


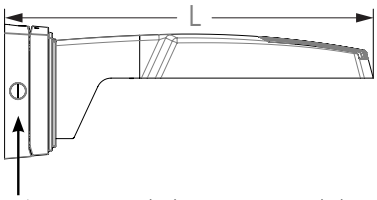
Length: 23.6" (59.9 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail

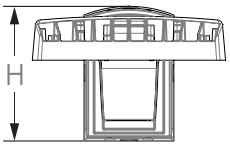


RSX1 with Wall Bracket with Surface Conduit Box (WBASC)

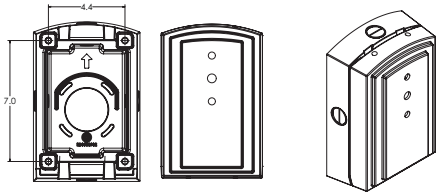




3/4" NPT taps with plugs - Qty (4) provided



Surface Conduit Box (SCB) Mounting Detail



Length: 25.3" (64.3 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

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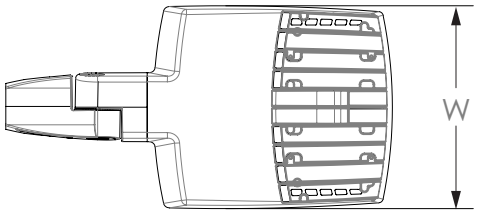
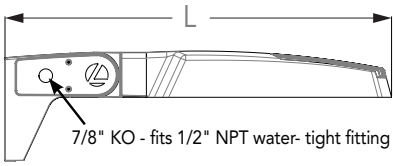
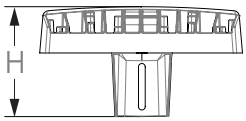
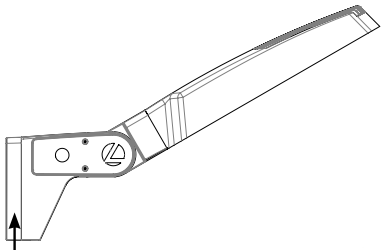
Dimensions

RSX1 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)







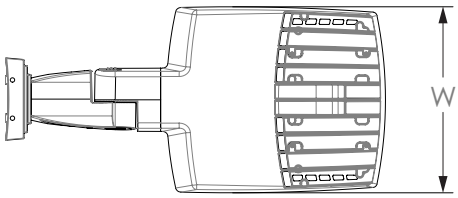


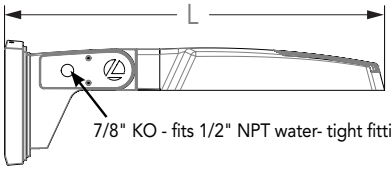
Length: 25.3" (65.3 cm) **AASP**
26.3" (66.8 cm) **AARP**
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.2 cm) Arm

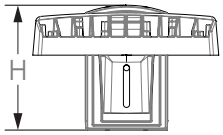
NOTE:
RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

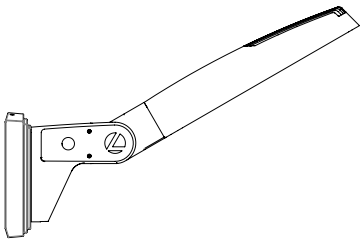
Notes
AASP: Requires 3.0" min. square pole for 1 at 90°. Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°.
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

RSX1 with Adjustable Tilt Arm with Wall Bracket (AAWB)

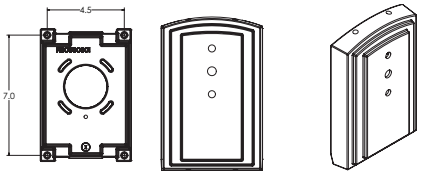








Wall Bracket (WBA) Mounting Detail



Length: 27.1" (68.8 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

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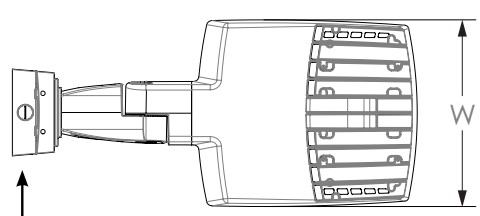
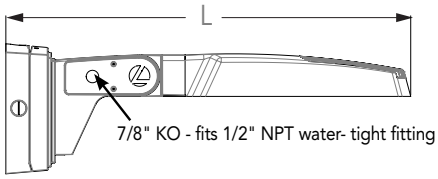
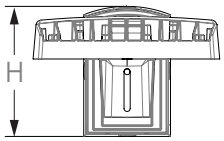
Dimensions

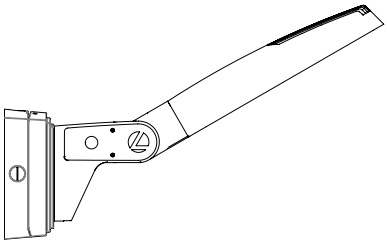
RSX1 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)





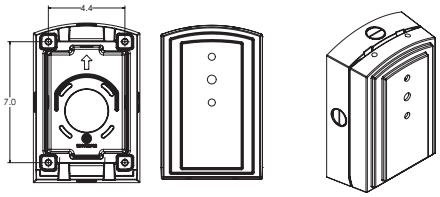


3/4" NPT taps
with plugs - Qty (4)
provided

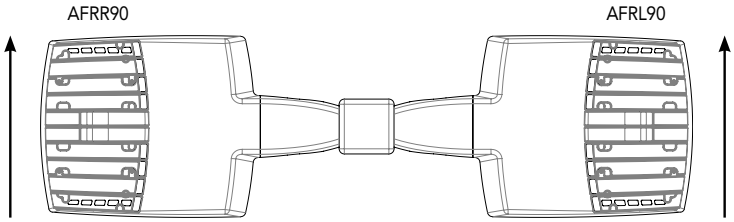


Length: 28.8" (73.2 cm)
Width: 13.3" (33.8 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail



Automotive Front Row - Rotated Optics (AFRL90/R90)



(Example: 2@180 - arrows indicate direction of light exiting the luminaire)

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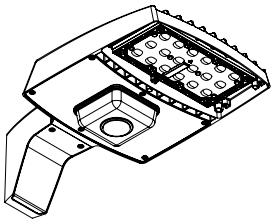
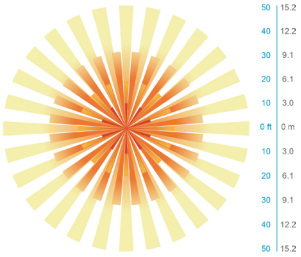
nLight Control - Sensor Coverage and Settings

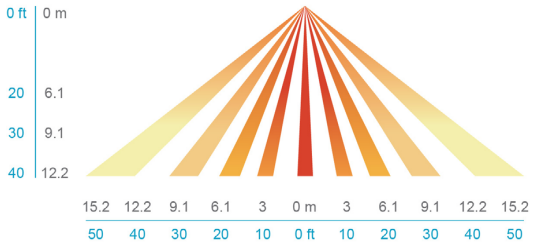
nLight Sensor Coverage Pattern

NLTAIR2 PIRHN





Top



Side

Motion Sensor Default Settings - Option PIRHN						
Option	Dimmed State (unoccupied)	High Level (when occupied)	Photocell Operation	Dwell Time (occupancy time delay)	Ramp-up Time (from unoccupied to occupied)	Ramp-down Time (from occupied to unoccupied)
NLTAIR2 PIRHN	Approx. 30% Output	100% Output	Enabled @ 1.5FC	7.5 minutes	3 seconds	5 minutes

*Note: NLTAIR2 PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clairity Pro App. Sensor coverage pattern shown with luminaire at 0°. Sensor coverage pattern is affected when luminaire is titled.

FEATURES & SPECIFICATIONS

INTENDED USE
The RSX LED area family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSX1 delivers 7,000 to 17,000 lumens and is ideal for replacing 70W to 400W HID pole-mounted luminaires in parking lots and other area lighting applications.

CONSTRUCTION
The RSX LED area luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral "no drill" mounting arm allows the luminaire to be mounted on existing pole drillings, greatly reducing installation labor. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. All mountings are rated for minimum 1.5 G vibration load per ANSI C136.31. 3G Mountings: Include SPA, RPA, MA, IS, AASP, and AARP rated for 3G vibration. 1.5G Mountings: Include WBA, WBASC, AAWB and AAWSC rated for 1.5G vibration.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

COASTAL CONSTRUCTION (CCE)
Optional corrosion-resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead times apply.

OPTICS
Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Type 2, Type 3, Type 3S, Type 4, Type 4S, Type 5, Type 5S, AFR (Automotive Front Row), and AFR rotated AFRR90 and ARFL90.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Fixtures ship standard with 0-10v dimming driver. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The RSX LED area luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

nLIGHT AIR CONTROLS
The RSX LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Integral "no-drill" mounting arm allows for fast, easy mounting using existing pole drillings. Select the "SPA" option for square poles and the "RPA" option to mount to round poles. Note, the RPA mount can also be used for mounting to square poles by omitting the RPA adapter plate. Select the "MA" option to attach the luminaire to a 2 3/8" horizontal mast arm or the "IS" option for an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation. Can be tilted up to 90° above horizontal. Additional mountings are available including a wall bracket, adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. U.S. Patent No. D882, 146S

GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6PC 40/30 WD MVOLT GZ10 JBX PCAN S4 AR LSS DWH Note:	Type PT

APPROVED AS NOTED

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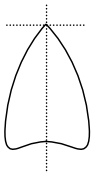
Multiple Layers of Light



Luminaire Type:

Catalog Number:

General Illumination Pendant Stem Cylinder 6"

Feature Set

- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- Bounding Ray™ optical design
- 45° cutoff to source and source image
- Fully serviceable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Fixtures are damp location standard; Wet location (WL) optional, requires covered ceiling
- 20 standard colors in textured and gloss finish; custom or RAL colors also available
- Multiple recessed or surface j-box mounting configurations available
- Field cuttable 5/8" stems with concealed couplers.
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution

Superior Perfomance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

OVERVIEW

COMPLEMENTARY PRODUCTS

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6" General Illumination Pendant Stem Cylinder

ORDERING INFORMATION

Luminaire Type:

Catalog Number:

EXAMPLE: EVO6PC 35/15 AR MWD LSS MVOLT EZ1 JBXCC PCAN S12 DWHG

Series		Color Temperature		Lumens		Trim Color		Reflector Finish		Distribution		Voltage	
EVO6PC	EVO 6in Pendent Stem Round Cylinder Open Downlight	27/	2700 K	02	250 lumens	AR	Clear	LSS	Semi-specular	VND	Very narrow (0.5 s/mh)	MVOLT	120V - 277V
		30/	3000 K	05	500 lumens	PR	Pewter	LD	Matte diffuse	ND	Narrow (0.7 s/mh)	120	120V
		35/	3500 K	07	750 lumens	WTR	Wheat	LS	Specular	MD	Medium (0.9 s/mh)	277	277V
		40/	4000 K	10	1000 lumens	GR	Gold			MWD	Medium wide (1.0 s/mh)	347[4]	347V
		50/	5000 K	15	1500 lumens	WR[2]	White painted			WD	Wide (1.2 s/mh)		
				20	2000 lumens	BR[2]	Black						
				25	2500 lumens	WRAMF[2]	White Anti-microbial						
				30	3000 lumens	BZR[2]	Dark Bronze painted						
				35	3500 lumens	TRALTBD[2,3]	Trim RAL # TBD (TBD for pricing only)						
				40	4000 lumens	TCPC[2,3]	Trim Custom Paint Color TBD (TBD for pricing only)						
				45	4500 lumens								
				50	5000 lumens								
				60	6000 lumens								
				80	8000 lumens								
				100[1]	10,000 lumens								
				120[1]	12,000 lumens								

TO BE VERIFIED WITH ARCHITECTURAL ELEVATION DRAWINGS.

Driver[5]		Mounting		Canopy Type		Stem Length[12]	
GZ10	0-10V driver dims to 10%	JBX	Integral driver, Recessed or Surface J-box	PCAN	5° Stem canopy with "hang straight" swivel	S2	2 foot 5/8" stem
GZ1	0-10V driver dims to 1%	JBXCC	Integral driver, Surface J-box with Conduit Covers	PCAN45[11]	45° Stem canopy with "hang straight" swivel	S4	4 foot 5/8" stem
EZ10	eldoLED 0-10V ECOdrive. Linear dimming to 10% min.	SGB[9]	Surface gear box. Recessed or surface J-box			S6	6 foot 5/8" stem
EZ1	eldoLED 0-10V ECOdrive. Linear dimming to 1% min.	SGBCC[9]	Surface gear box (for driver at ceiling), surface J-box with Conduit Covers.			S8	8 foot 5/8" stem
EZB	eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	RGH[10]	Recessed Gear Housing			S10	10 foot 5/8" stem
EDAB[6]	eldoLED SOLOdrive DALI. Logarithmic dimming to <1%.					S12	12 foot 5/8" stem
EDXB[6,7,8]	eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Min: 1000LM; Max: 8000LM. Not available with Emergency Options.					S16	16 foot 5/8" stem
ECOD[6]	Lutron® EcoSystem® digital Hi-Lume 1% soft-on, fade to black. Max: 8000LM except 4500LM.					S20	20 foot 5/8" stem
ELV[6]	Electronic line voltage / Forward phase / Triac dimming, 120V Only.						

Emergency Option		Control Interface[13]		Options		Architectural Colors - Powder Paint[3]			
(blank)	No emergency options	(blank)	No controls	90CRI	High CRI (90+)	DDB	Gloss Dark Bronze	DDBT	Textured Dark Bronze
E6W	6W integral emergency battery, CA Title 20 compliant emergency battery pack with integral test switch. Only available with GZ10, GZ1 and ELV Drivers. Only for use with 500-4500 lumen options.	NLT	nLight® dimming pack. Specify 120V or 277V.	CP[15]	Chicago Plenum. Specify 120V or 277V (requires RGH)	DBL	Matte Black	DBLB	Textured Black
E7WCP	IOTA® 7W Constant Power emergency battery (sidecar). Only for use with 750-8000 lumen options.	NLTER[14]	nLight® dimming pack for fixtures on emergency circuit. Specify 120V or 277V.	HAO[16]	HAO High Ambient Option (40°C)	DWH	Gloss White	DWHG	Textured White
E10WCP	IOTA® 10W Constant Power, CA Title 20 compliant emergency battery pack with integral test switch. Only for use with 1000-8000 lumen options. (sidecar or RGH)	NLTAIR2	nLight® AIR dimming pack. Specify 120V or 277V.	N80[17]	nLight Lumen Compensation	DMB	Matte Medium Bronze	DBNH	Textured Bronze
E10WCPR	IOTA® 10W Constant Power, CA Title 20 compliant emergency battery pack with remote test switch. Only for use with 1000-8000 lumen options. (requires RGH)	NLTAIRER2[14]	nLight® AIR dimming pack for fixtures on emergency circuit. Specify 120V or 277V.	SF	Single fuse. Specify 120V or 277V.	DNA	Gloss Natural Aluminum	DNAT	Textured Natural Aluminum
E15WCP	IOTA® 15W Constant Power, CA Title 20 compliant emergency battery. Only for use with 1500-8000 lumen options. (sidecar)			WL[18]	Wet Location	DSS	Gloss Sandstone	DSST	Textured Sand-stone
GTD	IOTA® Generator Transfer Device. Specify 120V or 277V (requires RGH)					DGC	Gloss Charcoal Grey	DSPD	Textured Dark Grey
						DTG	Gloss Tennis Green	DSPE	Textured Green
						DBR	Gloss Bright Red	DSPH	Textured Light Red
						DSB	Gloss Steel Blue	DWHAMF	Gloss White with Anti-microbial finish
								RALTBD	Cylinder RAL # TBD (TBD for pricing only)
								CPC	Cylinder Custom Paint Color TBD (TBD for pricing only)

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6" **General Illumination Pendant Stem Cylinder**

ORDERING INFORMATION

ACCESSORIES — order as separate catalog numbers (shipped separately)

GCOLORS KIT	Architectural colors chip kit, consisting of powder-coat and plated finishes
CYLJBOXADPT 4SQ2OCT __	4in Square J-box to 4in Octagonal J-box adaptor. Replace __ with Architectural Color or PRM for primed ready for field painting
CYLSTBL KIT	Stabilization Kit for securing pendant stem fixtures

ORDERING NOTES

1. 10,000 & 12,000 lumens not available with 347, EDXB, Lutron, SGB, SGBCC, RGH, Emergency Options, HAO, WL & CP.
2. Not Available with Reflector Finishes.
3. Replace with applicable RAL number and finish when ready to order. See RAL BROCHURE for available color options. Not available with integral test switch emergency battery pack options. For details on all Acuity Architectural paint colors, RAL and Custom colors, please see Architectural colors.
4. Integral 347V drivers available with GZ10 and GZ1 driver options only - 3500LM max. All other drivers (and GZ1 & GZ10 above 3000LM) will come with a step-down transformer - factory installed with RGH mounting, and field installed with JBX and JBXCC mounting (remote mount location and access to device required). Not available with SGB, SGBCC or Emergency Options. Max 5000LM.
5. Refer to Tech 240 for compatible dimmers.
6. Not Available with Control Interfaces.
7. Requires SGB or SGBCC mounting option.
8. Includes terminator resistor. Not available with 250-750 lumen packages.
9. Only available with DMX driver (EDXB).
10. Not available with E6W, E7W or E15WCP Emergency Options.
11. Not available with SGB or SGBCC: those mountings require a flat ceiling.
12. Stem section adjacent to cylinder can be cut in field to achieve non-uniform lengths (i.e. for a field cut 3' length, order 4' stem).
13. Factory installed with RGH option otherwise field installed. Access required to location of remote mounted device.
14. ER for use as UL924 Emergency Operation via power sense lead. Will require an emergency hot feed and normal hot feed. EM for use as UL924 Emergency Operation
15. CP not valid with NLTAIR2, NLTAIRER2 or Emergency Options.
16. Only available up to 3500 lumens. Not available with WL or sidecar Emergency Options.
17. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
18. Not available with JBXCC, SGB, SGBCC or Sidecar Emergency Options. Max: 3500LM.

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6" **General Illumination Pendant Stem Cylinder**

SPECIFICATIONS

Optical Assembly
Fully serviceable and upgradeable lensed LED light engine suitable for field maintenance or service from below the ceiling.
Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top down flash characteristic for superior glare control.

Electrical
The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. Support 347V via remote-mounted stepdown transformer. The fluctuations of line voltage shall have no visible effect on the luminous output.
The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.
Input wires shall be 18AWG, 300V minimum solid copper.
All drivers are ROHS compliant.

Controls
Luminaire shall be equipped with interface for nLight wired or nLight AIR networks with integral power supply as per specification.

Emergency
Luminaires supplied with a battery pack comply with NFPA 101 (Life Safety code) and deliver constant light output throughout the 90 minutes of code required emergency operation period when there is a normal AC power loss.
Luminaires equipped with a generator transfer device work in conjunction with an auxiliary generator or a central inverter system to power fixtures for safe egress lighting.

Dimming
The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.
eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.
Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction
Heaving-gauge aluminum construction. Extruded cylinder body with flangeless reflector allows flow-through passive thermal management. Canopy matches cylinder in finish and diameter.
Pendant stem mount for installation to 4" recessed or surface octagonal junction box with integral driver.
Recessed gear box available for driver above ceiling, nLight, CP, GTD or battery pack options.
Surface gear box available for driver at ceiling installation.
Optional field configurable conduit covers available. Conduit covers match cylinder in finish and diameter.
WARNING: All pendant fixtures exposed to wind require tethering – see page 6.

Listings
Fixtures are CSA Certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, damp location standard; wet location (WL) optional, requires covered ceiling.

Photometrics
LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.
Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by the center of the quadrangles defined in ANSI C78.377-2015.

Government Procurement
BAA - Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations
BABA - Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act
Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:
Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

S4+ Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.
To learn more about A+, visit www.acuitybrands.com/aplus.

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6" General Illumination Pendant Stem Cylinder

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic*	Linear
EDXB	<1%	Square	Linear

*Changable thorugh DALI controller

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

J-box Compatibility Matrix		Cylinder Configurations					
		JBX	SGB	SGBCC	SGB w/EDXB Driver	SGBCC w/EDXB Driver	JBXCC
Recommended J-box (by others)	4" Octagonal 4x4x1.5 deep"	✓	✓	✓	✓	✓	✓
	4" Octagonal 4x4x2.125 deep	✓	✓	✗	✓	✗	✗
	4" Square 4x4x1.5 deep	✓ *with adaptor plate accessory	✓ *with adaptor plate accessory	✗	✓ *with adaptor plate accessory	✗	✗

Standard Architectural Color Options for Cylinder Bodies

NOTE: These colors were carefully reproduced to give as true a depiction as possible of finished product color. Some colors, however, may vary slightly from actual appearance due to display/printing variations and limitations. Please order the GCOLORS KIT listed in the 'Accessories' section of the spec sheet for an accurate paint chip sample.

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6" **General Illumination Pendant Stem Cylinder**

SPECIFICATIONS

Stabilization Kit (CYLSTBL KIT) Accessory

The Stabilization Kit offers additional support for applications where wind may be a factor and the pendant stem cylinder needs to be secured.

Cables

Three (3) 20 ft. 304 grade stainless steel aircraft cables with outer diameters of 1/16” are attached to anchoring mechanisms in the mounting surface at one end and the provided stem collar around the pendant stem at the other end.

Cables should be anchored 120° +/- 10° from each other radially and positioned at 45° or greater from the stem for optimal support of the fixture.

Clamps and Stem Collars

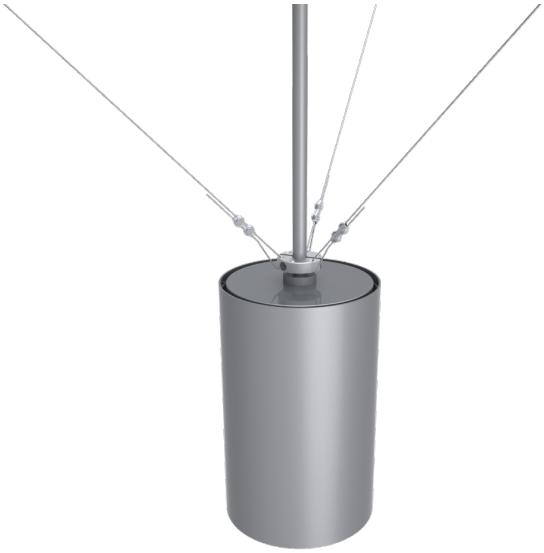
The stem collar consists of two (2) half stem collars made of 304 stainless steel. Both stem collar halves are attached around the pendant stem with 304 stainless steel socket head cap screws.

Six (6) cable clamps made of 304 stainless steel are used in the stabilization kit with two (2) clamps per cable attached to each anchoring point and the stem collar.

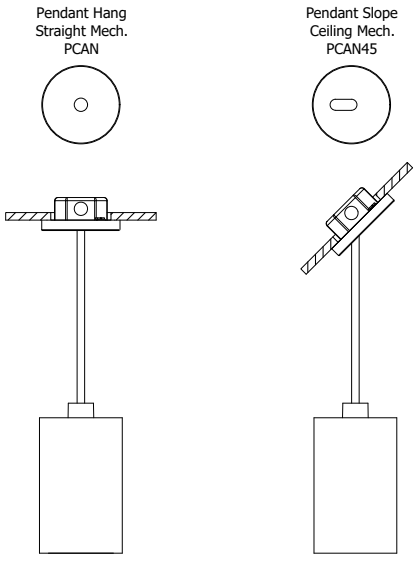
The cable tension can be adjusted from either end.

Wind Load

The Stabilization Kit is designed to withstand 90mph winds for 3 seconds comparable to ASCE 7-10, MRI 50-year (fixture EPA is 0.3 sq ft)



Stem_PCAN vs PCAN45



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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: EVO6PC 40/30 WD MVOLT GZ10 JBX PCAN S4 AR LSS DWH Note:	Type PT

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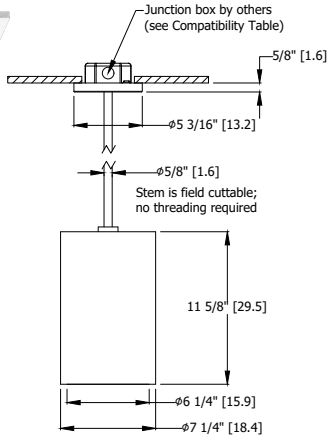
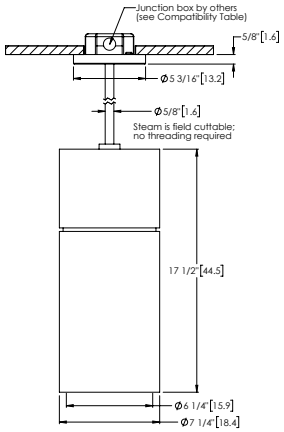
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

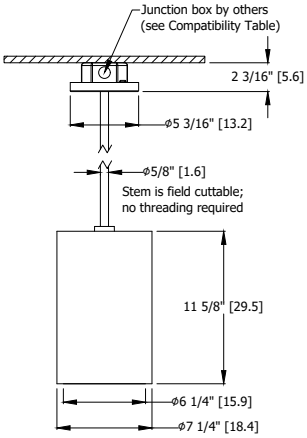
JBX Recessed J-Box



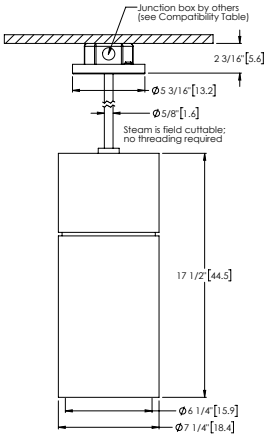
10,000LM- 12,000LM JBX Recessed



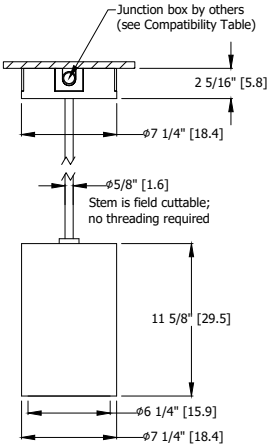
JBX Surface J-Box



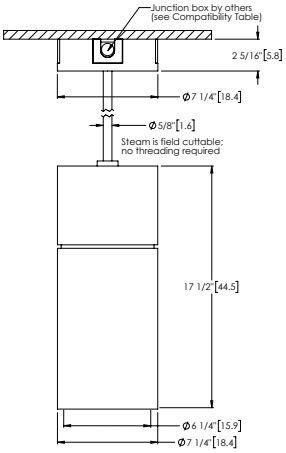
10,000LM- 12,000LM JBX Surface



JBXCC Surface J-Box with Conduit Covers



10,000LM- 12,000LM JBXCC



*Dimensions in inches [centimeters]

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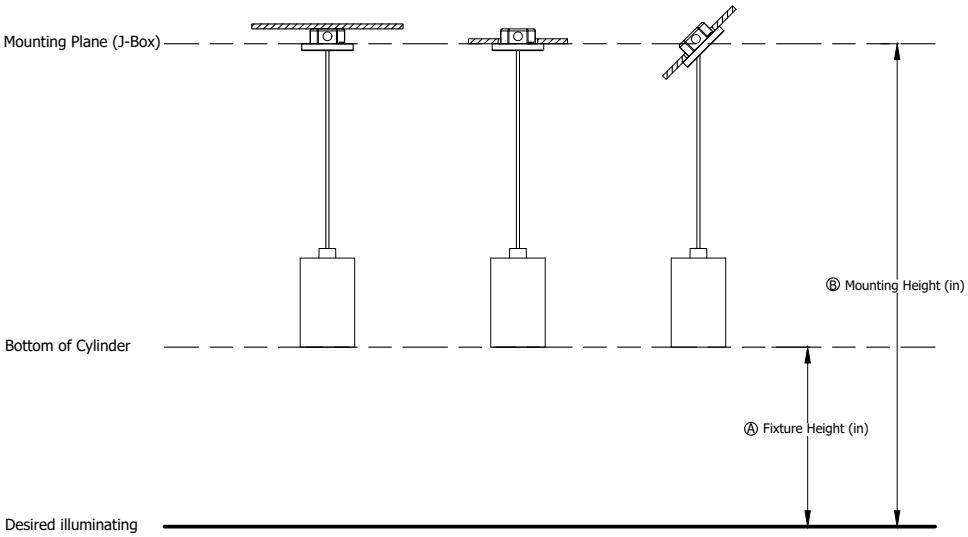
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

Stem Cutting Formulas for JBX

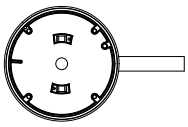


Cord Length=Ⓑ-Ⓐ- 6"

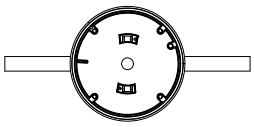
Conduit Feed Examples and Keys

Conduit Key
(4) provided with each,
for use with 1/2" or 3/4" conduit

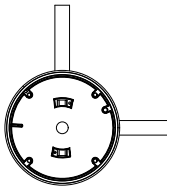
Blank Key
(4) provided with each



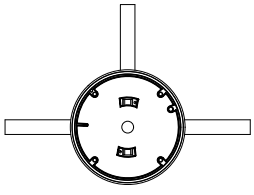
Single Conduit Feed



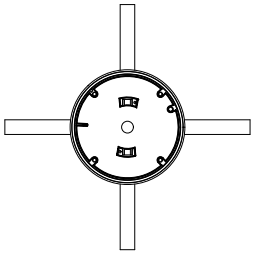
Double 180° conduit



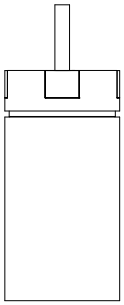
Double 90° conduit



Triple 0°, 90° & 180° conduit



Quad 0°, 90°, 180°, & 270° conduit



Top conduit feed

*Dimensions in inches [centimeters]

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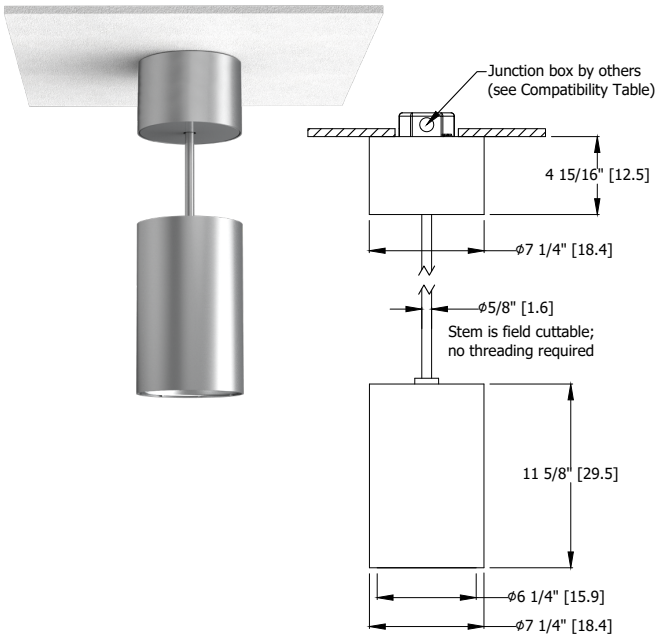
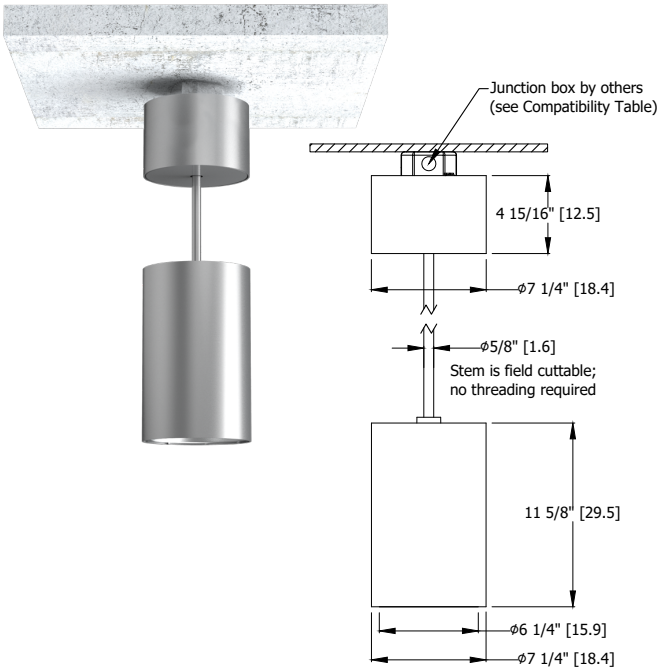
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

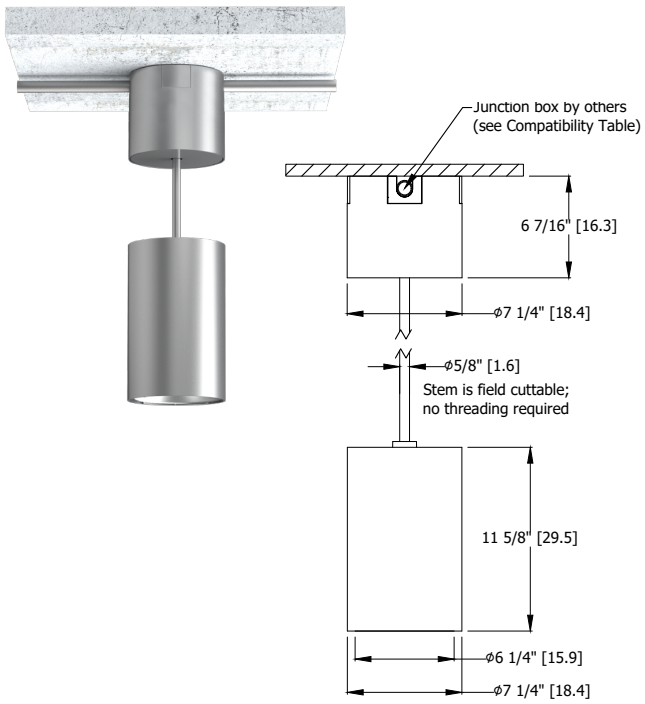
SGB Surface Gear Box for EDXB recessed J-box



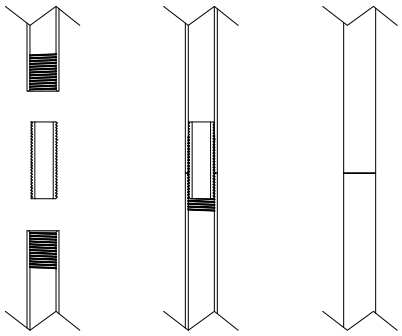
SGB Surface Gear Box for EDXB surface J-box



SGBCC Surface Gear Box for EDXB with Conduit Covers



Stem Connection Method



*Dimensions in inches [centimeters]

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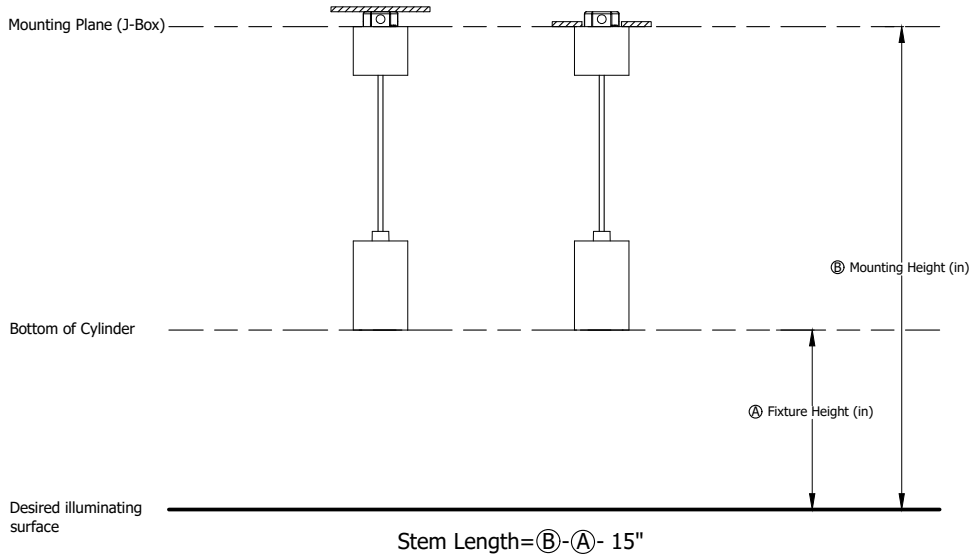
6" General Illumination Pendant Stem Cylinder

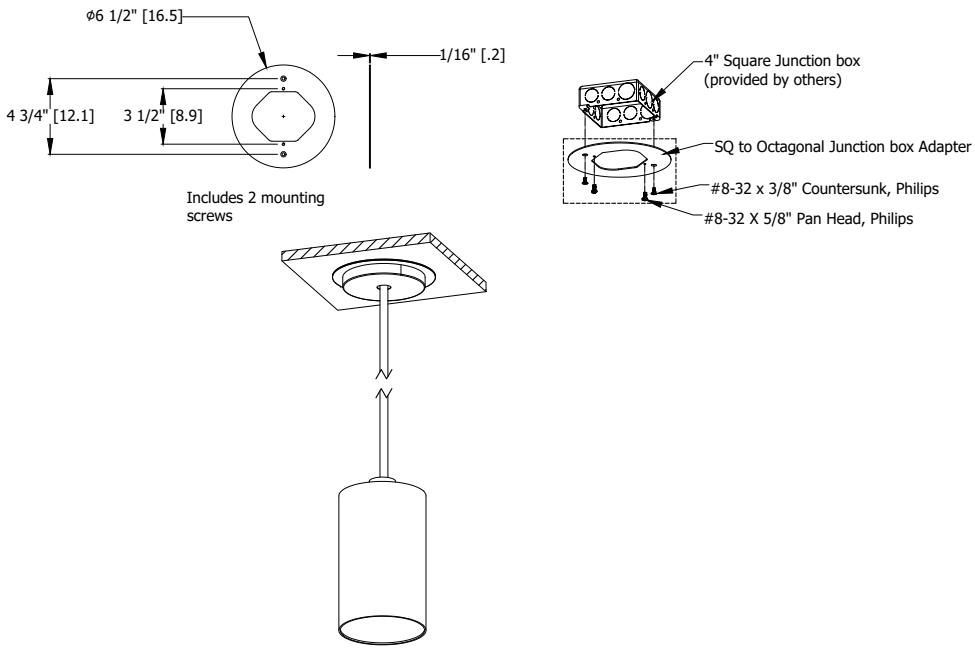
DIMENSIONAL DATA

Stem Cutting Formulas for SGB



Stem Length=Ⓑ-Ⓐ- 15"

Cylinder Adaptor Plate



*Dimensions in inches [centimeters]

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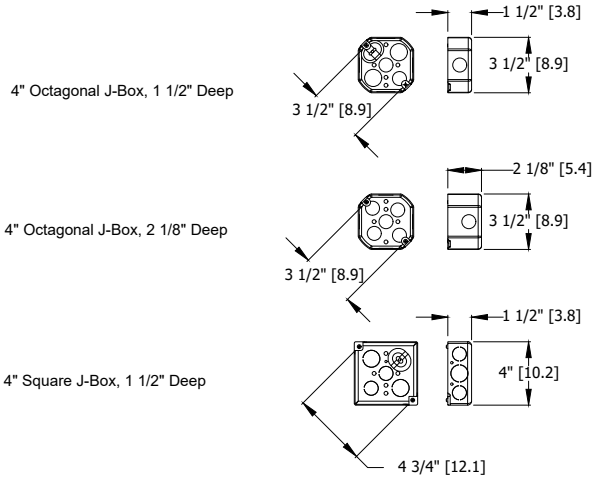
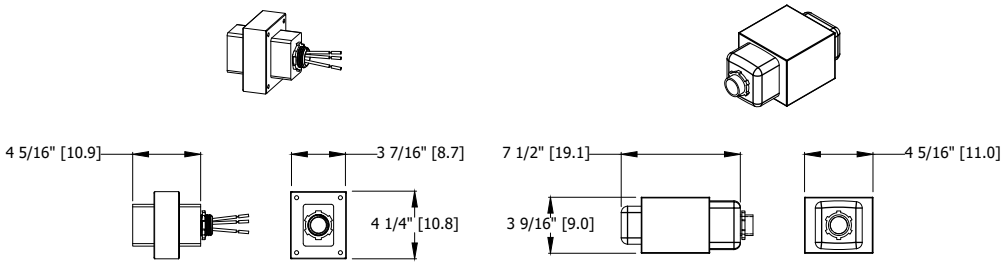
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

Junction Box Dimensions (by others)



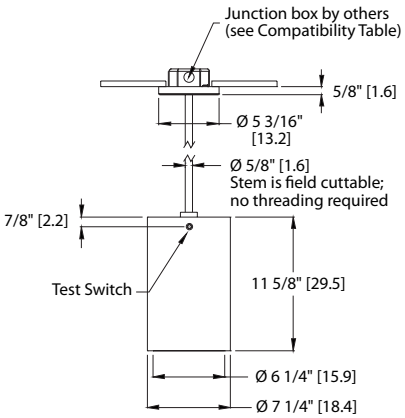
347V Stepdown Transformer



347 Transformer:
Up to 6000LM
Install to accessible
junction box by others

347 Transformer:
8000LM and up
Install to accessible
junction box by others

E6W Integral Emergency Battery



*Dimensions in inches [centimeters]

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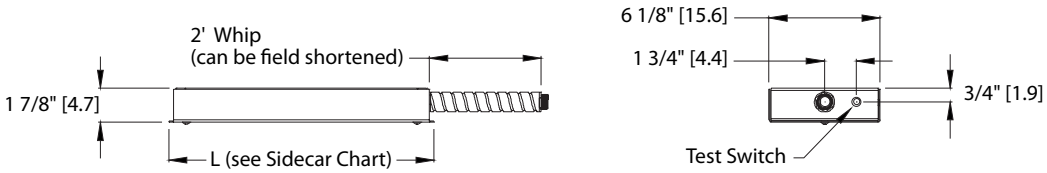
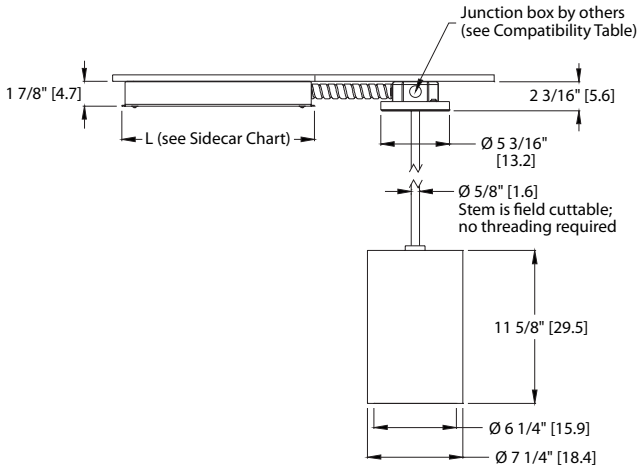
6" General Illumination Pendant Stem Cylinder

Emergency Battery Sidecar Dimensions



SIDECAR BATTERY OPTION	LUMEN PACKAGES AVAILABLE	L (SIDECAR LENGTH)
E7WCP	750LM AND GREATER EXCEPT AS NOTED BELOW	14"
	6000-8000LM 5000-8000LM WITH ECOD DRIVER	16"
E10WCP	1000LM AND GREATER EXCEPT AS NOTED BELOW	14"
	6000-8000LM 5000-8000LM WITH ECOD DRIVER	16"
E15WCP	1500LM AND GREATER	16"

E7WCP/E10WCP/E15WCP Sidecar Emergency Battery



*Dimensions in inches [centimeters]

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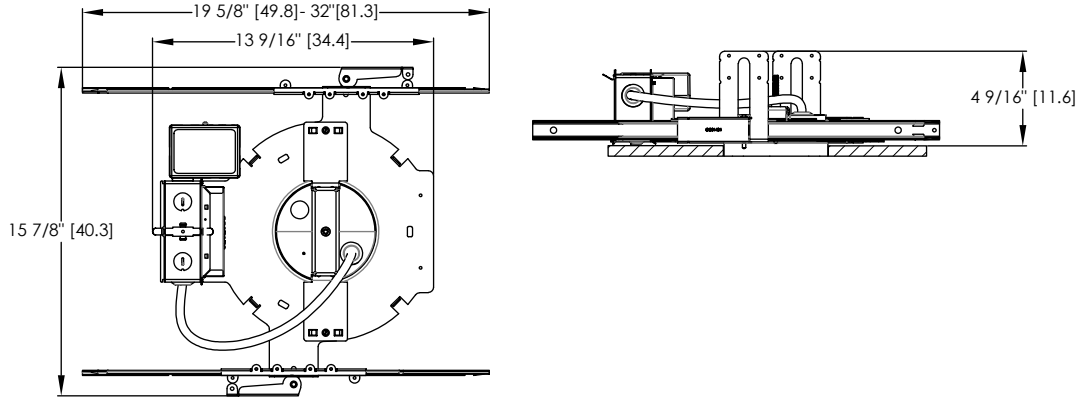
6" General Illumination Pendant Stem Cylinder

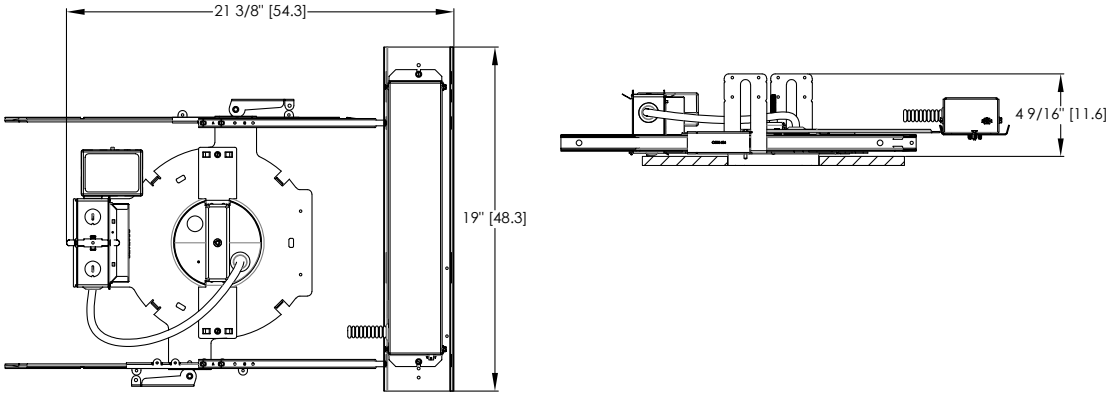
DIMENSIONAL DATA

RGH 2500LM-5000LM and with EDXB up to 4500LM & ECOD up to 4000LM Standard



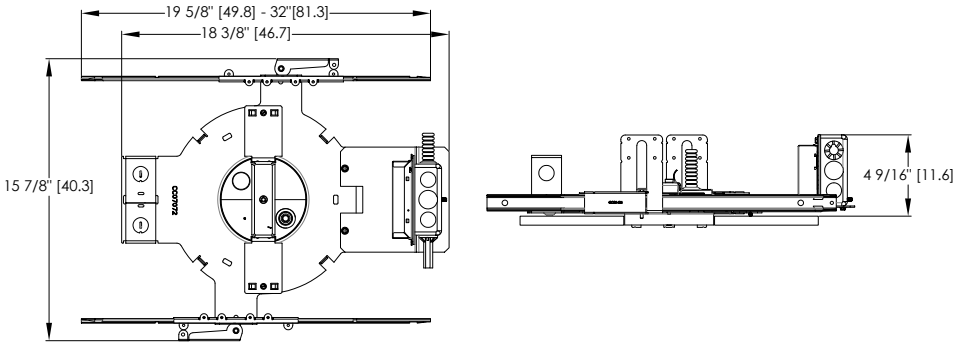
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH with Battery Backup (E10WCPR) 2500LM-5000LM and with EDXB up to 4500LM & ECOD up to 4000LM Standard



With Emergency Battery or GTD option
Minimum plenum height for emergency batteries in non-accessible ceilings: 12 1/2"[31.8]
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH with CP 2500LM-5000LM and for use with EDXB up to 4500LM & ECOD up to 4000LM Standard



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

*Dimensions in inches [centimeters]

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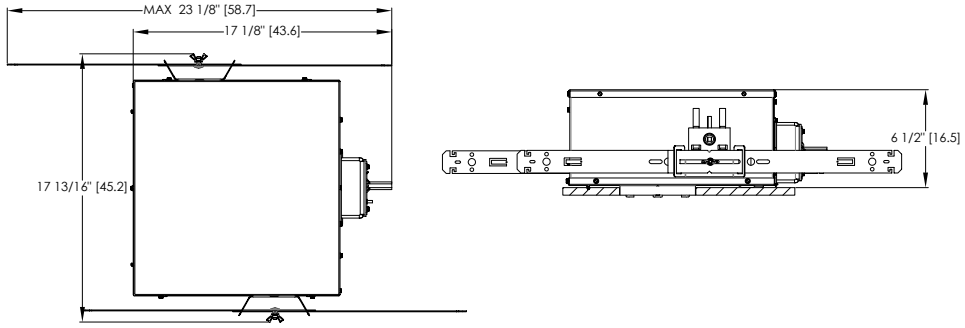
6" General Illumination Pendant Stem Cylinder

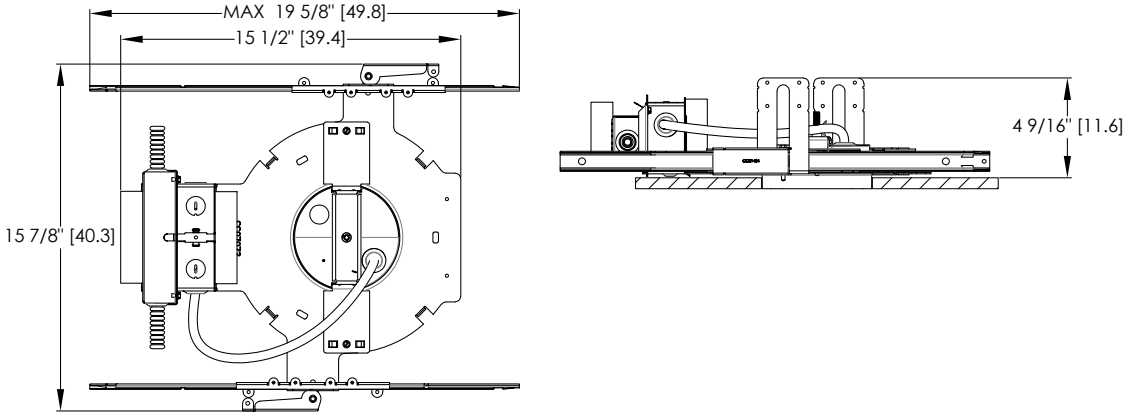
DIMENSIONAL DATA

RGH with Chicago Plenum (CP) for use with nLight Enclosed



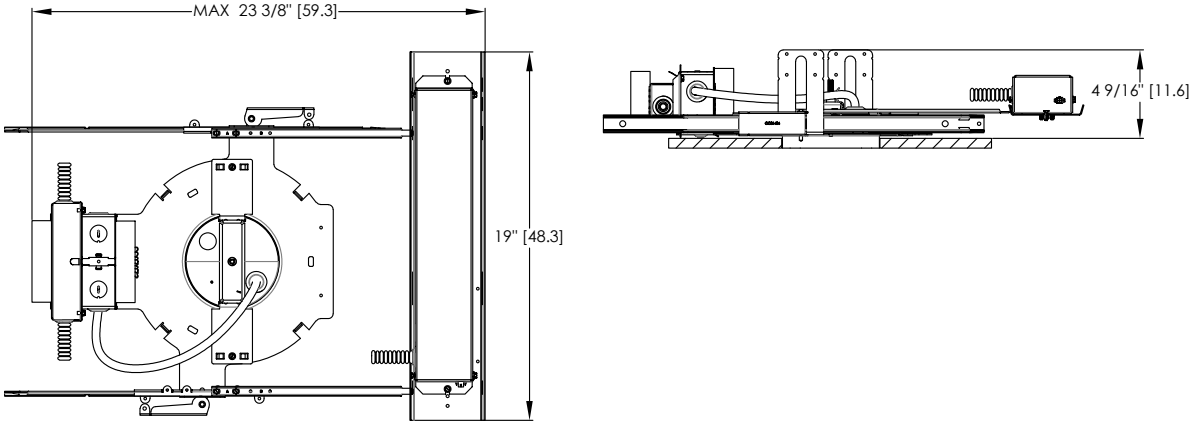
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH Double Driver 5000LM+ EDXB & ECOD, 6000LM & 8000LM Standard



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH Double Driver with Battery Backup (E10WCPR or E10WCP) for use with 5000LM+ EDXB & ECOD, 6000LM & 8000LM Standard



With Emergency Battery or GTD option

Minimum plenum height for emergency batteries in non-accessible ceilings: 12 1/2"[31.8]
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

*Dimensions in inches [centimeters]

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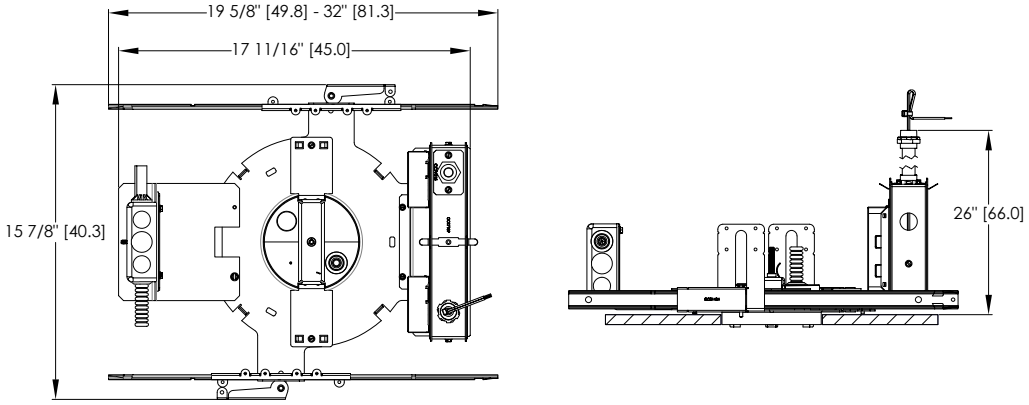
6" **General Illumination Pendant Stem Cylinder**

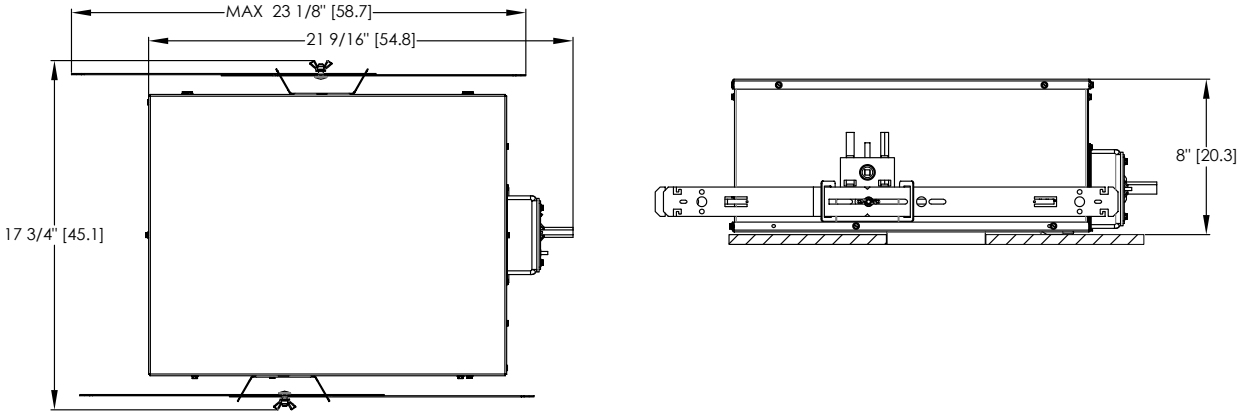
DIMENSIONAL DATA

RGH Double Driver CP Standard



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH Double Driver with CP for use with 5000LM+ EDXB & ECOD, 6000LM & 8000LM Enclosed



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

*Dimensions in inches [centimeters]

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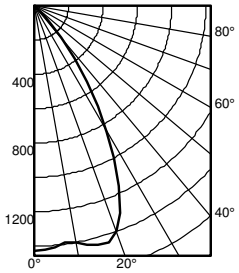
6" General Illumination Pendant Stem Cylinder

Photometry

CONSULT WWW.GOTHAMLIGHTING.COM FOR ADDITIONAL PHOTOMETRY.

EVO6PC 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P



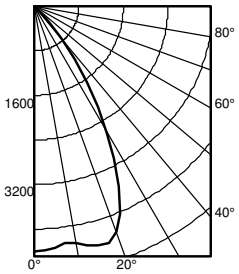
	Ave	Lumens
0	1431	
5	1410	134
15	1442	405
25	1161	523
35	540	332
45	78	72
55	3	4
65	1	1
75	0	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1061.4	72.2
0° - 40°	1393.5	94.7
0° - 60°	1469.5	99.9
0° - 90°	1470.9	100.0
90° - 180°	0.0	0.0
0° - 180°	1470.9	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	47.3	5.7	23.7	8.9	4.7
10.0	25.4	7.7	12.7	12.1	2.5
12.0	15.9	9.8	7.9	15.3	1.6
14.0	10.8	11.8	5.4	18.6	1.1
16.0	7.9	13.9	3.9	21.8	0.8

EVO6PC 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P



	Ave	Lumens
0	4411	
5	4346	413
15	4443	1247
25	3578	1610
35	1665	1024
45	242	222
55	8	12
65	2	3
75	1	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	3270.7	72.2
0° - 40°	4294.2	94.7
0° - 60°	4528.3	99.9
0° - 90°	4532.7	100.0
90° - 180°	0.0	0.0
0° - 180°	4532.7	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	145.8	5.7	72.9	8.9	14.6
10.0	78.4	7.7	39.2	12.1	7.8
12.0	48.9	9.8	24.4	15.3	4.9
14.0	33.4	11.8	16.7	18.6	3.3
16.0	24.2	13.9	12.1	21.8	2.4

Lumen Output Multiplier

CRI	CCT	Multplier
80	2700K	0.916
	3000K	0.948
	3500K	1
	4000K	1.032
	5000K	1.1
90	2700K	0.748
	3000K	0.8
	3500K	0.838
	4000K	0.845
	5000K	0.945

Reflector Finish Multiplier

Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73
BZR - Bronze	0.73

Distributions

Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

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6" General Illumination Pendant Stem Cylinder

NLIGHT AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

nLight® AIR Control Accessories
Order as separate catalog number. Visit nLight AIR.

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

nLight® AIR Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

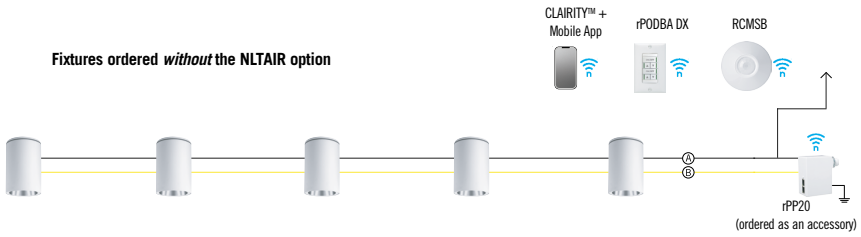
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

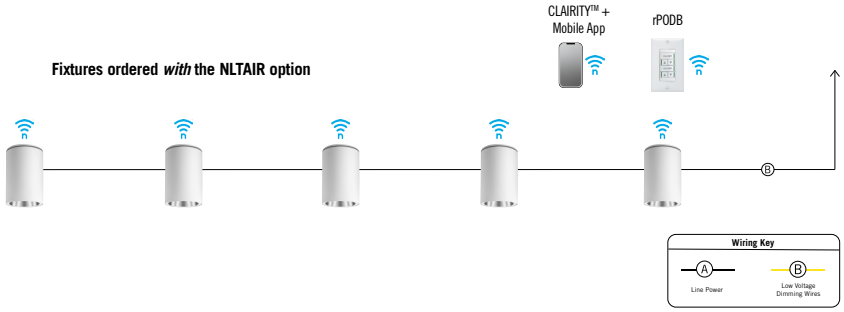
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

Possibilites for nLight® AIR

Fixtures ordered *without* the NLTAIR option



Fixtures ordered *with* the NLTAIR option



NLIGHT

nLight® Wired The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

nLight® Wired Control Accessories
Order as separate catalog number. Visit nLight.

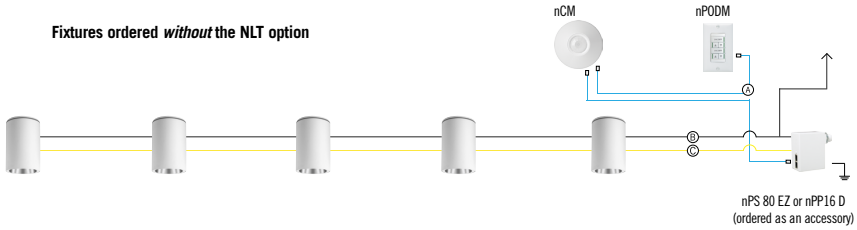
Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)
Photocell Controls	
Dimming	nCM ADCX

nLight® Wired Control Accessories *(cont.)*

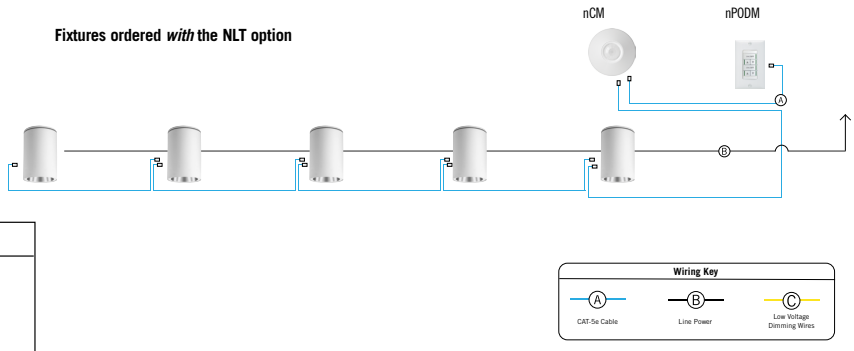
Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX
Cat-5 Cables (plenum rated)	
10', CAT5	CAT5 10FT J1
15', CAT5	CAT5 15FT J1

Possibilites for nLight® wired

Fixtures ordered *without* the NLT option



Fixtures ordered *with* the NLT option



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AMA LIGHTING
LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS

Project 25-48063-0
Palm Bay Gymatorium

Submitted By
AMA LIGHTING

Catalog Number: EVO6PC 40/30 WD MVOLT GZ10 JBX PCAN S4 AR LSS DWH

Note: FIXTURE FED FROM INVERTER

Type
PTE

APPROVED AS NOTED

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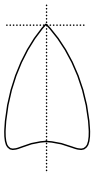
Multiple Layers of Light



Luminaire Type:
Catalog Number:

LOW UGR BAA BABA

General Illumination Pendant Stem Cylinder 6"

OVERVIEW

Feature Set

- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- Bounding Ray™ optical design
- 45° cutoff to source and source image
- Fully serviceable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 MacAdam Ellipse; 85 CRI typical, 90+ CRI optional
- Fixtures are damp location standard; Wet location (WL) optional, requires covered ceiling
- 20 standard colors in textured and gloss finish; custom or RAL colors also available
- Multiple recessed or surface j-box mounting configurations available
- Field cuttable 5/8" stems with concealed couplers.
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ

Distribution

Superior Perfomance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2

COMPLEMENTARY PRODUCTS

Coordinated Apertures | Multiple Layers of Light

General Illumination Layer | EVO

High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core

Healthcare

Special Applications

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6" General Illumination Pendant Stem Cylinder

ORDERING INFORMATION

Luminaire Type:

Catalog Number:

EXAMPLE: EVO6PC 35/15 AR MWD LSS MVOLT EZ1 JBXCC PCAN S12 DWHG

Series		Color Temperature		Lumens		Trim Color		Reflector Finish		Distribution		Voltage	
EVO6PC	EVO 6in Pendent Stem Round Cylinder Open Downlight	27/	2700 K	02	250 lumens	AR	Clear	LSS	Semi-specular	VND	Very narrow (0.5 s/mh)	MVOLT	120V - 277V
		30/	3000 K	05	500 lumens	PR	Pewter	LD	Matte diffuse	ND	Narrow (0.7 s/mh)	120	120V
		35/	3500 K	07	750 lumens	WTR	Wheat	LS	Specular	MD	Medium (0.9 s/mh)	277	277V
		40/	4000 K	10	1000 lumens	GR	Gold			MWD	Medium wide (1.0 s/mh)	347[4]	347V
		50/	5000 K	15	1500 lumens	WR[2]	White painted			WD	Wide (1.2 s/mh)		
				20	2000 lumens	BR[2]	Black						
				25	2500 lumens	WRAMF[2]	White Anti-microbial						
				30	3000 lumens	BZR[2]	Dark Bronze painted						
				35	3500 lumens	TRALTBD[2,3]	Trim RAL # TBD (TBD for pricing only)						
				40	4000 lumens	TCPC[2,3]	Trim Custom Paint Color TBD (TBD for pricing only)						
				45	4500 lumens								
				50	5000 lumens								
				60	6000 lumens								
				80	8000 lumens								
				100[1]	10,000 lumens								
				120[1]	12,000 lumens								

TO BE VERIFIED WITH ARCHITECTURAL ELEVATION DRAWINGS.

Driver[5]		Mounting		Canopy Type		Stem Length[12]	
GZ10	0-10V driver dims to 10%	JBX	Integral driver, Recessed or Surface J-box	PCAN	5° Stem canopy with "hang straight" swivel	S2	2 foot 5/8" stem
GZ1	0-10V driver dims to 1%	JBXCC	Integral driver, Surface J-box with Conduit Covers	PCAN45[11]	45° Stem canopy with "hang straight" swivel	S4	4 foot 5/8" stem
EZ10	eldoLED 0-10V ECOdrive. Linear dimming to 10% min.	SGB[9]	Surface gear box. Recessed or surface J-box			S6	6 foot 5/8" stem
EZ1	eldoLED 0-10V ECOdrive. Linear dimming to 1% min.	SGBCC[9]	Surface gear box (for driver at ceiling), surface J-box with Conduit Covers.			S8	8 foot 5/8" stem
EZB	eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.	RGH[10]	Recessed Gear Housing			S10	10 foot 5/8" stem
EDAB[6]	eldoLED SOLOdrive DALI. Logarithmic dimming to <1%.					S12	12 foot 5/8" stem
EDXB[6,7,8]	eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Min: 1000LM; Max: 8000LM. Not available with Emergency Options.					S16	16 foot 5/8" stem
ECOD[6]	Lutron® EcoSystem® digital Hi-Lume 1% soft-on, fade to black. Max: 8000LM except 4500LM.					S20	20 foot 5/8" stem
ELV[6]	Electronic line voltage / Forward phase / Triac dimming, 120V Only.						

Emergency Option		Control Interface[13]		Options		Architectural Colors - Powder Paint[3]			
(blank)	No emergency options	(blank)	No controls	90CRI	High CRI (90+)	DDB	Gloss Dark Bronze	DDBT	Textured Dark Bronze
E6W	6W integral emergency battery, CA Title 20 compliant emergency battery pack with integral test switch. Only available with GZ10, GZ1 and ELV Drivers. Only for use with 500-4500 lumen options.	NLT	nLight® dimming pack. Specify 120V or 277V.	CP[15]	Chicago Plenum. Specify 120V or 277V (requires RGH)	DBL	Matte Black	DBLB	Textured Black
E7WCP	IOTA® 7W Constant Power emergency battery (sidecar). Only for use with 750-8000 lumen options.	NLTER[14]	nLight® dimming pack for fixtures on emergency circuit. Specify 120V or 277V.	HAO[16]	HAO High Ambient Option (40°C)	DWH	Gloss White	DWHG	Textured White
E10WCP	IOTA® 10W Constant Power, CA Title 20 compliant emergency battery pack with integral test switch. Only for use with 1000-8000 lumen options. (sidecar or RGH)	NLTAIR2	nLight® AIR dimming pack. Specify 120V or 277V.	N80[17]	nLight Lumen Compensation	DMB	Matte Medium Bronze	DBNH	Textured Bronze
E10WCPR	IOTA® 10W Constant Power, CA Title 20 compliant emergency battery pack with remote test switch. Only for use with 1000-8000 lumen options. (requires RGH)	NLTAIRER2[14]	nLight® AIR dimming pack for fixtures on emergency circuit. Specify 120V or 277V.	SF	Single fuse. Specify 120V or 277V.	DNA	Gloss Natural Aluminum	DNAT	Textured Natural Aluminum
E15WCP	IOTA® 15W Constant Power, CA Title 20 compliant emergency battery. Only for use with 1500-8000 lumen options. (sidecar)			WL[18]	Wet Location	DSS	Gloss Sandstone	DSST	Textured Sand-stone
GTD	IOTA® Generator Transfer Device. Specify 120V or 277V (requires RGH)					DGC	Gloss Charcoal Grey	DSPD	Textured Dark Grey
						DTG	Gloss Tennis Green	DSPE	Textured Green
						DBR	Gloss Bright Red	DSPH	Textured Light Red
						DSB	Gloss Steel Blue	DWHAMF	Gloss White with Anti-microbial finish
								RALTBD	Cylinder RAL # TBD (TBD for pricing only)
								CPC	Cylinder Custom Paint Color TBD (TBD for pricing only)

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6" **General Illumination Pendant Stem Cylinder**

ORDERING INFORMATION

ACCESSORIES — order as separate catalog numbers (shipped separately)

GCOLORS KIT	Architectural colors chip kit, consisting of powder-coat and plated finishes
CYLJBOXADPT 4SQ2OCT __	4in Square J-box to 4in Octagonal J-box adaptor. Replace __ with Architectural Color or PRM for primed ready for field painting
CYLSTBL KIT	Stabilization Kit for securing pendant stem fixtures

ORDERING NOTES

1. 10,000 & 12,000 lumens not available with 347, EDXB, Lutron, SGB, SGBCC, RGH, Emergency Options, HAO, WL & CP.
2. Not Available with Reflector Finishes.
3. Replace with applicable RAL number and finish when ready to order. See RAL BROCHURE for available color options. Not available with integral test switch emergency battery pack options. For details on all Acuity Architectural paint colors, RAL and Custom colors, please see Architectural colors.
4. Integral 347V drivers available with GZ10 and GZ1 driver options only - 3500LM max. All other drivers (and GZ1 & GZ10 above 3000LM) will come with a step-down transformer - factory installed with RGH mounting, and field installed with JBX and JBXCC mounting (remote mount location and access to device required). Not available with SGB, SGBCC or Emergency Options. Max 5000LM.
5. Refer to Tech 240 for compatible dimmers.
6. Not Available with Control Interfaces.
7. Requires SGB or SGBCC mounting option.
8. Includes terminator resistor. Not available with 250-750 lumen packages.
9. Only available with DMX driver (EDXB).
10. Not available with E6W, E7W or E15WCP Emergency Options.
11. Not available with SGB or SGBCC: those mountings require a flat ceiling.
12. Stem section adjacent to cylinder can be cut in field to achieve non-uniform lengths (i.e. for a field cut 3' length, order 4' stem).
13. Factory installed with RGH option otherwise field installed. Access required to location of remote mounted device.
14. ER for use as UL924 Emergency Operation via power sense lead. Will require an emergency hot feed and normal hot feed. EM for use as UL924 Emergency Operation
15. CP not valid with NLTAIR2, NLTAIRER2 or Emergency Options.
16. Only available up to 3500 lumens. Not available with WL or sidecar Emergency Options.
17. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
18. Not available with JBXCC, SGB, SGBCC or Sidecar Emergency Options. Max: 3500LM.

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6" General Illumination Pendant Stem Cylinder

SPECIFICATIONS

Optical Assembly
Fully serviceable and upgradeable lensed LED light engine suitable for field maintenance or service from below the ceiling.
Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top down flash characteristic for superior glare control.

Electrical
The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. Support 347V via remote-mounted stepdown transformer. The fluctuations of line voltage shall have no visible effect on the luminous output.
The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.
Input wires shall be 18AWG, 300V minimum solid copper.
All drivers are ROHS compliant.

Controls
Luminaire shall be equipped with interface for nLight wired or nLight AIR networks with integral power supply as per specification.

Emergency
Luminaires supplied with a battery pack comply with NFPA 101 (Life Safety code) and deliver constant light output throughout the 90 minutes of code required emergency operation period when there is a normal AC power loss.
Luminaires equipped with a generator transfer device work in conjunction with an auxiliary generator or a central inverter system to power fixtures for safe egress lighting.

Dimming
The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.
eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.
Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction
Heaving-gauge aluminum construction. Extruded cylinder body with flangeless reflector allows flow-through passive thermal management. Canopy matches cylinder in finish and diameter.
Pendant stem mount for installation to 4" recessed or surface octagonal junction box with integral driver.
Recessed gear box available for driver above ceiling, nLight, CP, GTD or battery pack options.
Surface gear box available for driver at ceiling installation.
Optional field configurable conduit covers available. Conduit covers match cylinder in finish and diameter.
WARNING: All pendant fixtures exposed to wind require tethering – see page 6.

Listings
Fixtures are CSA Certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, damp location standard; wet location (WL) optional, requires covered ceiling.

Photometrics
LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.
Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 60,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by the center of the quadrangles defined in ANSI C78.377-2015.

Government Procurement
BAA - Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations
BABA - Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act
Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:
Actual performance may differ as a result of end user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.

S4+ Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provided consistent color appearance and out-of-the-box control capability with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested meet the Acuity Brands' specification for chromatic consistency - including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates.
To learn more about A+, visit www.acuitybrands.com/aplus.

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6" General Illumination Pendant Stem Cylinder

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic*	Linear
EDXB	<1%	Square	Linear

*Changable thorugh DALI controller

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

J-box Compatibility Matrix		Cylinder Configurations					
		JBX	SGB	SGBCC	SGB w/EDXB Driver	SGBCC w/EDXB Driver	JBXCC
Recommended J-box (by others)	4" Octagonal 4x4x1.5 deep"	✓	✓	✓	✓	✓	✓
	4" Octagonal 4x4x2.125 deep	✓	✓	✗	✓	✗	✗
	4" Square 4x4x1.5 deep	✓ *with adaptor plate accessory	✓ *with adaptor plate accessory	✗	✓ *with adaptor plate accessory	✗	✗

Standard Architectural Color Options for Cylinder Bodies

NOTE: These colors were carefully reproduced to give as true a depiction as possible of finished product color. Some colors, however, may vary slightly from actual appearance due to display/printing variations and limitations. Please order the GCOLORS KIT listed in the 'Accessories' section of the spec sheet for an accurate paint chip sample.

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6" **General Illumination Pendant Stem Cylinder**

SPECIFICATIONS

Stabilization Kit (CYLSTBL KIT) Accessory

The Stabilization Kit offers additional support for applications where wind may be a factor and the pendant stem cylinder needs to be secured.

Cables

Three (3) 20 ft. 304 grade stainless steel aircraft cables with outer diameters of 1/16” are attached to anchoring mechanisms in the mounting surface at one end and the provided stem collar around the pendant stem at the other end.

Cables should be anchored 120° +/- 10° from each other radially and positioned at 45° or greater from the stem for optimal support of the fixture.

Clamps and Stem Collars

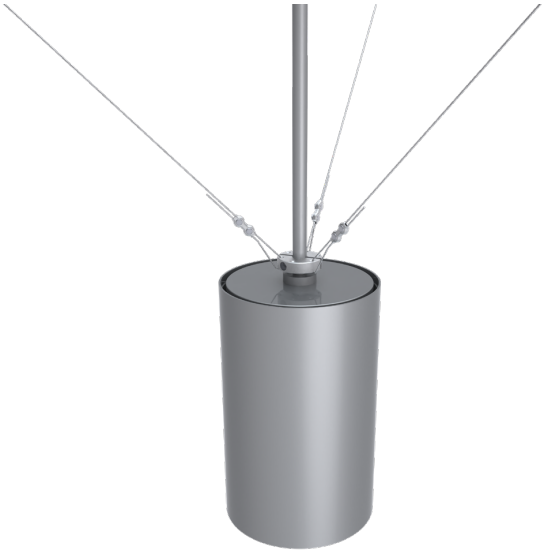
The stem collar consists of two (2) half stem collars made of 304 stainless steel. Both stem collar halves are attached around the pendant stem with 304 stainless steel socket head cap screws.

Six (6) cable clamps made of 304 stainless steel are used in the stabilization kit with two (2) clamps per cable attached to each anchoring point and the stem collar.

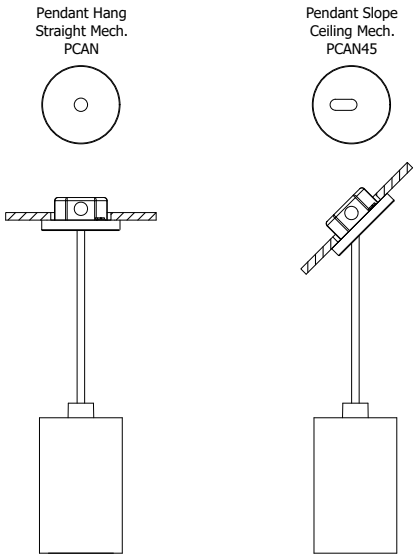
The cable tension can be adjusted from either end.

Wind Load

The Stabilization Kit is designed to withstand 90mph winds for 3 seconds comparable to ASCE 7-10, MRI 50-year (fixture EPA is 0.3 sq ft)



Stem_PCAN vs PCAN45



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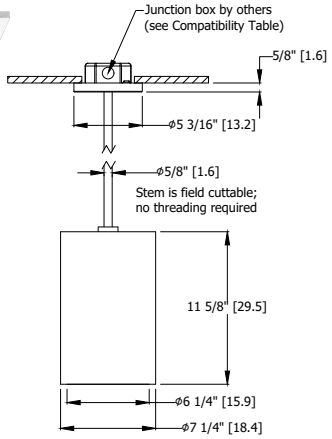
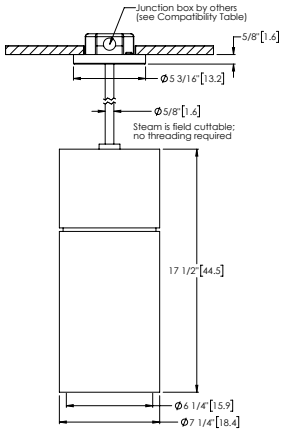
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

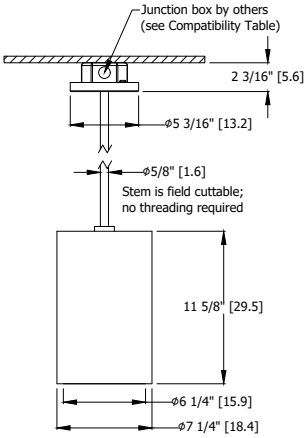
JBX Recessed J-Box



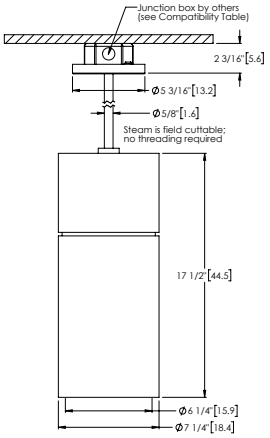
10,000LM- 12,000LM JBX Recessed



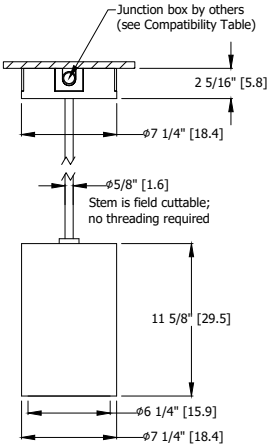
JBX Surface J-Box



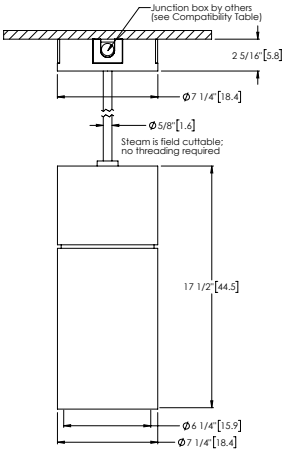
10,000LM- 12,000LM JBX Surface



JBXCC Surface J-Box with Conduit Covers



10,000LM- 12,000LM JBXCC



*Dimensions in inches [centimeters]

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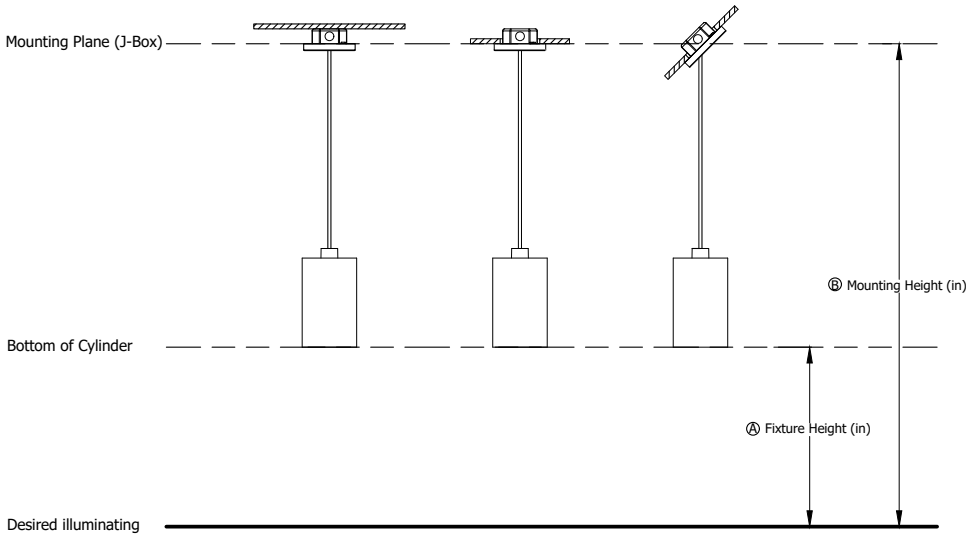
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

Stem Cutting Formulas for JBX

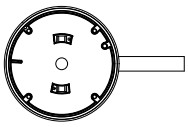


Cord Length=Ⓑ-Ⓐ- 6"

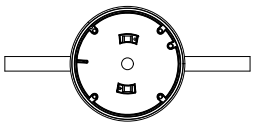
Conduit Feed Examples and Keys

Conduit Key
(4) provided with each,
for use with 1/2" or 3/4" conduit

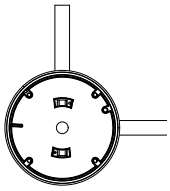
Blank Key
(4) provided with each



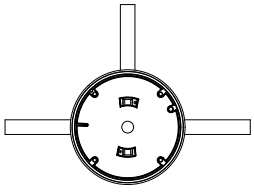
Single Conduit Feed



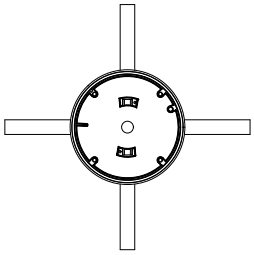
Double 180° conduit



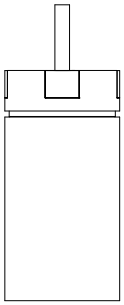
Double 90° conduit



Triple 0°, 90° & 180° conduit



Quad 0°, 90°, 180°, & 270° conduit



Top conduit feed

*Dimensions in inches [centimeters]

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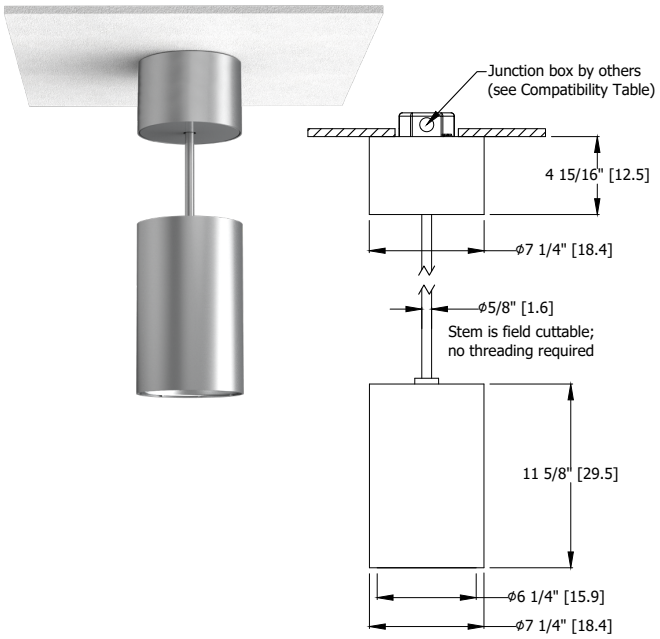
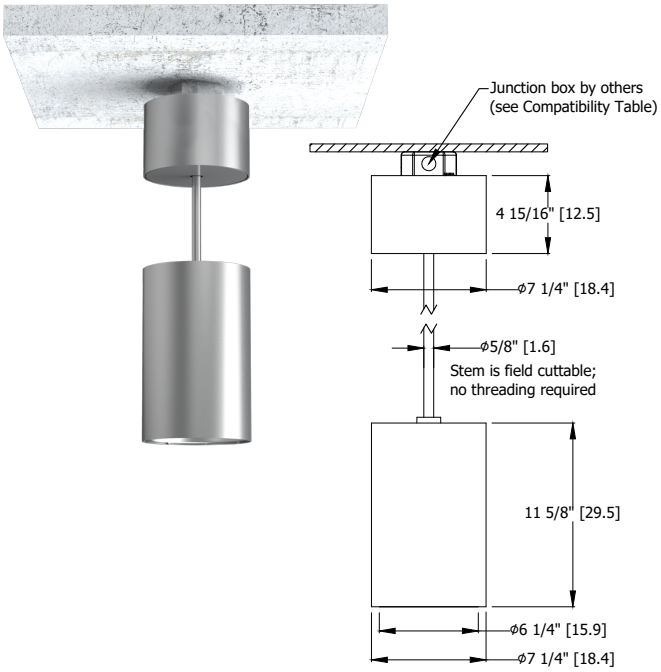
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

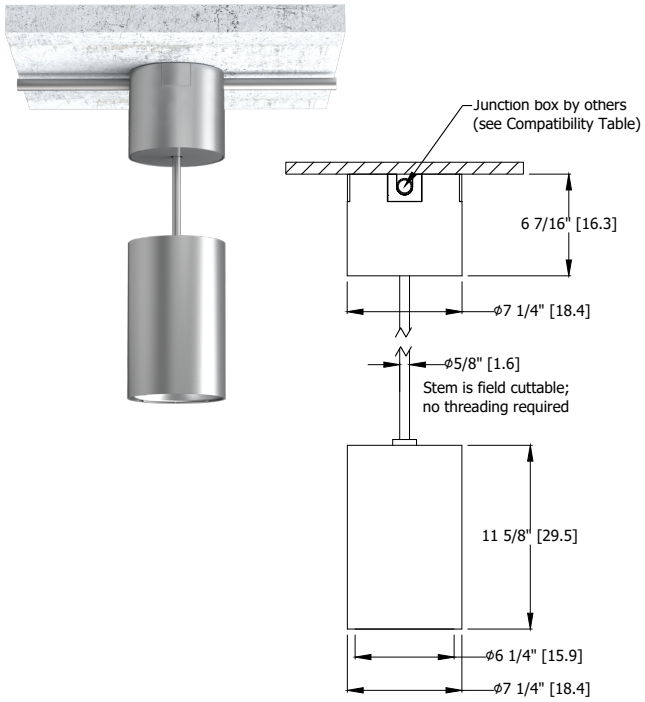
SGB Surface Gear Box for EDXB recessed J-box



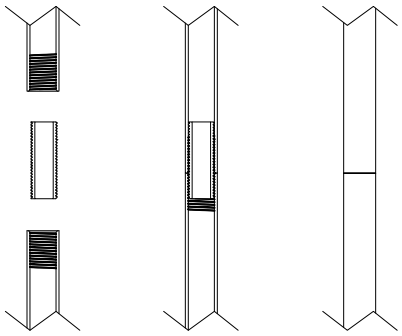
SGB Surface Gear Box for EDXB surface J-box



SGBCC Surface Gear Box for EDXB with Conduit Covers



Stem Connection Method



*Dimensions in inches [centimeters]

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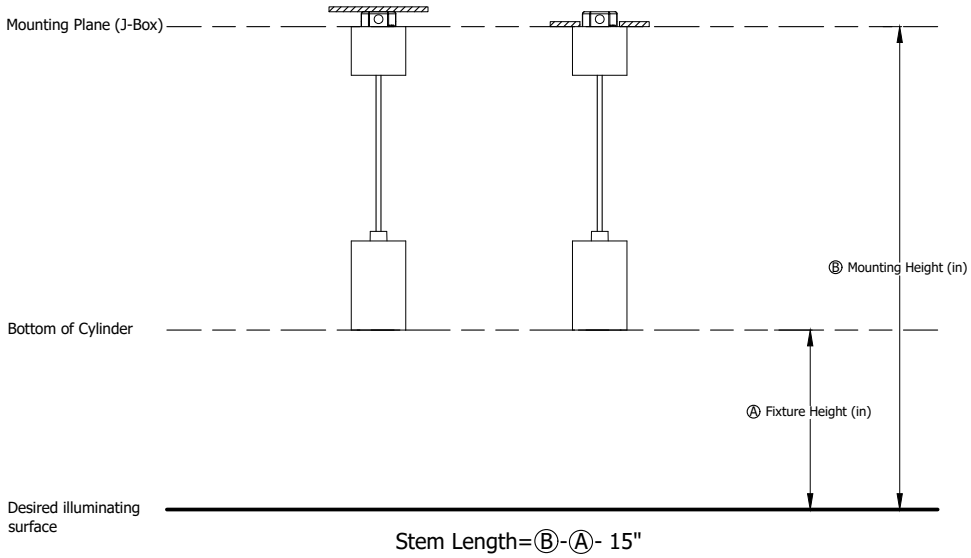
6" General Illumination Pendant Stem Cylinder

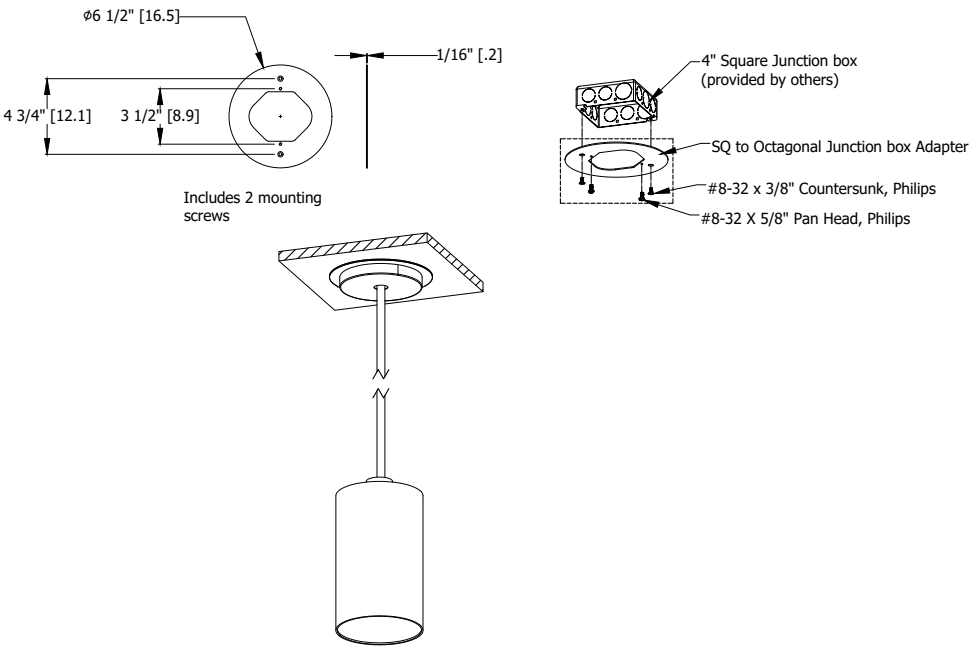
DIMENSIONAL DATA

Stem Cutting Formulas for SGB



Stem Length=Ⓑ-Ⓐ- 15"

Cylinder Adaptor Plate



*Dimensions in inches [centimeters]

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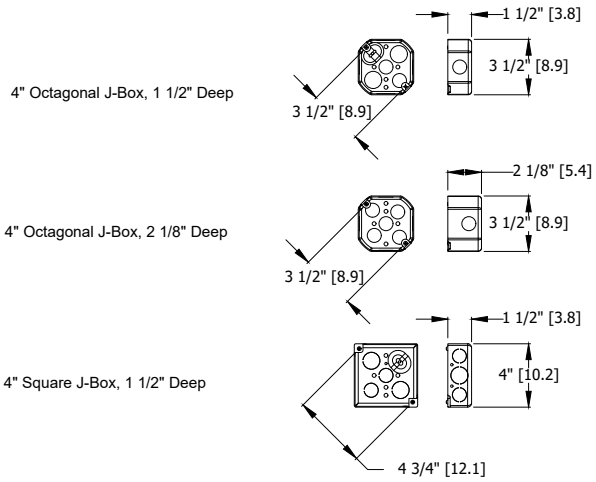
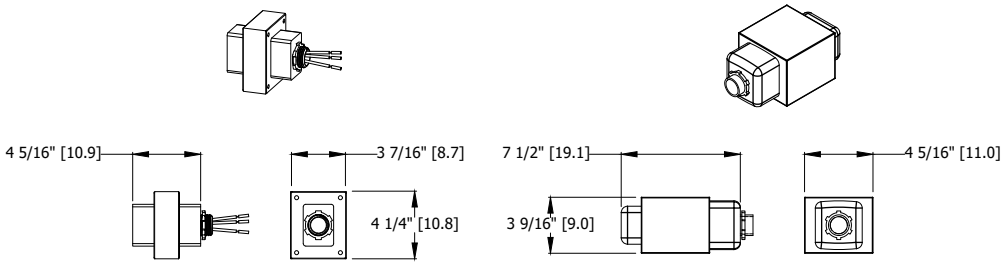
6" General Illumination Pendant Stem Cylinder

DIMENSIONAL DATA

Junction Box Dimensions (by others)



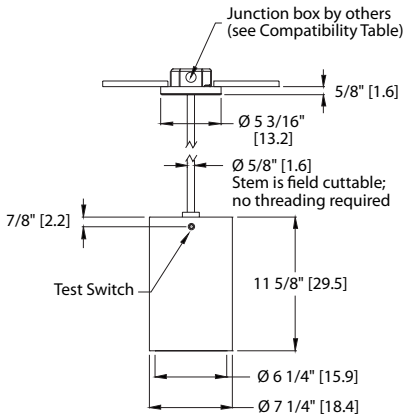
347V Stepdown Transformer



347 Transformer:
Up to 6000LM
Install to accessible
junction box by others

347 Transformer:
8000LM and up
Install to accessible
junction box by others

E6W Integral Emergency Battery



*Dimensions in inches [centimeters]

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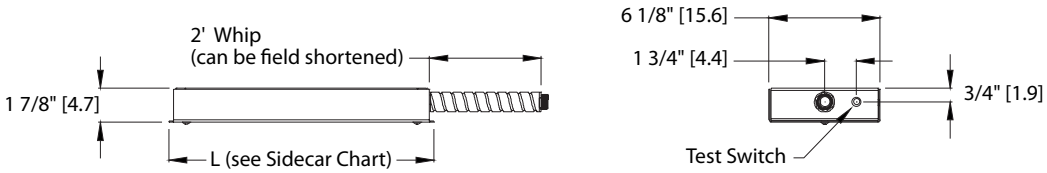
6" General Illumination Pendant Stem Cylinder

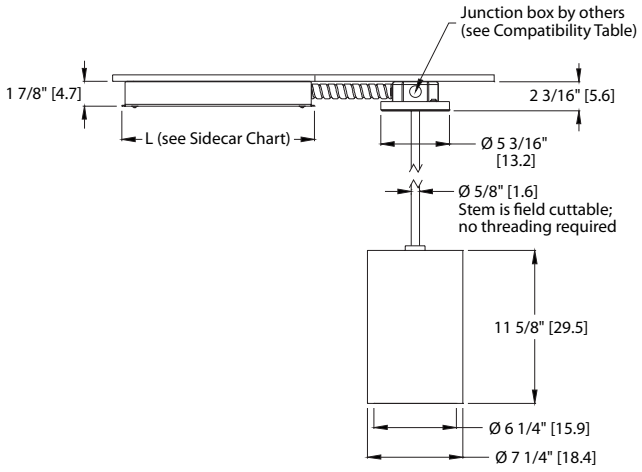
DIMENSIONAL DATA

Emergency Battery Sidecar Dimensions



SIDECAR BATTERY OPTION	LUMEN PACKAGES AVAILABLE	L (SIDECAR LENGTH)
E7WCP	750LM AND GREATER EXCEPT AS NOTED BELOW	14"
	6000-8000LM 5000-8000LM WITH ECOD DRIVER	16"
E10WCP	1000LM AND GREATER EXCEPT AS NOTED BELOW	14"
	6000-8000LM 5000-8000LM WITH ECOD DRIVER	16"
E15WCP	1500LM AND GREATER	16"

E7WCP/E10WCP/E15WCP Sidecar Emergency Battery



*Dimensions in inches [centimeters]

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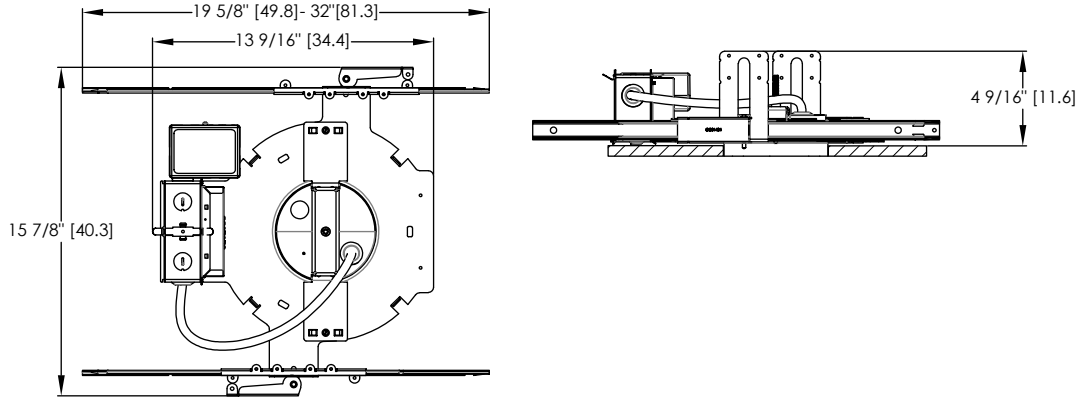
6" General Illumination Pendant Stem Cylinder

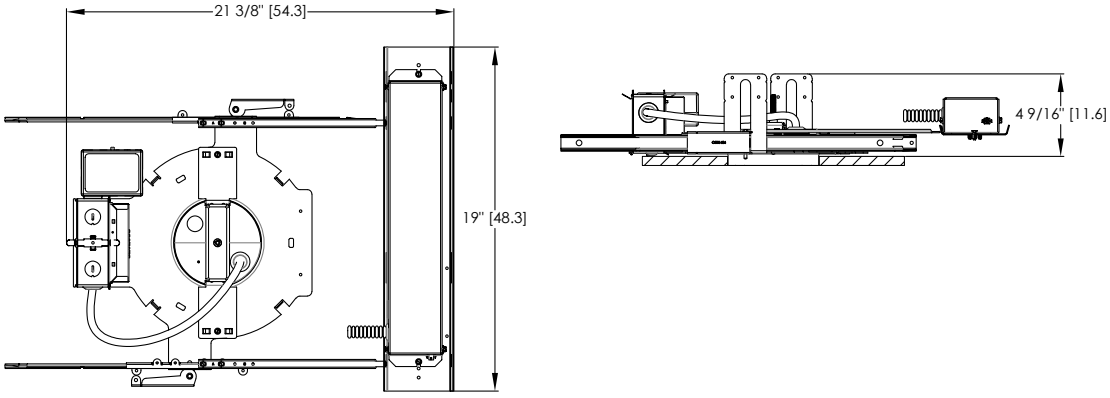
DIMENSIONAL DATA

RGH 2500LM-5000LM and with EDXB up to 4500LM & ECOD up to 4000LM Standard



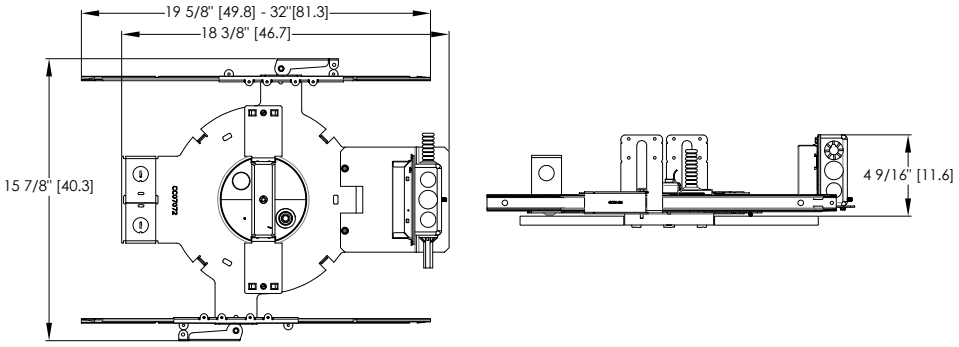
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH with Battery Backup (E10WCPR) 2500LM-5000LM and with EDXB up to 4500LM & ECOD up to 4000LM Standard



With Emergency Battery or GTD option
Minimum plenum height for emergency batteries in non-accessible ceilings: 12 1/2"[31.8]
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH with CP 2500LM-5000LM and for use with EDXB up to 4500LM & ECOD up to 4000LM Standard



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

*Dimensions in inches [centimeters]

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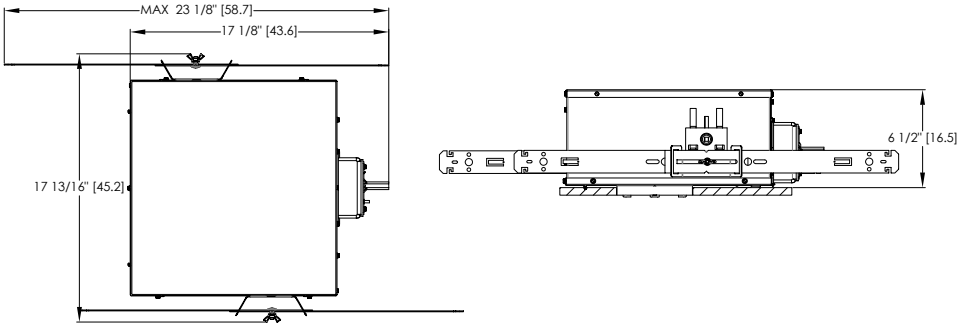
6" General Illumination Pendant Stem Cylinder

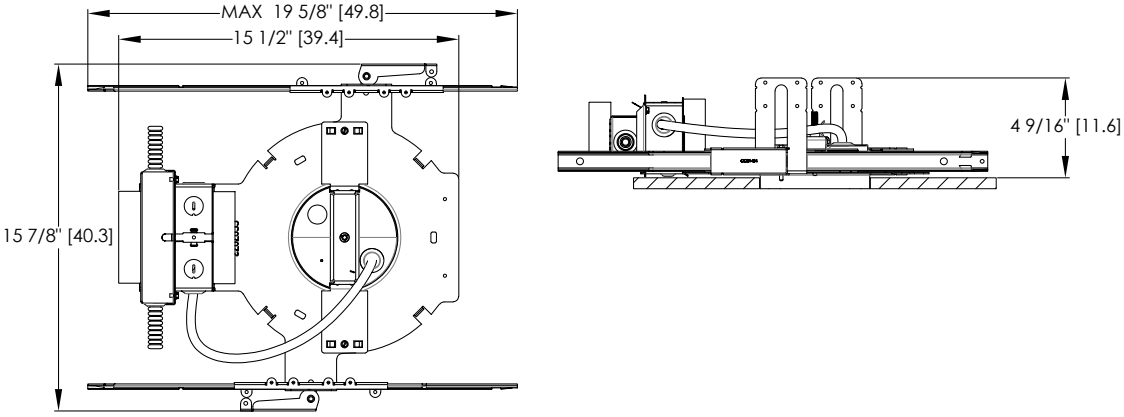
DIMENSIONAL DATA

RGH with Chicago Plenum (CP) for use with nLight Enclosed



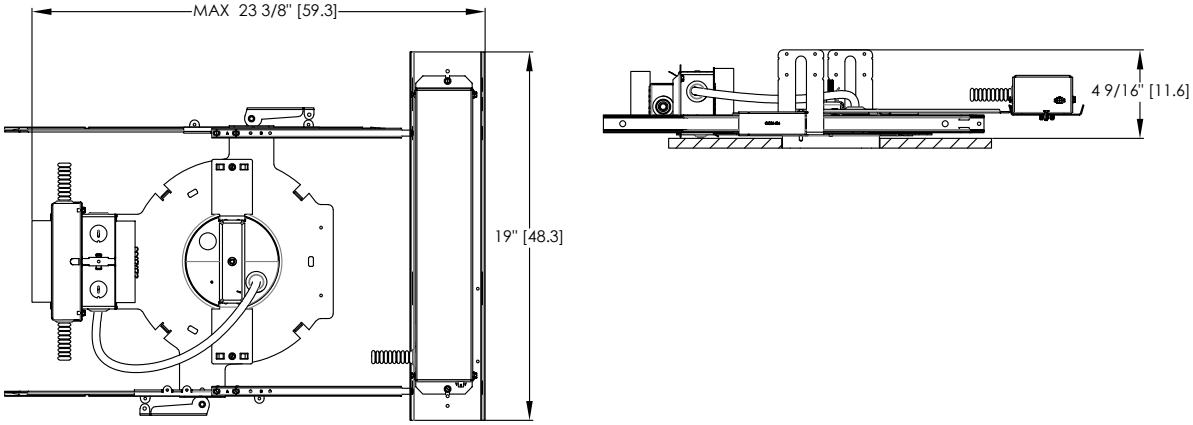
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH Double Driver 5000LM+ EDXB & ECOD, 6000LM & 8000LM Standard



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH Double Driver with Battery Backup (E10WCPR or E10WCP) for use with 5000LM+ EDXB & ECOD, 6000LM & 8000LM Standard



With Emergency Battery or GTD option

Minimum plenum height for emergency batteries in non-accessible ceilings: 12 1/2"[31.8]
Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

*Dimensions in inches [centimeters]

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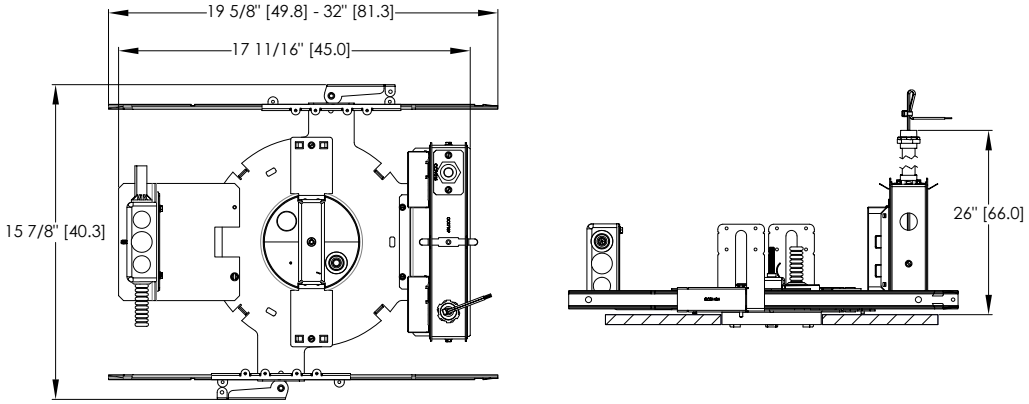
6" General Illumination Pendant Stem Cylinder

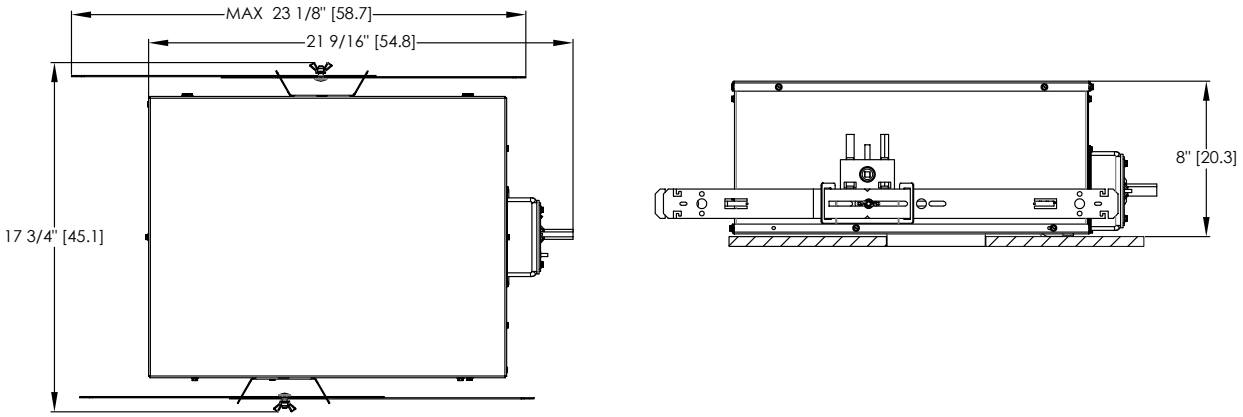
DIMENSIONAL DATA

RGH Double Driver CP Standard



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

RGH Double Driver with CP for use with 5000LM+ EDXB & ECOD, 6000LM & 8000LM Enclosed



Ceiling thickness range: 1/2"[1.3] to 3"[7.6]
Ceiling cutout: 5 1/16"[12.9]

*Dimensions in inches [centimeters]

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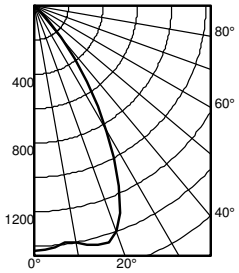
6" **General Illumination Pendant Stem Cylinder**

Photometry

CONSULT WWW.GOTHAMLIGHTING.COM FOR ADDITIONAL PHOTOMETRY.

EVO6PC 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P



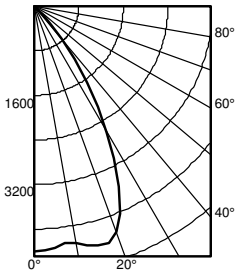
	Ave	Lumens
0	1431	
5	1410	134
15	1442	405
25	1161	523
35	540	332
45	78	72
55	3	4
65	1	1
75	0	1
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	1061.4	72.2
0° - 40°	1393.5	94.7
0° - 60°	1469.5	99.9
0° - 90°	1470.9	100.0
90° - 180°	0.0	0.0
0° - 180°	1470.9	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	47.3	5.7	23.7	8.9	4.7
10.0	25.4	7.7	12.7	12.1	2.5
12.0	15.9	9.8	7.9	15.3	1.6
14.0	10.8	11.8	5.4	18.6	1.1
16.0	7.9	13.9	3.9	21.8	0.8

EVO6PC 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P



	Ave	Lumens
0	4411	
5	4346	413
15	4443	1247
25	3578	1610
35	1665	1024
45	242	222
55	8	12
65	2	3
75	1	2
85	0	0
90	0	

Zone	Lumens	% Lamp
0° - 30°	3270.7	72.2
0° - 40°	4294.2	94.7
0° - 60°	4528.3	99.9
0° - 90°	4532.7	100.0
90° - 180°	0.0	0.0
0° - 180°	4532.7	*100.0

*Efficiency

Mounting Height	Inital FC Center Beam	50% beam - 54.4° Diameter	50% beam - 54.4° FC	10% beam - 77.9° Diameter	10% beam - 77.9° FC
8.0	145.8	5.7	72.9	8.9	14.6
10.0	78.4	7.7	39.2	12.1	7.8
12.0	48.9	9.8	24.4	15.3	4.9
14.0	33.4	11.8	16.7	18.6	3.3
16.0	24.2	13.9	12.1	21.8	2.4

Lumen Output Multiplier		
CRI	CCT	Multplier
80	2700K	0.916
	3000K	0.948
	3500K	1
	4000K	1.032
	5000K	1.1
90	2700K	0.748
	3000K	0.8
	3500K	0.838
	4000K	0.845
	5000K	0.945

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73
BZR - Bronze	0.73

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

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The product images shown are for illustration purposes only and may not be an exact representation of the product.

gotham®

gotham® | EVO®

6" General Illumination Pendant Stem Cylinder

NLIGHT AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

nLight® AIR Control Accessories
Order as separate catalog number. Visit nLight AIR.

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

nLight® AIR Control Accessories *(cont.)*

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

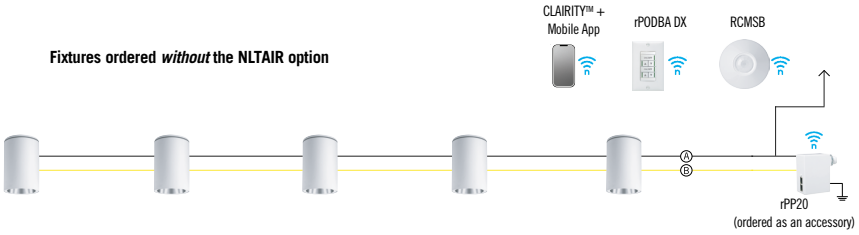
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

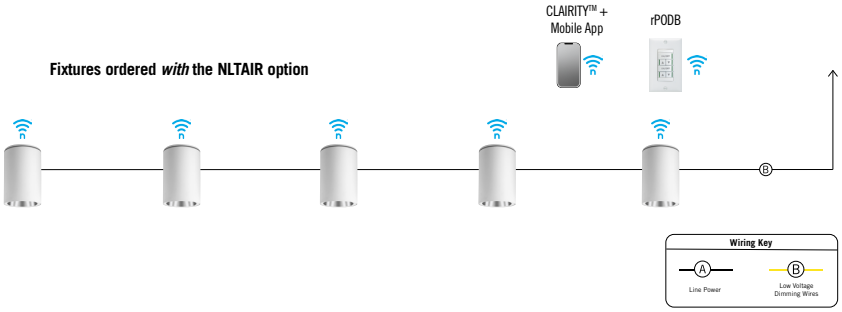
- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

Possibilites for nLight® AIR

Fixtures ordered *without* the NLTAIR option



Fixtures ordered *with* the NLTAIR option



NLIGHT

nLight® Wired The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

nLight® Wired Control Accessories
Order as separate catalog number. Visit nLight.

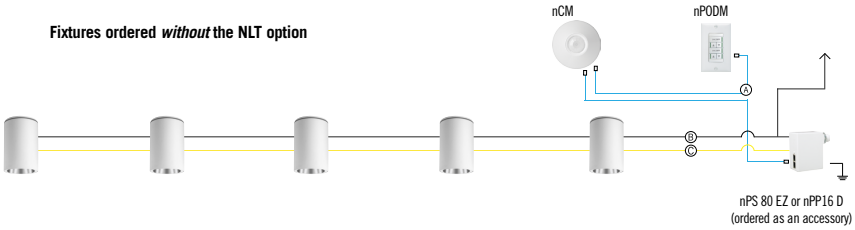
Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)
Photocell Controls	
Dimming	nCM ADCX

nLight® Wired Control Accessories *(cont.)*

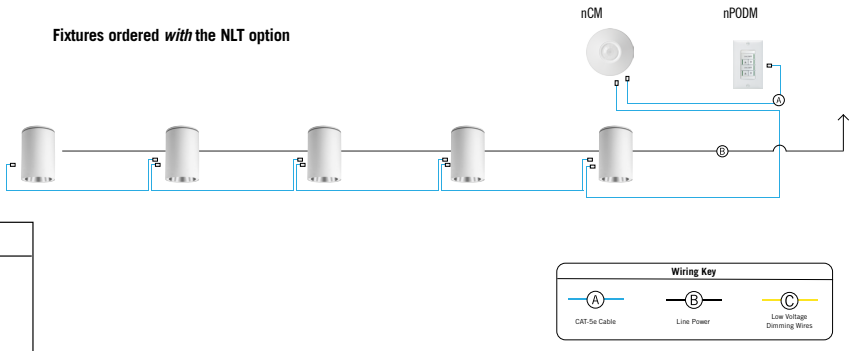
Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX
Cat-5 Cables (plenum rated)	
10', CAT5	CAT5 10FT J1
15', CAT5	CAT5 15FT J1

Possibilites for nLight® wired

Fixtures ordered *without* the NLT option



Fixtures ordered *with* the NLT option



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gotham®

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: BLWP4 30L ADPT GZ10 LP840 Note:	Type SF

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLWP LED Wrap/ Wall bracket expands the BLT family with the features and aesthetics of the popular BLT and BLTR center basket design with a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLWP the perfect choice for many lighting applications including schools, offices, stairwells and other commercial spaces. With multiple mounting options, easy installation, and controls configurations, the BLWP is an excellent choice for renovation and new construction.

CONSTRUCTION — BLWP enclosure components are die-formed for dimensional consistency. For 2' and 4' product, hinged door frame allows easy access to electrical components and mounting locations without having to remove additional parts. For 8' product, suspension aircraft cables allow easy access to electrical components and mounting locations without having to remove additional parts. Available in three paint finishes: white (pre-paint), painted after fabrication white, and natural aluminum. Diffusers are extruded from impact modified acrylic for increased durability. Optional polycarbonate lens available for additional impact resistance, as well as Tamper Proof screws.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed, a smooth frosted finish, and a smooth polycarbonate finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and qualityof illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Replaces 2 lamp fluorescent.

Configurable BLWP: Available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information on page 2.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission, while nLight AIR is commissioned easily through an intuitive mobile app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Driver disconnect provided where required to comply with US and Canadian codes.

CONTROLS — **Integrated sensor (individual control):** Sensor Switch MSD7ADCX (Passive infrared (PIR)) or MSDPDT7ADCX (PIR/Microphonics Dual Tech (PDT) and Photocell (ADCX)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to an Eclypse, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 5 for the nLight sensor options.

Integrated Smart Sensor (nLight AIR Wireless Platform): The rES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or dual technology occupancy sensor. It pairs to other luminairs and wall switches through our mobile app, CL***AIR***ITY+, which allows for simple sensor adjustment. See page 5 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — Intended for surface or suspend mounting. For row mounting and quick mounting to junction boxes see accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Catalog Number
Notes
Type

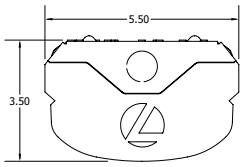
Low Profile LED Wraparound

BLWP

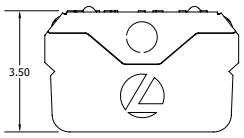
2', 4' and 8' Lengths

Specifications

2' Dimensions
Length: 24 (60.96)
Width: 5.50 (13.97)
Depth: 3.50 (8.89)



4' Dimensions
Length: 48 (121.92)
Width: 5.50 (13.97)
Depth: 3.50 (8.89)



8' Dimensions
Length: 96 (243.84)
Width: 5.50 (13.97)
Depth: 3.50 (8.89)

All dimensions are inches (centimeters) unless otherwise specified.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

BLWP Low Profile LED Wraparound

CURVED, SMOOTH PREFERRED

Design Select options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: BLWP4 40L ADP GZ10 LP840

Series		Lumens ‡				Lens/Diffuser		Voltage		Driver		Color Temperature	
		Standard Efficiency (>100 LPW)		High Efficiency ‡ (>130 LPW)									
BLWP2	2' LED Wraparound	8L	800 Lumens	8LHE	800 Lumens	ADP	Curved, ribbed	(blank)	MVOLT	EZ1	eldoLED dims to 1% (0-10v dimming)	LP830	82CRI, 3000K
		20L	2000 Lumens	20LHE	2000 Lumens	ADSM	Curved, smooth	120	120V			LP835	82CRI, 3500K
		33L	3300 Lumens	33LHE	3300 Lumens	SDP	Square, ribbed	277	277V	GZ1	Generic dims to 1% (0-10v dimming) ‡	LP840	82CRI, 4000K
		40L	4000 Lumens	40LHE	4000 Lumens	SDSM	Square, smooth	347	347V ‡			LP850	82CRI, 5000K
		48L	4800 Lumens	48LHE	4800 Lumens	PDSM	Curved, smooth polycarbonate ‡			GZ10	Generic dims to 10% (0-10v dimming) ‡	LP930	90CRI, 3000K
BLWP4	4' LED Wraparound	15L	1500 Lumens	15LHE	1500 Lumens	**Diffusers w/ trim rings**				SLD	Step-level dimming ‡	LP935	90CRI, 3500K
		20L	2000 Lumens	20LHE	2000 Lumens	ADPT	Curved, ribbed					LP940	90CRI, 4000K
		30L	3000 Lumens	30LHE	3000 Lumens	ADSMT	Curved, smooth					LP950	90CRI, 5000K
		40L	4000 Lumens	40LHE	4000 Lumens	SDPT	Square, ribbed						
		48L	4800 Lumens	48LHE	4800 Lumens	SDSMT	Square, smooth						
		60L	6000 Lumens	60LHE	6000 Lumens	PDSMT	Curved, smooth polycarbonate ‡						
		72L	7200 Lumens	72LHE	7200 Lumens								
		85L	8500 Lumens	85LHE	8500 Lumens								
		100L	10000 Lumens	100LHE	10000 Lumens								
BLWP8	8' LED Wraparound	40L	4000 Lumens	40LHE	4000 Lumens								
		60L	6000 Lumens	60LHE	6000 Lumens								
		80L	8000 Lumens	80LHE	8000 Lumens								
		100L	10000 Lumens	100LHE	10000 Lumens								
		140L	14000 Lumens	140LHE	14000 Lumens								
		180L	18000 Lumens	180LHE	18000 Lumens								
		200L	20000 Lumens	200LHE	20000 Lumens								

nLight Interface ‡

nLight Wired

(blank)	no nLight® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management. For use with generator supply EM power ‡
N100	nLight without lumen management
N100EMG	nLight without lumen management. For use with generator supply EM power ‡

nLight Wireless

(blank)	no nLight® interface
NLTAIR2	nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired

(blank)	no nLight control
NES7	nLight™ nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control ‡
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless

(blank)	no nLight control
RES7	nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
RES7PDT	nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
RIO	nLight AIR radio module without sensor ‡
RES7EM	nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RES7PDTEM	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell & UL924 Emergency Operation, via power interrupt detection ‡
RIOEM	nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell ‡
MSDPDT7ADCX	PDT integral occupancy sensor with with automatic dimming control photocell ‡
JOT	Wireless room control with "Just One Touch" pairing ‡
JOTVTX15	Wireless occupancy sensor with "Just One Touch" pairing ‡

Standby mode ‡

(blank)	Fixture with embedded sensor turns off when unoccupied
DIM10	Fixture with embedded sensor dims to approximately 10% light output when unoccupied ‡
DIM50	Fixture with embedded sensor dims to approximately 50% light output when unoccupied ‡
NOC	Occupancy sensor disabled ‡

Options

E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS
EL7L	700 nominal lumens battery pack ‡
EL14L	1400 nominal lumens battery pack ‡
BGTD	Bodine Generator Transfer Device ‡
QMB	Quick Mount Bracket ‡
TRS	Tamper Resistant Screw ‡
GLR	Fast-blowing fuse ‡
GMF	Slow-blowing fuse ‡
FAO	Field Adjustable Output ‡
PLR1G	Plug-in wiring, see page 10 for ordering information ‡
PLR1LVG	Plug-in wiring, low voltage dimming ‡
BAA	Buy America(n) Act and/or Build America Buy America Qualified
BDP	Factory Installed Ballast Disconnect Plug

Finish

(blank)	Standard pre-paint white
PAF	Paint After Fabrication White
DNA	Paint After Fabrication Natural Aluminum

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

See Accessories and footnotes on page 4.

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BLWP Low Profile LED Wraparound

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with E10WLCP, EL7L, EL14L, BGTD or BLWP4 > 85L/ 85LHE.
BLWPCR, BLWPCRDNA, BLWP8CR, BLWP8CRDNA	Cannot be used to continuous row mount 4' fixtures with 8' fixtures. 2' fixtures cannot be continuous row mounted.
BGTD	Not available with JOT sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
DIM10, DIM50	Not available with NLTAIR2 or JOT sensor option. Requires occupancy control. Must be ordered with nLight Wired or Individual Control sensor option.
EL7L, EL14L	Only available on BLWP8, 8ft length version of this fixture, in lumen packages 140L or less.
FAO	EZ1 driver required. Not available with BAA or lumen packages > 6000LM. FAO is not available with other integrated controls options and restricts the use of external dimming controls. See chart on page 5 for additional details. Cannot use with PLR1LVG, PLR2ALVG, PLR2BLVG, PLR2AELBLVG, PLR2BELALVG.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
GZ1, GZ10	Not available with any Control or Sensor options except JOT & JOTVTX15
JOT, JOTVTX15	Not available with SLD, NLIGHT, NLTAIR2, NOC, BAA or FAO. Available only on 4' versions with PDSM, PDSMT, ADPT and ADMST trim options; not available with <60L or 60LHE lumen packages.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW including 90CRI and versions with integral sensor trim. Refer to photometry on www.acuitybrands.com. See QPL for latest DLC listings.
MSD7ADCX, MSDPDT7ADCX	Must select Lens/Diffuser type with Trim Rings. Not available with nLight interface. 0-10V wires are not accessible via access plate.
N80EMG, N100EMG	Requires a connection to existing nLight network. Power is provided from a separate NLIGHT enabled fixture or external power pack.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Must select Lens/Diffuser type with Trim Rings. Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must select nLight wireless control. Not available with JOT or JOTVTX15
NOC	Not available with JOT sensor options. Can only be ordered in conjunction with EZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
PDSM, PDSMT	Not available with HE (high efficiency) performance package on BLWP2 and BLWP4 only.
PLR1G, PLR22, PLR2ANG, PLR1LVG	Not available with BLWP2. PLR1LVG is not available with Controls options or nLight interface. Not available with emergency options.
QMB	Not available with BLWP2 (2') or BLWP8 (8') fixture.
RES7EM, RES7PDTEM, RIOEM	Must select Lens/Diffuser type with Trim Rings. Requires EZ1 and NLTAIR2 to be specified. Only available with 60L or lower lumen packages on the BLWP4. Only available with 100LHE/80L lumen packages or lower on the BLWP8.
RES7, RES7PDT, RIO	See UL924 Sequence of Operation chart on bottom of page 3. Must select Lens/Diffuser type with Trim Rings. Requires EZ1 and NLTAIR2 to be specified. Only available with 60L or lower lumen packages on the BLWP4. Only available with 100LHE/80L lumen packages or lower on the BLWP8.
SLD	Not available with any nLight Interface or Control options. Cannot use with PLR1LVG, PLR2ALVG, PLR2BLVG, PLR2AELBLVG, PLR2BELALVG. Not available for lumen packages 72L and higher.
TRS	Accessory BLWP TRS T15 BIT available to be ordered with this option. See Accessories section page 4. Order as separate item.

Non-Configurable BLWP:

MTO	Ci code	Catalog Description	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet QTY
MTO	*264V2M	BLWP2 20L ADP LP835	191848282045	1942	17	117	3500 K	120-277	80
	*264V2L	BLWP2 20L ADP LP840	191848282038	1973	17	119	4000 K	120-277	80
	*264CH0	BLWP2 33L ADP LP835	191848080825	3332	30	112	3500 K	120-277	80
	*264CH1	BLWP2 33L ADP LP840	191848080832	3345	30	112	4000 K	120-277	80
	*264CH2	BLWP2 40L ADP LP835	191848080849	3923	37	105	3500 K	120-277	80
	*264CH4	BLWP2 40L ADP LP840	191848080856	4117	37	110	4000 K	120-277	80
	*264V2K	BLWP4 30L ADP LP835	191848282021	3065	25	123	3500 K	120-277	70
	*264V2H	BLWP4 30L ADP LP840	191848281994	3114	25	125	4000 K	120-277	70
	*264CH5	BLWP4 40L ADP LP835	191848080863	4391	35	127	3500 K	120-277	70
	*264CH6	BLWP4 40L ADP LP840	191848080870	4263	35	123	4000 K	120-277	70
	*264CH7	BLWP4 48L ADP LP835	191848080900	5137	40	129	3500 K	120-277	70
	*264CH8	BLWP4 48L ADP LP840	191848080917	5205	40	131	4000 K	120-277	70

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

BSE Labeling Options

BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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BLWP Low Profile LED Wraparound

Accessories: *Order as separate catalog number.*

PART number	CI CODE	QTY	Description	Application
BLWP8/4CR	*272PFG	1	CONTINUOUS ROW MOUNT BRACKET FOR ROW CONNECTING BLWP4 and BLWP8 WHT	FOR USE TO MOUNT BLWP8 TO BLWP4, FOR STD FINISH AND PAF
BLWPCR	*250A0S	1	CONTINUOUS ROW MOUNT BRACKET WHT	FOR USE ON BLWP4 ONLY, FOR STD FINISH AND PAF ‡
BLWPCRDNA	*250A1S	1	CONTINUOUS ROW MOUNT BRACKET DNA	FOR USE ON BLWP4 ONLY, FOR DNA FINISH ‡
BLWP8CR	*2543C6	1	CONTINUOUS ROW MOUNT BRACKET WHT	FOR USE ON BLWP8 ONLY, FOR STD FINISH AND PAF ‡
BLWP8CRDNA	*2543CA	1	CONTINUOUS ROW MOUNT BRACKET DNA	FOR USE ON BLWP8 ONLY, FOR DNA FINISH ‡
BLWPCG36 F1	*264R3P	1	BLWPCG36 F1	ADJUSTABLE AIRCRAFT CABLE GRIPPER KIT, 36 INCH F1 CEILING TYPE
BLWPCG36 F2	*264R4G	1	BLWPCG36 F2	CABLE GRIPPER KIT, 36 INCH F2 CEILING TYPE
BLWPCG72 F1	*264R4H	1	BLWPCG72 F1	CABLE GRIPPER KIT, 72 INCH F1 CEILING TYPE
BLWPCG72 F2	*264R4M	1	BLWPCG72 F2	CABLE GRIPPER KIT, 72 INCH F2 CEILING TYPE
BLWPCGF36 F1	*264R4R	1	BLWPCGF36 F1	KIT WITH POWER FEED 36 INCH F1 CEILING TYPE
BLWPCGF36 F2	*264R4U	1	BLWPCGF36 F2	KIT WITH POWER FEED 36 INCH F2 CEILING TYPE
BLWPCGF72 F1	*264R4V	1	BLWPCGF72 F1	KIT WITH POWER FEED 72 INCH F1 CEILING TYPE
BLWPCGF72 F2	*264R4X	1	BLWPCGF72 F2	KIT WITH POWER FEED 72 INCH F2 CEILING TYPE
BLWPCGE36 F1	*264R50	1	BLWPCGE36 F1	KIT WITH EMERGENCY POWER FEED 36 INCH F1 CEILING TYPE
BLWPCGE36 F2	*264R5T	1	BLWPCGE36 F2	KIT WITH EMERGENCY POWER FEED 36 INCH F2 CEILING TYPE
BLWPCGE72 F1	*264R5V	1	BLWPCGE72 F1	KIT WITH EMERGENCY POWER FEED 72 INCH F1 CEILING TYPE
BLWPCGE72 F2	*264R53	1	BLWPCGE72 F2	KIT WITH EMERGENCY POWER FEED 72 INCH F2 CEILING TYPE
BLWPCGFD36 F1	*269V4M	1	BLWPCGFD36 F1	KIT WITH 0-10V DIMMING POWER FEED 36 INCH F1 CEILING TYPE
BLWPCGFD36 F2	*269V5C	1	BLWPCGFD36 F2	KIT WITH 0-10V DIMMING POWER FEED 36 INCH F2 CEILING TYPE
BLWPCGFD72 F1	*269V5N	1	BLWPCGFD72 F1	KIT WITH 0-10V DIMMING POWER FEED 72 INCH F1 CEILING TYPE
BLWPCGFD72 F2	*269V5X	1	BLWPCGFD72 F2	KIT WITH 0-10V DIMMING POWER FEED 72 INCH F2 CEILING TYPE
BLWP TRS T15 BIT	*2516KU	1	BLWP TRS T15 BIT	T15 WITH PIN, TORX BIT FOR TRS OPTION
BLWPQMB	*250A2S	1	BLWP Quick Mount Bracket	QUICK MOUNT BRACKET FOR INSTALLATION TO JUNCTION BOXES WITHOUT HAVING TO REMOVE ANY PARTS IN THE FIXTURE, 4FT FIXTURE ONLY.
RK8BDP 2P U			Disconnect Plug (BDP), 2 Pole, Package of 1	
RK8BDP 3P U			Disconnect Plug (BDP), 3 Pole, Package of 1	
RK8BDP 2P J10			Disconnect Plug (BDP), 2 Pole, Package of 10	
RK8BDP 2P J40			Disconnect Plug (BDP), 2 Pole, Package of 40	
1B			Hanger spaces fixtures 1½" to 2½" from ceiling. Standard pack: J2, J20, J100	
SQ_			Complete assembly with stem up to 48"Specify stem length in 2" increments and adjust as needed. 5/8" O.D. stem. Swivels 30° from vertical in any direction. Example: SQ24	

nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODM [color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODM DX [color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD GFX [color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color] G2
On/Off two pole	rPODB 2P [color] G2
On/Off & raise/lower single pole	rPODB DX [color] G2
On/Off & raise/lower two pole	rPODB 2P DX [color] G2
On/Off & raise/lower single pole	rPODBZ DX WH G2

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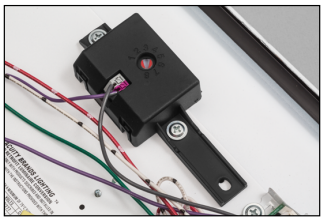
BLWP Low Profile LED Wraparound

Replacement Parts: *Order as separate catalog number.*

2' Version Replacement Lens		4' Version Replacement Lens		8' Version Replacement Lens	
*264F5E	DBLWP24 ADP	*264F69	DBLWP48 ADP	*2543CE	DBLWP96 ADP
*264F5F	DBLWP24 SDP	*264F6E	DBLWP48 SDP	*2543CG	DBLWP96 SDP
*264F5H	DBLWP24 ADSM	*264F6F	DBLWP48 ADSM	*2543CJ	DBLWP96 ADSM
*264F5J	DBLWP24 SDSM	*264F6G	DBLWP48 SDSM	*2543CM	DBLWP96 SDSM
*264F5L	DBLWP24 ADPT	*264F6H	DBLWP48 ADPT	*2543CN	DBLWP96 ADPT
*264F5P	DBLWP24 SDPT	*264F6K	DBLWP48 SDPT	*2543CP	DBLWP96 SDPT
*264F5U	DBLWP24 ADSMT	*264F6L	DBLWP48 ADSMT	*2543CR	DBLWP96 ADSMT
*264F5W	DBLWP24 SDSMT	*264F6N	DBLWP48 SDSMT	*2543CS	DBLWP96 SDSMT
*264F66	DBLWP24 PDSM	*264F6W	DBLWP48 PDSM	*2543CW	DBLWP96 PDSM
*264F67	DBLWP24 PDSMT	*264F6X	DBLWP48 PDSMT	*2543CX	DBLWP96 PDSMT

FAO SETTINGS (Field Adjustable Output)

	0-10 Voltage Dimmer	% Lumen Output (approximate)	% Wattage (approximate)
Step 8	Full Output	100%	100%
Step 7	9.0 VDC	98%	100%
Step 6	8.0 VDC	88%	86%
Step 5	7.0 VDC	86%	82%
Step 4	6.0 VDC	82%	80%
Step 3	5.0 VDC	76%	75%
Step 2	4.0 VDC	71%	72%
Step 1	3.0 VDC	67%	71%



Simple adjustment of output through the use of a flat head screwdriver.

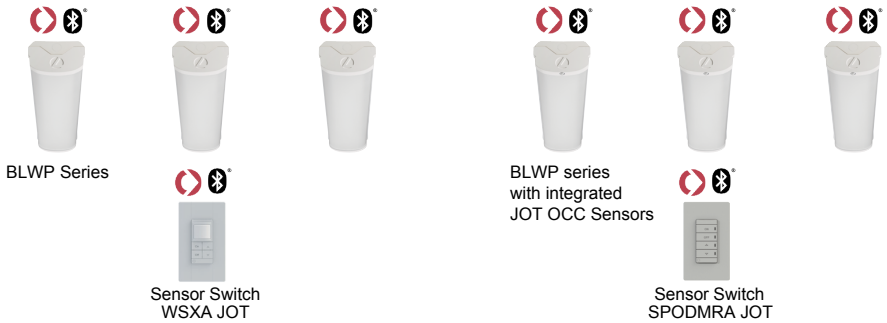
JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. **Power:** Install JOT enabled fixtures and controls as instructed.
2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.



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BLWP Low Profile LED Wraparound

nLight Platform

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking

Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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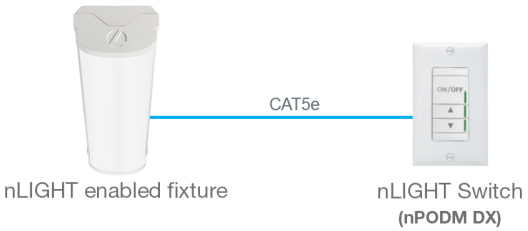
BLWP Low Profile LED Wraparound

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RES7PDT	X	X	X		X

Basic nLight Zone



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

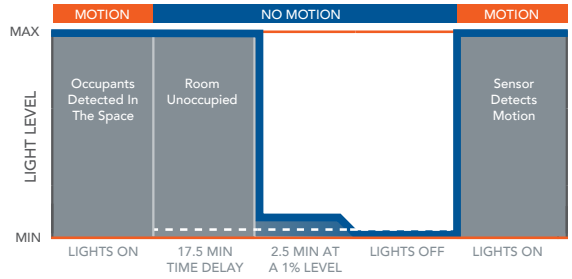
The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the NES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

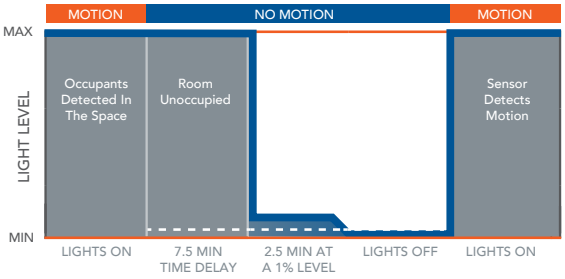
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the NESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

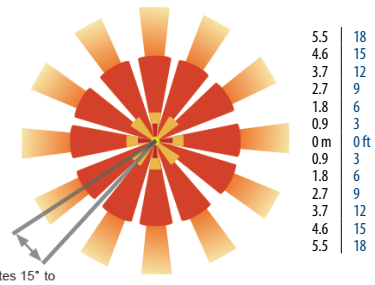
Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

nLight AIR Wireless

nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and costly. nLight AIR is available with or without an integral sensor. The integrated rES 7 or rES7 PDT smart sensor is part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

9 FT Mounting



Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

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BLWP Low Profile LED Wraparound

MOUNTING INFORMATION

For unit or row installation; surface or suspend mounting.

Suspension Methods:

Aircraft Cable Suspension

Order one BLWPCG_, BLWPCGF_, or BLWPCGE_ required for each suspension point.

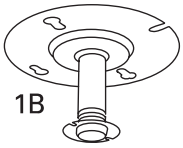
F1 for use with most T-bar and screw slot grid ceiling applications. Designed for on-grid and off-grid installations.

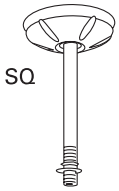
F2 for use with recessed or surface-mount horizontal J-box applications..

See Accessories page on page 4 for part numbers configurations.

Stem Suspension

Individual installation — Two single-stem hangers required.



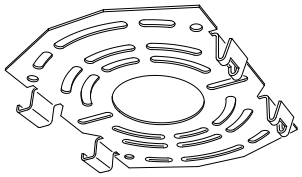


Note: 2' configurations with emergency option cannot be stem mounted.

Accessory Images

(QMB) Quick Mount Bracket

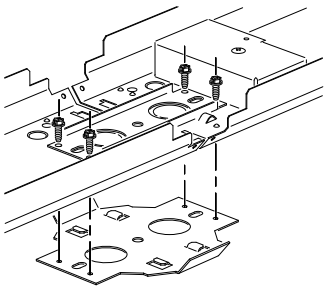
Quick Mount Bracket allows easy installation to junction boxes without having to remove any parts in the fixture.



Note: 2' and 8' configurations not available with QMB accessory.

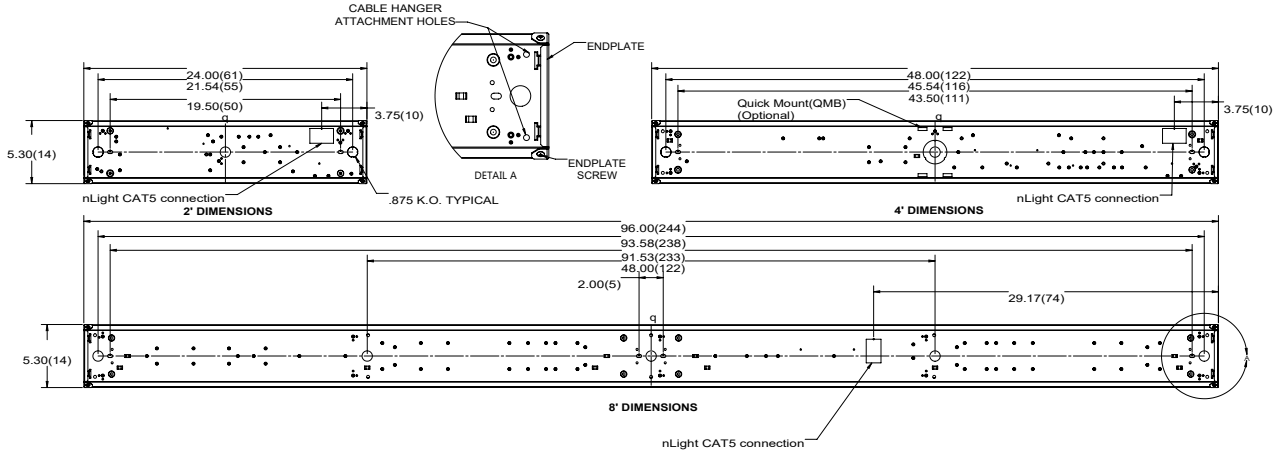
BLWPCR - continuous row mount bracket

Order one (1) BLWPCR bracket per fixture for continuous row applications (excluding BLWP2 as they cannot be row mounted). Order one hanger (Aircraft Cable Suspension Kit or Stem Suspension Kit) per fixture plus one per joiner required.



DIMENSIONS

All dimensions are inches (centimeters) unless otherwise noted.



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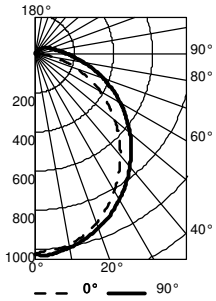
BLWP Low Profile LED Wraparound

PHOTOMETRICS

BLWP2 33L ADP LP835, 3332 delivered lumens, test no. ISF 37666, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	1024	1024
5°	1009	1027
15°	962	982
25°	867	910
35°	745	809
45°	604	694
55°	456	567
65°	303	436
75°	158	309
85°	36	202
90	0	161

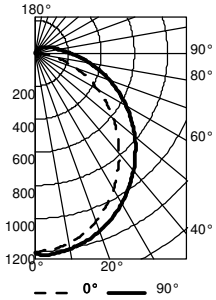
Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	106	100	96	97	93	89	92	88	85
	2	96	87	79	84	78	72	79	74	69
	3	87	76	67	74	66	59	70	63	57
	4	79	67	58	65	57	50	62	54	49
	5	73	60	51	58	50	43	55	48	42
	6	67	54	45	52	44	38	50	42	37
	7	62	49	40	48	39	33	45	38	32
	8	58	44	36	43	35	30	41	34	29
	9	54	41	32	40	32	27	38	31	26
	10	51	38	30	37	29	24	35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	790	23.7	23.7
0° - 40°	1286	38.6	38.6
0° - 60°	2278	68.4	68.4
0° - 90°	3096	92.9	92.9
90° - 120°	184	5.5	5.5
90° - 130°	210	6.3	6.3
90° - 150°	233	7.0	7.0
90° - 180°	236	7.1	7.1
0° - 180°	3332	100.0	100.0

BLWP2 40L ADP LP835, 3923 delivered lumens, test no. ISF 37668, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	1210	1210
5°	1190	1219
15°	1130	1178
25°	1019	1100
35°	870	990
45°	706	856
55°	527	711
65°	352	560
75°	179	406
85°	37	268
90	1	214

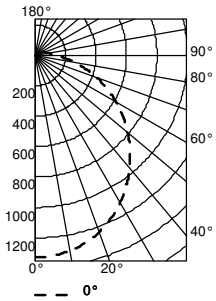
Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	106	100	96	97	93	89	92	88	85
	2	96	87	80	84	78	72	80	74	69
	3	87	76	67	74	66	60	70	63	58
	4	80	67	58	65	57	50	62	55	49
	5	73	60	51	58	50	43	55	48	42
	6	67	54	45	52	44	38	50	42	37
	7	62	49	40	48	39	33	45	38	32
	8	58	44	36	43	35	30	41	34	29
	9	54	41	32	40	32	27	38	31	26
	10	51	38	30	37	29	24	35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	932	23.8	23.8
0° - 40°	1519	38.7	38.7
0° - 60°	2687	68.5	68.5
0° - 90°	3646	92.9	92.9
90° - 120°	215	5.5	5.5
90° - 130°	246	6.3	6.3
90° - 150°	273	7.0	7.0
90° - 180°	277	7.1	7.1
0° - 180°	3923	100.0	100.0

BLWP4 40L ADP LP835, 4391 delivered lumens, test no. ISF 37596, tested in accordance to IESNA LM-79.



CP Summary

	0°
0°	1324
5°	1321
15°	1274
25°	1180
35°	1043
45°	881
55°	705
65°	521
75°	343
85°	191
90	138

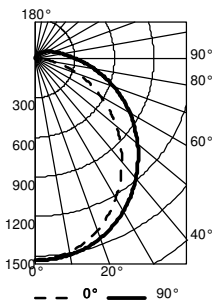
Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	106	100	95	97	93	89	92	88	85
	2	96	87	79	84	77	72	79	74	69
	3	87	76	67	74	66	59	70	63	57
	4	79	67	58	65	57	50	62	54	49
	5	73	60	50	58	49	43	55	48	42
	6	67	54	44	52	44	37	50	42	36
	7	62	48	40	47	39	33	45	38	32
	8	58	44	36	43	35	29	41	34	29
	9	54	41	32	40	32	26	38	31	26
	10	51	37	29	37	29	24	35	28	23

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1028	23.4	23.4
0° - 40°	1681	38.3	38.3
0° - 60°	2991	68.1	68.1
0° - 90°	4082	93.0	93.0
90° - 120°	249	5.7	5.7
90° - 130°	282	6.4	6.4
90° - 150°	307	7.0	7.0
90° - 180°	309	7.0	7.0
0° - 180°	4391	100.0	100.0

BLWP4 48L ADP LP835, 5137 delivered lumens, test no. ISF 37597, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	1528	1528
5°	1517	1528
15°	1447	1488
25°	1311	1398
35°	1129	1267
45°	913	1102
55°	691	920
65°	460	731
75°	233	540
85°	52	370
90	1	300

Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	105	100	95	97	93	89	91	88	84
	2	95	86	79	84	77	71	79	73	69
	3	87	75	67	73	65	59	69	62	57
	4	79	67	57	65	56	50	61	54	48
	5	73	59	50	58	49	43	55	47	41
	6	67	53	44	52	43	37	49	42	36
	7	62	48	39	47	39	33	45	37	32
	8	58	44	35	43	35	29	41	34	28
	9	54	40	32	39	32	26	38	31	26
	10	51	37	29	36	29	24	35	28	23

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1188	23.1	23.1
0° - 40°	1944	37.8	37.8
0° - 60°	3464	67.4	67.4
0° - 90°	4754	92.5	92.5
90° - 120°	308	6.0	6.0
90° - 130°	349	6.8	6.8
90° - 150°	381	7.4	7.4
90° - 180°	383	7.5	7.5
0° - 180°	5137	100.0	100.0

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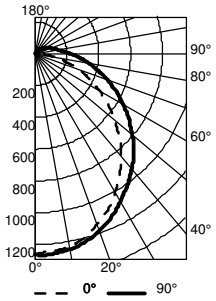
BLWP Low Profile LED Wraparound

PHOTOMETRICS

BLWP8 40L ADP LP835, 4113 delivered lumens, test no. ISF 37290P226.



CP Summary

	0°	90
0°	1263	1263
5°	1246	1263
15°	1197	1223
25°	1083	1134
35°	928	1011
45°	750	871
55°	558	722
65°	378	564
75°	200	410
85°	57	278
90	9	221

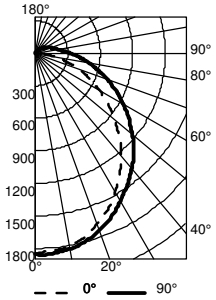
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%
0		117	117	117	114	114	114		107	107	107
1		106	100	95	97	93	89		92	88	85
2		96	87	79	84	77	72		79	74	69
3		87	76	67	74	66	59		70	63	57
4		79	67	58	65	57	50		62	54	49
5		73	60	51	58	50	43		55	48	42
6		67	54	45	52	44	38		50	42	37
7		62	49	40	48	39	33		45	38	32
8		58	44	36	43	35	30		41	34	29
9		54	41	32	40	32	27		38	31	26
10		51	38	30	37	29	24		35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	979	23.8	23.8
0° - 40°	1593	38.7	38.7
0° - 60°	2811	68.4	68.4
0° - 90°	3825	93.0	93.0
90° - 120°	233	5.7	5.7
90° - 130°	263	6.4	6.4
90° - 150°	286	7.0	7.0
90° - 180°	288	7.0	7.0
0° - 180°	4113	100.0	100.0

BLWP8 60L ADP LP835, 6033 delivered lumens, test no. ISF 37290P386.



CP Summary

	0°	90
0°	1853	1853
5°	1827	1853
15°	1756	1794
25°	1588	1664
35°	1361	1483
45°	1101	1277
55°	819	1059
65°	555	828
75°	294	601
85°	84	408
90	13	323

Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%
0		117	117	117	114	114	114		107	107	107
1		106	100	95	97	93	89		92	88	85
2		96	87	79	84	77	72		79	74	69
3		87	76	67	74	66	59		70	63	57
4		79	67	58	65	57	50		62	54	49
5		73	60	51	58	50	43		55	48	42
6		67	54	45	52	44	38		50	42	37
7		62	49	40	48	39	33		45	38	32
8		58	44	36	43	35	30		41	34	29
9		54	41	32	40	32	27		38	31	26
10		51	38	30	37	29	24		35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1437	23.8	23.8
0° - 40°	2336	38.7	38.7
0° - 60°	4124	68.4	68.4
0° - 90°	5611	93.0	93.0
90° - 120°	342	5.7	5.7
90° - 130°	386	6.4	6.4
90° - 150°	420	7.0	7.0
90° - 180°	423	7.0	7.0
0° - 180°	6034	100.0	100.0

PRODUCT INFORMATION

Advanced plug-in system with three-circuit capability. Reduces fixture types on job for alternating circuit applications.

Easy one-step installation, saves up to 35% on labor costs. Expanded switching flexibility helps save energy.

Rows can be 50% longer with two-circuit systems. Polarized, lock-together nylon connectors prevent miswiring in the field. #12 THHN conductor, rated 600V, 90°C. White neutral wire included. Grounding accomplished by fixture in-row connectors.

CSA certified systems available with up to 2 circuits. G ground required.

Note: Specifications subject to change without notice.

Wiring

PLR

Advanced 1 or 2-Circuit Plug-In

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Series	Number of hot wires		Branch circuits (PLR2A / PLR2B Only)			Dimming		Ground	
PLR22	(blank)	Not required for PLR22	(blank)	Not required for PLR22		(blank)	No Dimming	G	Ground (required)
PLR	1	Black	(blank)	Not required for PLR1		(blank)	No Dimming	G	Ground (required)
	2	Black and red	**Circuits to which driver is connected**		**Battery charging circuit (must be unswitched)**	LV	Low-voltage Dimming	G	Ground (required)
			(blank)	Not required for PLR22	(blank) No battery charging circuit				
			A	Black wire	ELA Battery pack wired to black wire				
			B	Red wire	ELB Battery pack wired to red wire				

Typical Applications

Notes:

When specifying PLR1, you will not specify A or B as there is only a single hot wire which would be black in color.

- Multiple-circuit and single-circuit for longer continuous rows
- Multiple-circuit with alternating fixtures on separate circuits and 2-circuit PLR22
- Multiple circuit with night-lights located along row as desired

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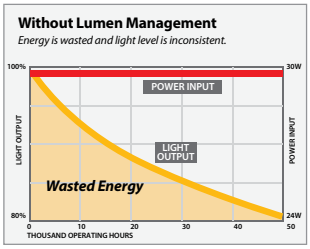
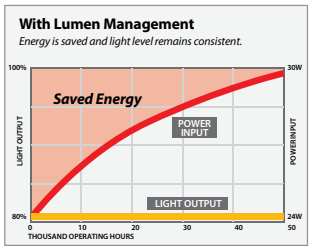
BLWP Low Profile LED Wraparound

Constant Lumen Management

Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





How to Estimate Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Estimated Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

BLWP PERFORMANCE DATA [24]

Lumen Package	Lumens	Input Watts	LPW
BLWP2 8L ADP LP830	825	7	118
BLWP2 8L ADP LP835	855	7	122
BLWP2 8L ADP LP840	868	7	124
BLWP2 8L ADP LP850	893	7	128
BLWP2 20L ADP LP830	1876	17	110
BLWP2 20L ADP LP835	1942	17	114
BLWP2 20L ADP LP840	1973	17	116
BLWP2 20L ADP LP850	2029	17	119
BLWP2 33L ADP LP830	3180	30	107
BLWP2 33L ADP LP835	3332	30	112
BLWP2 33L ADP LP840	3345	30	112
BLWP2 33L ADP LP850	3440	30	115
BLWP2 40L ADP LP830	3914	37	105
BLWP2 40L ADP LP835	3923	37	105
BLWP2 40L ADP LP840	4117	37	110
BLWP2 40L ADP LP850	4234	37	113
BLWP2 48L ADP LP830	4772	44	109
BLWP2 48L ADP LP835	4940	44	112
BLWP2 48L ADP LP840	5019	44	114
BLWP2 48L ADP LP850	5162	44	118
BLWP4 15L ADP LP830	1372	11	126
BLWP4 15L ADP LP835	1420	11	129
BLWP4 15L ADP LP840	1443	11	131
BLWP4 15L ADP LP850	1484	11	135
BLWP4 20L ADP LP830	1985	16	124
BLWP4 20L ADP LP835	2055	16	128
BLWP4 20L ADP LP840	2088	16	131
BLWP4 20L ADP LP850	2147	16	134
BLWP4 30L ADP LP830	2960	25	118
BLWP4 30L ADP LP835	3065	25	123
BLWP4 30L ADP LP840	3114	25	125
BLWP4 30L ADP LP850	3203	25	128
BLWP4 40L ADP LP830	4027	35	115
BLWP4 40L ADP LP835	4391	35	125
BLWP4 40L ADP LP840	4236	35	121
BLWP4 40L ADP LP850	4357	35	124
BLWP4 48L ADP LP830	4948	40	124
BLWP4 48L ADP LP835	5137	40	129
BLWP4 48L ADP LP840	5205	40	131
BLWP4 48L ADP LP850	5353	40	134
BLWP4 60L ADP LP830	6059	49	123
BLWP4 60L ADP LP835	6273	49	127
BLWP4 60L ADP LP840	6373	49	129
BLWP4 60L ADP LP850	6555	49	133
BLWP4 72L ADP LP830	7088	59	121
BLWP4 72L ADP LP835	7338	59	125
BLWP4 72L ADP LP840	7455	59	127
BLWP4 72L ADP LP850	7668	59	131
BLWP4 85L ADP LP830	7972	68	117
BLWP4 85L ADP LP835	8253	68	121
BLWP4 85L ADP LP840	8385	68	123
BLWP4 85L ADP LP850	8624	68	127
BLWP4 100L ADP LP830	9316	85	110
BLWP4 100L ADP LP835	9645	85	114
BLWP4 100L ADP LP840	9799	85	116
BLWP4 100L ADP LP850	10079	85	119

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BLWP Low Profile LED Wraparound

BLWP PERFORMANCE DATA (continued)

Lumen Package	Lumens	Input Watts	LPW
BLWP2 8LHE ADP LP830	851	8	106
BLWP2 8LHE ADP LP835	881	8	110
BLWP2 8LHE ADP LP840	895	8	112
BLWP2 8LHE ADP LP850	921	8	115
BLWP2 20LHE ADP LP830	1932	16	120
BLWP2 20LHE ADP LP835	2000	16	125
BLWP2 20LHE ADP LP840	2032	16	127
BLWP2 20LHE ADP LP850	2090	16	130
BLWP2 33LHE ADP LP830	3272	26	127
BLWP2 33LHE ADP LP835	3388	26	131
BLWP2 33LHE ADP LP840	3442	26	133
BLWP2 33LHE ADP LP850	3540	26	137
BLWP2 40LHE ADP LP830	3991	32	126
BLWP2 40LHE ADP LP835	4132	32	130
BLWP2 40LHE ADP LP840	4198	32	131
BLWP2 40LHE ADP LP850	4318	32	136
BLWP2 48LHE ADP LP830	4881	39	126
BLWP2 48LHE ADP LP835	5053	39	130
BLWP2 48LHE ADP LP840	5134	39	132
BLWP2 48LHE ADP LP850	5280	39	136
BLWP4 15LHE ADP LP830	1375	11	125
BLWP4 15LHE ADP LP835	1424	11	129
BLWP4 15LHE ADP LP840	1447	11	132
BLWP4 15LHE ADP LP850	1488	11	135
BLWP4 20LHE ADP LP830	1985	16	124
BLWP4 20LHE ADP LP835	2055	16	128
BLWP4 20LHE ADP LP840	2088	16	131
BLWP4 20LHE ADP LP850	2147	16	134
BLWP4 30LHE ADP LP830	3012	24	126
BLWP4 30LHE ADP LP835	3118	24	131
BLWP4 30LHE ADP LP840	3168	24	133
BLWP4 30LHE ADP LP850	3258	24	137
BLWP4 40LHE ADP LP830	4181	33	127
BLWP4 40LHE ADP LP835	4329	33	132
BLWP4 40LHE ADP LP840	4398	33	134
BLWP4 40LHE ADP LP850	4524	33	137
BLWP4 48LHE ADP LP830	5033	39	130
BLWP4 48LHE ADP LP835	5211	39	135
BLWP4 48LHE ADP LP840	5294	39	137
BLWP4 48LHE ADP LP850	5445	39	141
BLWP4 60LHE ADP LP830	6280	47	133
BLWP4 60LHE ADP LP835	6502	47	137
BLWP4 60LHE ADP LP840	6606	47	140
BLWP4 60LHE ADP LP850	6795	47	144
BLWP4 72LHE ADP LP830	7303	56	129
BLWP4 72LHE ADP LP835	7561	56	134
BLWP4 72LHE ADP LP840	7682	56	136
BLWP4 72LHE ADP LP850	7901	56	140
BLWP4 85LHE ADP LP830	8567	69	124
BLWP4 85LHE ADP LP835	8869	69	129
BLWP4 85LHE ADP LP840	9011	69	131
BLWP4 85LHE ADP LP850	9268	69	134
BLWP4 100LHE ADP LP830	9898	80	124
BLWP4 100LHE ADP LP835	10247	80	128
BLWP4 100LHE ADP LP840	10411	80	130
BLWP4 100LHE ADP LP850	10708	80	134

Notes
24 For ADP lens only, for additional lens options refer to photometry on www.acuitybrands.com.

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BLWP Low Profile LED Wraparound

BLWP8 PERFORMANCE DATA

Lumen Package	Lumens	Input Watts	LPW
BLWP8 40L ADP LP830	3953	30	131
BLWP8 40L ADP LP835	4113	30	136
BLWP8 40L ADP LP840	4107	30	136
BLWP8 40L ADP LP850	4246	30	141
BLWP8 60L ADP LP830	5799	47	122
BLWP8 60L ADP LP835	6034	47	127
BLWP8 60L ADP LP840	6107	47	130
BLWP8 60L ADP LP850	6229	47	132
BLWP8 80L ADP LP830	7643	63	121
BLWP8 80L ADP LP835	7952	63	126
BLWP8 80L ADP LP840	8035	63	127
BLWP8 80L ADP LP850	8210	63	130
BLWP8 100L ADP LP830	9628	82	118
BLWP8 100L ADP LP835	10017	82	123
BLWP8 100L ADP LP840	10133	82	124
BLWP8 100L ADP LP850	10342	82	127
BLWP8 140L ADP LP830	13265	120	111
BLWP8 140L ADP LP835	13802	120	115
BLWP8 140L ADP LP840	13961	120	116
BLWP8 140L ADP LP850	14249	120	119
BLWP8 180L ADP LP830	17781	147	121
BLWP8 180L ADP LP835	18501	147	126
BLWP8 180L ADP LP840	18714	147	127
BLWP8 180L ADP LP850	19101	147	130
BLWP8 200L ADP LP830	18563	156	119
BLWP8 200L ADP LP835	19314	156	124
BLWP8 200L ADP LP840	19537	156	125
BLWP8 200L ADP LP850	19941	156	128

BLWP8 HE PERFORMANCE DATA

Lumen Package	Lumens	Input Watts	LPW
BLWP8 40LHE ADP LP830	3953	30	133
BLWP8 40LHE ADP LP835	4113	30	139
BLWP8 40LHE ADP LP840	4160	30	140
BLWP8 40LHE ADP LP850	4246	30	143
BLWP8 60LHE ADP LP830	5942	46	128
BLWP8 60LHE ADP LP835	6183	46	133
BLWP8 60LHE ADP LP840	6254	46	135
BLWP8 60LHE ADP LP850	6383	46	137
BLWP8 80LHE ADP LP830	7820	59	132
BLWP8 80LHE ADP LP835	8136	59	137
BLWP8 80LHE ADP LP840	8230	59	139
BLWP8 80LHE ADP LP850	8400	59	142
BLWP8 100LHE ADP LP830	9723	74	132
BLWP8 100LHE ADP LP835	10117	74	138
BLWP8 100LHE ADP LP840	10233	74	139
BLWP8 100LHE ADP LP850	10445	74	142
BLWP8 140LHE ADP LP830	13491	104	129
BLWP8 140LHE ADP LP835	14037	104	135
BLWP8 140LHE ADP LP840	14198	104	136
BLWP8 140LHE ADP LP850	14492	104	139
BLWP8 180LHE ADP LP830	17245	130	133
BLWP8 180LHE ADP LP835	17943	130	138
BLWP8 180LHE ADP LP840	18150	130	140
BLWP8 180LHE ADP LP850	18525	130	143
BLWP8 200LHE ADP LP830	19587	144	136
BLWP8 200LHE ADP LP835	20380	144	141
BLWP8 200LHE ADP LP840	20615	144	143
BLWP8 200LHE ADP LP850	21041	144	146

Notes
24 For ADP lens only, for additional lens options refer to photometry on www.acuitybrands.com.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: BLWP4 30L ADPT GZ10 E10WLCP LP840 Note:	Type SFE

APPROVED AS NOTED

LITHONIA LIGHTING®

DIGITAL NAVIGATION

Ordering Tree nLight Platform Sensor Switch JOT Photometrics Performance Data

FEATURES & SPECIFICATIONS

INTENDED USE — The BLWP LED Wrap/ Wall bracket expands the BLT family with the features and aesthetics of the popular BLT and BLTR center basket design with a clean, versatile style and volumetric distribution. High efficacy LED light engines deliver energy savings and low maintenance compared to traditional sources. An extensive selection of configurations and options make the BLWP the perfect choice for many lighting applications including schools, offices, stairwells and other commercial spaces. With multiple mounting options, easy installation, and controls configurations, the BLWP is an excellent choice for renovation and new construction.

CONSTRUCTION — BLWP enclosure components are die-formed for dimensional consistency. For 2' and 4' product, hinged door frame allows easy access to electrical components and mounting locations without having to remove additional parts. For 8' product, suspension aircraft cables allow easy access to electrical components and mounting locations without having to remove additional parts. Available in three paint finishes: white (pre-paint), painted after fabrication white, and natural aluminum. Diffusers are extruded from impact modified acrylic for increased durability. Optional polycarbonate lens available for additional impact resistance, as well as Tamper Proof screws.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Five diffuser choices available - curved and square designs with ribbed, a smooth frosted finish, and a smooth polycarbonate finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and qualityof illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). Replaces 2 lamp fluorescent.

Configurable BLWP: Available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. The High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information on page 2.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight®controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Connection to nLight is simple. It can be accomplished with integrated nLight AIR wireless or through standard Cat-5 cabling. nLight offers unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission, while nLight AIR is commissioned easily through an intuitive mobile app.

Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Driver disconnect provided where required to comply with US and Canadian codes.

CONTROLS — **Integrated sensor (individual control):** Sensor Switch MSD7ADCX (Passive infrared (PIR)) or MSDPDT7ADCX (PIR/Microphonics Dual Tech (PDT) and Photocell (ADCX)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to an Eclypse, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 5 for the nLight sensor options.

Integrated Smart Sensor (nLight AIR Wireless Platform): The rES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or dual technology occupancy sensor. It pairs to other luminairs and wall switches through our mobile app, CL***AIR***ITY+, which allows for simple sensor adjustment. See page 5 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): Sensor Switch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page X for more details on the integrated wireless sensor.

INSTALLATION — Intended for surface or suspend mounting. For row mounting and quick mounting to junction boxes see accessories section. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

Catalog Number	
Notes	
Type	

Low Profile LED Wraparound

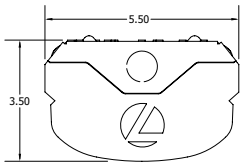
BLWP

2', 4' and 8' Lengths

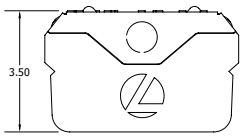
DLC LISTED · DLC LISTED PREMIUM · A+ CAPABLE · LED · nLIGHT · eldoLED your product | our drive · BAA · BABA · JOT JUST ONE TOUCH

Specifications

2' Dimensions
Length: 24 (60.96)
Width: 5.50 (13.97)
Depth: 3.50 (8.89)



4' Dimensions
Length: 48 (121.92)
Width: 5.50 (13.97)
Depth: 3.50 (8.89)



8' Dimensions
Length: 96 (243.84)
Width: 5.50 (13.97)
Depth: 3.50 (8.89)

All dimensions are inches (centimeters) unless otherwise specified.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products.
All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity, and color temperature tolerance around standard CIE chromaticity coordinates.

To learn more about Acuity A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

AMA LIGHTING	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: BLWP4 30L ADPT GZ10 E10WLCP LP840 Note:	Type SFE

BLWP Low Profile LED Wraparound

CURVED, SMOOTH PREFERRED

Design Select options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: BLWP4 40L ADP GZ10 LP840

Series		Lumens ‡				Lens/Diffuser		Voltage		Driver		Color Temperature	
		Standard Efficiency (>100 LPW)		High Efficiency ‡ (>130 LPW)									
BLWP2	2' LED Wraparound	8L	800 Lumens	8LHE	800 Lumens	ADP	Curved, ribbed	(blank)	MVOLT	EZ1	eldoLED dims to 1% (0-10v dimming)	LP830	82CRI, 3000K
		20L	2000 Lumens	20LHE	2000 Lumens	ADSM	Curved, smooth	120	120V			LP835	82CRI, 3500K
		33L	3300 Lumens	33LHE	3300 Lumens	SDP	Square, ribbed	277	277V	GZ1	Generic dims to 1% (0-10v dimming) ‡	LP840	82CRI, 4000K
		40L	4000 Lumens	40LHE	4000 Lumens	SDSM	Square, smooth	347	347V ‡			LP850	82CRI, 5000K
		48L	4800 Lumens	48LHE	4800 Lumens	PDSM	Curved, smooth polycarbonate ‡			GZ10	Generic dims to 10% (0-10v dimming) ‡	LP930	90CRI, 3000K
BLWP4	4' LED Wraparound	15L	1500 Lumens	15LHE	1500 Lumens	**Diffusers w/ trim rings**				SLD	Step-level dimming ‡	LP935	90CRI, 3500K
		20L	2000 Lumens	20LHE	2000 Lumens	ADPT	Curved, ribbed					LP940	90CRI, 4000K
		30L	3000 Lumens	30LHE	3000 Lumens	ADSMT	Curved, smooth					LP950	90CRI, 5000K
		40L	4000 Lumens	40LHE	4000 Lumens	SDPT	Square, ribbed						
		48L	4800 Lumens	48LHE	4800 Lumens	SDSMT	Square, smooth						
		60L	6000 Lumens	60LHE	6000 Lumens	PDSMT	Curved, smooth polycarbonate ‡						
		72L	7200 Lumens	72LHE	7200 Lumens								
		85L	8500 Lumens	85LHE	8500 Lumens								
		100L	10000 Lumens	100LHE	10000 Lumens								
BLWP8	8' LED Wraparound	40L	4000 Lumens	40LHE	4000 Lumens								
		60L	6000 Lumens	60LHE	6000 Lumens								
		80L	8000 Lumens	80LHE	8000 Lumens								
		100L	10000 Lumens	100LHE	10000 Lumens								
		140L	14000 Lumens	140LHE	14000 Lumens								
		180L	18000 Lumens	180LHE	18000 Lumens								
		200L	20000 Lumens	200LHE	20000 Lumens								

nLight Interface ‡

nLight Wired

(blank)	no nLight® interface
N80	nLight with 80% lumen management
N80EMG	nLight with 80% lumen management. For use with generator supply EM power ‡
N100	nLight without lumen management
N100EMG	nLight without lumen management. For use with generator supply EM power ‡

nLight Wireless

(blank)	no nLight® interface
NLTAIR2	nLight AIR Generation 2 enabled ‡

Control ‡

nLight Wired

(blank)	no nLight control
NES7	nLight™ nES 7 PIR integral occupancy sensor ‡
NESPDT7	nLight™ nES PDT 7 dual technology integral occupancy control ‡
NES7ADCX	nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ‡
NESPDT7ADCX	nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ‡

nLight Wireless

(blank)	no nLight control
RES7	nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell ‡
RES7PDT	nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell ‡
RIO	nLight AIR radio module without sensor ‡
RES7EM	nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ‡
RES7PDTEM	nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell & UL924 Emergency Operation, via power interrupt detection ‡
RIOEM	nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ‡

Individual Control

MSD7ADCX	PIR integral occupancy sensor with automatic dimming control photocell ‡
MSDPDT7ADCX	PDT integral occupancy sensor with with automatic dimming control photocell ‡
JOT	Wireless room control with "Just One Touch" pairing ‡
JOTVTX15	Wireless occupancy sensor with "Just One Touch" pairing ‡

Standby mode ‡

(blank)	Fixture with embedded sensor turns off when unoccupied
DIM10	Fixture with embedded sensor dims to approximately 10% light output when unoccupied ‡
DIM50	Fixture with embedded sensor dims to approximately 50% light output when unoccupied ‡
NOC	Occupancy sensor disabled ‡

Options

E10WLCP	EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS
EL7L	700 nominal lumens battery pack ‡
EL14L	1400 nominal lumens battery pack ‡
BGTD	Bodine Generator Transfer Device ‡
QMB	Quick Mount Bracket ‡
TRS	Tamper Resistant Screw ‡
GLR	Fast-blowing fuse ‡
GMF	Slow-blowing fuse ‡
FAO	Field Adjustable Output ‡
PLR1G	Plug-in wiring, see page 10 for ordering information ‡
PLR1LVG	Plug-in wiring, low voltage dimming ‡
BAA	Buy America(n) Act and/or Build America Buy America Qualified
BDP	Factory Installed Ballast Disconnect Plug

Finish

(blank)	Standard pre-paint white
PAF	Paint After Fabrication White
DNA	Paint After Fabrication Natural Aluminum

NOTE: ‡ indicates option value has ordering restrictions. Please reference the Option Value Ordering Restictions chart on the next page. Options are sorted alphanumerically.

See Accessories and footnotes on page 4.

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BLWP Low Profile LED Wraparound

‡ Option Value Ordering Restrictions	
Option value	**Restriction**
347	Not available with E10WLCP, EL7L, EL14L, BGTD or BLWP4 > 85L/ 85LHE.
BLWPCR, BLWPCRDNA, BLWP8CR, BLWP8CRDNA	Cannot be used to continuous row mount 4' fixtures with 8' fixtures. 2' fixtures cannot be continuous row mounted.
BGTD	Not available with JOT sensor options or emergency battery options. Must specify voltage. Requires BSE labeling, voltage specific. Example: BGTD BSE10.
DIM10, DIM50	Not available with NLTAIR2 or JOT sensor option. Requires occupancy control. Must be ordered with nLight Wired or Individual Control sensor option.
EL7L, EL14L	Only available on BLWP8, 8ft length version of this fixture, in lumen packages 140L or less.
FAO	EZ1 driver required. Not available with BAA or lumen packages > 6000LM. FAO is not available with other integrated controls options and restricts the use of external dimming controls. See chart on page 5 for additional details. Cannot use with PLR1LVG, PLR2ALVG, PLR2BLVG, PLR2AELBLVG, PLR2BELALVG.
GLR, GMF	Must specify voltage. 120 or 277, with GLR and GMF fusing.
GZ1, GZ10	Not available with any Control or Sensor options except JOT & JOTVTX15
JOT, JOTVTX15	Not available with SLD, NLIGHT, NLTAIR2, NOC, BAA or FAO. Available only on 4' versions with PDSM, PDSMT, ADPT and ADMST trim options; not available with <60L or 60LHE lumen packages.
Lumens	Approximate lumen output. For high Efficiency, all versions may not achieve 130+ LPW including 90CRI and versions with integral sensor trim. Refer to photometry on www.acuitybrands.com. See QPL for latest DLC listings.
MSD7ADCX, MSDPDT7ADCX	Must select Lens/Diffuser type with Trim Rings. Not available with nLight interface. 0-10V wires are not accessible via access plate.
N80EMG, N100EMG	Requires a connection to existing nLight network. Power is provided from a separate NLIGHT enabled fixture or external power pack.
NES7, NESPDT7, NES7ADCX, NESPDT7ADCX	Must select Lens/Diffuser type with Trim Rings. Requires N80, N80EMG, N100, or N100EMG. Only available with EZ1 driver.
NLTAIR2	Must select nLight wireless control. Not available with JOT or JOTVTX15
NOC	Not available with JOT sensor options. Can only be ordered in conjunction with EZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
PDSM, PDSMT	Not available with HE (high efficiency) performance package on BLWP2 and BLWP4 only.
PLR1G, PLR22, PLR2ANG, PLR1LVG	Not available with BLWP2. PLR1LVG is not available with Controls options or nLight interface. Not available with emergency options.
QMB	Not available with BLWP2 (2') or BLWP8 (8') fixture.
RES7EM, RES7PDTEM, RIOEM	Must select Lens/Diffuser type with Trim Rings. Requires EZ1 and NLTAIR2 to be specified. Only available with 60L or lower lumen packages on the BLWP4. Only available with 100LHE/80L lumen packages or lower on the BLWP8.
RES7, RES7PDT, RIO	See UL924 Sequence of Operation chart on bottom of page 3. Must select Lens/Diffuser type with Trim Rings. Requires EZ1 and NLTAIR2 to be specified. Only available with 60L or lower lumen packages on the BLWP4. Only available with 100LHE/80L lumen packages or lower on the BLWP8.
SLD	Not available with any nLight Interface or Control options. Cannot use with PLR1LVG, PLR2ALVG, PLR2BLVG, PLR2AELBLVG, PLR2BELALVG. Not available for lumen packages 72L and higher.
TRS	Accessory BLWP TRS T15 BIT available to be ordered with this option. See Accessories section page 4. Order as separate item.

Non-Configurable BLWP:

MTO	Ci code	Catalog Description	UPC	Lumens	Wattage	LPW	Color Temperature	Voltage	Pallet QTY
MTO	*264V2M	BLWP2 20L ADP LP835	191848282045	1942	17	117	3500 K	120-277	80
	*264V2L	BLWP2 20L ADP LP840	191848282038	1973	17	119	4000 K	120-277	80
	*264CH0	BLWP2 33L ADP LP835	191848080825	3332	30	112	3500 K	120-277	80
	*264CH1	BLWP2 33L ADP LP840	191848080832	3345	30	112	4000 K	120-277	80
	*264CH2	BLWP2 40L ADP LP835	191848080849	3923	37	105	3500 K	120-277	80
	*264CH4	BLWP2 40L ADP LP840	191848080856	4117	37	110	4000 K	120-277	80
	*264V2K	BLWP4 30L ADP LP835	191848282021	3065	25	123	3500 K	120-277	70
	*264V2H	BLWP4 30L ADP LP840	191848281994	3114	25	125	4000 K	120-277	70
	*264CH5	BLWP4 40L ADP LP835	191848080863	4391	35	127	3500 K	120-277	70
	*264CH6	BLWP4 40L ADP LP840	191848080870	4263	35	123	4000 K	120-277	70
	*264CH7	BLWP4 48L ADP LP835	191848080900	5137	40	129	3500 K	120-277	70
	*264CH8	BLWP4 48L ADP LP840	191848080917	5205	40	131	4000 K	120-277	70

UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CL**AIR**ITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

BSE Labeling Options

BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required

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BLWP Low Profile LED Wraparound

Accessories: *Order as separate catalog number.*

PART number	CI CODE	QTY	Description	Application
BLWP8/4CR	*272PFG	1	CONTINUOUS ROW MOUNT BRACKET FOR ROW CONNECTING BLWP4 and BLWP8 WHT	FOR USE TO MOUNT BLWP8 TO BLWP4, FOR STD FINISH AND PAF
BLWPCR	*250A0S	1	CONTINUOUS ROW MOUNT BRACKET WHT	FOR USE ON BLWP4 ONLY, FOR STD FINISH AND PAF ‡
BLWPCRDNA	*250A1S	1	CONTINUOUS ROW MOUNT BRACKET DNA	FOR USE ON BLWP4 ONLY, FOR DNA FINISH ‡
BLWP8CR	*2543C6	1	CONTINUOUS ROW MOUNT BRACKET WHT	FOR USE ON BLWP8 ONLY, FOR STD FINISH AND PAF ‡
BLWP8CRDNA	*2543CA	1	CONTINUOUS ROW MOUNT BRACKET DNA	FOR USE ON BLWP8 ONLY, FOR DNA FINISH ‡
BLWPCG36 F1	*264R3P	1	BLWPCG36 F1	ADJUSTABLE AIRCRAFT CABLE GRIPPER KIT, 36 INCH F1 CEILING TYPE
BLWPCG36 F2	*264R4G	1	BLWPCG36 F2	CABLE GRIPPER KIT, 36 INCH F2 CEILING TYPE
BLWPCG72 F1	*264R4H	1	BLWPCG72 F1	CABLE GRIPPER KIT, 72 INCH F1 CEILING TYPE
BLWPCG72 F2	*264R4M	1	BLWPCG72 F2	CABLE GRIPPER KIT, 72 INCH F2 CEILING TYPE
BLWPCGF36 F1	*264R4R	1	BLWPCGF36 F1	KIT WITH POWER FEED 36 INCH F1 CEILING TYPE
BLWPCGF36 F2	*264R4U	1	BLWPCGF36 F2	KIT WITH POWER FEED 36 INCH F2 CEILING TYPE
BLWPCGF72 F1	*264R4V	1	BLWPCGF72 F1	KIT WITH POWER FEED 72 INCH F1 CEILING TYPE
BLWPCGF72 F2	*264R4X	1	BLWPCGF72 F2	KIT WITH POWER FEED 72 INCH F2 CEILING TYPE
BLWPCGE36 F1	*264R50	1	BLWPCGE36 F1	KIT WITH EMERGENCY POWER FEED 36 INCH F1 CEILING TYPE
BLWPCGE36 F2	*264R5T	1	BLWPCGE36 F2	KIT WITH EMERGENCY POWER FEED 36 INCH F2 CEILING TYPE
BLWPCGE72 F1	*264R5V	1	BLWPCGE72 F1	KIT WITH EMERGENCY POWER FEED 72 INCH F1 CEILING TYPE
BLWPCGE72 F2	*264R53	1	BLWPCGE72 F2	KIT WITH EMERGENCY POWER FEED 72 INCH F2 CEILING TYPE
BLWPCGFD36 F1	*269V4M	1	BLWPCGFD36 F1	KIT WITH 0-10V DIMMING POWER FEED 36 INCH F1 CEILING TYPE
BLWPCGFD36 F2	*269V5C	1	BLWPCGFD36 F2	KIT WITH 0-10V DIMMING POWER FEED 36 INCH F2 CEILING TYPE
BLWPCGFD72 F1	*269V5N	1	BLWPCGFD72 F1	KIT WITH 0-10V DIMMING POWER FEED 72 INCH F1 CEILING TYPE
BLWPCGFD72 F2	*269V5X	1	BLWPCGFD72 F2	KIT WITH 0-10V DIMMING POWER FEED 72 INCH F2 CEILING TYPE
BLWP TRS T15 BIT	*2516KU	1	BLWP TRS T15 BIT	T15 WITH PIN, TORX BIT FOR TRS OPTION
BLWPQMB	*250A2S	1	BLWP Quick Mount Bracket	QUICK MOUNT BRACKET FOR INSTALLATION TO JUNCTION BOXES WITHOUT HAVING TO REMOVE ANY PARTS IN THE FIXTURE, 4FT FIXTURE ONLY.
RK8BDP 2P U			Disconnect Plug (BDP), 2 Pole, Package of 1	
RK8BDP 3P U			Disconnect Plug (BDP), 3 Pole, Package of 1	
RK8BDP 2P J10			Disconnect Plug (BDP), 2 Pole, Package of 10	
RK8BDP 2P J40			Disconnect Plug (BDP), 2 Pole, Package of 40	
1B			Hanger spaces fixtures 1½" to 2½" from ceiling. Standard pack: J2, J20, J100	
SQ_			Complete assembly with stem up to 48"Specify stem length in 2" increments and adjust as needed. 5/8" O.D. stem. Swivels 30° from vertical in any direction. Example: SQ24	

nLight® Wired Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

WallPod stations	Model number	Occupancy sensors	Model number
On/Off	nPODM [color]	Small motion 360°, ceiling (PIR / dual tech)	nCM 9 RJB / nCM PDT 9 RJB
On/Off & raise/lower	nPODM DX [color]	Large motion 360°, ceiling (PIR / dual tech)	nCM10 RJB / nCM PDT 10 RJB
Graphic touchscreen	nPOD GFX [color]	Wall switch with raise/lower	nWSX PDT LV DX [color]
Photocell controls	**Model number**	**Cat-5 cable (plenum rated)**	**Model number**
Full range dimming	nCM ADCX RJB	10' cable	CAT5 10FT J1
		30' cable	CAT5 30FT J1

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color] G2
On/Off two pole	rPODB 2P [color] G2
On/Off & raise/lower single pole	rPODB DX [color] G2
On/Off & raise/lower two pole	rPODB 2P DX [color] G2
On/Off & raise/lower single pole	rPODBZ DX WH G2

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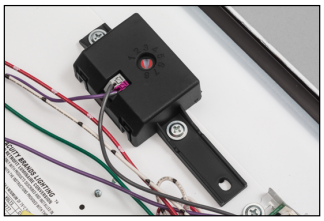
BLWP Low Profile LED Wraparound

Replacement Parts: *Order as separate catalog number.*

2' Version Replacement Lens		4' Version Replacement Lens		8' Version Replacement Lens	
*264F5E	DBLWP24 ADP	*264F69	DBLWP48 ADP	*2543CE	DBLWP96 ADP
*264F5F	DBLWP24 SDP	*264F6E	DBLWP48 SDP	*2543CG	DBLWP96 SDP
*264F5H	DBLWP24 ADSM	*264F6F	DBLWP48 ADSM	*2543CJ	DBLWP96 ADSM
*264F5J	DBLWP24 SDSM	*264F6G	DBLWP48 SDSM	*2543CM	DBLWP96 SDSM
*264F5L	DBLWP24 ADPT	*264F6H	DBLWP48 ADPT	*2543CN	DBLWP96 ADPT
*264F5P	DBLWP24 SDPT	*264F6K	DBLWP48 SDPT	*2543CP	DBLWP96 SDPT
*264F5U	DBLWP24 ADSMT	*264F6L	DBLWP48 ADSMT	*2543CR	DBLWP96 ADSMT
*264F5W	DBLWP24 SDSMT	*264F6N	DBLWP48 SDSMT	*2543CS	DBLWP96 SDSMT
*264F66	DBLWP24 PDSM	*264F6W	DBLWP48 PDSM	*2543CW	DBLWP96 PDSM
*264F67	DBLWP24 PDSMT	*264F6X	DBLWP48 PDSMT	*2543CX	DBLWP96 PDSMT

FAO SETTINGS (Field Adjustable Output)

	0-10 Voltage Dimmer	% Lumen Output (approximate)	% Wattage (approximate)
Step 8	Full Output	100%	100%
Step 7	9.0 VDC	98%	100%
Step 6	8.0 VDC	88%	86%
Step 5	7.0 VDC	86%	82%
Step 4	6.0 VDC	82%	80%
Step 3	5.0 VDC	76%	75%
Step 2	4.0 VDC	71%	72%
Step 1	3.0 VDC	67%	71%



Simple adjustment of output through the use of a flat head screwdriver.

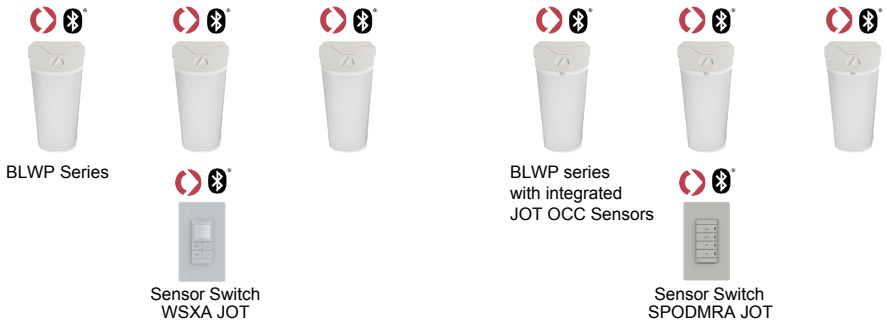
JOT Wireless

JOT
Just One Touch

Sensor Switch JOT Enabled Wireless Solution

Designed with contractors in mind, the Sensor Switch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

1. **Power:** Install JOT enabled fixtures and controls as instructed.
2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.



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BLWP Low Profile LED Wraparound

nLight Platform

nLight embedded fixtures offer:	Customers get:
Manual Dimming	Convenience and visual comfort for occupants
Motion Sensing and/or Daylight Harvesting	Energy savings and code compliance
Fixture or Group Level Control	Ability to configure lighting to the space requirements
Flexibility	Ease of fixture moves, adds and changes
Wireless Wall Switch (nLight AIR Only)	Ease and flexibility of placement
Astronomical and Time of Day Scheduling	Energy savings and building security
Scalable Solution	nLight controls to grow with your business
Future-Ready	nLight platform to set foundation for future upgrades and capabilities

nLight Air Wireless

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CL**AIR**ITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight Wired Networking

Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

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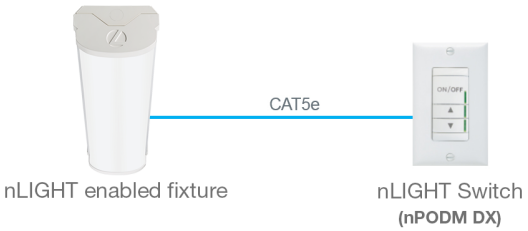
BLWP Low Profile LED Wraparound

Sensor Options					
Option	Automatic Dimming Photocell	Occupancy Sensing		nLight Wired Networking	nLight AIR Networking
		PIR	PDT		
MSD7ADCX	X	X			
MSDPDT7ADCX	X		X		
NES7		X		X	
NES7ADCX	X	X		X	
NESPDT7			X	X	
NESPDT7ADCX	X		X	X	
RES7	X	X			X
RES7PDT	X	X	X		X

Basic nLight Zone



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

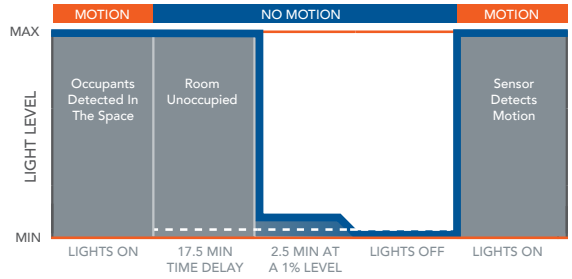
The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight Wired Networking

The nES 7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the NES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

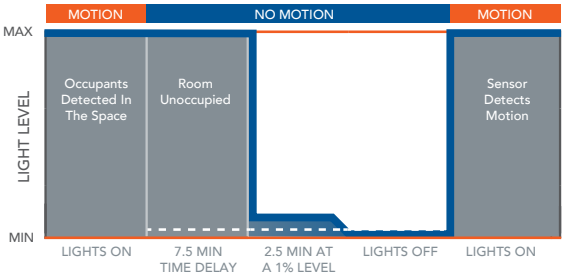
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the NESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation



*The presetting on the automatic dimming photocell is 5fc.

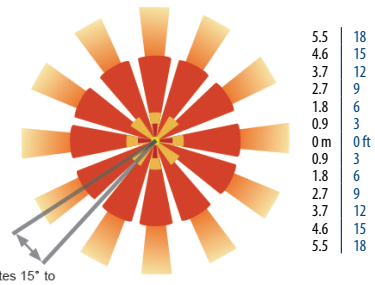
Sensor Coverage Pattern
Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

nLight AIR Wireless

nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and costly. nLight AIR is available with or without an integral sensor. The integrated rES 7 or rES7 PDT smart sensor is part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

9 FT Mounting



Lens rotates 15° to enable adjustment

5.5	18
4.6	15
3.7	12
2.7	9
1.8	6
0.9	3
0 m	0 ft
0.9	3
1.8	6
2.7	9
3.7	12
4.6	15
5.5	18

Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY+ app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

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BLWP Low Profile LED Wraparound

MOUNTING INFORMATION

For unit or row installation; surface or suspend mounting.

Suspension Methods:

Aircraft Cable Suspension

Order one BLWPCG_, BLWPCGF_, or BLWPCGE_ required for each suspension point.

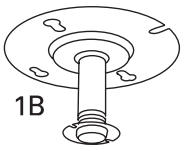
F1 for use with most T-bar and screw slot grid ceiling applications. Designed for on-grid and off-grid installations.

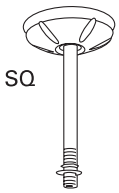
F2 for use with recessed or surface-mount horizontal J-box applications..

See Accessories page on page 4 for part numbers configurations.

Stem Suspension

Individual installation — Two single-stem hangers required.



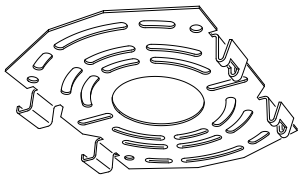


Note: 2' configurations with emergency option cannot be stem mounted.

Accessory Images

(QMB) Quick Mount Bracket

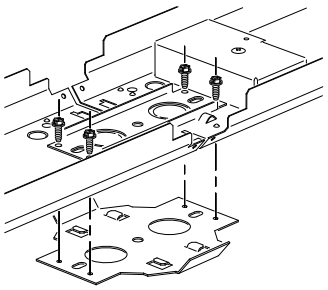
Quick Mount Bracket allows easy installation to junction boxes without having to remove any parts in the fixture.



Note: 2' and 8' configurations not available with QMB accessory.

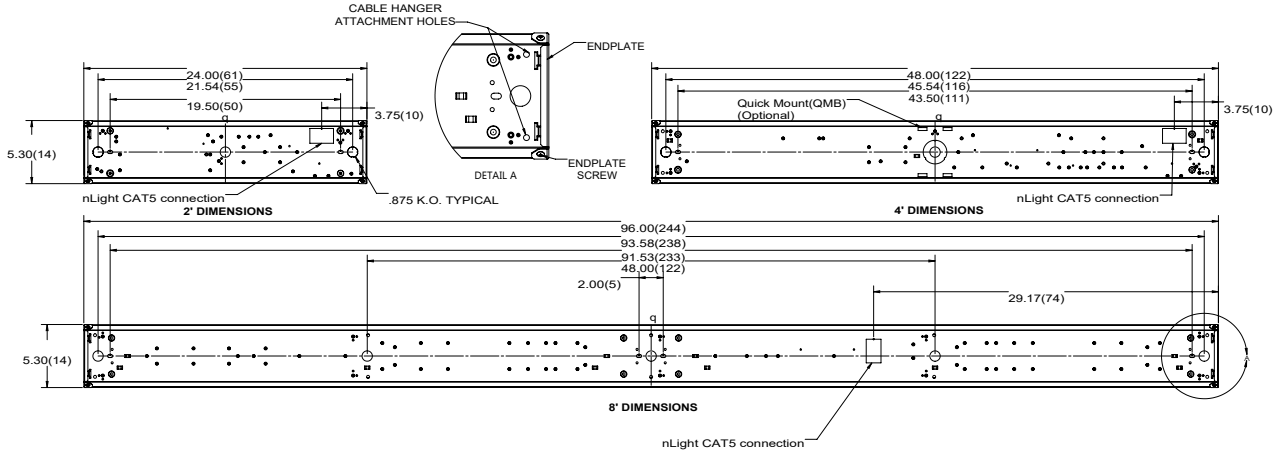
BLWPCR - continuous row mount bracket

Order one (1) BLWPCR bracket per fixture for continuous row applications (excluding BLWP2 as they cannot be row mounted). Order one hanger (Aircraft Cable Suspension Kit or Stem Suspension Kit) per fixture plus one per joiner required.



DIMENSIONS

All dimensions are inches (centimeters) unless otherwise noted.



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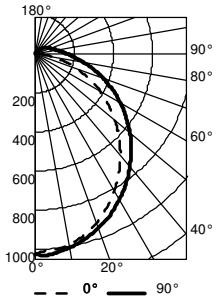
BLWP Low Profile LED Wraparound

PHOTOMETRICS

BLWP2 33L ADP LP835, 3332 delivered lumens, test no. ISF 37666, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	1024	1024
5°	1009	1027
15°	962	982
25°	867	910
35°	745	809
45°	604	694
55°	456	567
65°	303	436
75°	158	309
85°	36	202
90	0	161

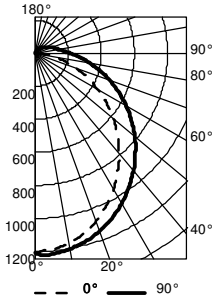
Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	106	100	96	97	93	89	92	88	85
	2	96	87	79	84	78	72	79	74	69
	3	87	76	67	74	66	59	70	63	57
	4	79	67	58	65	57	50	62	54	49
	5	73	60	51	58	50	43	55	48	42
	6	67	54	45	52	44	38	50	42	37
	7	62	49	40	48	39	33	45	38	32
	8	58	44	36	43	35	30	41	34	29
	9	54	41	32	40	32	27	38	31	26
	10	51	38	30	37	29	24	35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	790	23.7	23.7
0° - 40°	1286	38.6	38.6
0° - 60°	2278	68.4	68.4
0° - 90°	3096	92.9	92.9
90° - 120°	184	5.5	5.5
90° - 130°	210	6.3	6.3
90° - 150°	233	7.0	7.0
90° - 180°	236	7.1	7.1
0° - 180°	3332	100.0	100.0

BLWP2 40L ADP LP835, 3923 delivered lumens, test no. ISF 37668, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	1210	1210
5°	1190	1219
15°	1130	1178
25°	1019	1100
35°	870	990
45°	706	856
55°	527	711
65°	352	560
75°	179	406
85°	37	268
90	1	214

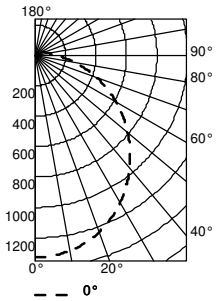
Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	106	100	96	97	93	89	92	88	85
	2	96	87	80	84	78	72	80	74	69
	3	87	76	67	74	66	60	70	63	58
	4	80	67	58	65	57	50	62	55	49
	5	73	60	51	58	50	43	55	48	42
	6	67	54	45	52	44	38	50	42	37
	7	62	49	40	48	39	33	45	38	32
	8	58	44	36	43	35	30	41	34	29
	9	54	41	32	40	32	27	38	31	26
	10	51	38	30	37	29	24	35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	932	23.8	23.8
0° - 40°	1519	38.7	38.7
0° - 60°	2687	68.5	68.5
0° - 90°	3646	92.9	92.9
90° - 120°	215	5.5	5.5
90° - 130°	246	6.3	6.3
90° - 150°	273	7.0	7.0
90° - 180°	277	7.1	7.1
0° - 180°	3923	100.0	100.0

BLWP4 40L ADP LP835, 4391 delivered lumens, test no. ISF 37596, tested in accordance to IESNA LM-79.



CP Summary

	0°
0°	1324
5°	1321
15°	1274
25°	1180
35°	1043
45°	881
55°	705
65°	521
75°	343
85°	191
90	138

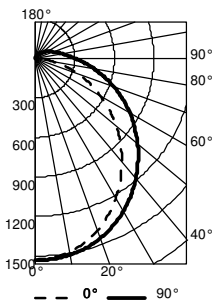
Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	106	100	95	97	93	89	92	88	85
	2	96	87	79	84	77	72	79	74	69
	3	87	76	67	74	66	59	70	63	57
	4	79	67	58	65	57	50	62	54	49
	5	73	60	50	58	49	43	55	48	42
	6	67	54	44	52	44	37	50	42	36
	7	62	48	40	47	39	33	45	38	32
	8	58	44	36	43	35	29	41	34	29
	9	54	41	32	40	32	26	38	31	26
	10	51	37	29	37	29	24	35	28	23

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1028	23.4	23.4
0° - 40°	1681	38.3	38.3
0° - 60°	2991	68.1	68.1
0° - 90°	4082	93.0	93.0
90° - 120°	249	5.7	5.7
90° - 130°	282	6.4	6.4
90° - 150°	307	7.0	7.0
90° - 180°	309	7.0	7.0
0° - 180°	4391	100.0	100.0

BLWP4 48L ADP LP835, 5137 delivered lumens, test no. ISF 37597, tested in accordance to IESNA LM-79.



CP Summary

	0°	90
0°	1528	1528
5°	1517	1528
15°	1447	1488
25°	1311	1398
35°	1129	1267
45°	913	1102
55°	691	920
65°	460	731
75°	233	540
85°	52	370
90	1	300

Coefficients of Utilization

	pf	20%								
	pc	80%			70%			50%		
	pw	70%	50%	30%	50%	30%	10%	50%	30%	10%
RCR	0	117	117	117	114	114	114	107	107	107
	1	105	100	95	97	93	89	91	88	84
	2	95	86	79	84	77	71	79	73	69
	3	87	75	67	73	65	59	69	62	57
	4	79	67	57	65	56	50	61	54	48
	5	73	59	50	58	49	43	55	47	41
	6	67	53	44	52	43	37	49	42	36
	7	62	48	39	47	39	33	45	37	32
	8	58	44	35	43	35	29	41	34	28
	9	54	40	32	39	32	26	38	31	26
	10	51	37	29	36	29	24	35	28	23

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1188	23.1	23.1
0° - 40°	1944	37.8	37.8
0° - 60°	3464	67.4	67.4
0° - 90°	4754	92.5	92.5
90° - 120°	308	6.0	6.0
90° - 130°	349	6.8	6.8
90° - 150°	381	7.4	7.4
90° - 180°	383	7.5	7.5
0° - 180°	5137	100.0	100.0

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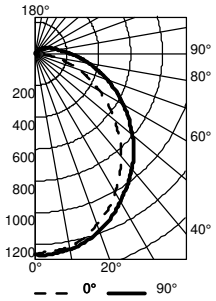
BLWP Low Profile LED Wraparound

PHOTOMETRICS

BLWP8 40L ADP LP835, 4113 delivered lumens, test no. ISF 37290P226.



CP Summary

	0°	90
0°	1263	1263
5°	1246	1263
15°	1197	1223
25°	1083	1134
35°	928	1011
45°	750	871
55°	558	722
65°	378	564
75°	200	410
85°	57	278
90	9	221

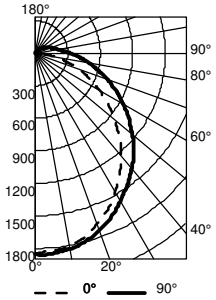
Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	20% pc 70% pw 50%	30%	10%	50% pc 50% pw 30%	30%	10%
0	117	117	117	114	114	114	107	107	107
1	106	100	95	97	93	89	92	88	85
2	96	87	79	84	77	72	79	74	69
3	87	76	67	74	66	59	70	63	57
4	79	67	58	65	57	50	62	54	49
5	73	60	51	58	50	43	55	48	42
6	67	54	45	52	44	38	50	42	37
7	62	49	40	48	39	33	45	38	32
8	58	44	36	43	35	30	41	34	29
9	54	41	32	40	32	27	38	31	26
10	51	38	30	37	29	24	35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	979	23.8	23.8
0° - 40°	1593	38.7	38.7
0° - 60°	2811	68.4	68.4
0° - 90°	3825	93.0	93.0
90° - 120°	233	5.7	5.7
90° - 130°	263	6.4	6.4
90° - 150°	286	7.0	7.0
90° - 180°	288	7.0	7.0
0° - 180°	4113	100.0	100.0

BLWP8 60L ADP LP835, 6033 delivered lumens, test no. ISF 37290P386.



CP Summary

	0°	90
0°	1853	1853
5°	1827	1853
15°	1756	1794
25°	1588	1664
35°	1361	1483
45°	1101	1277
55°	819	1059
65°	555	828
75°	294	601
85°	84	408
90	13	323

Coefficients of Utilization

RCR	pf 20% pc 80% pw 70%	50%	30%	20% pc 70% pw 50%	30%	10%	50% pc 50% pw 30%	30%	10%
0	117	117	117	114	114	114	107	107	107
1	106	100	95	97	93	89	92	88	85
2	96	87	79	84	77	72	79	74	69
3	87	76	67	74	66	59	70	63	57
4	79	67	58	65	57	50	62	54	49
5	73	60	51	58	50	43	55	48	42
6	67	54	45	52	44	38	50	42	37
7	62	49	40	48	39	33	45	38	32
8	58	44	36	43	35	30	41	34	29
9	54	41	32	40	32	27	38	31	26
10	51	38	30	37	29	24	35	28	24

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0° - 30°	1437	23.8	23.8
0° - 40°	2336	38.7	38.7
0° - 60°	4124	68.4	68.4
0° - 90°	5611	93.0	93.0
90° - 120°	342	5.7	5.7
90° - 130°	386	6.4	6.4
90° - 150°	420	7.0	7.0
90° - 180°	423	7.0	7.0
0° - 180°	6034	100.0	100.0

PRODUCT INFORMATION

Advanced plug-in system with three-circuit capability. Reduces fixture types on job for alternating circuit applications.

Easy one-step installation, saves up to 35% on labor costs. Expanded switching flexibility helps save energy.

Rows can be 50% longer with two-circuit systems. Polarized, lock-together nylon connectors prevent miswiring in the field. #12 THHN conductor, rated 600V, 90°C. White neutral wire included. Grounding accomplished by fixture in-row connectors.

CSA certified systems available with up to 2 circuits. G ground required.

Note: Specifications subject to change without notice.

Wiring

PLR

Advanced 1 or 2-Circuit Plug-In

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Series	Number of hot wires	Branch circuits (PLR2A / PLR2B Only)	Dimming	Ground
PLR22	(blank) Not required for PLR22	(blank) Not required for PLR22	(blank) No Dimming	G Ground (required)
PLR	1 Black	(blank) Not required for PLR1	(blank) No Dimming	G Ground (required)
	2 Black and red	**Circuits to which driver is connected**: (blank) Not required for PLR22; A Black wire; B Red wire — **Battery charging circuit (must be unswitched)**: (blank) No battery charging circuit; ELA Battery pack wired to black wire; ELB Battery pack wired to red wire	LV Low-voltage Dimming	G Ground (required)

Typical Applications

Notes:

When specifying PLR1, you will not specify A or B as there is only a single hot wire which would be black in color.

- Multiple-circuit and single-circuit for longer continuous rows
- Multiple-circuit with alternating fixtures on separate circuits and 2-circuit PLR22
- Multiple circuit with night-lights located along row as desired

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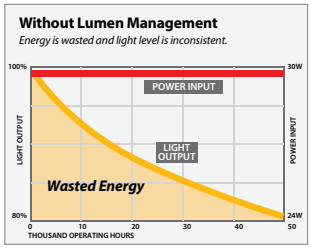
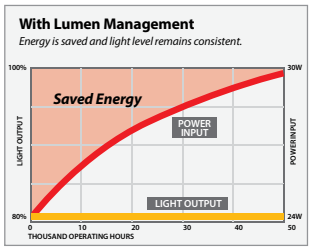
BLWP Low Profile LED Wraparound

Constant Lumen Management

Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.





How to Estimate Lumens in Emergency Mode
Use the formula below to estimate the delivered lumens in emergency mode
Estimated Lumens = 1.25 x P x LPW
P = Ouput power of emergency driver. P = 10W for E10WLCP option.
LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

BLWP PERFORMANCE DATA [24]

Lumen Package	Lumens	Input Watts	LPW
BLWP2 8L ADP LP830	825	7	118
BLWP2 8L ADP LP835	855	7	122
BLWP2 8L ADP LP840	868	7	124
BLWP2 8L ADP LP850	893	7	128
BLWP2 20L ADP LP830	1876	17	110
BLWP2 20L ADP LP835	1942	17	114
BLWP2 20L ADP LP840	1973	17	116
BLWP2 20L ADP LP850	2029	17	119
BLWP2 33L ADP LP830	3180	30	107
BLWP2 33L ADP LP835	3332	30	112
BLWP2 33L ADP LP840	3345	30	112
BLWP2 33L ADP LP850	3440	30	115
BLWP2 40L ADP LP830	3914	37	105
BLWP2 40L ADP LP835	3923	37	105
BLWP2 40L ADP LP840	4117	37	110
BLWP2 40L ADP LP850	4234	37	113
BLWP2 48L ADP LP830	4772	44	109
BLWP2 48L ADP LP835	4940	44	112
BLWP2 48L ADP LP840	5019	44	114
BLWP2 48L ADP LP850	5162	44	118
BLWP4 15L ADP LP830	1372	11	126
BLWP4 15L ADP LP835	1420	11	129
BLWP4 15L ADP LP840	1443	11	131
BLWP4 15L ADP LP850	1484	11	135
BLWP4 20L ADP LP830	1985	16	124
BLWP4 20L ADP LP835	2055	16	128
BLWP4 20L ADP LP840	2088	16	131
BLWP4 20L ADP LP850	2147	16	134
BLWP4 30L ADP LP830	2960	25	118
BLWP4 30L ADP LP835	3065	25	123
BLWP4 30L ADP LP840	3114	25	125
BLWP4 30L ADP LP850	3203	25	128
BLWP4 40L ADP LP830	4027	35	115
BLWP4 40L ADP LP835	4391	35	125
BLWP4 40L ADP LP840	4236	35	121
BLWP4 40L ADP LP850	4357	35	124
BLWP4 48L ADP LP830	4948	40	124
BLWP4 48L ADP LP835	5137	40	129
BLWP4 48L ADP LP840	5205	40	131
BLWP4 48L ADP LP850	5353	40	134
BLWP4 60L ADP LP830	6059	49	123
BLWP4 60L ADP LP835	6273	49	127
BLWP4 60L ADP LP840	6373	49	129
BLWP4 60L ADP LP850	6555	49	133
BLWP4 72L ADP LP830	7088	59	121
BLWP4 72L ADP LP835	7338	59	125
BLWP4 72L ADP LP840	7455	59	127
BLWP4 72L ADP LP850	7668	59	131
BLWP4 85L ADP LP830	7972	68	117
BLWP4 85L ADP LP835	8253	68	121
BLWP4 85L ADP LP840	8385	68	123
BLWP4 85L ADP LP850	8624	68	127
BLWP4 100L ADP LP830	9316	85	110
BLWP4 100L ADP LP835	9645	85	114
BLWP4 100L ADP LP840	9799	85	116
BLWP4 100L ADP LP850	10079	85	119

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BLWP Low Profile LED Wraparound

BLWP PERFORMANCE DATA (continued)

Lumen Package	Lumens	Input Watts	LPW
BLWP2 8LHE ADP LP830	851	8	106
BLWP2 8LHE ADP LP835	881	8	110
BLWP2 8LHE ADP LP840	895	8	112
BLWP2 8LHE ADP LP850	921	8	115
BLWP2 20LHE ADP LP830	1932	16	120
BLWP2 20LHE ADP LP835	2000	16	125
BLWP2 20LHE ADP LP840	2032	16	127
BLWP2 20LHE ADP LP850	2090	16	130
BLWP2 33LHE ADP LP830	3272	26	127
BLWP2 33LHE ADP LP835	3388	26	131
BLWP2 33LHE ADP LP840	3442	26	133
BLWP2 33LHE ADP LP850	3540	26	137
BLWP2 40LHE ADP LP830	3991	32	126
BLWP2 40LHE ADP LP835	4132	32	130
BLWP2 40LHE ADP LP840	4198	32	131
BLWP2 40LHE ADP LP850	4318	32	136
BLWP2 48LHE ADP LP830	4881	39	126
BLWP2 48LHE ADP LP835	5053	39	130
BLWP2 48LHE ADP LP840	5134	39	132
BLWP2 48LHE ADP LP850	5280	39	136
BLWP4 15LHE ADP LP830	1375	11	125
BLWP4 15LHE ADP LP835	1424	11	129
BLWP4 15LHE ADP LP840	1447	11	132
BLWP4 15LHE ADP LP850	1488	11	135
BLWP4 20LHE ADP LP830	1985	16	124
BLWP4 20LHE ADP LP835	2055	16	128
BLWP4 20LHE ADP LP840	2088	16	131
BLWP4 20LHE ADP LP850	2147	16	134
BLWP4 30LHE ADP LP830	3012	24	126
BLWP4 30LHE ADP LP835	3118	24	131
BLWP4 30LHE ADP LP840	3168	24	133
BLWP4 30LHE ADP LP850	3258	24	137
BLWP4 40LHE ADP LP830	4181	33	127
BLWP4 40LHE ADP LP835	4329	33	132
BLWP4 40LHE ADP LP840	4398	33	134
BLWP4 40LHE ADP LP850	4524	33	137
BLWP4 48LHE ADP LP830	5033	39	130
BLWP4 48LHE ADP LP835	5211	39	135
BLWP4 48LHE ADP LP840	5294	39	137
BLWP4 48LHE ADP LP850	5445	39	141
BLWP4 60LHE ADP LP830	6280	47	133
BLWP4 60LHE ADP LP835	6502	47	137
BLWP4 60LHE ADP LP840	6606	47	140
BLWP4 60LHE ADP LP850	6795	47	144
BLWP4 72LHE ADP LP830	7303	56	129
BLWP4 72LHE ADP LP835	7561	56	134
BLWP4 72LHE ADP LP840	7682	56	136
BLWP4 72LHE ADP LP850	7901	56	140
BLWP4 85LHE ADP LP830	8567	69	124
BLWP4 85LHE ADP LP835	8869	69	129
BLWP4 85LHE ADP LP840	9011	69	131
BLWP4 85LHE ADP LP850	9268	69	134
BLWP4 100LHE ADP LP830	9898	80	124
BLWP4 100LHE ADP LP835	10247	80	128
BLWP4 100LHE ADP LP840	10411	80	130
BLWP4 100LHE ADP LP850	10708	80	134

Notes
24 For ADP lens only, for additional lens options refer to photometry on www.acuitybrands.com.

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BLWP Low Profile LED Wraparound

BLWP8 PERFORMANCE DATA

Lumen Package	Lumens	Input Watts	LPW
BLWP8 40L ADP LP830	3953	30	131
BLWP8 40L ADP LP835	4113	30	136
BLWP8 40L ADP LP840	4107	30	136
BLWP8 40L ADP LP850	4246	30	141
BLWP8 60L ADP LP830	5799	47	122
BLWP8 60L ADP LP835	6034	47	127
BLWP8 60L ADP LP840	6107	47	130
BLWP8 60L ADP LP850	6229	47	132
BLWP8 80L ADP LP830	7643	63	121
BLWP8 80L ADP LP835	7952	63	126
BLWP8 80L ADP LP840	8035	63	127
BLWP8 80L ADP LP850	8210	63	130
BLWP8 100L ADP LP830	9628	82	118
BLWP8 100L ADP LP835	10017	82	123
BLWP8 100L ADP LP840	10133	82	124
BLWP8 100L ADP LP850	10342	82	127
BLWP8 140L ADP LP830	13265	120	111
BLWP8 140L ADP LP835	13802	120	115
BLWP8 140L ADP LP840	13961	120	116
BLWP8 140L ADP LP850	14249	120	119
BLWP8 180L ADP LP830	17781	147	121
BLWP8 180L ADP LP835	18501	147	126
BLWP8 180L ADP LP840	18714	147	127
BLWP8 180L ADP LP850	19101	147	130
BLWP8 200L ADP LP830	18563	156	119
BLWP8 200L ADP LP835	19314	156	124
BLWP8 200L ADP LP840	19537	156	125
BLWP8 200L ADP LP850	19941	156	128

BLWP8 HE PERFORMANCE DATA

Lumen Package	Lumens	Input Watts	LPW
BLWP8 40LHE ADP LP830	3953	30	133
BLWP8 40LHE ADP LP835	4113	30	139
BLWP8 40LHE ADP LP840	4160	30	140
BLWP8 40LHE ADP LP850	4246	30	143
BLWP8 60LHE ADP LP830	5942	46	128
BLWP8 60LHE ADP LP835	6183	46	133
BLWP8 60LHE ADP LP840	6254	46	135
BLWP8 60LHE ADP LP850	6383	46	137
BLWP8 80LHE ADP LP830	7820	59	132
BLWP8 80LHE ADP LP835	8136	59	137
BLWP8 80LHE ADP LP840	8230	59	139
BLWP8 80LHE ADP LP850	8400	59	142
BLWP8 100LHE ADP LP830	9723	74	132
BLWP8 100LHE ADP LP835	10117	74	138
BLWP8 100LHE ADP LP840	10233	74	139
BLWP8 100LHE ADP LP850	10445	74	142
BLWP8 140LHE ADP LP830	13491	104	129
BLWP8 140LHE ADP LP835	14037	104	135
BLWP8 140LHE ADP LP840	14198	104	136
BLWP8 140LHE ADP LP850	14492	104	139
BLWP8 180LHE ADP LP830	17245	130	133
BLWP8 180LHE ADP LP835	17943	130	138
BLWP8 180LHE ADP LP840	18150	130	140
BLWP8 180LHE ADP LP850	18525	130	143
BLWP8 200LHE ADP LP830	19587	144	136
BLWP8 200LHE ADP LP835	20380	144	141
BLWP8 200LHE ADP LP840	20615	144	143
BLWP8 200LHE ADP LP850	21041	144	146

Notes
24 For ADP lens only, for additional lens options refer to photometry on www.acuitybrands.com.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: O1-RAM-6-840-LF-1D-SW-SW-SC-3-4CPF Note:	Type V6

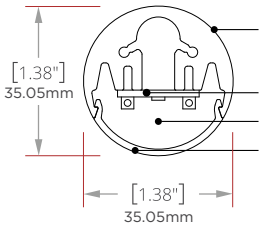
APPROVED

OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

CABLE SUSPENDED CS

DATE	PROJECT	FIRM	TYPE



EXTRUDED ALUMINUM HOUSING
PREMIUM LEDS
MACHINED END CAP
HIGH TRANSMISSION FROSTED LENS

FEATURES:

- 1-3/8 INCH DIAMETER ROUND PROFILE
- POWERED SUSPENSION SYSTEM - NO SEPARATE POWER CORD DROP
- HIGH TRANSMISSION FROSTED LENSES
- 1% DIMMING DRIVERS STANDARD
- EXTRUDED ALUMINUM HOUSING WITH NO VISIBLE FASTENERS
- MACHINED ALUMINUM END CAPS WITH EASY ACCESS REMOVAL
- 360 DEGREE ROTATION OPTION - WITH MECHANICAL LOCKING

NOTES: REQUIRES REMOTE DRIVERS

PERFORMANCE

STATIC WHITE | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	2174	2174	16	136	4000/80
L	3048	3048	24	127	4000/80
S	4035	4035	32	126	4000/80
H	4855	4855	40	121	4000/80
VH	5857	5857	48	122	4000/80

CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89

NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

FIXTURE MODEL

O1
Oxygen 1

MOUNTING

CSD Cable Suspended Directional
CSI Cable Suspended Indirect
CSR Cable Suspended Rotational

NOMINAL LENGTH (FT)

2
3
4
5
6
CR[1,2,3] Continuous Run (Specify Length _____ in Nominal Feet)

1. Power feed is always first section of a continuous run
2. CR avail only with rotational mounting
3. Rotational mounting w/CR will have a power feed for every section

CCT/CRI

827
830
835
840
850
927
930
935
940
950
TW2765
WD1827

DIRECT POWER LEVEL[1]

VL Very low
L Low
S Standard
H High
VH Very High

DIRECT BEAM DISTRIBUTION

F Flood

1. Select only 'Direct' attributes for CSR & CSD mountings

INDIRECT POWER LEVEL[1]

VL Very low
L Low
S Standard
H High
VH Very High

INDIRECT BEAM DISTRIBUTION[1]

F Flood

1. Select only 'Indirect' attributes for CSI mounting

DRIVER

1D 0-10V EldoLED 1%
01D 0-10V EldoLED 0.1%

LDE1 Lutron Ecosystem 1%
LDE5 Lutron Ecosystem 5%

1DT (TW)[2]
1DW (WD)[2]
DALI (INTL)

2. 0-10V input – CHOOSE DALI instead for INTL versions

HOUSING FINISH

SC Satin Clear Anodize
SW Satin White Powder Coat
MB Matte Black Powder Coat
CF Custom Finish (Consult Factory)

END CAPS FINISH[1]

MF Machined Finish
SW Satin White
MB Matte Black
CF Custom Finish (Consult Factory)

1. CSR rotational hardware finish matches end cap finish selection

DRIVER HOUSING FINISH

SC Satin Clear
SW Satin White
MB Matte Black

CANOPY SIZE

44 4" Power feed canopy
4" Non-power feed canopy
44E 4" Power feed canopy 4" Non-power feed canopy - International
40 4" Power feed canopy
Canopy only at power feed
40E 4" Power feed canopy Canopy only at power feed - International
41 4" Power feed canopy 1" Non-power feed canopy
41E 4" Power feed canopy 1" Non-power feed canopy - International
2MIC[1] *Zero Canopy Mud In*
2ACT[1] *Zero Canopy*

1. Non CE; Requires North American J-box

CANOPY FINSH

MF Machine Finish
SW Satin White
MB Matte Black
CF Custom Finish (Consult Factory)

POWER CORD

PSS

CABLE LENGTH

4 4'
8 8'

OPTIONS[6]

EMB7[1,6] 7 Watt battery back-up (Approximately 600 lumens)
EMB12[1,6] 12 Watt battery back-up (Approximately 1000 lumens)
EMW[1] Emergency Circuit Wiring

1. EMB/EMW only linked to first section of continuous run
6. Factory EMB and Sensor (WS*) options not avail for INTL

GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant.
REMOTE DRIVER for all options.
Please contact the factory with any specification questions.

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RoHS COMPLIANT

CE

FIXTURE ORIENTATION

Direct (CSD) for downlight applications
Indirect (CSI) for up light applications
Rotational (CSR) for adjustable applications: 360 degree rotational capacity with locking mechanism

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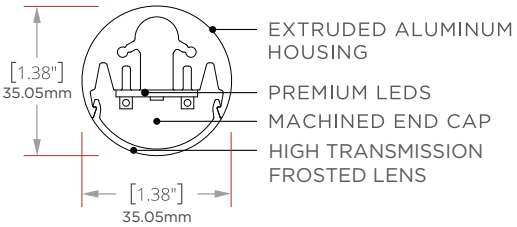
AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: O1-RAM-6-840-LF-1D-SW-SW-SC-3-4CPF Note:	Type V6

OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

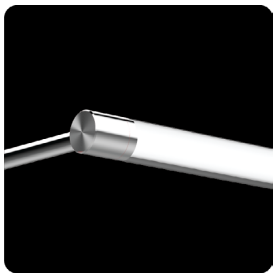
ROTATIONAL ARM MOUNT

DATE	PROJECT	FIRM	TYPE



FEATURES:

- 5/8" DIAMETER RIGID TUBE MOUNTING SYSTEM
- HIGH TRANSMISSION FROSTED LENSES
- 1% DIMMING DRIVERS STANDARD
- EXTRUDED ALUMINUM HOUSING WITH NO VISIBLE FASTENERS
- MACHINED ALUMINUM END CAPS WITH EASY ACCESS REMOVAL
- 360 DEGREE ROTATION OPTION WITH MECHANICAL LOCKING



NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

FIXTURE MODEL	MOUNTING	NOMINAL LENGTH (FT)	CCT/CRI	DIRECT POWER LEVEL	DIRECT BEAM DISTRIBUTION	DRIVER	HOUSING FINISH	END CAPS & RAM HARDWARE FINISH
O1 Oxygen 1	**RAM** Rotational Arm Mount *RAME Rotational Arm Mount - International*	2 3 4 5 6 **CR**[1,3] Continuous Run (Specify Length in Nominal Feet)	827 830 835 840 850 927 930 935 940 950 *TW2765* *WD1827*	VL Very low L Low S Standard H High VH Very High	F Flood	**1D** 0-10V EldoLED 1% *01D 0-10V EldoLED 0.1%* *LDE1 Lutron Ecosystem 1%* *LDE5 Lutron Ecosystem 5%* *1DT (TW)*[2] *1DW (WD)*[2] *DALI (INTL)*	**SC** Satin Clear Anodize **SW** Satin White Powder Coat **MB** Matte Black Powder Coat *CF Custom Finish (Consult Factory)*	**MF** Machine Finished **SW** Satin White Powder Coat **MB** Matte Black Powder Coat **CF** Custom Finish (Consult Factory)

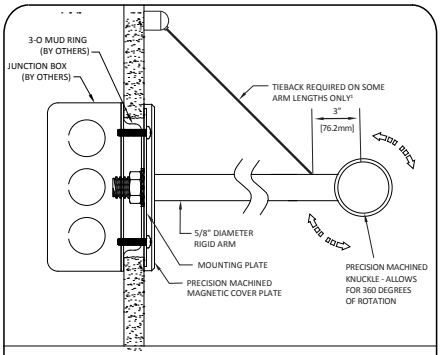
1. Power feed is always first section of a continuous run
3. Rotational mounting w/CR will have a power feed for every section

2. 0-10V input – CHOOSE DALI instead for INTL versions

DRIVER HOUSING FINISH	ARM LENGTH NOM (IN)	MOUNTING PLATE	OPTIONS[6]
SC Satin Clear *SW Satin White* *MB Matte Black*	**3** **6** **9**[1] **12**[1]	**4CPF**	**EMB7**[1,6] 7 Watt battery back-up (Approximately 600 lumens) **EMB12**[1,6] 12 Watt battery back-up (Approximately 1000 lumens) **EMW**[1] Emergency Circuit Wiring

1. Includes Mounting Tieback

1. EMB/EMW only linked to first section of continuous run
6. Factory EMB and Sensor (WS*) options not avail for INTL



ROTATIONAL ARM MOUNT INFORMATION

GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant.
REMOTE DRIVER for all options.
Please contact the factory with any specification questions.

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RoHS COMPLIANT

CE

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: O1-RAM-6-840-LF-1D-SW-SW-SC-3-4CPF Note:	Type V6

OXYGEN 1

DATE	PROJECT	FIRM	TYPE

DIRECT

STATIC WHITE | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	2174	2174	16	136	4000/80
L	3048	3048	24	127	4000/80
S	4035	4035	32	126	4000/80
H	4855	4855	40	121	4000/80
VH	5857	5857	48	122	4000/80

CCT MULTIPLIERS, STATIC WH

CCT	80CRI	90CRI
2700K	0.93	0.79
3000K	0.96	0.82
3500K	0.97	0.85
4000K	1.00	0.89
5000K	1.01	0.89

DYNAMIC WHITE | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	1526	1526	24	64	4000/90
L	2139	2139	32	67	4000/90
S	2832	2832	36	79	4000/90
H	3408	3408	44	77	4000/90
VH	4111	4111	48	86	4000/90

CCT MULTIPLIERS, DYNAMIC WH

CCT	90CRI
2700K	1.09
3000K	1.08
3500K	1.03
4000K	1.00
5000K	0.99
6500K	0.98

WARM DIM | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	1602	1602	24	67	2700/90
L	2246	2246	32	70	2700/90
S	2974	2974	36	83	2700/90
H	3578	3578	44	81	2700/90
VH	4316	4316	48	90	2700/90

CCT MULTIPLIERS, WARM DIM

CCT	90CRI
1800K	0.02
2250K	0.17
2700K	1.00

RGBW | FLOOD DIRECT

POWER LEVELS	CHANNEL (S)	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT
S	White	393	393	10	39	4000
S	All	908	908	20	45	N/A

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OXYGEN 1

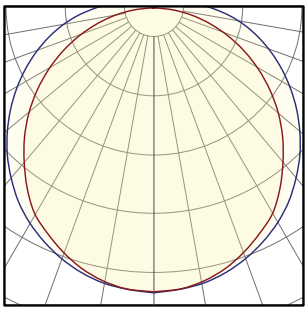
DATE	PROJECT	FIRM	TYPE

DIRECT

DIRECT OPTICS: LUMEN OUTPUT (PER 4FT)

TYPE	CCT/CRI	ENERGY WATTS/ 4FT	FLOOD LM/4FT	FLOOD LPW
STATIC WHITE	4000K/80	S (32W)	4035	126
DYNAMIC WHITE	4000K/90	S (36W)	2832	79
WARM DIM	2700K/90	S (36W)	2974	83
RGBW	ALL CHANNELS UP	S (20W)	908	45

FLOOD*



MAX CANDELA: 1223
DELIVERED LUMENS: 4035
WATTS: 32
LPW: 126

*Fixture Properties: 4ft Nominal Length, Standard Output, Static White 4000K/80CRI

CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89

CCT MULTIPLIERS DYNAMIC WHITE

CCT	2700K	3000K	3500K	4000K	5000K	6000K
CRI	90	90	90	90	90	90
MULTIPLIER	1.09	1.08	1.03	1	0.99	0.98

CCT MULTIPLIERS WARM DIM

CCT	1800K	2250K	2700K
CRI	90	90	90
MULTIPLIER	0.02	0.17	1

POWER LEVEL MULTIPLIERS

POWER	VL	L	S	H	VH
STATIC WHITE	0.53	0.75	1	1.2	1.45
DYNAIMIC WHITE	0.53	0.75	1	1.2	1.45
WARM DIM	0.53	0.75	1	1.2	1.45

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: O1-RAM-6-840-LF-1D-SW-SW-SC-3-4CPF Note:	Type V6

OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

OPTIONS GUIDE

DATE	PROJECT	FIRM	TYPE

MOUNTING

CABLE SUSPENDED DIRECT (CSD)
CABLE SUSPENDED INDIRECT (CSI)

This fixture can be a static down-light: Direct (CSD) or static up-light: Indirect (CSI). Aircraft cables come in 4ft and 8ft lengths and are field adjustable.

ROTATIONAL ARM MOUNT (RAM)

This system uses 5/8" diameter aluminum arms and subtle details in combination with a 360 degree rotational capacity to create some of the most versatile linear fixtures in the architectural market. Standard mounting uses 3/O mud rings (supplied by others). Engineered with no visible fasteners, smooth rotation, and mechanical locking, the RAM system reveals an impressive aesthetic with exceptional versatility.

CABLE SUSPENDED - ROTATIONAL (CSR)

Using a similar setup to the Cable Suspended system above, the Cable Suspended - Rotational system has 360 degree rotational capacity with mechanical fasteners to lock fixtures in place if desired. This system offers incredible flexibility, light direction control, and a dynamic aesthetic.

CONTINUOUS RUN (CR)

Our 360 degree rotational continuous run option enables individual sections to rotate independently of each other, which offers adjustable asymmetric light distribution capacity along with striking appearances such as alternating up/down fixtures or spiral transitions. The flexibility within the rotational option makes for infinite design and functional possibilities.

CONTINUOUS RUN ROTATIONAL

CONTINUOUS RUN ROTATIONAL (SPIRAL EFFECT)

FIXTURE WITH CONTINUOUS RUN ROTATIONAL

CANOPIES

44

4" diameter power feed and 4" diameter non-power feed canopy.

40

4" diameter machined power feed canopy and no canopy on the non-power feed side. Minimal aesthetic. Requires a 1/4-20 stud securely attached to the ceiling.

41

4" diameter machined power feed and 1-1/4" diameter machined non-power feed canopy. Offers minimal ceiling treatment while maintaining the ability to cover mistakes. Requires a 1/4-20 stud securely fastened to the ceiling.

44E, 41E, 40E
(E) International Canopy**

INTL POWERFEED CANOPY FOR REMOTE DRIVER FIXTURES (PSS CABLES)

This powerfeed canopy replaces the flat style canopy from the North American mounting style (44, 41, & 40) versions pictured)

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: O1-RAM-6-840-LF-1D-SW-SW-SC-3-4CPF Note:	Type V6

OXYGEN 1

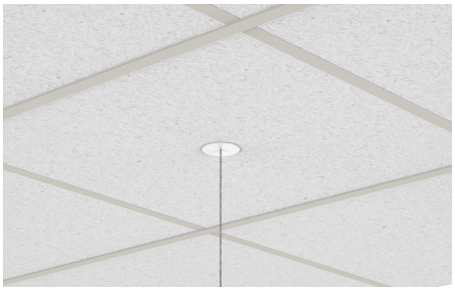
OVERVIEW • SPECIFICATIONS • ORDERING **OPTIONS GUIDE**

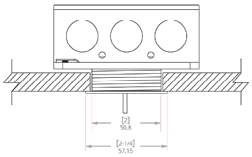
DATE	PROJECT	FIRM	TYPE

ZERO CANOPY OPTIONS

Zero Canopy is Lumium's exclusive suspension mounting method to eliminate all visual distractions on the ceiling plane. When used with non-powered aircraft suspension cable, or with our Powered Suspension System (PSS) and remote driver, Lumium's Zero Canopy option eliminates the need for a thick canopy cover by ingeniously hiding the height-adjustment gripper and electrical connections behind a thin 2-1/4" magnetized access panel. Paint the panel to match the ceiling to create a simple, elegant luminaire suspension system with no visible hardware. Attaches to a standard 4" j-box. Available for hard top mud-in ceilings up to 3/4" thick, as well as suspended ceilings from 1/4" – 1-1/2" thick.

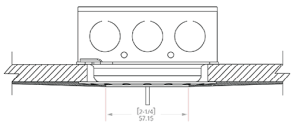
ACT (2ACT)





Lumium's Zero Canopy option for suspended and acoustic ceilings is a clever solution for removing distracting visible mounting hardware from the ceiling plane. The 2ACT ceiling tile version includes a thin 2-1/411 magnetized access panel, which hides any electrical connections and included height-adjustment gripper. A threaded piston adjusts to accommodate various installation applications and ceiling thicknesses, even thin metal substrates. Conceal the access panel by painting-to-match the rest of the ceiling, or add a custom finish for a pop of color. Tooless entry. Attaches to a standard 4" j-box. Specify access panel finish. Accepts standard aircraft cable or PSS powered suspension cable system only. Do not use 2ACT for line voltage power drop locations.

MUD-IN (2MIC)



Lumium's Zero Canopy option for mud-in ceilings is an ingenious method for removing all visible hardware from the ceiling plane. The 2MIC mud-in version includes a built-in 1/2 11 flange with a flush 2-1/411 magnetized access panel which hides any electrical connections and included height-adjustment gripper. Conceal the access panel by painting-to-match the rest of the ceiling, and eliminates all visual distractions from suspension hardware. Tooless entry. Attaches to a standard 4" j-box. Specify access panel finish. Accepts standard aircraft cable or PSS powered suspension cable system only. Do not use 2MIC for line voltage power drop locations.

COLOR AND FINISH

Standard luminaire housing finishes are Satin Clear anodized, Matte Black powder coat , and Satin White powder coat. Standard hardware (end caps, knuckles, cover plates, etc.) finishes are Machined Finish, Matte Black powder coat, & Satin White powder coat. Custom anodizing and powder coated finishes are available as well. If you have a particular color/finish treatment in mind, please contact the factory and we will do our best to accommodate your project needs.

STANDARD

LUMINAIRE

SATIN CLEAR ANODIZING

RAL 9005 — MATTE BLACK

RAL 9003 — SATIN WHITE

HARDWARE

MACHINED COMPONENTS

RAL 9005 — MATTE BLACK

RAL 9003 — SATIN WHITE

CUSTOM

BRONZE

COLOR ANODIZE

SPECULAR

RAL COLORS

NOTE: Information on this Spec Sheet is subject to change, please visit www. ecosenselighting.com for the most updated information.

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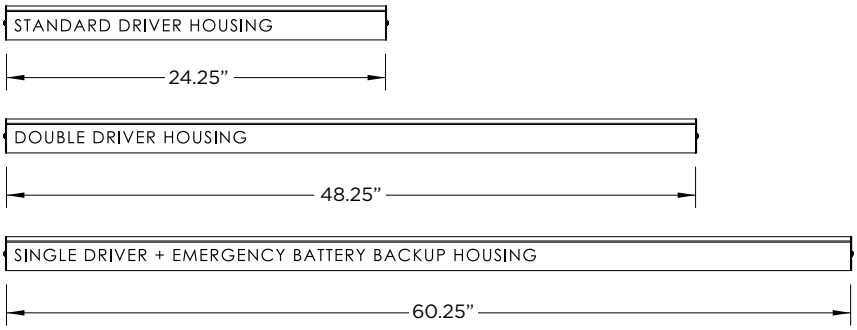
OXYGEN 1

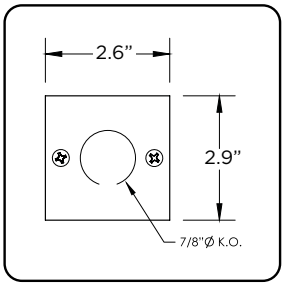
OVERVIEW • SPECIFICATIONS • ORDERING **OPTIONS GUIDE**

DATE	PROJECT	FIRM	TYPE

REMOTE DRIVERS HOUSING SIZE

The driver housing length is typically dictated by the options selected. Standard driver housing lengths are as shown. Non standard driver requests may increase or decrease the driver housing length. Specifications are subject to change without notice. Consult factory with questions, requests, or size limitations and we will do our best to accommodate your needs.



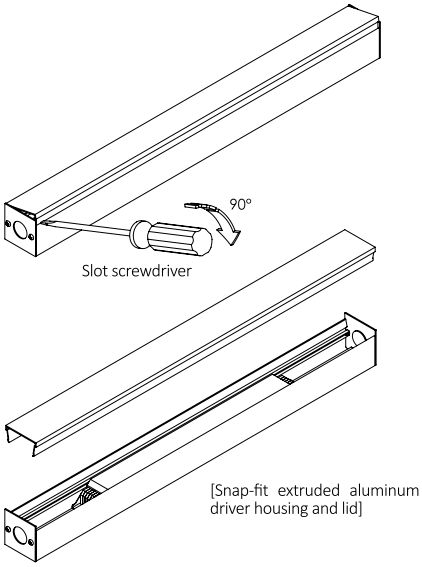


DRIVER HOUSING PROFILE

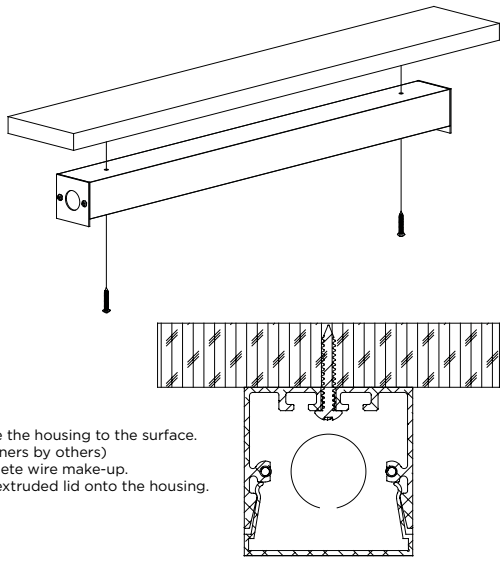
INSTRUCTIONS

See below for lid removal and installation instructions.

To remove the driver housing lid, use a broad slot screwdriver in the channel as shown here and twist the screwdriver ninety degrees. This may need to be done at both ends of the housing or multiple locations depending on the driver housing length.



1) Drill mounting holes in the driver housing as needed to secure to a suitable surface. (If needed, a power feed hole can be drilled into the bottom of the housing for certain mounting/power feed applications).



2) Secure the housing to the surface. (Fasteners by others)
3) Complete wire make-up. Snap extruded lid onto the housing.

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OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

OPTIONS GUIDE

DATE	PROJECT	FIRM	TYPE

WELDED CORNERS

- Luminaire housing is custom mitered & welded for a clean corner appearance
- Lens is also mitered for lens-to-lens interfaces that mirror the mitered housing
- Lens is illuminated to the corner (AKA: lit corners)
- Adjustable aircraft cable suspension system
- High quality powder coated finish (anodized finishes not available with welded custom patterns).

CUSTOMER INSTRUCTIONS

A. Select "CP" option in the ordering block (found in the NOMINAL LENGTH column)

B. Submit simple drawing(s) with the following info:

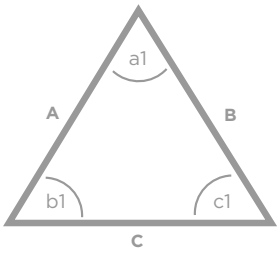
- Provide number of legs of pattern
- Length of each leg (A, B, C, D, etc)
- Angles of corners (a1, b1, c1, d1, etc)

1. For '3 dimensional' patterns, please provide side view(s) with desired angles, in addition to a top view.

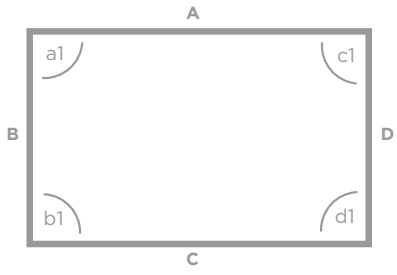
2. Minimum corner angle is 30 degrees.

NITROGEN 3 CUSTOM PATTERN PICTURED

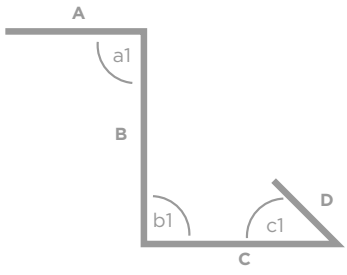
EXAMPLES:



Customer Specification
1. Qty Legs = 3
2. A, B, C = 3ft
3. a1, b1, c1 = 60 deg



Customer Specification
1. Qty Legs = 4
2. A & C = 8ft, B & D = 4ft
3. a1, b1, c1, d1 = 90 deg



Customer Specification
1. Qty Legs = 4
2. A = 8ft, B = 6ft, C = 6ft, D = 4ft-3in
3. a1 & b1 = 90 deg. c1 = 45 deg

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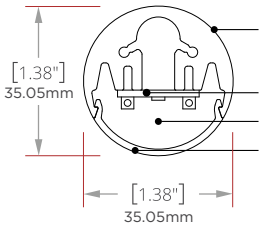
APPROVED

OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

CABLE SUSPENDED CS

DATE	PROJECT	FIRM	TYPE



EXTRUDED ALUMINUM HOUSING
PREMIUM LEDS
MACHINED END CAP
HIGH TRANSMISSION FROSTED LENS

FEATURES:

- 1-3/8 INCH DIAMETER ROUND PROFILE
- POWERED SUSPENSION SYSTEM - NO SEPARATE POWER CORD DROP
- HIGH TRANSMISSION FROSTED LENSES
- 1% DIMMING DRIVERS STANDARD
- EXTRUDED ALUMINUM HOUSING WITH NO VISIBLE FASTENERS
- MACHINED ALUMINUM END CAPS WITH EASY ACCESS REMOVAL
- 360 DEGREE ROTATION OPTION - WITH MECHANICAL LOCKING

NOTES: REQUIRES REMOTE DRIVERS

PERFORMANCE

STATIC WHITE | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	2174	2174	16	136	4000/80
L	3048	3048	24	127	4000/80
S	4035	4035	32	126	4000/80
H	4855	4855	40	121	4000/80
VH	5857	5857	48	122	4000/80

CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89

NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

FIXTURE MODEL

O1
Oxygen 1

MOUNTING

CSD Cable Suspended Directional
CSI Cable Suspended Indirect
CSR Cable Suspended Rotational

NOMINAL LENGTH (FT)

2
3
4
5
6
CR[1,2,3] Continuous Run (Specify Length in Nominal Feet)

1. Power feed is always first section of a continuous run
2. CR avail only with rotational mounting
3. Rotational mounting w/CR will have a power feed for every section

CCT/CRI

827
830
835
840
850
927
930
935
940
950
TW2765
WD1827

DIRECT POWER LEVEL[1]

VL Very low
L Low
S Standard
H High
VH Very High

DIRECT BEAM DISTRIBUTION

F Flood

1. Select only 'Direct' attributes for CSR & CSD mountings

INDIRECT POWER LEVEL[1]

VL Very low
L Low
S Standard
H High
VH Very High

INDIRECT BEAM DISTRIBUTION[1]

F Flood

1. Select only 'Indirect' attributes for CSI mounting

DRIVER

1D 0-10V EldoLED 1%
01D 0-10V EldoLED 0.1%

LDE1 Lutron Ecosystem 1%
LDE5 Lutron Ecosystem 5%

1DT (TW)[2]
1DW (WD)[2]
DALI (INTL)

2. 0-10V input – CHOOSE DALI instead for INTL versions

HOUSING FINISH

SC Satin Clear Anodize
SW Satin White Powder Coat
MB Matte Black Powder Coat
CF Custom Finish (Consult Factory)

END CAPS FINISH[1]

MF Machined Finish
SW Satin White
MB Matte Black
CF Custom Finish (Consult Factory)

1. CSR rotational hardware finish matches end cap finish selection

DRIVER HOUSING FINISH

SC Satin Clear
SW Satin White
MB Matte Black

CANOPY SIZE

44 4" Power feed canopy
4" Non-power feed canopy
44E 4" Power feed canopy 4" Non-power feed canopy - International
40 4" Power feed canopy Canopy only at power feed
40E 4" Power feed canopy Canopy only at power feed - International
41 4" Power feed canopy 1" Non-power feed canopy
41E 4" Power feed canopy 1" Non-power feed canopy - International
2MIC[1] *Zero Canopy Mud In*
2ACT[1] *Zero Canopy*

1. Non CE; Requires North American J-box

CANOPY FINSH

MF Machine Finish
SW Satin White
MB Matte Black
CF Custom Finish (Consult Factory)

POWER CORD

PSS

CABLE LENGTH

4 4'
8 8'

OPTIONS[6]

EMB7[1,6] 7 Watt battery back-up (Approximately 600 lumens)
EMB12[1,6] 12 Watt battery back-up (Approximately 1000 lumens)
EMW[1] Emergency Circuit Wiring

1. EMB/EMW only linked to first section of continuous run
6. Factory EMB and Sensor (WS*) options not avail for INTL

GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant.
REMOTE DRIVER for all options.
Please contact the factory with any specification questions.

c UL us LISTED

RoHS COMPLIANT

CE

FIXTURE ORIENTATION

Direct (CSD) for downlight applications
Indirect (CSI) for up light applications
Rotational (CSR) for adjustable applications: 360 degree rotational capacity with locking mechanism

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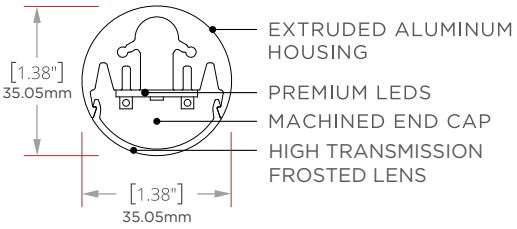
OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

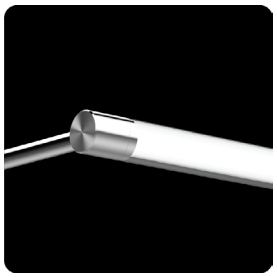
ROTATIONAL ARM MOUNT

DATE	PROJECT	FIRM	TYPE



FEATURES:

- 5/8" DIAMETER RIGID TUBE MOUNTING SYSTEM
- HIGH TRANSMISSION FROSTED LENSES
- 1% DIMMING DRIVERS STANDARD
- EXTRUDED ALUMINUM HOUSING WITH NO VISIBLE FASTENERS
- MACHINED ALUMINUM END CAPS WITH EASY ACCESS REMOVAL
- 360 DEGREE ROTATION OPTION WITH MECHANICAL LOCKING



NOTE: ALL ITALICIZED OPTIONS MAY INCREASE LEAD TIME. PLEASE CONSULT FACTORY WITH QUESTIONS.

FIXTURE MODEL	MOUNTING	NOMINAL LENGTH (FT)	CCT/CRI	DIRECT POWER LEVEL	DIRECT BEAM DISTRIBUTION	DRIVER	HOUSING FINISH	END CAPS & RAM HARDWARE FINISH
O1 Oxygen 1	**RAM** Rotational Arm Mount *RAME Rotational Arm Mount - International*	2 3 4 5 6 **CR**[1,3] Continuous Run (Specify Length in Nominal Feet) 9	**827** **830** **835** **840** **850** **927** **930** **935** **940** **950** *TW2765* *WD1827*	**VL** Very low **L** Low **S** Standard **H** High **VH** Very High	**F** Flood	**1D** 0-10V EldoLED 1% *01D 0-10V EldoLED 0.1%* *LDE1 Lutron Ecosystem 1%* *LDE5 Lutron Ecosystem 5%* *1DT (TW)*[2] *1DW (WD)*[2] *DALI (INTL)*	**SC** Satin Clear Anodize **SW** Satin White Powder Coat **MB** Matte Black Powder Coat *CF Custom Finish (Consult Factory)*	**MF** Machine Finished **SW** Satin White Powder Coat **MB** Matte Black Powder Coat **CF** Custom Finish (Consult Factory)

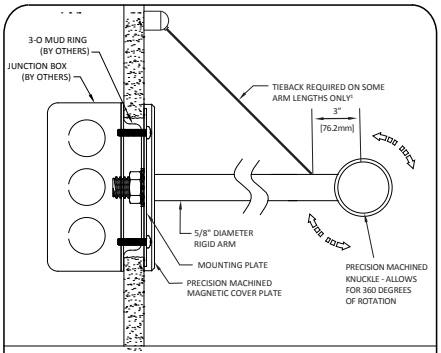
1. Power feed is always first section of a continuous run
3. Rotational mounting w/CR will have a power feed for every section

2. 0-10V input – CHOOSE DALI instead for INTL versions

DRIVER HOUSING FINISH	ARM LENGTH NOM (IN)	MOUNTING PLATE	OPTIONS[6]
SC Satin Clear *SW Satin White* *MB Matte Black*	**3** **6** **9**[1] **12**[1]	**4CPF**	**EMB7**[1,6] 7 Watt battery back-up (Approximately 600 lumens) **EMB12**[1,6] 12 Watt battery back-up (Approximately 1000 lumens) **EMW**[1] Emergency Circuit Wiring

1. Includes Mounting Tieback

1. EMB/EMW only linked to first section of continuous run
6. Factory EMB and Sensor (WS*) options not avail for INTL



ROTATIONAL ARM MOUNT INFORMATION

GENERAL NOTES:

All fixtures are UL listed for dry and damp locations. Fixtures with International (E) option designation are CE and ROHS compliant.
REMOTE DRIVER for all options.
Please contact the factory with any specification questions.

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RoHS COMPLIANT

CE

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OXYGEN 1

DATE	PROJECT	FIRM	TYPE

DIRECT

STATIC WHITE | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	2174	2174	16	136	4000/80
L	3048	3048	24	127	4000/80
S	4035	4035	32	126	4000/80
H	4855	4855	40	121	4000/80
VH	5857	5857	48	122	4000/80

CCT MULTIPLIERS, STATIC WH

CCT	80CRI	90CRI
2700K	0.93	0.79
3000K	0.96	0.82
3500K	0.97	0.85
4000K	1.00	0.89
5000K	1.01	0.89

DYNAMIC WHITE | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	1526	1526	24	64	4000/90
L	2139	2139	32	67	4000/90
S	2832	2832	36	79	4000/90
H	3408	3408	44	77	4000/90
VH	4111	4111	48	86	4000/90

CCT MULTIPLIERS, DYNAMIC WH

CCT	90CRI
2700K	1.09
3000K	1.08
3500K	1.03
4000K	1.00
5000K	0.99
6500K	0.98

WARM DIM | FLOOD DIRECT

POWER LEVELS	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT/CRI
VL	1602	1602	24	67	2700/90
L	2246	2246	32	70	2700/90
S	2974	2974	36	83	2700/90
H	3578	3578	44	81	2700/90
VH	4316	4316	48	90	2700/90

CCT MULTIPLIERS, WARM DIM

CCT	90CRI
1800K	0.02
2250K	0.17
2700K	1.00

RGBW | FLOOD DIRECT

POWER LEVELS	CHANNEL (S)	LIGHT DIRECT LM/4FT	TOTAL LIGHT LM/4FT	ENERGY WATTS/4FT	EFFICACY LPW	CCT
S	White	393	393	10	39	4000
S	All	908	908	20	45	N/A

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OXYGEN 1

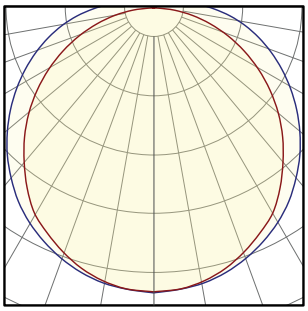
DATE	PROJECT	FIRM	TYPE

DIRECT

DIRECT OPTICS: LUMEN OUTPUT (PER 4FT)

TYPE	CCT/CRI	ENERGY WATTS/ 4FT	FLOOD LM/4FT	FLOOD LPW
STATIC WHITE	4000K/80	S (32W)	4035	126
DYNAMIC WHITE	4000K/90	S (36W)	2832	79
WARM DIM	2700K/90	S (36W)	2974	83
RGBW	ALL CHANNELS UP	S (20W)	908	45

FLOOD*



MAX CANDELA: 1223
DELIVERED LUMENS: 4035
WATTS: 32
LPW: 126

*Fixture Properties: 4ft Nominal Length, Standard Output, Static White 4000K/80CRI

CCT MULTIPLIERS STATIC WHITE

CCT	2700K		3000K		3500K		4000K		5000K	
CRI	80	90	80	90	80	90	80	90	80	90
MULTIPLIER	0.93	0.79	0.96	0.82	0.97	0.85	1	0.89	1.01	0.89

CCT MULTIPLIERS DYNAMIC WHITE

CCT	2700K	3000K	3500K	4000K	5000K	6000K
CRI	90	90	90	90	90	90
MULTIPLIER	1.09	1.08	1.03	1	0.99	0.98

CCT MULTIPLIERS WARM DIM

CCT	1800K	2250K	2700K
CRI	90	90	90
MULTIPLIER	0.02	0.17	1

POWER LEVEL MULTIPLIERS

POWER	VL	L	S	H	VH
STATIC WHITE	0.53	0.75	1	1.2	1.45
DYNAIMIC WHITE	0.53	0.75	1	1.2	1.45
WARM DIM	0.53	0.75	1	1.2	1.45

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: O1-RAM-CR9-840-LF-1D-SW-SW-SC-3-4CPF Note:	Type V9

OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

OPTIONS GUIDE

DATE	PROJECT	FIRM	TYPE

MOUNTING

CABLE SUSPENDED DIRECT (CSD)
CABLE SUSPENDED INDIRECT (CSI)

This fixture can be a static down-light: Direct (CSD) or static up-light: Indirect (CSI). Aircraft cables come in 4ft and 8ft lengths and are field adjustable.

ROTATIONAL ARM MOUNT (RAM)

This system uses 5/8" diameter aluminum arms and subtle details in combination with a 360 degree rotational capacity to create some of the most versatile linear fixtures in the architectural market. Standard mounting uses 3/O mud rings (supplied by others). Engineered with no visible fasteners, smooth rotation, and mechanical locking, the RAM system reveals an impressive aesthetic with exceptional versatility.

CABLE SUSPENDED - ROTATIONAL (CSR)

Using a similar setup to the Cable Suspended system above, the Cable Suspended - Rotational system has 360 degree rotational capacity with mechanical fasteners to lock fixtures in place if desired. This system offers incredible flexibility, light direction control, and a dynamic aesthetic.

CONTINUOUS RUN (CR)

Our 360 degree rotational continuous run option enables individual sections to rotate independently of each other, which offers adjustable asymmetric light distribution capacity along with striking appearances such as alternating up/down fixtures or spiral transitions. The flexibility within the rotational option makes for infinite design and functional possibilities.

CONTINUOUS RUN ROTATIONAL

CONTINUOUS RUN ROTATIONAL (SPIRAL EFFECT)

FIXTURE WITH CONTINUOUS RUN ROTATIONAL

CANOPIES

44

4" diameter power feed and 4" diameter non-power feed canopy.

40

4" diameter machined power feed canopy and no canopy on the non-power feed side. Minimal aesthetic. Requires a 1/4-20 stud securely attached to the ceiling.

41

4" diameter machined power feed and 1-1/4" diameter machined non-power feed canopy. Offers minimal ceiling treatment while maintaining the ability to cover mistakes. Requires a 1/4-20 stud securely fastened to the ceiling.

44E, 41E, 40E
(E) International Canopy**

INTL POWERFEED CANOPY FOR REMOTE DRIVER FIXTURES (PSS CABLES)

This powerfeed canopy replaces the flat style canopy from the North American mounting style (44, 41, & 40) versions pictured)

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OXYGEN 1

OVERVIEW • SPECIFICATIONS • ORDERING

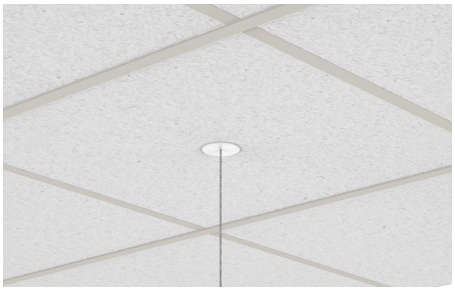
OPTIONS GUIDE

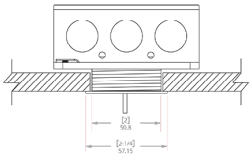
DATE	PROJECT	FIRM	TYPE

ZERO CANOPY OPTIONS

Zero Canopy is Lumium's exclusive suspension mounting method to eliminate all visual distractions on the ceiling plane. When used with non-powered aircraft suspension cable, or with our Powered Suspension System (PSS) and remote driver, Lumium's Zero Canopy option eliminates the need for a thick canopy cover by ingeniously hiding the height-adjustment gripper and electrical connections behind a thin 2-1/4" magnetized access panel. Paint the panel to match the ceiling to create a simple, elegant luminaire suspension system with no visible hardware. Attaches to a standard 4" j-box. Available for hard top mud-in ceilings up to 3/4" thick, as well as suspended ceilings from 1/4" – 1-1/2" thick.

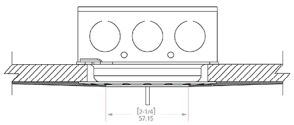
ACT (2ACT)





Lumium's Zero Canopy option for suspended and acoustic ceilings is a clever solution for removing distracting visible mounting hardware from the ceiling plane. The 2ACT ceiling tile version includes a thin 2-1/411 magnetized access panel, which hides any electrical connections and included height-adjustment gripper. A threaded piston adjusts to accommodate various installation applications and ceiling thicknesses, even thin metal substrates. Conceal the access panel by painting-to-match the rest of the ceiling, or add a custom finish for a pop of color. Tooless entry. Attaches to a standard 4" j-box. Specify access panel finish. Accepts standard aircraft cable or PSS powered suspension cable system only. Do not use 2ACT for line voltage power drop locations.

MUD-IN (2MIC)



Lumium's Zero Canopy option for mud-in ceilings is an ingenious method for removing all visible hardware from the ceiling plane. The 2MIC mud-in version includes a built-in 1/2 11 flange with a flush 2-1/411 magnetized access panel which hides any electrical connections and included height-adjustment gripper. Conceal the access panel by painting-to-match the rest of the ceiling, and eliminates all visual distractions from suspension hardware. Tooless entry. Attaches to a standard 4" j-box. Specify access panel finish. Accepts standard aircraft cable or PSS powered suspension cable system only. Do not use 2MIC for line voltage power drop locations.

COLOR AND FINISH

Standard luminaire housing finishes are Satin Clear anodized, Matte Black powder coat , and Satin White powder coat. Standard hardware (end caps, knuckles, cover plates, etc.) finishes are Machined Finish, Matte Black powder coat, & Satin White powder coat. Custom anodizing and powder coated finishes are available as well. If you have a particular color/finish treatment in mind, please contact the factory and we will do our best to accommodate your project needs.

STANDARD

LUMINAIRE

SATIN CLEAR ANODIZING

MATTE BLACK

SATIN WHITE

HARDWARE

MACHINED COMPONENTS

MATTE BLACK

SATIN WHITE

CUSTOM

BRONZE

COLOR ANODIZE

SPECULAR

RAL COLORS

NOTE: Information on this Spec Sheet is subject to change, please visit www.ecosenselighting.com for the most updated information.

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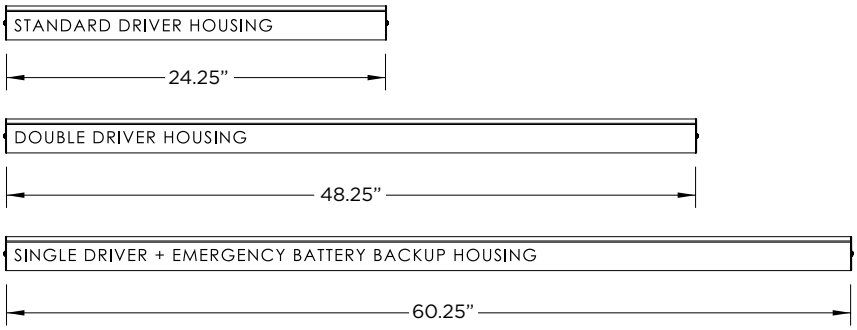
OXYGEN 1

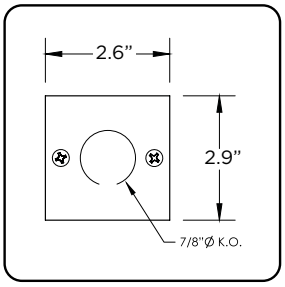
OVERVIEW • SPECIFICATIONS • ORDERING **OPTIONS GUIDE**

DATE	PROJECT	FIRM	TYPE

REMOTE DRIVERS HOUSING SIZE

The driver housing length is typically dictated by the options selected. Standard driver housing lengths are as shown. Non standard driver requests may increase or decrease the driver housing length. Specifications are subject to change without notice. Consult factory with questions, requests, or size limitations and we will do our best to accommodate your needs.



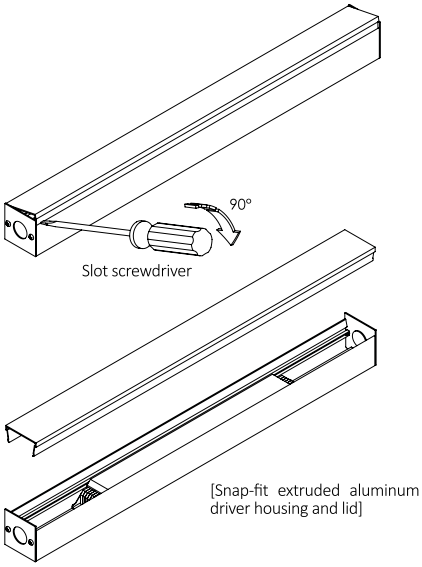


DRIVER HOUSING PROFILE

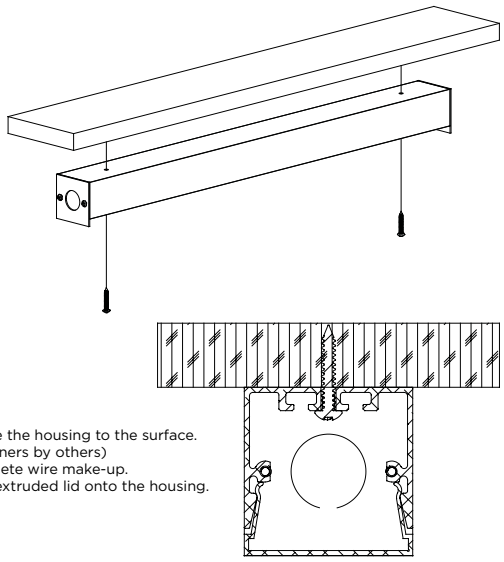
INSTRUCTIONS

See below for lid removal and installation instructions.

To remove the driver housing lid, use a broad slot screwdriver in the channel as shown here and twist the screwdriver ninety degrees. This may need to be done at both ends of the housing or multiple locations depending on the driver housing length.



1) Drill mounting holes in the driver housing as needed to secure to a suitable surface. (If needed, a power feed hole can be drilled into the bottom of the housing for certain mounting/power feed applications).



2) Secure the housing to the surface. (Fasteners by others)
3) Complete wire make-up. Snap extruded lid onto the housing.

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OXYGEN 1

DATE	PROJECT	FIRM	TYPE

WELDED CORNERS

- Luminaire housing is custom mitered & welded for a clean corner appearance
- Lens is also mitered for lens-to-lens interfaces that mirror the mitered housing
- Lens is illuminated to the corner (AKA: lit corners)
- Adjustable aircraft cable suspension system
- High quality powder coated finish (anodized finishes not available with welded custom patterns).

CUSTOMER INSTRUCTIONS

A. Select "CP" option in the ordering block (found in the NOMINAL LENGTH column)

B. Submit simple drawing(s) with the following info:

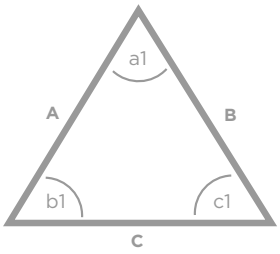
- Provide number of legs of pattern
- Length of each leg (A, B, C, D, etc)
- Angles of corners (a1, b1, c1, d1, etc)

1. For '3 dimensional' patterns, please provide side view(s) with desired angles, in addition to a top view.

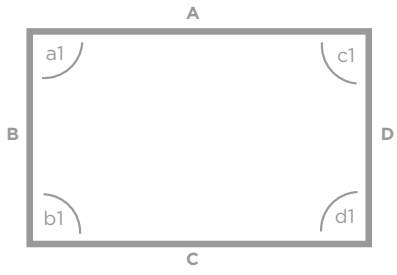
2. Minimum corner angle is 30 degrees.

NITROGEN 3 CUSTOM PATTERN PICTURED

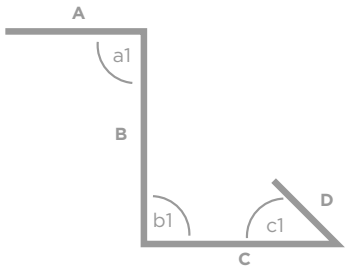
EXAMPLES:



Customer Specification
1. Qty Legs = 3
2. A, B, C = 3ft
3. a1, b1, c1 = 60 deg



Customer Specification
1. Qty Legs = 4
2. A & C = 8ft, B & D = 4ft
3. a1, b1, c1, d1 = 90 deg



Customer Specification
1. Qty Legs = 4
2. A = 8ft, B = 6ft, C = 6ft, D = 4ft-3in
3. a1 & b1 = 90 deg. c1 = 45 deg

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: ARC1 LED P2 40K MVOLT DDBXD Note:	Type WB

APPROVED

ARC1 LED

Architectural Wall Luminaire

Catalog Number

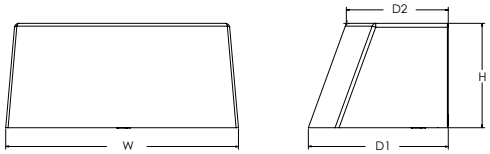
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1):	6.5"
Depth (D2):	4.75"
Height:	5"
Width:	11"
Weight: (without options)	7 lbs



Introduction

The Lithonia Lighting ARC LED wall-mounted luminaires provide both architectural styling and visually comfortable illumination while providing the high energy savings and low initial costs for quick financial payback.

ARC1 delivers up to 3,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of ARC1, with its integrated emergency battery backup option, is ideal for over-the-door applications.

ARC LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Approximate Lumens (4000K)				
			P1	P2	P3	P4	P5
ARC1 LED	4W	--	1,500	2,000	3,000	--	--
ARC2 LED	4W	8W	1,500	2,000	3,000	4,000	6,500

Ordering Information

EXAMPLE: ARC1 LED P2 40K MVOLT PE DDBXD

Series	Package	Color Temperature	Voltage	Options	Finish
ARC1 LED	P1 1,500 Lumens P2 2,000 Lumens P3 3,000 Lumens	30K 3000K 40K 4000K 50K 5000K	MVOLT 347[1]	E4WH Emergency battery backup, CEC compliant (4W, 0°C min)[1] PE Button type photocell for dusk-to-dawn operation DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[2] SPD6KV 6kV surge protection FAO Field adjustable light output device. Allows for easy adjustment to the desired light levels, from 20% to 100%[2] LDS18 18" Fixture leads	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories

Ordered and shipped separately.

WSBBW DDBXD U	Surface - mounted back box (specify finish)

NOTES

1 347V not available with E4WH.
2 FAO not available with DMG.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: ARC1 LED P2 40K MVOLT DDBXD Note:	Type WB

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	30K (3000K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)				
		Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	11W	1,376	127	0	0	0	1,454	134	0	0	0	1,464	135	0	0	0
P2	17W	2,035	121	1	0	1	2,151	128	1	0	1	2,165	129	1	0	1
P3	25W	2,859	117	1	0	1	3,021	123	1	0	1	3,041	124	1	0	1

Electrical Load

Performance Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	11W	0.111	0.061	0.053	0.047	0.045
P2	17W	0.139	0.081	0.071	0.063	0.060
P3	25W	0.208	0.122	0.108	0.097	0.081

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Lumens
E4WH	620

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	0.97	>0.96	>0.95	>0.91

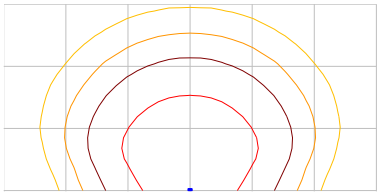
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting ARC LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND

0.25 fc
0.5 fc
1.0 fc
3.0 fc

MH = 10ft
Grid = 10ft x 10ft



ARC1 LED P3 40K

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: ARC1 LED P2 40K MVOLT DDBXD Note:	Type WB

Emergency Egress Options

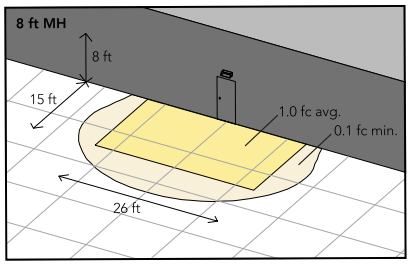
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90minutes.

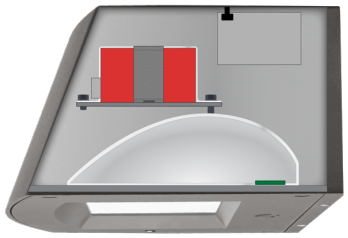
Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The example below shows illuminance of 1 fc average and 0.1 fc minimum in emergency mode.

Grid = 10ft x 10ft



ARC1 LED 40K MVOLT E4WH



Self-contained solution for clean aesthetic

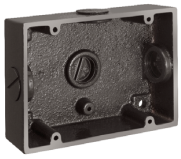
Mounting, Options & Accessories

E4WH – 4W Emergency Battery Backup

D = 6.5″

H = 5″

W = 11″



BBW – Standard Back Box

D = 1.5″

H = 4″

W = 5.5″

For surface conduit applications.
3/4" conduit entry holes.

FEATURES & SPECIFICATIONS

INTENDED USE
The clean architectural shape of the ARC LED was designed for applications such as hospitals, schools, malls, restaurants, and commercial buildings. The long-life LEDs and driver make this luminaire nearly maintenance-free.

CONSTRUCTION
The die-cast aluminum housing and door act as heat sinks to optimize thermal transfer from the light engine and driver to promote long-life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Recessed lens to cut off high angle light and reduce glare. Combination of diffused lens and reflector design has low surface brightness creating a visually comfortable environment with great distribution. LEDs are fully hidden from view to eliminate pixelization and harsh glare. The ARC LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long-life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire is 0-10V dimmable.

INSTALLATION
The universal wall plate, supplied with the luminaire, fits multiple size junction boxes and supports the luminaire during wiring for easy installation. Built-in wet location wiring compartment on the luminaire to accommodate wiring connections for where there is no junction box. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Luminaire is IP65 rated. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International DarkSky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. Rated for -40°C minimum ambient.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: ARC1 LED P2 40K MVOLT E4WH DDBXD Note:	Type WBE

APPROVED

ARC1 LED

Architectural Wall Luminaire

Catalog Number

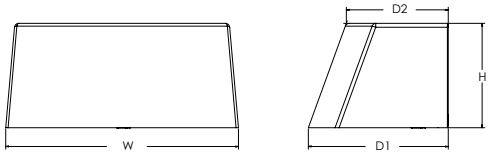
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 6.5"
Depth (D2): 4.75"
Height: 5"
Width: 11"
Weight: (without options) 7 lbs



Introduction

The Lithonia Lighting ARC LED wall-mounted luminaires provide both architectural styling and visually comfortable illumination while providing the high energy savings and low initial costs for quick financial payback.

ARC1 delivers up to 3,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of ARC1, with its integrated emergency battery backup option, is ideal for over-the-door applications.

ARC LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Approximate Lumens (4000K)				
			P1	P2	P3	P4	P5
ARC1 LED	4W	--	1,500	2,000	3,000	--	--
ARC2 LED	4W	8W	1,500	2,000	3,000	4,000	6,500

Ordering Information

EXAMPLE: ARC1 LED P2 40K MVOLT PE DDBXD

Series	Package	Color Temperature	Voltage	Options	Finish
ARC1 LED	P1 1,500 Lumens P2 2,000 Lumens P3 3,000 Lumens	30K 3000K 40K 4000K 50K 5000K	MVOLT 347[1]	E4WH Emergency battery backup, CEC compliant (4W, 0°C min)[1] PE Button type photocell for dusk-to-dawn operation DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[2] SPD6KV 6kV surge protection FAO Field adjustable light output device. Allows for easy adjustment to the desired light levels, from 20% to 100%[2] LDS18 18" Fixture leads	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories

Ordered and shipped separately.

WSBBW DDBXD U Surface - mounted back box (specify finish)

NOTES
1 347V not available with E4WH.
2 FAO not available with DMG.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: ARC1 LED P2 40K MVOLT E4WH DDBXD Note:	Type WBE

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	30K (3000K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)				
		Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	11W	1,376	127	0	0	0	1,454	134	0	0	0	1,464	135	0	0	0
P2	17W	2,035	121	1	0	1	2,151	128	1	0	1	2,165	129	1	0	1
P3	25W	2,859	117	1	0	1	3,021	123	1	0	1	3,041	124	1	0	1

Electrical Load

Performance Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	11W	0.111	0.061	0.053	0.047	0.045
P2	17W	0.139	0.081	0.071	0.063	0.060
P3	25W	0.208	0.122	0.108	0.097	0.081

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Lumens
E4WH	620

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	0.97	>0.96	>0.95	>0.91

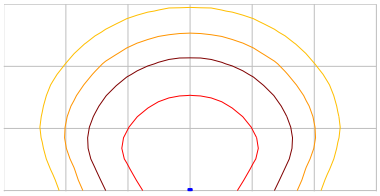
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting ARC LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND

0.25 fc
0.5 fc
1.0 fc
3.0 fc

MH = 10ft
Grid = 10ft x 10ft



ARC1 LED P3 40K

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: ARC1 LED P2 40K MVOLT E4WH DDBXD Note:	Type WBE

Emergency Egress Options

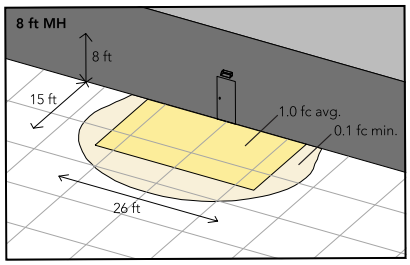
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90minutes.

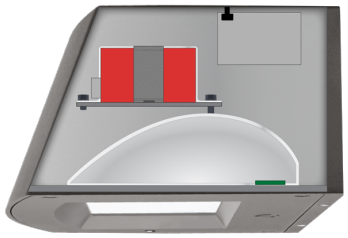
Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The example below shows illuminance of 1 fc average and 0.1 fc minimum in emergency mode.

Grid = 10ft x 10ft



ARC1 LED 40K MVOLT E4WH



Self-contained solution for clean aesthetic

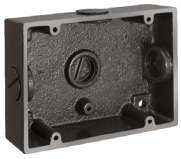
Mounting, Options & Accessories

E4WH – 4W Emergency Battery Backup

D = 6.5″

H = 5″

W = 11″



BBW – Standard Back Box

D = 1.5″

H = 4″

W = 5.5″

For surface conduit applications.
3/4" conduit entry holes.

FEATURES & SPECIFICATIONS

INTENDED USE
The clean architectural shape of the ARC LED was designed for applications such as hospitals, schools, malls, restaurants, and commercial buildings. The long-life LEDs and driver make this luminaire nearly maintenance-free.

CONSTRUCTION
The die-cast aluminum housing and door act as heat sinks to optimize thermal transfer from the light engine and driver to promote long-life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP65 rating for the luminaire.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Recessed lens to cut off high angle light and reduce glare. Combination of diffused lens and reflector design has low surface brightness creating a visually comfortable environment with great distribution. LEDs are fully hidden from view to eliminate pixelization and harsh glare. The ARC LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long-life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire is 0-10V dimmable.

INSTALLATION
The universal wall plate, supplied with the luminaire, fits multiple size junction boxes and supports the luminaire during wiring for easy installation. Built-in wet location wiring compartment on the luminaire to accommodate wiring connections for where there is no junction box. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Luminaire is IP65 rated. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International DarkSky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. Rated for -40°C minimum ambient.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: TWX2 LED P3 50K MVOLT DDBXD Note:	Type WC

APPROVED AS NOTED

TWX2 LED

LED Wall Luminaire

DLC LISTED

Catalog Number

Notes

Type

NOTE THAT SOME 'WCE' FIXTURE TYPES EXIST ON THE DRAWINGS BUT NOT THE FIXTURE SCHEDULE. PROVIDE REMOTE BATTERY PACK(S) AS NEEDED OR CHANGE TO FIXTURE SELECTION WITH INTERNAL BACKUP.

Hit the Tab key or mouse over the page to see all interactive elements.

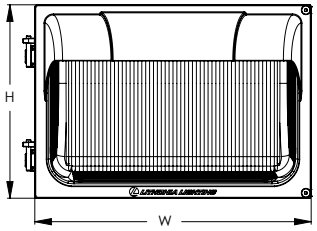
Introduction

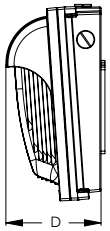
TWX LED wall pack family, a ground-up design that has the low initial cost customers demand while providing superior performance and a traditional form. The TWX2 LED is energy efficient, saving up to 82% in energy costs when replacing a metal halide luminaire. Offering an expected service life of more than 20 years, the TWX2 LED eliminates frequent lamp and ballast replacements associated with traditional technologies.

The Adjustable Light Output (ALO) feature allows the contractor to set the light output during installation, to a level perfectly suited for the job site. The TWX2 LED ALO luminaires can replace anything from a 70W to 250W metal halide luminaire.

Specifications

Depth: 4.5"
Height: 9.0"
Width: 13.0"
Weight: (without options) 11 lbs





TWX LED Family Overview

Luminaire	Voltage	Photocell	Lumens (4000K)			
			P1	P2	P3	P4
TWX1 LED	MVOLT (120-277V)	YES	1,600	2,950	--	--
TWX2 LED	MVOLT (120-277V), 347V, 480V	YES	3,250	4,400	5,250	6,850
TWX3 LED	MVOLT (120-277V), 347V	YES	8,800	10,650	12,900	13,850

Ordering Information

EXAMPLE: TWX2 LED ALO 40K MVOLT DDBXD

Series	Package	Color Temperature	Voltage	Options	Finish	
TWX2 LED	P1 3,250 lumens	30K 3000K	MVOLT (120-277V)	PE Photocell, Button Type	DDBXD Dark bronze	DDBTXD Textured dark bronze
	P2 4,400 lumens	40K 4000K	347		DBLXD Black	DBLBXD Textured black
	P3 5,250 lumens	50K 5000K	480		DWHXD White	DWHGXD Textured White
	P4 6,850 lumens				DNAXD Natural aluminum	DNATXD Textured natural aluminum
	ALO 1,450 - 6,850 lumens					

Accessories

*543982 RK1 PEB SHLD U Button style photocell shield

FEATURES & SPECIFICATIONS

INTENDED USE
The TWX2 LED is an energy-efficient, low maintenance LED wall pack for replacing up to a 250W MH fixture, providing the same footprint on the wall. TWX2 is ideal for applications such as carports, loading areas, driveways and parking areas.

CONSTRUCTION
Two-piece die-cast aluminum housing to optimize thermal management through conductive and convective cooling. The door is hinged on the side and can be removed for easy installation. The housing is completely sealed against moisture and environmental contaminants (IP65) and is suitable for the hose-down applications.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS
The advanced optical design uses both reflector and refractor technologies that work together to create superior illumination and further throw, getting the light where it is needed. The US-made borosilicate glass refractor is specifically designed to maximize light extraction and create a fully luminous luminaire for a better nighttime look.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to housing to maximize heat dissipation and promote long-life (up to L81/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%.

INSTALLATION
Designed for wall mounting above four feet from the ground. Housing is configured for mounting directly over a standard junction box (by others) or for surface wiring via any of three 1/2" threaded entry hubs.

LISTINGS
CSA certified to U.S. and Canadian standards. IP65 rated for outdoor applications. Rated for -40°C minimum ambient.
DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: TWX2 LED P3 50K MVOLT DDBXD Note:	Type WC

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	30K (3000K, 80 CRI)		40K (4000K, 80 CRI)		50K (5000K, 80 CRI)	
		Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	23W	3,100	135	3,250	141	3,250	141
P2	32W	4,200	131	4,400	138	4,400	138
P3	39W	5,050	129	5,250	135	5,250	135
P4/ALO	54W	6,550	121	6,850	127	6,850	127

Electrical Load

Performance Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	23W	0.195	0.112	0.097	0.084	0.067	0.049
P2	32W	0.268	0.154	0.134	0.116	0.093	0.067
P3	39W	0.326	0.188	0.163	0.141	0.113	0.082
P4/ALO	54W	0.447	0.258	0.224	0.194	0.155	0.112

Adjustable Lumen Output (ALO) Table

Setting	System Watts	Lumen Output	Replaces Metal Halide
8*	54W	6,850	250W
7	51W	6,550	
6	42W	5,650	150/175W
5	36W	4,900	
4	29W	4,050	
3	22W	3,200	100W
2	15W	2,200	70W
1	9W	1,450	

* Factory default setting is #8

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.05
10°C	50°F	1.03
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	60,000	100,000
Lumen Maintenance Factor	1.0	>0.95	>0.90	>0.88	>0.81

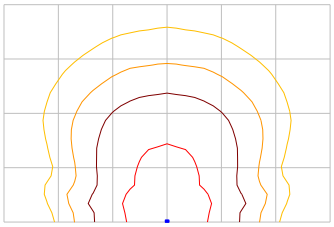
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting TWX LED homepage.
Tested in accordance with IESNA LM-79 and LM-80 standards

LEGEND

- 0.25 fc
- 0.5 fc
- 1.0 fc
- 3.0 fc

MH = 15ft
Grid = 15ft x 15ft
ISO lines = 0.25fc, 0.5fc, 1.0fc, 3.0fc



TWX2 LED ALO

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: LQM S W 3 R MVOLT EL N SD M6 Note:	Type X

APPROVED

LITHONIA LIGHTING®

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for applications requiring attractive, quick-installation exit signs and low energy consumption. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant, and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional mechanical fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet easily removable for lamp compartment access.

Universal directional Chevron inserts are easily removed and reinserted. Uniform illumination without shadows or hot spots. Reinforced, impact-resistant color panels. Letters 6" high with 3/4" stroke, with 100 ft. viewing distance rating, based upon UL924 standards.

U.S. Patent No. 5,526,251; 5,611,163; 5,739,639; 5,954,423; 5,988,825; 6,152,581; D383,501; D495,751 and 6,502,044. Other patents pending.

OPTICS — LEDs mounted on printed circuit boards. Low energy consumption – less than one watt. LED lamp operates in normal (AC input) and emergency (DC input) modes.

The typical life of the exit LED lamp is 5 years, based on 24/7 operation.

ELECTRICAL — Dual voltage input capability (120/277V) and 120V through 277V for MVOLT with SD.

Low-voltage disconnect prevents excessively deep discharge that can permanently damage battery. Conveniently located test switch and LED provide visual and manual means of monitoring system.

Constant-current series charger minimizes energy consumption and provides low operating costs. Printed circuit boards are 100% quality tested during manufacturing. Current-limiting charger circuitry protects printed circuit boards from shorts.

AC/LV reset (line latch) allows battery connection before AC power is applied and aids in preventing battery damage from deep discharge.

Crystal oscillator timing system with watchdog protection for precision accuracy.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.

Battery: Sealed, maintenance-free nickel-cadmium battery delivers 90-minutes capacity to emergency lamps. Two-state constant-current charge maximizes battery life and automatically recharges after battery discharge.

Diagnostics: Single-point microcomputer control for all electronic features.

Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

SELF-DIAGNOSTICS (SD and AELR option):
Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection.Self-diagnostic testing for five minutes every 30 days and 90 minutes every six months.

Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition. Continuously monitors AC functionality.

AELR option: STAR (Self-testing Automated Reporting) radio transmits monthly and annual test results and diagnostics information for automated reporting requirements.
For more information visit AcuityBrands.com/STAR

INSTALLATION — Universal mounting canopy for top or end mount. Back mount standard for single face only. Easily removed mounting knockouts. J-box pattern on back panel. Housing snaps to canopy with four positive-locking tabs. Cam-locking pin tightly secures housing to canopy.

Ships standard as single face exit with additional face plate and color panel. Allows capability to convert a single sided exit to a double sided exit in the field.

QUANTUM®

Thermoplastic Exits

LQM

LED LAMPS

CERTIFIED IN TITLE 20 †

LED

Specifications

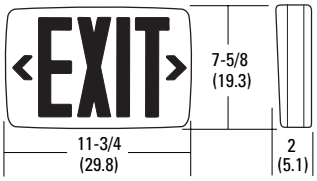
Length: 11-3/4 (29.8)

Depth: 2 (5.1)

Height: 7-5/8 (19.3)

Weight: 2.6 lbs (1.2 kgs)

All dimensions are inches (centimeters) unless otherwise specified.



LISTINGS — UL damp location listed 50°-104°F (10°-40°C) standard. NOM Certified (see options). Meets UL924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. Meets all applicable FCC Title 47, Part 15, Subpart B requirements.

WARRANTY — 5-year limited warranty. (Battery is prorated.) This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

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Specifications subject to change without notice.

† Exit Signs Certified in the CA Title 20 Appliance Efficiency Database.

CS CONTRACTOR SELECT — Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to www.contractorselect.com

Example: LQM S W 3 R 120/277 EL N
Example: LQM S W 3 R MVOLT EL N SD
Example: LQM S W 3 R MVOLT EL N SD AELR

ORDERING INFORMATION

For shortest lead times, configure product using **bolded options.**

LQM							
Family	**Face type**	**Housing color**	**Number of faces**	**Letter color**	**Input voltage**	**Operation**	**Options**
LQM[1]	**S** Stencil	**(blank)** Black	**3** Single face with extra faceplate and color panel	**R** Red	**120/277** Dual voltage	**(blank)** AC only	**(blank)** None
		W White		**G** Green	**MVOLT** Multi volt 120-277, 50/60hz[2]	**X2** Primary and secondary AC inputs provided[3]	NOM NOM certified for Mexico[4]
						EL N Nickel cadmium battery	SD Self-diagnostics[5]
							AELR Automatic Emergency Lighting Reporting[6]

Accessories: Order as separate item.			
ELA WG1	Back-mount wireguard[7]	ELA LQMUS12	12" stem kit[8]

Notes
1 LQM available with Custom Signage. See spec sheet, Custom-Signage.
2 Only available with EL N SD. See Example for ordering.
3 Not available with other options. Both circuits can be energized at the same time.
4 Available with stencil face and white housing only. Not available with MVOLT EL N SD configuration.
5 Only available with MVOLT and EL N operation. See Example for ordering.
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7 See spec sheet ELA-WG.
8 See spec sheet ELA-Stemkits.

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: LQM S W 3 R MVOLT EL N SD M6 Note:	Type X

LQM LED, Quantum®

Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the CIAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

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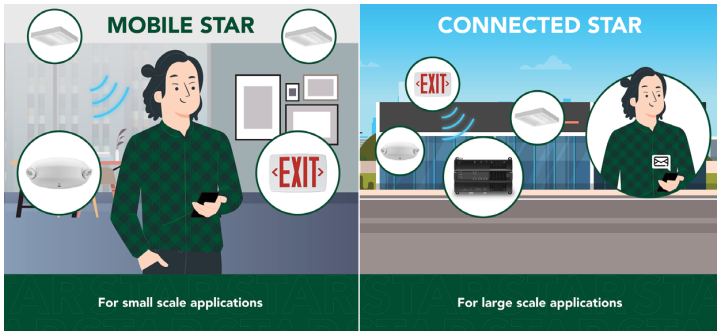
- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction



SPECIFICATIONS

ELECTRICAL

Primary Circuit

Type[1]	Typical LED life[2]	Supply voltage	Input watts	Max. amps
Red LED AC Only	>5 years	120	.62	.05
		277	.69	.06
Green LED AC Only	>5 years	120	.62	.05
		277	.74	.06
Red LED Emergency	>5 years	120	.71	.05
		277	.92	.06
Green LED Emergency	>5 years	120	.66	.05
		277	.70	.06

BATTERY

Nickel Cadmium

Voltage	Typical shelf life[3]	Typical life[3]	Maintenance[4]	Temperature range[5]
1.2	3 years	6-8 years	none	50°F - 104°F (10°C - 40°C)

Notes

1 LED lamps operate in normal (AC input) and emergency (DC input) modes.

2 Based on 24/7 operation. The typical life of the exit LED lamp is 5 years.

3 At 77°F (25°C).

4 All life safety equipment, including emergency lighting for path of egress must be maintained, serviced and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

5 Temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.

MOUNTING

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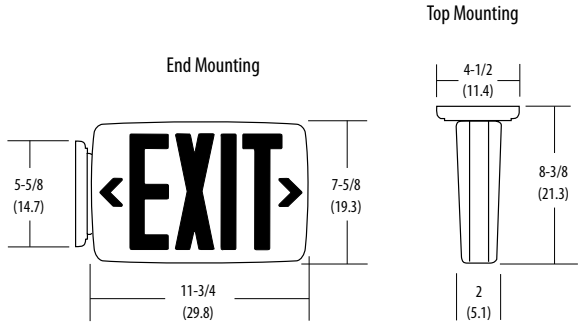
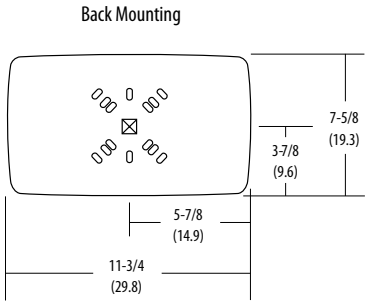
Shipping weight: 2.6 lbs. (1.2 kgs.)





EMERGENCY: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) techsupport-lighting@acuitybrands.com www.lithonia.com

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: LQM S W 3 R MVOLT EL N SD M6 Note:	Type XC

APPROVED

LITHONIA LIGHTING®

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal for applications requiring attractive, quick-installation exit signs and low energy consumption. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant, and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional mechanical fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet easily removable for lamp compartment access.

Universal directional Chevron inserts are easily removed and reinserted. Uniform illumination without shadows or hot spots. Reinforced, impact-resistant color panels. Letters 6" high with 3/4" stroke, with 100 ft. viewing distance rating, based upon UL924 standards.

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OPTICS — LEDs mounted on printed circuit boards. Low energy consumption – less than one watt. LED lamp operates in normal (AC input) and emergency (DC input) modes.

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ELECTRICAL — Dual voltage input capability (120/277V) and 120V through 277V for MVOLT with SD.

Low-voltage disconnect prevents excessively deep discharge that can permanently damage battery. Conveniently located test switch and LED provide visual and manual means of monitoring system.

Constant-current series charger minimizes energy consumption and provides low operating costs. Printed circuit boards are 100% quality tested during manufacturing. Current-limiting charger circuitry protects printed circuit boards from shorts.

AC/LV reset (line latch) allows battery connection before AC power is applied and aids in preventing battery damage from deep discharge.

Crystal oscillator timing system with watchdog protection for precision accuracy.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.

Battery: Sealed, maintenance-free nickel-cadmium battery delivers 90-minutes capacity to emergency lamps. Two-state constant-current charge maximizes battery life and automatically recharges after battery discharge.

Diagnostics: Single-point microcomputer control for all electronic features.

Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

SELF-DIAGNOSTICS (SD and AELR option):
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Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition. Continuously monitors AC functionality.

AELR option: STAR (Self-testing Automated Reporting) radio transmits monthly and annual test results and diagnostics information for automated reporting requirements.
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INSTALLATION — Universal mounting canopy for top or end mount. Back mount standard for single face only. Easily removed mounting knockouts. J-box pattern on back panel. Housing snaps to canopy with four positive-locking tabs. Cam-locking pin tightly secures housing to canopy.

Ships standard as single face exit with additional face plate and color panel. Allows capability to convert a single sided exit to a double sided exit in the field.

QUANTUM®

Thermoplastic Exits

LQM

LED LAMPS

CERTIFIED IN TITLE 20 †

LED

Specifications

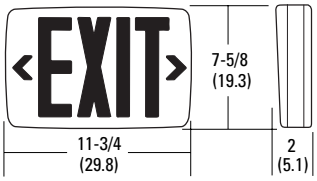
Length: 11-3/4 (29.8)

Depth: 2 (5.1)

Height: 7-5/8 (19.3)

Weight: 2.6 lbs (1.2 kgs)

All dimensions are inches (centimeters) unless otherwise specified.



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CS CONTRACTOR SELECT

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Example: LQM S W 3 R 120/277 EL N
Example: LQM S W 3 R MVOLT EL N SD
Example: LQM S W 3 R MVOLT EL N SD AELR

ORDERING INFORMATION

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LQM							
Family	**Face type**	**Housing color**	**Number of faces**	**Letter color**	**Input voltage**	**Operation**	**Options**
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		W White		**G** Green	**MVOLT** Multi volt 120-277, 50/60hz[2]	**X2** Primary and secondary AC inputs provided[3]	NOM NOM certified for Mexico[4]
						EL N Nickel cadmium battery	SD Self-diagnostics[5]
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Accessories: Order as separate item.			
ELA WG1	Back-mount wireguard[7]	ELA LQMUS12	12" stem kit[8]

Notes
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8 See spec sheet ELA-Stemkits.

AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: LQM S W 3 R MVOLT EL N SD M6 Note:	Type XC

LQM LED, Quantum®

Enabled with STAR

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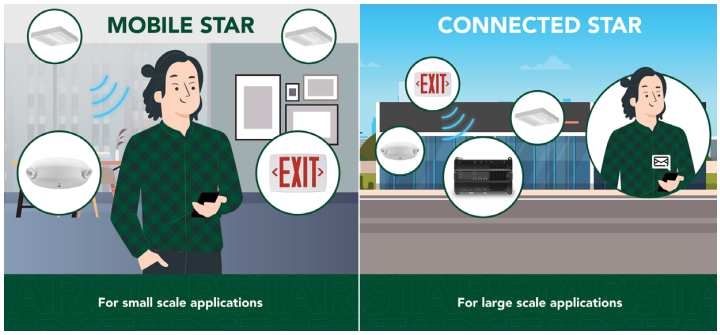

SPECIFICATIONS

ELECTRICAL

Primary Circuit

Type[1]	Typical LED life[2]	Supply voltage	Input watts	Max. amps
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		277	.69	.06
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BATTERY

Nickel Cadmium

Voltage	Typical shelf life[3]	Typical life[3]	Maintenance[4]	Temperature range[5]
1.2	3 years	6-8 years	none	50°F - 104°F (10°C - 40°C)

Notes

1 LED lamps operate in normal (AC input) and emergency (DC input) modes.

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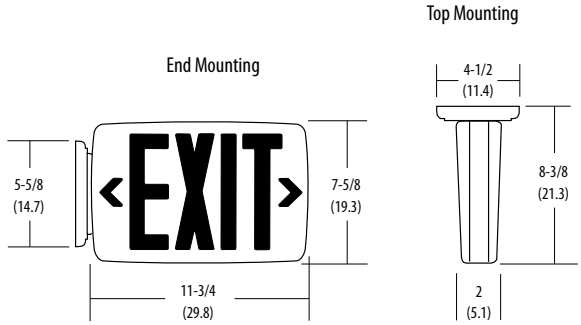

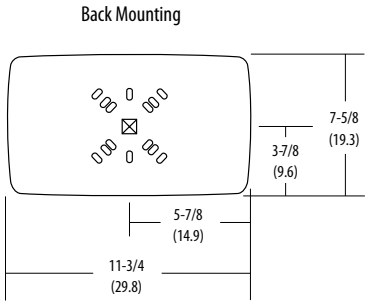

EMERGENCY: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) techsupport-lighting@acuitybrands.com www.lithonia.com

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: LQM S W 3 R MVOLT EL N SD M6 Note:	Type XWG

APPROVED AS NOTED

LITHONIA LIGHTING®

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

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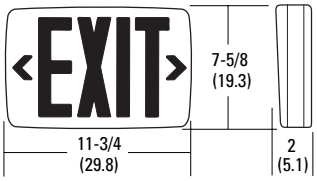

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Example: LQM S W 3 R 120/277 EL N
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INCLUDE WIREGUARD WITH THIS SELECTION.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: LQM S W 3 R MVOLT EL N SD M6 Note:	Type XWG

LQM LED, Quantum®

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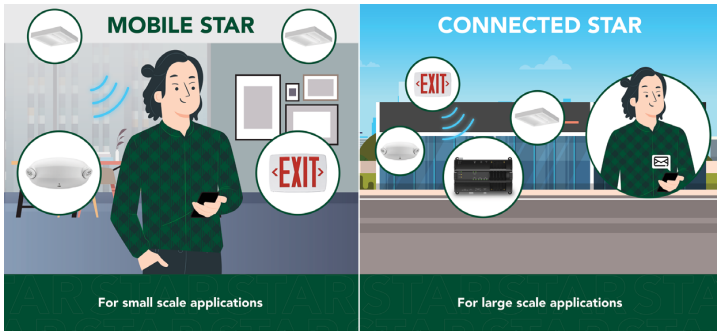

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Red LED AC Only	>5 years	120	.62	.05
		277	.69	.06
Green LED AC Only	>5 years	120	.62	.05
		277	.74	.06
Red LED Emergency	>5 years	120	.71	.05
		277	.92	.06
Green LED Emergency	>5 years	120	.66	.05
		277	.70	.06

BATTERY

Nickel Cadmium

Voltage	Typical shelf life[3]	Typical life[3]	Maintenance[4]	Temperature range[5]
1.2	3 years	6-8 years	none	50°F - 104°F (10°C - 40°C)

Notes

1 LED lamps operate in normal (AC input) and emergency (DC input) modes.

2 Based on 24/7 operation. The typical life of the exit LED lamp is 5 years.

3 At 77°F (25°C).

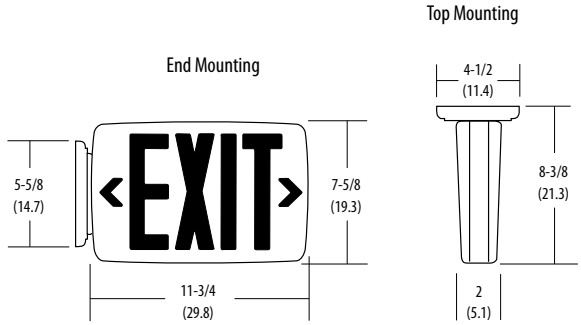
4 All life safety equipment, including emergency lighting for path of egress must be maintained, serviced and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

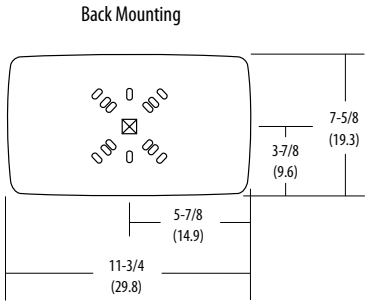
5 Temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.

MOUNTING

All dimensions are inches (centimeters) unless otherwise specified.

Shipping weight: 2.6 lbs. (1.2 kgs.)





EMERGENCY: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) techsupport-lighting@acuitybrands.com www.lithonia.com

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RTA 18 5C DM19AS DDBXD Note:	Type PL(POLE)

APPROVED AS NOTED

LITHONIA LIGHTING®

Catalog Number
Notes
Type

Anchor Base Poles

RTA

ROUND TAPERED ALUMINUM

FEATURES & SPECIFICATIONS

INTENDED USE — **These specifications are for USA standards only.** Round Tapered Aluminum is a general purpose light pole for up to 50-foot mounting heights. This pole provides a lighter and naturally corrosion-resistant option for mounting area light fixtures and floodlights.

CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform wall thickness and is one-piece extruded 6063 aluminum alloy with T6 temper. The shaft is cone-tapered. Available shaft diameters are 4", 5", 6", 7", 8", and 10". Taper rates are variable.

Pole Top: Options include 4" tall tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. A removable cast aluminum top cap with set screws is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with open top (PT) option. The top cap resists intrusion of moisture and environmental contaminants.

Handhole: 4" - 6" RTA poles have non-reinforced 2" x 4" handhole with overlap cover. 7" - 10" RTA poles have reinforced 4" x 6" handhole with flush surface covers. 4" - 5" RTA poles have handhole located 12" above base. 6" - 10" RTA poles handhole located 18" above base on side A. Poles with non-reinforced handhole have supplemental ground lug with tapped hole for 3/8-16 ground bolt welded inside pole opposite handhole. Poles with reinforced handhole have 5/16-18 tapped hole in handhole reinforcement adjacent to opening. Positioning the handhole lower than standard may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Standard and extra handholes come with cover and attachment hardware.

Bolt Caps/Base Cover: Pole base plate for RTA poles utilizes cast aluminum A365 bolt caps to cover anchor bolt and nut assembly (included). 1 piece, spun aluminum base cover available as an option.

Anchor Base/Bolts: Anchor base is cast from A356 alloy aluminum and is heat treated to a T6 temper after welding. Anchor bolts are manufactured to ASTM F1554 Standards Grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Upper portion of anchor bolt is galvanized per ASTM A-153; bolts have an "L" bend on bottom end and are galvanized a minimum of 12" on the threaded end. Each hot-dipped galvanized anchor bolt is furnished with two hex nuts and two flat washers.

HARDWARE — All structural and non-structural fasteners are stainless-steel.

FINISH — Extra durable painted finish is coated with polyester powder that meets 5A and 5B classifications of ASTM D3359. Standard powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Other finishes include Brushed Aluminum, and Anodized Dark Bronze, Anodized Natural Aluminum and Anodized Black. Architectural Colors and Special Finishes are available by quote and include, but are not limited to RAL Colors, Custom Colors and Extended Warranty Finishes.

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

AMA LIGHTING	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RTA 18 5C DM19AS DDBXD Note:	Type PL(POLE)

REVISE TO '5G' TO MATCH SPECIFIED.

RTA Round Tapered Aluminum Poles

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: RTA 25 6E DM18ESX BA

RTA					
Series	**Nominal fixture mounting height**	**Nominal shaft base size/wall thickness[1]**	**Mounting[2]**	**Options**	**Finish**
RTA	8'-50' (for 1/2 ft increments, add -6 to the pole height. **Ex:** 20-6 equals 20ft 6in.) (See technical information table for complete ordering information.) 18'	4C 4" (.125") 5C 5" (.125") 5E 5" (.156") 5G 5" (.188") 6E 6" (.156") 6G 6" (.188") 7E 7" (.156") 8E 8" (.156") 8G 8" (.188") 8J 8" (.250") 9G 9" (.188") 10G 10" (.188") 10J 10" (.250") (See technical information table for complete ordering information.)	Tenon mounting PT Open top T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS) T35 4" O.D. (3-1/2" NPS) DSX/RSX/OMERO™ Drill mounting[3] DM19AS 1 at 90° DM28AS 2 at 180° DM28AS PL 2 at 180° with one side plugged DM29AS 2 at 90° DM32AS 3 at 120° DM39AS 3 at 90° DM49AS 4 at 90° RAD Drill mounting[3] DM19RAD 1 at 90° DM28RAD 2 at 180° DM29RAD 2 at 90° DM32RAD 3 at 120° DM39RAD 3 at 90° DM49RAD 4 at 90° ESX Drill mounting[3] DM19ESX 1 at 90° DM28ESX 2 at 180° DM29ESX 2 at 90° DM39ESX 3 at 90° DM49ESX 4 at 90° Arm Drill mounting , see also RTAU To be added as series + drill orientations **Ex:** SMAC19 for SMAC arm drilling 1 at 90°	VD Vibration damper[4] JHxy J-Hook for cable strain relief[5] HAxy Horizontal arm bracket (1 fixture)[5,6] FDLxy Festoon outlet less electrical[5,7] FDLGFCIxy Festoon with GFCI outlet and in-use cover[5,8] CPL12/xy 1/2" I.D. coupling[5] CPL34/xy 3/4" I.D. coupling[5] CPL1/xy 1" I.D. coupling[5] NPL12/xy 1/2" O.D. threaded nipple[5] NPL34/xy 3/4" O.D. threaded nipple[5] NPL1/xy 1" O.D. threaded nipple[5] EHHxy Extra handhole[5,9] FBC Full base cover (spun aluminum) L/AB Less anchor bolts (Include when anchor bolts are not needed) TP Tamper resistant handhole cover fasteners NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) UL UL listed with label (Includes NEC compliant cover) BAA Buy America(n) Act Compliant[10]	Super durable paint colors DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DGCXD Charcoal gray DTGXD Tennis green DBRXD Bright red DSBXD Steel blue DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white Brushed finish BA Brushed aluminum Class 1 architectural anodized ABL Black ADB Dark bronze ANA Natural Architectural colors and special finishes[11] VP33A 3 year warranty extension VP55A 5 year warranty extension RAL#### Use designated Lithonia Lighting nomenclature in brochure Custom color Nomenclature assigned through Customer Care "Custom Color Process"

Accessories: *Order as separate catalog number.*

PL DT20	Plugs for ESX drillings
PL DT8	Plugs for DMxxAS drillings
FVD xxFT	Field installed vibration damper (snake style)

NOTES:

1. Wall thickness will be signified with a "C", "E", "G" or a "J" in nomenclature. "C" - 0.125 | "E" - 0.156 | "G" - 0.188 | "J" - 0.250.
2. PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, specify as drilling option/tenon option. The combination includes a required extra handhole. *Example: DM28/T20.*
3. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility.
4. On 4" and 5" poles, VD cannot be installed if provisions (EHH, FDL, NPL, CPL) are located higher than 2/3 of the pole's total height. *Example: Pole height is 25ft, A provision cannot be placed above 16ft.*
5. Specify location and orientation when ordering option.
   For "x": Specify the height above the base of pole in feet or feet and inches; separate feet and inches with a "-".
   Example: 5ft = 5 and 20ft 3in = 20-3
   For "y": Specify orientation from handhole (A,B,C,D) Refer to the Handhole Orientation diagram below.
   Example: 1/2" coupling at 5' 8", orientation C = CPL12/5-8C
6. Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" O.D. If ordering two horizontal arm at the same height, specify with HAxyy. *Example: HA20BD.*
7. FDL does not come with GFCI outlet or handhole cover. These must be supplied by contractor or electrician.
8. Festoon option that comes with GFCI and weather tight, steel, in-use cover. GFCI and in-use cover ship separately from pole.
9. Combination of tenon-top and drill mount includes extra handhole. EHH includes cover.
10. Use when mill certifications are required. Some configurations may be excluded, consult factory.
11. Must be quoted through AQD. Finishes do not require RFA. RAL colors available are shown in "Architectural Colors brochure". Lead times may be extended up to 2 weeks due to paint procurement.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RTA 18 5C DM19AS DDBXD Note:	Type PL(POLE)

RTA Round Tapered Aluminum Poles

TECHNICAL INFORMATION — EPA (FT^2) WITH 1.3 GUST								
Catalog number	**Nominal mounting height (ft.)***	**Pole shaft size (Base O.D.in. x Top O.D. in x ft.)**	**Wall thickness (in.)**	**80 MPH**	**90 MPH**	**100 MPH**	**Max. weight (lbs.)**	**Approx. ship weight (lbs.)**
RTA 20 5C	20	5 x 3 x 19.66	0.125	3.9	2.5	1.6	100	62
RTA 20 5G	20	5 x 3 x 19.66	0.188	7.4	5.2	3.8	100	72
RTA 20 6G	20	6 x 4 x 19.66	0.188	12.2	9.2	7.2	214	107
RTA 20 7E	20	7 x 4 x 19.66	0.156	15.0	11.4	9.0	256	103
RTA 25 6E	25	6 x 4 x 24.66	0.156	5.3	3.6	2.6	114	106
RTA 25 7E	25	7 x 4 x 24.66	0.156	9.5	7.0	5.4	162	120
RTA 25 8E	25	8 x 4.5 x 24.66	0.156	14.2	10.9	8.5	220	130
RTA 25 8G	25	8 x 4.5 x 24.66	0.188	18.0	13.8	10.9	261	153
RTA 25 9G	25	9 X 4.5 X 24.66	0.188	24.2	18.7	14.9	150	167
RTA 30 7E	30	7 x 4 x 29.66	0.156	5.5	3.8	2.7	111	135
RTA 30 8E	30	8 x 4.5 x 29.66	0.156	9.4	7.0	5.3	151	150
RTA 30 8G	30	8 x 4.5 x 29.66	0.188	12.4	9.4	7.3	179	175
RTA 30 9G	30	9 X 4.5 X 29.66	0.188	17.4	13.3	10.4	150	180
RTA 30 10G	30	10 x 6 x 29.66	0.188	23.8	18.3	14.3	377	235
RTA 35 8E	35	8 x 4.5 x 34.66	0.156	5.8	4.1	2.9	119	185
RTA 35 8G	35	8 x 4.5 x 34.66	0.188	8.3	6.0	4.5	141	220
RTA 35 8J	35	8 x 4.5 x 34.66	0.250	12.9	9.7	7.5	183	251
RTA 35 9G	35	9 X 4.5 X 24.66	0.188	12.5	9.3	7.2	150	204
RTA 35 10G	35	10 x 6 x 34.66	0.188	17.9	13.6	10.4	295	268
RTA 39 8G	39	8 x 4.5 x 38.66	0.188	5.6	3.9	2.7	122	250
RTA 39 8J	39	8 x 4.5 x 38.66	0.250	9.7	7.1	5.4	158	280
RTA 39 9G	39	9 X 4.5 X 38.66	0.188	9.4	6.8	5.1	150	255
RTA 39 10G	39	10 x 6 x 38.66	0.188	14.2	10.5	7.8	253	295
RTA 39 10J	39	10 x 6 x 38.66	0.250	20.4	15.5	11.9	300	373
RTA 50 10J	50	10 x 6 x 49.66	0.250	12.5	9.1	6.5	300	447

NOTE: EPA values are based ASCE 7-93 wind map. Assumes center of load is located 1.5' above pole top.
*For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.

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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RTA 18 5C DM19AS DDBXD Note:	Type PL(POLE)

RTA Round Tapered Aluminum Poles

TECHNICAL INFORMATION — EPA (ft²) WITH 3-SECOND GUST PER AASHTO 2013

Series	Nominal mounting height (ft.)*	Shaft base size	90 MPH	Max. weight	100 MPH	Max. weight	110 MPH	Max. weight	120 MPH	Max. weight	130 MPH	Max. weight	140 MPH	Max. weight	150 MPH	Max. weight
RTA	8	4C	7.7	75	6.1	75	4.9	75	4	75	3.3	75	2.8	75	2.4	75
RTA	10	4C	5.9	75	4.6	75	3.6	75	2.9	75	2.3	75	1.9	75	1.6	75
RTA	10	5C	11.5	75	9.1	75	7.3	75	6	75	5	75	4.2	75	3.6	75
RTA	12	4C	4.5	75	3.4	75	2.6	75	2	75	1.5	75	1.2	75	0.9	75
RTA	12	5C	9.2	75	7.2	75	5.7	75	4.6	75	3.8	75	3.2	75	2.7	75
RTA	12	5E	11.6	75	9.2	75	7.4	75	6	75	5	75	4.2	75	3.6	75
RTA	12	5G	14	100	11.1	100	8.9	100	7.3	100	6.1	100	5.1	100	4.4	100
RTA	14	4C	3.4	75	2.5	75	1.8	75	1.2	75	0.8	75	0.5	75	-	75
RTA	14	5C	7.5	75	5.7	75	4.4	75	3.5	75	2.8	75	2.3	75	1.9	75
RTA	14	5E	9.6	75	7.4	75	5.9	75	4.7	75	3.8	75	3.2	75	2.7	75
RTA	14	5G	11.6	100	9	100	7.2	100	5.8	100	4.8	100	4	100	3.4	100
RTA	16	4C	2.5	75	1.6	75	1	75	0.6	75	-	75	-	75	-	75
RTA	16	5C	6	75	4.4	75	3.3	75	2.6	75	2	75	1.6	75	1.2	75
RTA	16	5E	7.8	75	5.9	75	4.6	75	3.6	75	2.9	75	2.3	75	1.9	75
RTA	16	5G	9.6	100	7.3	100	5.8	100	4.6	100	3.7	100	3	100	2.5	100
RTA	16	6E	13.7	100	10.8	100	8.7	100	7.1	100	6	100	5.1	100	4.3	100
RTA	16	6G	16.8	100	13.2	100	10.7	100	8.8	100	7.4	100	6.3	100	5.4	100
RTA	18	5C	4.6	75	3.3	75	2.4	75	1.7	75	1.2	75	0.9	75	0.6	75
RTA	18	5E	6.3	75	4.6	75	3.5	75	2.6	75	2	75	1.5	75	1.2	75
RTA	18	5G	7.8	100	5.8	100	4.5	100	3.5	100	2.7	100	2.2	100	1.8	100
RTA	18	6E	11.3	100	8.8	100	7	100	5.7	100	4.7	100	4	100	3.4	100
RTA	18	6G	13.9	100	10.9	100	8.8	100	7.2	100	6	100	5.1	100	4.3	100
RTA	18	7E	18	150	14.2	150	11.4	150	9.4	150	7.9	150	6.7	150	5.7	150
RTA	20	5C	3.5	75	2.4	75	1.6	75	1	75	0.6	75	-	75	-	75
RTA	20	5E	5	75	3.5	75	2.5	75	1.8	75	1.3	75	0.9	75	-	75
RTA	20	5G	6.3	100	4.6	100	3.4	100	2.5	100	1.9	100	1.4	100	1.1	100
RTA	20	6E	9.3	100	7.1	100	5.5	100	4.5	100	3.7	100	3.1	100	2.6	100
RTA	20	6G	11.6	100	9	100	7.1	100	5.8	100	4.8	100	4	100	3.4	100
RTA	20	7E	15.3	150	12	150	9.6	150	7.8	150	6.5	150	5.5	150	4.7	150
RTA	23	6E	6.9	100	5	100	3.7	100	2.9	100	2.3	100	1.9	100	1.5	100
RTA	23	6G	8.9	100	6.6	100	5.1	100	4	100	3.3	100	2.7	100	2.2	100
RTA	23	7E	12	150	9.2	150	7.2	150	5.8	150	4.8	150	4	150	3.3	150
RTA	23	8E	17.1	150	13.4	150	10.8	150	8.9	150	7.4	150	6.2	150	5.3	150
RTA	23	8G	21.3	150	16.8	150	13.6	150	11.3	150	9.4	150	8	150	6.8	150
RTA	25	6E	5.5	100	3.8	100	2.7	100	2	100	1.5	100	1.2	100	0.9	100
RTA	25	6G	7.3	100	5.3	100	3.9	100	3	100	2.4	100	1.9	100	1.6	100
RTA	25	7E	10.1	150	7.6	150	5.8	150	4.6	150	3.7	150	3.1	150	2.5	150
RTA	25	8E	14.7	150	11.4	150	9.1	150	7.5	150	6.2	150	5.1	150	4.3	150
RTA	25	8G	18.6	150	14.5	150	11.7	150	9.6	150	8	150	6.7	150	5.7	150
RTA	28	7E	7.7	150	5.6	150	4.2	150	3.2	150	2.5	150	2	150	1.6	150
RTA	28	8E	11.8	150	9	150	7.1	150	5.8	150	4.7	150	3.8	150	3.2	150
RTA	28	8G	15.1	150	11.7	150	9.4	150	7.6	150	6.3	150	5.2	150	4.4	150
RTA	28	8J	21.4	150	16.8	150	13.6	150	11.2	150	9.3	150	7.8	150	6.6	150
RTA	28	9G	21	150	16.5	150	13.3	150	10.9	150	9.1	150	7.6	150	6.4	150
RTA	28	10G	27.5	200	21.9	200	17.8	200	14.6	200	12.1	200	10.1	200	8.5	200
RTA	28	10J	37.3	300	29.9	300	24.4	300	20.2	300	16.9	300	14.2	300	12	300
RTA	30	7E	6.3	150	4.4	150	3.1	150	2.2	150	1.7	150	1.3	150	0.9	150
RTA	30	8E	10	150	7.4	150	5.8	150	4.6	150	3.7	150	3	150	2.4	150
RTA	30	8G	13.1	150	9.9	150	7.9	150	6.4	150	5.2	150	4.3	150	3.5	150
RTA	30	9G	18.6	150	14.6	150	11.7	150	9.5	150	7.8	150	6.5	150	5.4	150

NOTE: AASHTO 2013 design criteria is the most common EPA and uses wind map ASCE7-05. Please review the project Spec document to determine the correct design criteria for the poles on your jobsite.
*For 1/2 ft increments, add -6 to the pole height.

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RTA Round Tapered Aluminum Poles

TECHNICAL INFORMATION (cont.)— EPA (ft^2) WITH 3-SECOND GUST PER AASHTO 2013

Series	Nominal mounting height (ft.)*	Shaft base size	90 MPH	Max. weight	100 MPH	Max. weight	110 MPH	Max. weight	120 MPH	Max. weight	130 MPH	Max. weight	140 MPH	Max. weight	150 MPH	Max. weight
RTA	30	8J	18.9	150	14.6	150	11.7	150	9.6	150	8	150	6.7	150	5.6	150
RTA	30	10G	24.6	200	19.6	200	15.8	200	13	200	10.7	200	8.8	200	7.3	200
RTA	30	10J	33.7	300	26.9	300	21.9	300	18.1	300	15	300	12.6	300	10.6	300
RTA	33	8E	7.8	150	5.7	150	4.3	150	3.4	150	2.6	150	2	150	1.5	150
RTA	33	8G	10.6	150	7.9	150	6.2	150	4.9	150	3.9	150	3.1	150	2.5	150
RTA	33	9G	15.5	150	11.9	150	9.5	150	7.6	150	6.2	150	5.1	150	4.1	150
RTA	33	8J	15.7	150	12.1	150	9.6	150	7.8	150	6.4	150	5.3	150	4.4	150
RTA	33	10G	20.8	200	16.5	200	13.2	200	10.7	200	8.8	200	7.2	200	5.8	200
RTA	33	10J	28.9	300	23	300	18.6	300	15.3	300	12.6	300	10.5	300	8.7	300
RTA	35	8E	6.3	150	4.4	150	3.2	150	2.4	150	1.8	150	1.3	150	0.9	150
RTA	35	8G	8.9	150	6.5	150	5	150	3.9	150	3	150	2.4	150	1.8	150
RTA	35	9G	13.6	150	10.4	150	8.2	150	6.6	150	5.3	150	4.2	150	3.4	150
RTA	35	8J	13.9	150	10.6	150	8.4	150	6.7	150	5.5	150	4.4	150	3.6	150
RTA	35	10G	18.7	200	14.7	200	11.7	200	9.4	200	7.6	200	6.1	200	4.9	200
RTA	35	10J	25.9	300	20.6	300	16.6	300	13.6	300	11.2	300	9.3	300	7.7	300
RTA	37	8G	7.6	150	5.5	150	4.1	150	3.2	150	2.4	150	1.8	150	1.3	150
RTA	37	9G	12	150	9.1	150	7	150	5.5	150	4.4	150	3.4	150	2.6	150
RTA	37	8J	12.2	150	9.2	150	7.2	150	5.7	150	4.6	150	3.6	150	2.9	150
RTA	37	10G	16.7	200	13.1	200	10.3	200	8.2	200	6.5	200	5.2	200	4	200
RTA	37	10J	23.7	300	18.7	300	15	300	12.2	300	9.9	300	8.1	300	6.5	300
RTA	39	8G	6.3	150	4.4	150	3.2	150	2.4	150	1.7	150	1.1	150	0.7	150
RTA	39	9G	10.5	150	7.8	150	6	150	4.6	150	3.5	150	2.7	150	2	150
RTA	39	8J	10.6	150	7.9	150	6.1	150	4.8	150	3.7	150	2.9	150	2.2	150
RTA	39	10G	14.9	200	11.6	200	9.1	200	7.1	200	5.6	200	4.3	200	3.2	200
RTA	39	10J	21.5	300	16.9	300	13.4	300	10.8	300	8.7	300	7	300	5.6	300
RTA	48	10J	12.6	300	9.7	300	7.5	300	5.8	300	4.4	300	3.2	300	2.2	300
RTA	50	10J	11.2	300	8.4	300	6.4	300	4.9	300	3.6	300	2.5	300	1.6	300

NOTE: AASHTO 2013 design criteria is the most common EPA and uses wind map ASCE7-05. Please review the project Spec document to determine the correct design criteria for the poles on your jobsite.
*For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.

TECHNICAL INFORMATION - EPA (ft^2) PER FLORIDA BULIDING CODE 2023

Series	Nominal mounting height (ft.)*	Shaft base size	Top O.D. (in.)	115 MPH		120 MPH		130 MPH		140 MPH		150 MPH		160 MPH		170 MPH		180MPH	
				Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)
RTA	8	4C	3	6.0	75	5.4	75	4.5	75	3.8	75	3.2	75	2.7	75	2.4	75	2	75
RTA	10	4C	3	4.5	75	4.0	75	3.3	75	2.7	75	2.2	75	1.8	75	1.5	75	1.3	75
RTA	10	5C	3	8.9	75	8.1	75	6.7	75	5.7	75	4.8	75	4.1	75	3.6	75	3.1	75
RTA	12	4C	3	3.3	75	2.9	75	2.3	75	1.8	75	1.4	75	1.1	75	0.8	75	0.7	75
RTA	12	5C	3	7.0	75	6.3	75	5.2	75	4.3	75	3.6	75	3.1	75	2.6	75	2.3	75
RTA	12	5E	3	8.9	75	8.1	75	6.7	75	5.6	75	4.8	75	4.1	75	3.5	75	3	75
RTA	12	5G	3	10.8	100	9.8	100	8.1	100	6.9	100	5.8	100	5	100	4.3	100	3.8	100
RTA	14	4C	3	2.4	75	2.0	75	1.5	75	1.1	75	0.7	75	-	75	-	75	-	75
RTA	14	5C	3	5.5	75	4.9	75	4.0	75	3.2	75	2.6	75	2.2	75	1.8	75	1.5	75
RTA	14	5E	3	7.2	75	6.5	75	5.3	75	4.4	75	3.6	75	3	75	2.6	75	2.2	75
RTA	14	5G	3	8.8	100	7.9	100	6.5	100	5.4	100	4.6	100	3.9	100	3.3	100	2.9	100
RTA	16	4C	3	1.6	75	1.3	75	0.8	75	-	75	-	75	-	75	-	75	-	75
RTA	16	5C	3	4.3	75	3.8	75	2.9	75	2.3	75	1.8	75	1.4	75	1.1	75	0.9	75
RTA	16	5E	3	5.8	75	5.1	75	4.1	75	3.3	75	2.6	75	2.2	75	1.8	75	1.5	75
RTA	16	5G	3	7.1	100	6.4	100	5.2	100	4.2	100	3.4	100	2.9	100	2.4	100	2	100
RTA	16	6E	4	10.4	100	9.4	100	7.8	100	6.5	100	5.6	100	4.8	100	4.2	100	3.7	100
RTA	16	6G	4	12.8	100	11.6	100	9.7	100	8.2	100	7	100	6.1	100	5.3	100	4.7	100

NOTE:
1) Listed capacities assume the location of the design loads are a maximum of 2'-6" above the pole top and 2'-0" eccentric to the pole centerline.
2) Design capacities are in acccordance with 2023 FBC category II wind loading (ASCE 7-22 wind maps) and exposure category C. Contact Product Support Outdoor for criteria outside of these conditions.
3) The listed capacities are only valid for applications installed in the state of FL. Contact Product Support Outdoor for applications in other states or jurisdictions.

OUTDOOR: One Lithonia Way Conyers, GA 30012 Phone: 800-705-SERV (7378) TechSupport-Lighting@Acuitybrands.com www.lithonia.com
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AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RTA 18 5C DM19AS DDBXD Note:	Type PL(POLE)

RTA Round Tapered Aluminum Poles

TECHNICAL INFORMATION - EPA (ft^2) PER FLORIDA BULIDING CODE 2023

Series	Nominal mounting height (ft.)*	Shaft base size	Top O.D. (in.)	115 MPH		120 MPH		130 MPH		140 MPH		150 MPH		160 MPH		170 MPH		180MPH	
				Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)	Max EPA (ft^2)	Max weight (lbs.)
RTA	18'	5C	3	3.1	100	2.7	100	1.9	100	1.4	100	1	100	0.7	100	-	100	-	100
RTA	18'	5E	3	4.4	100	3.8	100	2.9	100	2.3	100	1.7	100	1.3	100	1	100	0.8	100
RTA	18'	5G	3	5.6	100	5.0	100	3.9	100	3.1	100	2.5	100	2	100	1.6	100	1.3	100
RTA	18'	6E	4	8.4	100	7.5	100	6.2	100	5.1	100	4.3	100	3.7	100	3.2	100	2.8	100
RTA	18'	6G	4	10.5	100	9.5	100	7.8	100	6.5	100	5.6	100	4.8	100	4.2	100	3.6	100
RTA	18'	7E	4	13.7	150	12.4	150	10.3	150	8.7	150	7.4	150	6.4	150	5.6	150	4.9	150
RTA	20'	5C	3	2.2	100	1.8	100	1.1	100	0.7	100	-	100	-	100	-	100	-	100
RTA	20'	5E	3	3.3	100	2.8	100	2.0	100	1.4	100	1	100	0.7	100	-	100	-	100
RTA	20'	5G	3	4.4	100	3.8	100	2.9	100	2.2	100	1.6	100	1.2	100	0.9	100	0.7	100
RTA	20'	6E	4	6.7	100	6.0	100	4.8	100	3.9	100	3.3	100	2.8	100	2.3	100	2	100
RTA	20'	6G	4	8.6	100	7.7	100	6.3	100	5.2	100	4.4	100	3.7	100	3.2	100	2.8	100
RTA	20'	7E	4	11.5	150	10.4	150	8.5	150	7.1	150	6	150	5.2	150	4.5	150	3.9	150
RTA	23'	6E	4	4.7	100	4.1	100	3.1	100	2.4	100	1.9	100	1.5	100	1.2	100	1	100
RTA	23'	6G	4	6.3	100	5.5	100	4.3	100	3.4	100	2.8	100	2.3	100	1.9	100	1.6	100
RTA	23'	7E	4	8.7	150	7.8	150	6.3	150	5.1	150	4.3	150	3.6	150	3.1	150	2.6	150
RTA	23'	8E	4.5	12.8	150	11.6	150	9.6	150	8.1	150	6.9	150	5.9	150	5.1	150	4.4	150
RTA	23'	8G	4.5	16.2	150	14.6	150	12.2	150	10.3	150	8.8	150	7.6	150	6.6	150	5.8	150
RTA	25'	6E	4	3.5	100	3.0	100	2.1	100	1.5	100	1.1	100	0.8	100	0.6	100	-	100
RTA	25'	6G	4	4.9	100	4.3	100	3.2	100	2.4	100	1.9	100	1.5	100	1.2	100	1	100
RTA	25'	7E	4	7.2	150	6.3	150	4.9	150	3.9	150	3.2	150	2.6	150	2.2	150	1.9	150
RTA	25'	8E	4.5	10.8	150	9.7	150	7.9	150	6.6	150	5.6	150	4.8	150	4.1	150	3.5	150
RTA	25'	8G	4.5	13.8	150	12.5	150	10.3	150	8.7	150	7.4	150	6.3	150	5.5	150	4.7	150
RTA	28	7E	4	5.1	150	4.4	150	3.3	150	2.5	150	2	150	1.6	150	1.2	150	1	150
RTA	28	8E	4.5	8.4	150	7.4	150	6	150	4.9	150	4.1	150	3.4	150	2.9	150	2.4	150
RTA	28	8G	4.5	11	150	9.9	150	8	150	6.7	150	5.7	150	4.8	150	4.1	150	3.5	150
RTA	28	8J	4.5	16	150	14.5	150	11.9	150	10.1	150	8.6	150	7.4	150	6.4	150	5.5	150
RTA	28	9G	4.5	15.7	150	14.2	150	11.7	150	9.9	150	8.4	150	7.2	150	6.2	150	5.3	150
RTA	28	10G	6	20.9	200	19.1	200	16	200	13.5	200	11.5	200	9.9	200	8.5	200	7.3	200
RTA	28	10J	6	28.7	300	26.2	300	22.1	300	18.8	300	16.1	300	13.9	300	12	300	10.5	300
RTA	30	7E	4	3.9	150	3.3	150	2.3	150	1.5	150	1.1	150	0.8	150	-	150	-	150
RTA	30	8E	4.5	6.8	150	6	150	4.7	150	3.8	150	3.1	150	2.5	150	2.1	150	1.7	150
RTA	30	8G	4.5	9.3	150	8.2	150	6.6	150	5.4	150	4.5	150	3.8	150	3.2	150	2.7	150
RTA	30	8J	4.5	13.8	150	12.4	150	10.2	150	8.5	150	7.2	150	6.2	150	5.3	150	4.6	150
RTA	30	9G	4.5	13.8	150	12.4	150	10.2	150	8.5	150	7.2	150	6.1	150	5.2	150	4.4	150
RTA	30	10G	6	18.6	200	16.9	200	14.1	200	11.9	200	10.1	200	8.6	200	7.3	200	6.2	200
RTA	30	10J	6	25.7	300	23.5	300	19.7	300	16.7	300	14.3	300	12.3	300	10.6	300	9.1	300
RTA	33	8E	4.5	5	150	4.3	150	3.2	150	2.5	150	2	150	1.5	150	1.2	150	0.9	150
RTA	33	8G	4.5	7.2	150	6.3	150	5	150	4	150	3.3	150	2.7	150	2.2	150	1.7	150
RTA	33	8J	4.5	11.3	150	10.1	150	8.2	150	6.8	150	5.7	150	4.8	150	4.1	150	3.4	150
RTA	33	9G	4.5	11.1	150	9.9	150	8.1	150	6.7	150	5.6	150	4.6	150	3.9	150	3.2	150
RTA	33	10G	6	15.5	200	14	200	11.6	200	9.7	200	8.2	200	6.9	200	5.8	200	4.8	200
RTA	33	10J	6	21.8	300	19.8	300	16.6	300	14	300	11.9	300	10.1	300	8.7	300	7.4	300
RTA	35	8E	4.5	3.7	150	3.1	150	2.2	150	1.6	150	1.2	150	0.8	150	-	150	-	150
RTA	35	8G	4.5	5.8	150	5	150	3.8	150	3	150	2.4	150	1.9	150	1.5	150	1.1	150
RTA	35	8J	4.5	9.7	150	8.6	150	6.9	150	5.7	150	4.7	150	3.9	150	3.3	150	2.7	150
RTA	35	9G	4.5	9.6	150	8.5	150	6.8	150	5.6	150	4.6	150	3.8	150	3.1	150	2.5	150
RTA	35	10G	6	13.7	200	12.4	200	10.2	200	8.4	200	7	200	5.8	200	4.8	200	3.9	200
RTA	35	10J	6	19.3	300	17.6	300	14.7	300	12.3	300	10.4	300	8.9	300	7.6	300	6.4	300
RTA	37	8G	4.5	4.7	150	4	150	3	150	2.3	150	1.7	150	1.3	150	0.9	150	0.6	150
RTA	37	8J	4.5	8.3	150	7.3	150	5.8	150	4.7	150	3.8	150	3.1	150	2.5	150	2	150
RTA	37	9G	4.5	8.2	150	7.2	150	5.7	150	4.6	150	3.7	150	3	150	2.4	150	1.8	150
RTA	37	10G	6	12	200	10.9	200	8.9	200	7.3	200	6	200	4.9	200	3.9	200	3.1	200
RTA	37	10J	6	17.5	300	15.9	300	13.2	300	11	300	9.2	300	7.7	300	6.4	300	5.4	300
RTA	39	8G	4.5	3.6	150	3	150	2.1	150	1.5	150	1	150	0.7	150	-	150	-	150
RTA	39	8J	4.5	7	150	6.1	150	4.7	150	3.8	150	3	150	2.4	150	1.9	150	1.4	150
RTA	39	9G	4.5	6.9	150	6	150	4.7	150	3.7	150	2.9	150	2.2	150	1.7	150	1.2	150
RTA	39	10G	6	10.5	200	9.5	200	7.6	200	6.2	200	5	200	4	200	3.1	200	2.3	200
RTA	39	10J	6	15.7	300	14.2	300	11.7	300	9.7	300	8	300	6.6	300	5.5	300	4.4	300
RTA	48	10J	6	8.2	300	7.3	300	5.8	300	4.6	300	3.6	300	2.7	300	2	300	1.3	300
RTA	50	10J	6	7	300	6.2	300	4.8	300	3.7	300	2.8	300	2	300	1.3	300	0.7	300

NOTE:
1) Listed capacities assume the location of the design loads are a maximum of 2'-6" above the pole top and 2'-0" eccentric to the pole centerline.
2) Design capacities are in acccordance with 2023 FBC category II wind loading (ASCE 7-22 wind maps) and exposure category C. Contact Product Support Outdoor for criteria outside of these conditions.
3) The listed capacities are only valid for applications installed in the state of FL. Contact Product Support Outdoor for applications in other states or jurisdictions.

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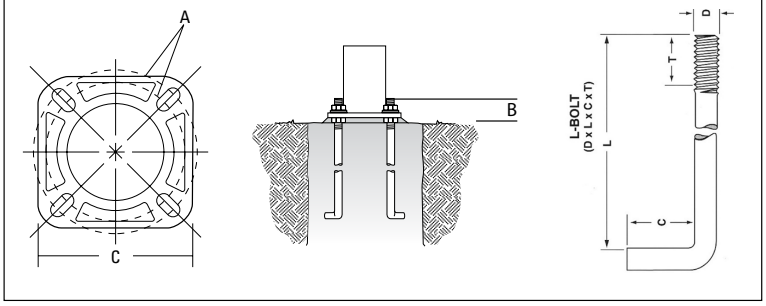
AMA LIGHTING LIGHTING TECHNOLOGY & CONTROLS SOLUTIONS	Project 25-48063-0 Palm Bay Gymatorium Submitted By AMA LIGHTING	Catalog Number: RTA 18 5C DM19AS DDBXD Note:	Type PL(POLE)

RTA Round Tapered Aluminum Poles

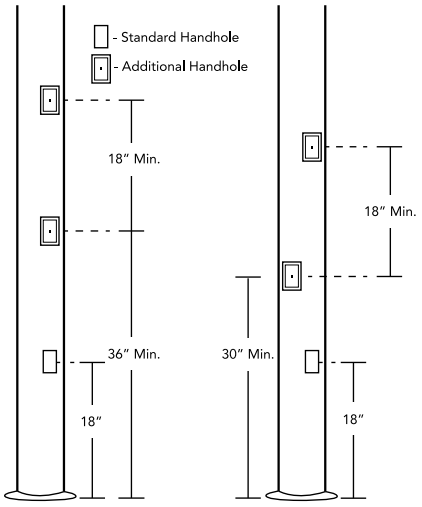
ANCHORAGE AND TEMPLATE INFORMATION

Shaft base size	Bolt circle A	Bolt projetion B	Base square C	Base plate thickness	Template description	Anchor bolt description	Bolt size (in.) D x L x C
4"	6.75"-8.25"	3.25"	8.75"	0.630"	ABTEMPLATE 227905D VLEX	AB18-0	3/4 x 18 x 3
5"	7.75" - 8"	3.25"	9.61"	0.630"	ABTEMPLATE PJ50032	AB18-0 2IN WASHER	3/4 x 18 x 3
6"	9"–10"	3.50"	10.32"	0.630"	ABTEMPLATE PJ50033	AB30-0 2IN WASHER	3/4 x 30 x 3
7"	10.13" - 11"	4.13"	11.26"	0.750"	ABTEMPLATE PJ50034	AB36-0	1 x 36 x 4
8"	11.26" - 12"	4.13"	12.05"	0.750"	ABTEMPLATE PJ50035	AB36-0	1 x 36 x 4
9"	12.50" - 14"	4.13"	12.48"	1.250"	ABTEMPLATE PJ50037	AB36-0	1 x 36 x 4
10"G	14"–15"	4.75"	14"	1.250"	ABTEMPLATE PJ50036	AB40-0	1 x 40 x 4
10"J	14"–15"	5.25"	14"	1.250"	ABTEMPLATE PJ50063	AB48-0	1.25 x 48 x 5

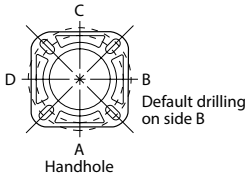
BASE & BOLT DETAIL

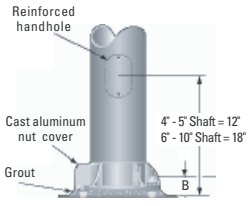


ROUND ALUMINUM HANDHOLE AND FESTOON - PLACEMENT RULES



HANDHOLE DETAIL





IMPORTANT INSTALLATION NOTES:

- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use factory template.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

CAUTION: These specifications are intended for general purposes only. Lithonia Lighting reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

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Bell & McCoy
LIGHTING AND CONTROLS

Date: Apr 4, 2025

Bell & McCoy Lighting and Controls
104 23rd Street South, Suite 200
Birmingham AL 35233
Phone: (205) 303-6010
Fax: (205) 407-9035

Job Name
Palm Bay Charter Schools - A New Gymatorium for:
GULF COAST25-111928
Panama City FL

Bid Date
Apr 4, 2025

Submittal Date
Apr 4, 2025

Engineer:
HG ENGINEERS
4286 WOODBINE ROAD UNIT D
PACE FL 32571

HG Engineers Submittal Review:
This review is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component.
Contractor is responsible for: dimensions to be confirmed and correlated at the job site; quantities of materials; coordination of the contractor's work with that of all other trades; and for performing all work in a safe and satisfactory manner.

- [ ] Approved
- [x] Approved As Noted
- [ ] Rejected

Signed: Christian Casey

Dated: 04/09/2025

HGE COMMENTS:

REFER TO INDIVIDUAL FIXTURE SHEETS FOR COMMENTS REGARDING EACH SELECTION.

Bell & McCoy
LIGHTING AND CONTROLS

Apr 4, 2025

HG ENGINEERS
4286 WOODBINE ROAD UNIT D
PACE FL 32571

RE: Palm Bay Charter Schools - A New Gymatorium for:
Panama City FL

Type	MFG	Part
CA/CAE	BEACON LIGHTING	VSH-30-4K7-UNV-GTT
CAE	DUAL-LITE	LPS55-S
DLA/DLAE	PRESCOLITE	LTR-6RD-H-SL10L-DM1(EM)-LTR-6RD-T-SL40K8WD-SS(EM)
DLB/DLBE	PRESCOLITE	LTR-6RD-H-SL15L-DM(EM)1-LTR-6RD-T-SL40K8WD-SS(EM)
HB/HBE	COLUMBIA LIGHTING	CRN2-1-LSCS-EDMV-93161788-93130250
L14E	COLUMBIA LIGHTING	LCAT14-40VLG-EDU-ELL14
L22A/LL22AE	COLUMBIA LIGHTING	LCAT22-40LWG-EDU(ELL14)
L22B/L22BE	COLUMBIA LIGHTING	LCAT22-40HLG-EDU(ELL14)
PLA	EXO LIGHTING	ASL1-160-135-4K7-3-UNV-A3-7PR-TL-DBT
PT/PTE	PRESCOLITE	LTC-6RD-P36-30L40K8WD-DM1-SS-WH
SB	LEDALUX	SWF-2FT-MS
SF/SFE	COLUMBIA LIGHTING	RLW4-40VW-FAW-EDU(ELL14)
WB/WBE	BEACON LIGHTING	VPW-2-48L-15-4K7-3-UNV-DBT(E)
WC/WCE	EXO LIGHTING	WGH2-70-LSCS-UNVC
WCE	DUAL-LITE	LG125S
X/XC/XWG	DUAL-LITE	EVEURWEI(WG)
PLA	EXO LIGHTING	RTAH18-50A-1-S2-BLACK ANODIZED
INV	DUAL-LITE	D-120-37-S-120-A-20-5-FSL

MISSING 'V6' AND 'V9' FIXTURE TYPES.

BEACON
design . performance . technology

DATE:
TYPE:
CATALOG #:

APPROVED

Vanish
EDGE-LIT CANOPY

VANISH EDGE-LIT

FEATURES

- Edge-Lit technology for even illumination
- Low profile 2.1" depth design virtually disappears into the canopy
- Illuminates without distraction and glare
- Pendant or surface mounted with ¾" conduit
- Universal retrofit solution for HID replacements for various sizes
- IP66 rating to keep water and insects out
- Cast Aluminum with integral heat sink to maintain optimal thermal performance for long LED life Cast aluminum

IP66 DLC LISTED DLC LISTED PREMIUM c UL us LISTED

SPECIFICATIONS

CONSTRUCTION
- Die-cast aluminum, low profile housing
- New construction or retrofit solution
- Canopy and soffit applications
- Easy installation
- Driver and optical chamber serviceable from below canopy
- Powder coat finish
- Heat sink design to disperse heat away from fixture
- Suitable for wet locations

OPTICS
- Acrylic Lens
- Type V distribution
- Comfort lens for low glare
- Light Guide Edge-Lit technology

INSTALLATION
- Surface or pendant mounted
- Easy installation and serviceable below the canopy deck
- Hinge for hanging during service

ELECTRICAL
- Universal 120-277 , 347, 480 Input Voltage
- Power Factor > 0.9 at full load
- Total Harmonic Distortion < 20% at full load
- 10 kV Surge Protection
- 0-10 Volt Dimmable Driver
- Operating temperature: -40°C to +40°C

CERTIFICATIONS
- UL Certified
- DesignLights Consortium™ 5.1 qualified
- Wet Location Listed
- IP66
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY
- 5 year warranty

ORDERING GUIDE

Example: VSH-85-5K7-UNV-WHS

CATALOG #

VSH – – –

Series	Size	Color Temp	Voltage
VSH Vanish	**30**[1]	**4K7**	**UNV** Universal
	55	**5K7**	**347** 347V
	85		**480** 480V
	140		

Finish	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Matte Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
Color Option	
CC	Custom Color

Notes:
1 Only available in Universal Voltage

KEY DATA	
Lumen Range	4,500 – 20,200
Wattage Range	30 – 140 Watts
Efficacy Range (LPW)	138 – 157
Reported Life (Hours)	>60,000

Current

currentlighting.com/beacon

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BEACON
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Vanish

EDGE-LIT CANOPY

PERFORMANCE DATA

Product	Lumens	B	U	G	LPW	CRI	CCT
VSH-30-4K7	4564	2	0	1	150	70	4000K
VSH-30-5K7	4793	2	0	1	157	70	5000K
VSH-55-4K7	8846	3	0	2	153	70	4000K
VSH-55-5K7	9069	3	0	2	157	70	5000K
VSH-85-4K7	13296	3	0	2	152	70	4000K
VSH-85-5K7	13666	3	0	2	157	70	5000K
VSH-140-4K7	19649	4	0	3	138	70	4000K
VSH-140-5K7	20196	4	0	3	142	70	5000K

Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment application and inherent performance balances of the electrical components.

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	50,000	TM-21-11[1] L96 60,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.94	0.92	0.90	0.81	>170,000
40°C / 104°F	0.99	0.94	0.92	0.89	0.80	>160,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

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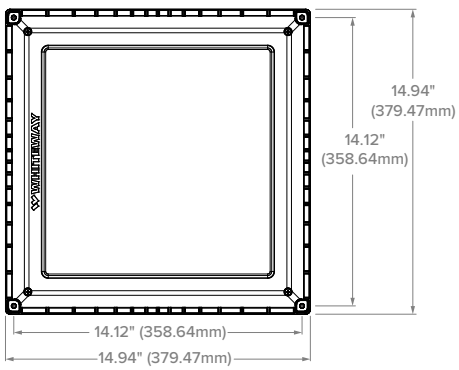
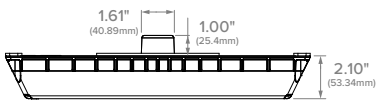
Vanish

EDGE-LIT CANOPY

DIMENSIONS



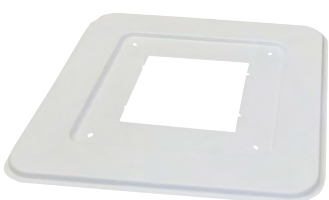


MOUNTING ACCESSORIES

Accessories (order separately)		
☐ **93133148**	WHITEWAY 15 IN CVR PLT WHT VSH/GSY	Retrofit cover plate for LSI Encore 15" square-replacement for 10" opening
☐ **93133149**	WHITEWAY DECORATIVE CVR PLT VSH/GSY	26" Decorative Beauty Plate for Canopy Retrofits
☐ **93133151**	WHITEWAY HID RETRFT KIT WHT VSH/GSY (fits any square HID housing between 21" & 23" square.)	Universal HID retrofit kit
☐ **93133177**	WHITEWAY STEM AND JUNCTION BOX	

93133148

93133149



93133151

• Measure outside dimension of existing housing

93133177

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DUAL LITE®

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

Light Power LPS Series

CENTRAL LIGHTING MICRO INVERTERS

LIGHT POWER™

FEATURES

- AC output provides full lumen output for emergency lighting loads in commercial or industrial applications
- Compatible with incandescent, LED, compact and linear fluorescent lamps
- White painted steel enclosure
- Offline operation for greater efficiency
- Maintenance-free Lead-Calcium or Nickel-Cadmium batteries
- Temperature range: 20°C to 30°C (68°F to 86°F)
- UL 924 Listed
- UL 2043 (Plenum Air Handling Spaces) for T-Grid Models

Surface Mount Model

Recessed Ceiling Mount T-Grid Model

Recessed Wall Mount Model

UL924 NFPA 70 NFPA 101

SPECIFICATIONS

APPLICATION

- Designed for indoor installation in commercial or industrial applications, LIGHTPOWER™ Series micro inverter systems provide sinusoidal Emergency AC power to lighting fixtures equipped with incandescent, linear fluorescent, compact fluorescent or LED lamps between 20 and 55 watts.
- The lighting load can be installed at a distance of up to 1,000 feet from the LIGHTPOWER™ micro inverter.
- Observe all required AC conductor sizing requirements. Ceiling T-Grid mount models approved for use in City of Chicago.

CONSTRUCTION

- The LIGHTPOWER™ enclosure and cover are constructed of heavy-duty, 20 gauge steel with a white powder-coat paint finish.

OPERATION

- When normal utility supplied power is interrupted, the LIGHTPOWER™ Series unit will automatically transfer to emergency mode in less than 1-second and begin supplying pure sinusoidal AC power to the load for 90 minutes.
- The unit is capable of operating normally on, normally off, or switched loads. A low voltage battery disconnect circuit will prevent “deep discharge” damage to the battery.
- AC lockout prevents battery discharge prior to initial unit power-up.
- The charging circuit will bring the batteries to full recharge within UL time standards.
- A “brownout” circuit will automatically transfer the unit to emergency power if the utility voltage falls to a predetermined “low line” limit.

COMPLIANCES

- UL 924 (Emergency Lighting)
- UL 2043 (Plenum Air Handling Spaces) and City of Chicago (CCEA) for T-Grid Models
- Life Safety Code (NFPA 101)
- National Electrical Code (NFPA 70)
- OSHA, State and Local Code compliant

WARRANTY

Unit and Electronics: 3 years full*

Batteries: SLA Lead Calcium: 3 years full, 7 years pro-rata

Nickel Cadmium: 2 years full, 13 years pro-rata

** excludes fuses*

Batteries must be connected to an energized charging circuit within 90 days from date of shipment or warranty is void.

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DUAL LITE®

Light Power LPS Series

CENTRAL LIGHTING MICRO INVERTERS

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: LPS20R

CATALOG # _____

LPS		–		
Model	**Capacity**		**Mounting**	**Accessories (Order Separately)**
LPS Central Lighting Micro Inverters	**20** 20 VA/W [1] **32** 32 VA/W [2] **35** 35 VA/W [1] **55** 55 VA/W [2]		**S** Surface Wall **R** Recessed Wall[1] **T** Recessed Ceiling T-Grid	**RTSLP** Remote Test Switch

Notes:
1 Nickel-Cadmium battery type
2 Lead Calcium battery type

SPECIFICATIONS

ELECTRONICS

Input/Output: 120/120VAC or 277/277VAC, 60 Hz

Input/Output Connections: Terminal block

Operating Temperature Range: 20°C to 30°C (68°F to 86°F)

Charger Type: Temperature compensated, dual-mode

AC Lockout: Prevents battery discharge following installation when branch circuit AC power is not present.

Low Voltage Battery Disconnect: Protects the battery from damaging "deep discharge" conditions during prolonged power failures.

Brownout Protection: Automatically transfers to emergency power when utility voltage drops to a point that would cause fluorescent lamps to extinguish.

Overload and Short Circuit Protection: AC and DC protection provided by fuses and automatic shut down.

Test Means: Manual "TEST" button.

LED Indicators: "AC-ON" (red), "Charging-ON" (green), "Inverter-ON" (amber).

BATTERIES

LPS32/LPS55: SLA lead calcium with 10 year rated life.

LPS20/LPS35: Nickel-Cadmium with 15 year rated life.

	LPS32	LPS55	LPS20	LPS35
Power Rating (VA/W)	32	55	20	35
Power Factor Range		0.44 lead to 0.44 lag		
Temp Range (°C)	20-30			
Weight (lb) with batteries	14	18	11	12
Maximum Input Current (A)	120 VAC: 0.34 A 277 VAC: 0.15 A	120 VAC: 0.54 A 277 VAC: 0.23 A	120 VAC: 0.25 A 277 VAC: 0.11 A	120 VAC: 0.37 A 277 VAC: 0.16 A
System DC Voltage		12		
Recharge Time (Hr)		96		

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DUAL LITE®

Light Power LPS Series

CENTRAL LIGHTING MICRO INVERTERS

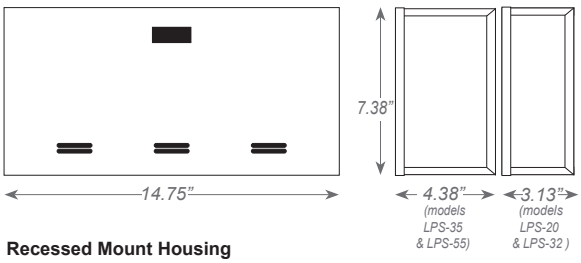
DATE: | LOCATION:

TYPE: | PROJECT:

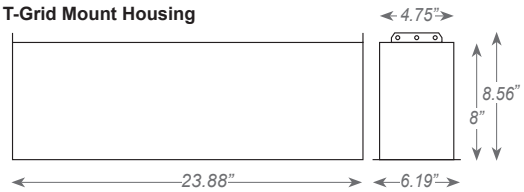
CATALOG #:

DIMENSIONS

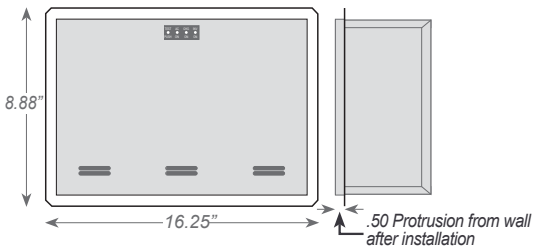
Surface Mount Housing



Ceiling T-Grid Mount Housing



Recessed Mount Housing



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prescolite

DATE: | L
TYPE: | P
CATALOG #:

APPROVED

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

LITEISTRY

FEATURES

- 6" architectural LED downlight delivering 600 – 9000 lm
- Five beam distributions from 0.3 to 1.1 Spacing Criteria
- Quiet reflector appearance with superior 50° optical cutoff
- 2700K – 5000K, 80+ and 90+ CRI options
- Available for New Construction (non-IC), IC and Chicago Plenum applications
- Variety of dimming protocol options including 0–10V, DALI, DMX, and Lutron EcoSystem
- NX Lighting Controls wired and wireless controls capability available

WET LOCATION

C SP US

BAA (-BAA Option)

TAA (-TAA Option)

IP66** IK10** IP69K**

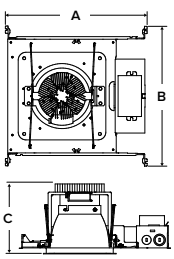
**Select models

SERVICE PROGRAMS

tradeSELECT QS10

CONTROLS TECHNOLOGY

NX WIRELESS NX WIRED



Typical Dimensions and Weights				
Lumen Package	"A" Length Inches (mm)	"B" Width Inches (mm)	"C" Height Inches (mm)	Weight lbs (kg)
06L - 15L	14.56 (370)	14.36 (365)	5.9 (150)	7.8 (3.5)
20L - 30L	14.56 (370)	14.36 (365)	6.68 (170)	8.2 (3.7)
35L - 45L	14.56 (370)	14.36 (365)	7.86 (200)	8.8 (4)
50L - 60L	14.56 (370)	14.36 (365)	9.04 (230)	9.9 (4.5)
70L - 90L	14.56 (370)	15.56 (395)	11.56 (294)	10.1 (4.6)

See DIMENSIONS section for complete details

SPECIFICATIONS

CONSTRUCTION
- Standard Non-IC. Chicago Plenum and IC options
- Painted black durable steel platform with pre-installed bar hangers
- Pre-wired junction box with snap-on covers for easy access
- Snap-in connection from driver compartment allows easy installation
- Light Engine connections use plenum rated (CMP) cable

OPTICS
- Visually pleasing 50° cutoff to source and source image
- The light distribution is free of distracting bright spots or pixelation and the perimeter has a smooth transition
- Optical grade silicone lens integral to light engine
- High purity spun aluminum reflector, self-flanged
- Flush Mount flange option with mud-in ring available
- Large selection of anodized finishes and colors
- Painted cones and flange options available

ELECTRICAL
- Chip-on-board LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >55,000 hours (TM-21)
- Universal voltage 120V–277V driver, 347V optional
- UL Class 2, inherent short circuit and overload protection

ELECTRICAL (CONTINUED)
- Flicker free 0-10V dimming with 1% or <1% performance
- DALI, DMX, and Lutron EcoSystem options
- NX Lighting Controls provides options for standalone and networked functionality with wired or wireless connectivity for NX system deployments
- Lutron Athena control options also available
- Integral and remote controller and battery pack options available
- Refer to additional spec sheets for information on SpectraSync™ Tunable White or Dim-to-Warm or solutions

INSTALLATION
- Accommodates ceiling thickness up to 2" (SL, ML, HL); up to 1.25" (VL, XL) (See DIMENSIONS section for details)
- Universal adjustable mounting brackets also accept ½" EMT conduit or 1½" or ¾" lathing channel (by others) or Prescolite accessory bar hangers (B24 or B6)
- Light Engine/Driver fully serviceable from above or below the ceiling

CERTIFICATIONS
- cCSAus certified to UL 1598
- For ≥70L: Marked spacing required 36" fixture center to center; 36" fixture center to building member; 0.5" above fixture
- Suitable for wet locations, covered ceiling. EM/ EMR: Suitable for damp locations

CERTIFICATIONS (CONTINUED)
- EM/EMR: Certified under UL 924 standard for emergency lighting and power equipment
- EM/EMR: Emergency battery packs are California Energy Commission (CEC) Title 20 Compliant
- When used with CE Bezel Trim Accessories: IP66/IP69K rating; also meets IK10 per IEC 60068-2-75 impact testing
- Approved for 8 (4 in/4 out) No. 12AWG conductors rated for 90°C through wiring
- For -BAA Option: This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) See Buy America(n) Solutions
- For -TAA Option: Product configurations meet federal procurement law requirements under the Trade Agreements Act (FAR 52.225-11) See Buy America(n) Solutions

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	600–9000
Wattage Range	8–99
Efficacy Range (LPW)	94–104*
Reported Life (Hours)	L90 / >55,000
Input Current (mA)	65–825 (120V)

*Based on Specular, 35K, 80 CRI

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prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

Gray Shading = Service Program

tradeSELECT QS10 Limit of 150 Luminaries

ORDERING GUIDE

Example: LTR–6RD–H–SL10L–DM1–LTR–6RD–T–SL35K8MD–S

CATALOG #

HOUSING

LTR-6RD-H –

Aperture/Shape/Function		Lumen Package		Lumen Output		Driver Options		Control Options		Voltage		Housing Options	
LTR-6RD-H	6" Round Downlight New Construction Housing	**SL**	Standard Lumen	**06L**	600	**DM1**	0-10V Dimming to 1%	**NX Lighting Controls**		*Standard 120-277V*		**CP**	Chicago Plenum [7,9]
				10L	1000	**DM01**	0-10V Dimming to < 1% [2]	Networked Wireless				**IC**	IC rated [8,9]
				15L	1500	**DMX**	DMX with RDM dimming to < 0.1% [2]	**NXW**	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3]	**34**	347V [6]	**EM**	7W Emergency Battery Pack (CEC Title 20 Compliant) with integral test switch and indicator light [9]
		ML	Medium Lumen	**20L**	2000	**DALI**	DALI Dimming to 1% [2]	Networked Wired				**EMR**	7W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light [9]
				25L	2500	**EDM**	Lutron Hi-Lume EcoSystem Dimming to 1% [2]	**NXE**	NX Wired Dual RJ45 SmartPORTS, without Sensor [3]			**DTS**	Device Transfer Switch with Dimming Bypass [9,12]
		HL	High Lumen	**30L**	3000	**DM00**	Lutron Athena compatible driver [15]					**GTD**	Generator Transfer Device [9,16]
				35L	3500			**Other Lighting Controls**				**F**	Fuse [9]
				40L	4000			Networked Wireless				**BAA**	Buy American Act (FAR 52.225-9) Compliant
				45L	4500			**AWNR**	Lutron Athena Enabled [15]			**TAA**	Trade Agreements Act (FAR 52.225-11) Compliant
		VL	Very High Lumen	**50L**	5000								
				55L	5500								
				60L	6000								
		XL	Extra high Lumen [11]	**70L**	7000								
				80L	8000								
				90L	9000								

TRIM

LTR-6RD-T –

Aperture/Shape/Function		Lumen Package		CCT		CRI		Distribution	
LTR-6RD-T	6" Round Downlight Light Engine/Trim Assembly	**SL**	Standard Lumen	**27K**	2700K	**8**	80+CRI	**VNR**	Very Narrow (0.3 SC/18°)
		ML	Medium Lumen	**30K**	3000K	**9**	90+CRI	**NR**	Narrow (0.5 SC/29°)
		HL	High Lumen	**35K**	3500K			**MD**	Medium (0.6 SC/37°)
		VL	Very High Lumen	**40K**	4000K			**WD**	Wide (0.9 SC/59°)
		XL	Extra High Lumen [11]	**50K**	5000K [1]			**XW**	Extra Wide (1.1 SC/76°)

TRIM CONTINUED

Reflector Finish		Reflector Color		Flange Color Options		Lower Trim Options		Reflector Options	
Finish not applicable with painted reflectors (WC or BC)		*Standard Clear*		*Standard matches reflector color*		**EM**	Pre-punched reflector for EM integral test switch and indicator	**AM**	Antimicrobial Coating [5]
S	Specular	**CG**	Champagne Gold	**WT**	White Flange [4]	**FM**	Flush Mount Mud-in Ring [10]	**BAA**	Buy American Act (FAR 52.225-9) Compliant
SS	Semi-Specular	**BL**	Black	**BT**	Black Flange [4]	**WF**	Wide Flange	**TAA**	Trade Agreements Act (FAR 52.225-11) Compliant
MFC	American Matte™	**LW**	Light Wheat						
VS	Softglow®	**PW**	Pewter						
VSS	SoftSheen™	**WC**	Painted White Cone and Flange						
		BC	Painted Black Cone and Flange						

Accessories	
☐ **B24**	Set of two (2) 24" bar hangers for T-bar ceilings
☐ **B6**	Set of two bar hangers for ceiling joist up to 24" centers
☐ **FMR6-R**	Flush Mount Mud-In Ring, 6" Round
☐ **LiteGear**	LiteGear® Inverter, 125VA-250VA
☐ **LPS Series**	LightPower Micro-Inverter, 20VA-55VA
☐ **MOR6-R-WH**	Metal Oversized Ring, 6" Round, White (10" outside diameter)
☐ **MOR6-R-BL**	Metal Oversized Ring, 6" Round, Black (10" outside diameter)
☐ **LTR-SCA6-__**	Sloped Ceiling Adapter, 6", White [13]

(See next page for Bezel Trim Accessories for Complex Environments) [14]

Notes:

1 5000K available in 80+ CRI only.
2 EDM available in 10L-35L. DMX, DM01, DALI not available on >55L.
3 NX requires DM1 driver option, not available on >60L.
4 WT not needed for WC, BT not needed for BC.
5 AM available with WC or Specular Clear (S or SWT). Consult factory for other colors.
6 347V available for 06L-30L; requires DM1 driver; not available with Controls, EM, EMR, DTS, GTD or F.
7 CP available up to 50L; not available with DMX, Controls, or EMR options.
8 IC available up to 20L; not available with Controls options.
9 Housing options (except Fuse, BAA/TAA) not available in combination.
10 Flush Mount Flange (FM) requires FMR accessory (sold separately).
11 XL (70L-90L) require marked spacing. See line art for more details.
12 DTS available with DM1, DM01, DALI, or DM00. Not available with NXE.
13 Specify slope angle 5°-35° in 5° increments. Not available with EM, WF, or FM options.
14 See next page for option restrictions when using with bezel trim accessories.
15 DM00 must be selected with AWNR Lutron Athena controls option.
16 Not available with NXE.

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prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

OTHER LIGHTING CONTROLS

	Control Option Ordering Logic & Description		Control Option Functionality								Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming		
Other	AWNR	The Athena wireless node is a radio frequency (RF) device that enables simple, digital control of individual light fixtures in an Athena control system.[1]	✓	✓	-	-	-	✓	✓	-		A-WN-D01-RF-WH

1 Lutron Athena Hub required to enable Networking, Grouping and Scheduling.

PERFORMANCE DATA TABLE

Performance data provided below is for 3500K, 80 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
06L	600	Very Narrow	806	7.8	103
		Narrow	717	7.8	92
		Medium	746	7.8	96
		Wide	691	7.8	89
		Extra Wide	665	7.8	85
10L	1000	Very Narrow	1288	12.0	107
		Narrow	1146	12.0	96
		Medium	1192	12.0	99
		Wide	1104	12.0	92
		Extra Wide	1063	12.0	89
15L	1500	Very Narrow	1851	18.7	99
		Narrow	1623	18.7	87
		Medium	1712	18.7	92
		Wide	1586	18.7	85
		Extra Wide	1527	18.7	82
20L	2000	Very Narrow	2355	22.6	104
		Narrow	2263	22.7	100
		Medium	2265	22.6	100
		Wide	2180	22.7	96
		Extra Wide	2139	22.7	94
25L	2500	Very Narrow	3093	27.7	112
		Narrow	2751	27.7	99
		Medium	2860	27.7	103
		Wide	2650	27.7	96
		Extra Wide	2551	27.7	92
30L	3000	Very Narrow	3686	34.3	107
		Narrow	3278	34.3	96
		Medium	3409	34.3	99
		Wide	3158	34.3	92
		Extra Wide	3040	34.3	89

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prescolite

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

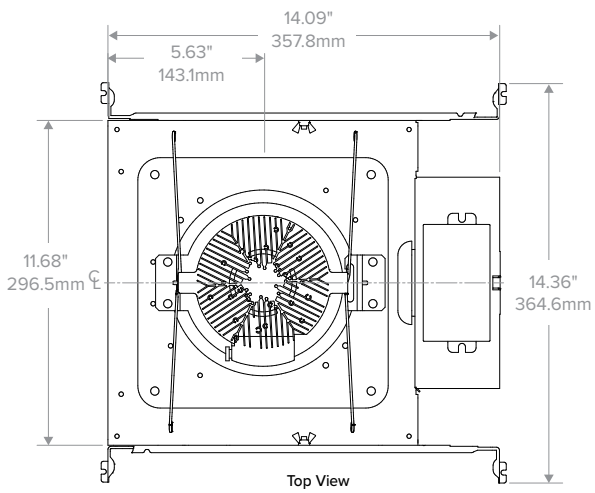
DIMENSIONS

Lumen Package	"A"
06L-15L	5.90" (149.9mm)
20L-30L	6.68" (169.7mm)
35L-40L	7.86" (199.6mm)
50L-60L	9.04" (229.6mm)

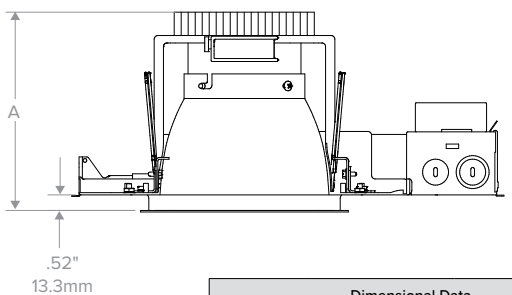
Dimensional Data		
Aperture		5.75" (146.1mm)
Flange:	Standard	7.00" (177.8mm)
	Flush Mount	6.54" (166.0mm)
	With Bezel Trim Accessory**	Ø 9.42" (293.3 mm)
Ceiling Cutout:	Standard	6.50" (165.1mm)
	Flush Mount	6.75" (171.5mm)
	With Bezel Trim Accessory**	Ø 8.25" (209.6 mm)
Ceiling Thickness:	Standard or w/SCA 5-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)
	With Bezel Trim Accessory**	0.50" to 2.00"(12.7 mm to 50.8 mm)

SCA Sloped Ceiling Adapter accessory available, see LTR-SCA specification sheet and installation instructions for dimensional data and other details.

** For complete details on Bezel Trim Accessories, see Accessory section on Page 3 and Bezel Trim Installation Instructions on currentlighting.com/prescolite.



Top View

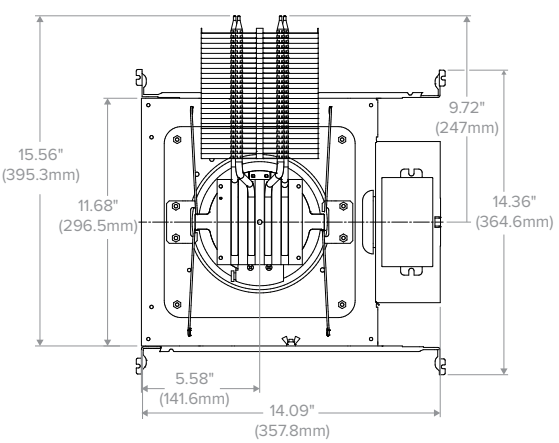


LTR-6RD-H (06L - 60L) New Construction

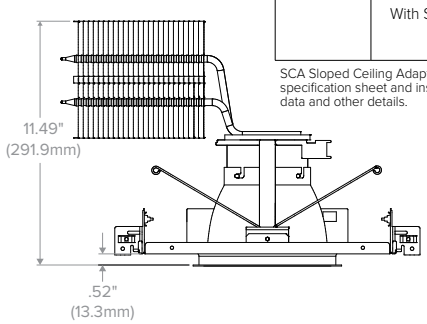
Dimensional Data		
Aperture		5.75" (146.1mm)
Flange:	Standard	7.00" (177.8mm)
	Flush Mount	6.54" (166.0mm)
Ceiling Cutout:	Standard	6.50" (165.1mm)
	Flush Mount	6.75" (171.5mm)
Ceiling Thickness:	Standard or w/SCA 5-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)

SCA Sloped Ceiling Adapter accessory available, see LTR-SCA specification sheet and installation instructions for dimensional data and other details.

Marked spacing required:
36" fixture center to center;
36" center to building member;
0.50" above fixture



Top View



LTR-6RD-H (70L - 90L) New Construction

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LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY CONTINUED

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8MD-S

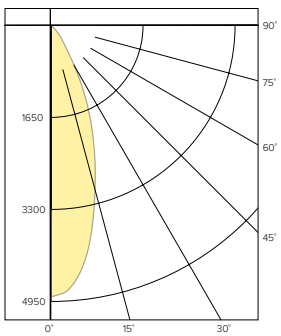
LUMINAIRE DATA

Test No.	**19.00587**
Description	**2000 lm, Medium, 3500K, 80 CRI**
Delivered Lumens	**2265**
Watts	**22.6W**
Efficacy	**100.0**
Mounting	**Recessed**
Spacing Criterion	**0.6**
Beam Angle (FWHM)	**37**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2171	95.9
0-60	2262	99.9
0-90	2265	100.0
0-180	2265	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	4851
5	4619
15	3007
25	1450
35	386
45	99
55	6
65	2
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	8357
55°	624
65°	282
75°	231
85°	0

*Candela/Square Meter

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8WD-S

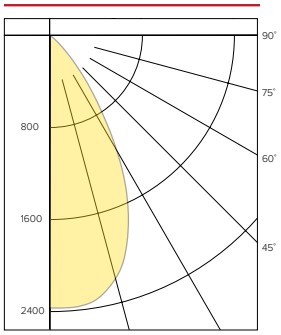
LUMINAIRE DATA

Test No.	**19.00585**
Description	**2000 lm, Wide, 3500K, 80 CRI**
Delivered Lumens	**2180**
Watts	**22.6W**
Efficacy	**96.1**
Mounting	**Recessed**
Spacing Criterion	**0.9**
Beam Angle (FWHM)	**59**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2014	92.4
0-60	2176	99.8
0-90	2180	100.0
0-180	2180	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2368
5	2371
15	2189
25	1591
35	726
45	177
55	10
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	14942
55°	1041
65°	424
75°	231
85°	0

*Candela/Square Meter

LTR-6RD-H-ML20L-DM1 / LTR-6RD-T-ML35K8XW-S

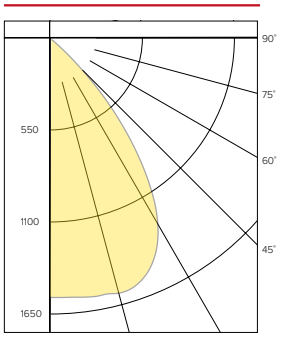
LUMINAIRE DATA

Test No.	**19.00586**
Description	**2000 lm, Extra Wide, 3500K, 80 CRI**
Delivered Lumens	**2139**
Watts	**22.7W**
Efficacy	**94.4**
Mounting	**Recessed**
Spacing Criterion	**1.1**
Beam Angle (FWHM)	**76**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1875	87.7
0-60	2134	99.8
0-90	2139	100.0
0-180	2139	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1547
5	1552
15	1576
25	1461
35	1007
45	301
55	9
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	25409
55°	937
65°	424
75°	231
85°	0

*Candela/Square Meter

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

PHOTOMETRY CONTINUED

LUMEN MULTIPLIER

Option	27K8	30K8	35K8	40K8	50K8	27K9	30K9	35K9	40K9
Multiplier	0.94	0.98	1.00	1.01	1.02	0.81	0.84	0.85	0.85

Photometrics are published below at a nominal 3500 Kelvin, 80+ CRI. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

REFLECTOR FINISH MULTIPLIER (Based on Clear (Standard) Color)

Option	Specular (S)	Semi-Specular (SS)	American Matte (MFC)	Softglow (VS)	Softsheen (VSS)
Multiplier	1	1	0.984	0.888	0.938

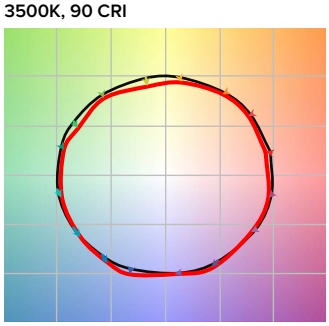
REFLECTOR COLOR MULTIPLIER (Based on Semi-Specular (SS) Finish)

Option	Clear (Standard)	Champagne Gold (CG)	Black (BL)	Light Wheat (LW)	Pewter (PW)	White Cone (WC)	Black Cone (BC)
Multiplier	1	0.974	0.444	0.861	0.915	0.984	0.442

Multiply FINISH x COLOR to calculate other reflector finish and color combinations. Example: SoftGlow Pewter (VSPW) = 0.888 (VS) x 0.915 (PW) = 0.813

TM-30 DATA

COLOR VECTOR GRAPHIC 3500K, 90 CRI

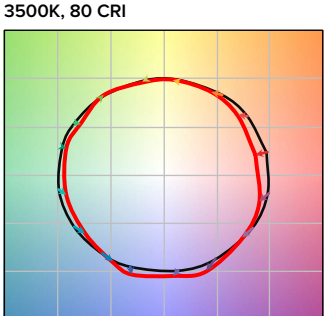


Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC 3500K, 90 CRI

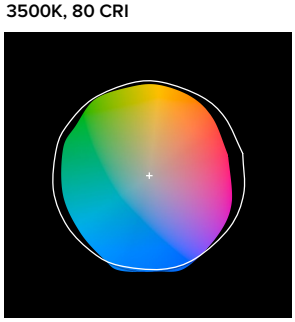
TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R_f	84	88
R_g	95	95
CCT (K)	3411	3419
D_{UV}	0.0015	0.0042
x	0.4120	0.4147
y	0.3974	0.4052
CIE R_a	84	93
CIE R_9	11	62

COLOR VECTOR GRAPHIC 3500K, 80 CRI



Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC 3500K, 80 CRI



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prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

ELECTRICAL DATA

DRIVER DATA		
Input Voltage	120-277 V	347 V
Input Frequency	50/60 Hz	50/60 Hz
Power Factor	≥0.90	≥0.90
THD	<20%	<20%
EMI Filtering (FCC 47 CFR Part 15)	Class A	Class A

* Values for DM1 option shown, values for other dimming options may vary.

ADDITIONAL INFORMATION

Dimming Compatibility
For more details and recommended dimmer list, see Dimming Compatibility Information on currentlighting.com/prescolite.

DMX
See instruction sheet on currentlighting.com/prescolite for connection & installation information.

Central Inverters
For full fixture output in back-up mode, we recommend you visit currentlighting.com/dual-lite for your Central Lighting Inverter options. Please contact your local Current representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

Bezel Trim Accessories for Complex Environments
See installation instructions on currentlighting.com/prescolite for complete details.

Lumen Output in Emergency Mode
To determine the lumen output in emergency mode multiply the battery pack wattage by the fixture lumens per watt (LPW).
For example, 7W x 120 LPW = 840 lumens in emergency mode.

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prescolite

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

LTR-6RD

LITEISTRY 6" ROUND DOWNLIGHT

Gray Shading = Service Program

tradeSELECT QS10 Limit of 150 Luminaries

ORDERING GUIDE

Example: LTR–6RD–H–SL10L–DM1–LTR–6RD–T–SL35K8MD–S

CATALOG #

HOUSING

LTR-6RD-H –

Aperture/Shape/Function		Lumen Package		Lumen Output		Driver Options		Control Options		Voltage		Housing Options	
LTR-6RD-H	6" Round Downlight New Construction Housing	**SL**	Standard Lumen	**06L**	600	**DM1**	0-10V Dimming to 1%	**NX Lighting Controls**		*Standard 120-277V*		**CP**	Chicago Plenum [7,9]
				10L	1000	**DM01**	0-10V Dimming to < 1% [2]	Networked Wireless				**IC**	IC rated [8,9]
				15L	1500	**DMX**	DMX with RDM dimming to < 0.1% [2]	**NXW**	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3]	**34**	347V [6]	**EM**	7W Emergency Battery Pack (CEC Title 20 Compliant) with integral test switch and indicator light [9]
		ML	Medium Lumen	**20L**	2000	**DALI**	DALI Dimming to 1% [2]	Networked Wired				**EMR**	7W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light [9]
				25L	2500	**EDM**	Lutron Hi-Lume EcoSystem Dimming to 1% [2]	**NXE**	NX Wired Dual RJ45 SmartPORTS, without Sensor [3]			**DTS**	Device Transfer Switch with Dimming Bypass [9,12]
		HL	High Lumen	**30L**	3000	**DM00**	Lutron Athena compatible driver [15]					**GTD**	Generator Transfer Device [9,16]
				35L	3500			**Other Lighting Controls**				**F**	Fuse [9]
				40L	4000			Networked Wireless				**BAA**	Buy American Act (FAR 52.225-9) Compliant
				45L	4500			**AWNR**	Lutron Athena Enabled [15]			**TAA**	Trade Agreements Act (FAR 52.225-11) Compliant
		VL	Very High Lumen	**50L**	5000								
				55L	5500								
				60L	6000								
		XL	Extra high Lumen [11]	**70L**	7000								
				80L	8000								
				90L	9000								

TRIM

LTR-6RD-T –

Aperture/Shape/Function		Lumen Package		CCT		CRI		Distribution	
LTR-6RD-T	6" Round Downlight Light Engine/Trim Assembly	**SL**	Standard Lumen	**27K**	2700K	**8**	80+CRI	**VNR**	Very Narrow (0.3 SC/18°)
		ML	Medium Lumen	**30K**	3000K	**9**	90+CRI	**NR**	Narrow (0.5 SC/29°)
		HL	High Lumen	**35K**	3500K			**MD**	Medium (0.6 SC/37°)
		VL	Very High Lumen	**40K**	4000K			**WD**	Wide (0.9 SC/59°)
		XL	Extra High Lumen [11]	**50K**	5000K [1]			**XW**	Extra Wide (1.1 SC/76°)

TRIM CONTINUED

Reflector Finish		Reflector Color		Flange Color Options		Lower Trim Options		Reflector Options	
Finish not applicable with painted reflectors (WC or BC)		*Standard Clear*		*Standard matches reflector color*		**EM**	Pre-punched reflector for EM integral test switch and indicator	**AM**	Antimicrobial Coating [5]
S	Specular	**CG**	Champagne Gold	**WT**	White Flange [4]	**FM**	Flush Mount Mud-in Ring [10]	**BAA**	Buy American Act (FAR 52.225-9) Compliant
SS	Semi-Specular	**BL**	Black	**BT**	Black Flange [4]	**WF**	Wide Flange	**TAA**	Trade Agreements Act (FAR 52.225-11) Compliant
MFC	American Matte™	**LW**	Light Wheat						
VS	Softglow®	**PW**	Pewter						
VSS	SoftSheen™	**WC**	Painted White Cone and Flange						
		BC	Painted Black Cone and Flange						

Accessories	
☐ **B24**	Set of two (2) 24" bar hangers for T-bar ceilings
☐ **B6**	Set of two bar hangers for ceiling joist up to 24" centers
☐ **FMR6-R**	Flush Mount Mud-In Ring, 6" Round
☐ **LiteGear**	LiteGear® Inverter, 125VA-250VA
☐ **LPS Series**	LightPower Micro-Inverter, 20VA-55VA
☐ **MOR6-R-WH**	Metal Oversized Ring, 6" Round, White (10" outside diameter)
☐ **MOR6-R-BL**	Metal Oversized Ring, 6" Round, Black (10" outside diameter)
☐ **LTR-SCA6-__**	Sloped Ceiling Adapter, 6", White [13]

(See next page for Bezel Trim Accessories for Complex Environments) [14]

Notes:

1 5000K available in 80+ CRI only.
2 EDM available in 10L-35L. DMX, DM01, DALI not available on >55L.
3 NX requires DM1 driver option, not available on >60L.
4 WT not needed for WC, BT not needed for BC.
5 AM available with WC or Specular Clear (S or SWT). Consult factory for other colors.
6 347V available for 06L-30L; requires DM1 driver; not available with Controls, EM, EMR, DTS, GTD or F.
7 CP available up to 50L; not available with DMX, Controls, or EMR options.
8 IC available up to 20L; not available with Controls options.
9 Housing options (except Fuse, BAA/TAA) not available in combination.
10 Flush Mount Flange (FM) requires FMR accessory (sold separately).
11 XL (70L-90L) require marked spacing. See line art for more details.
12 DTS available with DM1, DM01, DALI, or DM00. Not available with NXE.
13 Specify slope angle 5°-35° in 5° increments. Not available with EM, WF, or FM options.
14 See next page for option restrictions when using with bezel trim accessories.
15 DM00 must be selected with AWNR Lutron Athena controls option.
16 Not available with NXE.

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Columbia LIGHTING

CRN2-LSCS

WET LOCATION HIGH BAY

DATE:

TYPE:

APPROVED AS NOTED

CATALOG #:

tradeSELECT

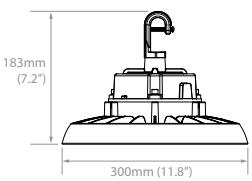
FEATURES

- Switchable lumen and CCT technologies maximize inventory versatility and flexibility
- 120-347V 0-10V driver
- Optional 'plug and play' occupancy sensor is easily installed into the center of the fixture
- Provides lumen packages from 15,500 to 35,040 lumens, allowing for use in a variety of applications including food processing, wash down, warehouses, gyms, garden centers and mezzanines
- Two reflector options deliver glare reduction and aesthetic customization
- Efficacy up to 162 LPW assures energy savings over traditional high bay luminaries

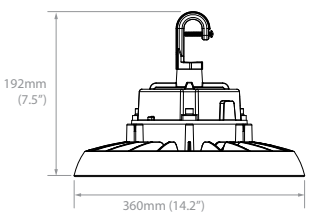
Shown with sensor installed

IP65 · UL CERTIFIED · IK07 · NSF2 · NEMA 4X

SWITCHABLE LUMEN & CCT · WET LOCATION · OCCUPANCY SENSING · DLC LISTED PREMIUM



SIZE 1
7.1lbs



SIZE 2
11.1lbs

SPECIFICATIONS

CONSTRUCTION
- Die cast aluminum housing with polycarbonate lens provides durability for rugged environments
- Thermally separated electronic and LED heat sink design allows for longevity in application
- Pre-installed 6' wet location power and dimming cords for simplified installation

INSTALLATION
- Pendant mount from ½" NPT hook is standard
- Additional mounting accessories may be ordered separately
- Weight: Size 1: 7.1 lbs; Size 2: 11.1 lbs

ELECTRICAL
- Long-life +50,000hr LEDs at L70
- Total Input Wattage Size 1: 100W/ 120W/ 150W Size 2: 150W/ 200W/ 240W
- Universal voltage Standard (120–347V)
- Standard 6kV surge protection for demanding environments

CONTROLS
- Standard 0-10V, 10% dimming
- White field installable passive infrared (PIR) occupancy sensor provides discrete integration into the fixture maximizing sensor coverage range

CERTIFICATIONS
- All luminaires are built to UL 1598 standards, and bear appropriate cULus labels for wet locations
- Ambient Operating Temperature range:
- Without Sensor: (Standard) -40°C to 50°C (-40°F to 122°F)
- With Sensor: -30°C to 50°C (-22°F to 122°F)
- IP65 rated
- IK07 impact rated
- NSF Splash Zone 2- food equipment standard for non-food zones rated
- NEMA 250 Type 4X rated

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	15,500 - 35,040
Wattage Range	100–240
Efficacy Range (LPW)	Up to 162
Reported Life (Hours)	L70 @ 50,000

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Columbia LIGHTING

CRN2-LSCS

WET LOCATION HIGH BAY

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

ORDERING GUIDE

CATALOG #

CRN2	–		–	LSCS	–	ED	
Model		**Size**		**Lumen Output & CCT**		**Dimming**	**Voltage**
CRN2 Wet Location/NSF High Bay		**1** Size 1: 100/120/150W **2** Size 2: 150/200/240W [1]		**LSCS** Lumen Switchable/ CCT Switchable		**ED** 0–10V Dimming	**MV** 120–347V

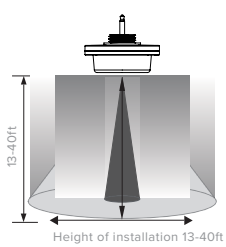
Notes:
1 Size 2 only available with Voltage MV

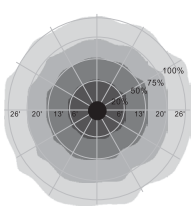
STOCK GUIDE

Catalog Number	Part #	Color Temperature	Lumen Output Setting	Wattage	Lumen Output	LPW	Voltage
CRN2-1-LSCS-EDMV	SKU: 93167312	4000K	LOW	100	15800	158	120-347V
			MED	120	18600	155	
			HIGH	150	21750	145	
		5000K	LOW	100	15500	155	
			MED	120	18360	153	
			HIGH	150	21300	142	
CRN2-2-LSCS-EDMV	SKU: 93167313	4000K	LOW	150	24300	162	
			MED	200	30600	153	
			HIGH	240	35040	146	
		5000K	LOW	150	24000	160	
			MED	200	30200	151	
			HIGH	240	34320	143	

LSCS default setting is 5000K, HIGH lumen output

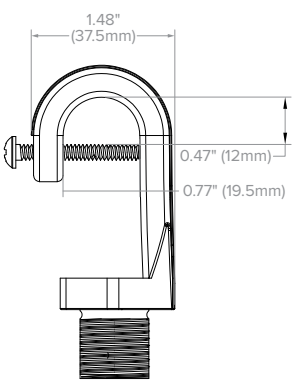
DIMENSIONS





SENSOR COVERAGE

Bottom view with sensor installed



STANDARD HOOK MOUNT:
1/2" NPT (INCLUDED)

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Columbia LIGHTING

CRN2-LSCS

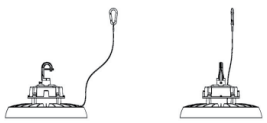
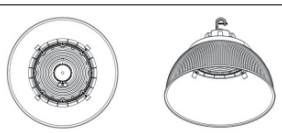
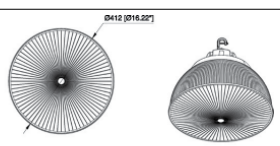
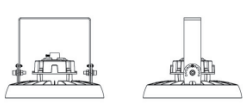
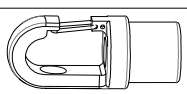
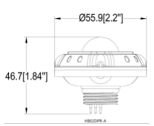
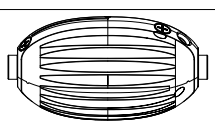
WET LOCATION HIGH BAY

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ACCESSORIES

Accessories (Optional)	Image	Description	Part #	Dimensions/Notes
Safety Tether		CRN2-TLR	93130251	**Cable length:** 6'
Wire Guard		**Size 1:** CRN2-1-WG	93161788	**Size 1:** H 1.89"; Dia 10.25" **Size 2:** H 2.09", Dia 12.4" **Min Order Qty** = 10
		Size 2: CRN2-2-WG	93161789	
Full Wire Guard		**Size 1:** CRN2-1-FWG	93161790	**Size 1:** H 7.86" Dia 17.88" **Size 2:** H 8.15" Dia 17.88"
		Size 2: CRN2-2-FWG	93161791	
Polycarbonate Refractor		**Size 1:** CRN2-1-PC16	93161792	**Size 1 & 2**: H 6.3" Dia 16" **Lumen Output Multiplier:** .98
		Size 2: CRN2-2-PC16	93161793	
Polycarbonate Drop Lens		**Sizes 1 & 2:** CRN2-PCL	93161794	Drop lens adds: **100W:** H 3.6cm (1.4 in.) **150W:** H 3.6cm (1.4 in.) **200 –240W:** H 4.1cm (1.6 in.) **Lumen Output Multiplier:** .93
Aluminum Reflector		**Size 1:** CRN2-1-AL16	93161795	**Size 1:** H 6.45"; Dia 16" **Size 2:** H 7.15"; Dia 18" **Lumen Output Multiplier:** .90
		Size 2: CRN2-2-AL18	93161796	
t Bracket*		**Size 1:** CRN2-1-YM **Part #:** 93161797 **Size 2:** CRN2-YM **Part #:** 93130248	93130249	Total Height of assembly from top of bracket to bottom of fixture: **Size 1:** H 6.3" **Size 2:** H 7.1" **200 –240W:** 22.8cm (9 in.) * Pendant mount slot on yoke is 1/2". Use CRN-YOKE-ADPT to convert to 3/4"
Snaphook		Sizes 1 & 2	93130250	**Dimensions Notes:** Snap Hook for 3/4" Conduit
PIR Occupancy Sensor		**Sensor:** HB03DPR	93161798	**Notes:** 1. Easy plug-and-play install to center face of fixture; maintains IP65 rating 2. Sensor requires remote if programming is desired 3. HB03DPR sensor is not compatible with CRN2-ELL40 emergency battery
		Remote: HB03DPR-REMOTE	93161799	
Emergency Battery		CRN2-ELL40	93161800	H: 10.78"; W: 5.57" **Note:** CRN2-ELL40 emergency battery is not compatible with HBO3DPR sensor

PROVIDE PENDANT MOUNT AS SPECIFIED IN LIEU OF PROPOSED HANGING HOOK.

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Columbia LIGHTING

LCAT14

1' × 4' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: | L

TYPE: | P

CATALOG #:

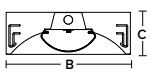
APPROVED

FEATURES

- High efficiency acrylic center lens features linear prisms for high performance without pixelation
- Appropriate for offices, schools, medical, and public spaces
- High performance reflector with matte white paint standard
- LED modules and electrical accessible from below
- Optional architecturally styled integration of daylight and occupancy sensor(s)
- QR code traceability
- Compatible with Dual-Lite inverters

DLC LISTED | c SP us | Built to UL 924 Standards | CP Chicago Plenum | TAA

Typical Dimensions and Weights				
Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
1x4	47.75 (1213)	11.75 (298)	3.98 (101)	11.25 (5.1)



CONTROLS TECHNOLOGY

SpectraSync | NX WIRELESS | NX WIRED | NX CONNECT | OCCUPANCY SENSING | DAYLIGHT HARVESTING

SPECIFICATIONS

CONSTRUCTION

- Luminaire housing, reflectors and end caps are die-formed code-gauge cold-rolled steel
- High transmission extruded acrylic enclosed lens features linear prisms with custom frost for high efficacy without pixelation
- All reflective surfaces are finished after fabrication with unique formula high-reflectivity matte white paint for soft, uniform indirect illumination

OPTICS

- Removable lens for easy access to LED module and electrical components

INSTALLATION

- An access plate is furnished with each luminaire for fast wiring access without the necessity to open the fixture or wireway
- Luminaire fits recessed exposed Grid ceilings (G); four integral T-bar clips with holes for seismic wires are standard
- Can be placed in Slot Grid (SG) style ceiling with regress ⅜" above ceiling plane
- A Flange Kit (FK) accessory is available for recessed hard ceiling applications
- Surface Mount (SM) option allows placement below ceiling plane
- Cable Mount (CM) option allows suspension below ceiling plane

ELECTRICAL

- 60,000 hour LEDs at L80 for reduced maintenance
- 83 CRI standard or optional 90 CRI for color sensitive applications

CONTROLS

- Optional SpectraSync™Tunable White solution integrates seamlessly into a variety of control systems
- NX Lighting Controls provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments
- NX Connect is a standalone wireless deployment for room based application using wireless enabled and battery operated devices

CERTIFICATIONS

- Emergency battery pack options are California Energy Commission (CEC) Title 20 Compliant
- IC label is standard for recessed products. Note that IC label is void if product is installed on site with a combination of both battery pack plus through wiring or for air return fixtures
- All luminaires are built to UL1598 and bear appropriate cCSAus labels
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options

CERTIFICATIONS (CONTINUED)

- Damp Location label standard
- Adheres to LM79, LM80, and TM21 industry standards
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924.
- Product configurations not including battery packs or controls meet federal procurement law requirements under the Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year warranty

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Columbia LIGHTING

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LCAT14

1' × 4' LED CONTEMPORARY ARCHITECTURAL TROFFER

ORDERING GUIDE

Example: LCAT14–35MLG–ESDU

CATALOG #

LCAT14 –					–		–	
Model	**CRI**	**Color Temp**	**Nominal Lumens** [2]	**Ceiling Type**	**Shielding**	**Air Function**		**Driver** [5]
LCAT14 1' x 4' LED Contemporary Architectural Troffer	**Blank** >80 **9** >90	**30** 3000K **35** 3500K **40** 4000K **50** 5000K **2765T** 2700K–6500K SpectraSync™ Tunable White [1]	**XW** 2314-2651 **VW** 2984-3312 **MW** 3297-3662 **LW** 4018-4500 **ML** 4246-4748 **HL** 4063-5669 **VL** 6959-7749 **XL** 7424-8294	**G** Grid Lay-in [3] **SM** Surface Mount [4] **CM** Cable Suspended Mount [4]	**Blank** Curve **R** Rectangular	**Blank** Static **A** Air Return Side Slots		**E** Fixed Output **ED** 0–10V Dimming [6] **ED1** 0–10V 1% Dimming **EDD** 0–10V Dim-to-Off [7] **ESD** Step Dimming **LUTH** Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology [7,8] **DALIP** Powered by DALI [7,8]

–			
Voltage	**Options**		**Control Options** [13]
U 120–277V **347** 347V	**ELL14**	Emergency Battery Pack Installed, 1400 Lumens [8,9,10]	**NX Lighting Controls** Networked Wireless **NXW** NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [14,15,16] **NXWSM** NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [14,16] Networked Wired **NXE** NX Wired Dual RJ45 SmartPORTS , without Sensor [14,15,16] **NXESM** NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [14,15,16] Independent Control **NXCS** NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor [8,17,18,19,21] **Other Lighting Controls** Networked Wireless **LVR** Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) [8,19,20,21] **LVS** Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC with Daylight and Occupancy Sensing [8,19,20,21] **AWNR** Lutron Athena Integral Fixture Control A-WN-DO1-RF-WH (RF only) [8,16,19,22] **AWNS** Lutron Athena Integral Fixture Control A-WN-D01-OCC-WH with Daylight and Occupancy Sensing [8,16,19] Independent Control **ODPG** Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 [8,19,21]
	ELL14ST	Emergency Battery Pack, 1400 Lumens, Self Test [8,9,10]	
	ELL14H2	Emergency Battery Pack, 2-Hour Run Time [8,9,10,11]	
	DTS	Dimming Bypass Module [8,10,12]	
	C388	3-wire Flex	
	C488	4-wire Flex	
	C588	5-wire Flex	
	GLR	Fast Blow Fuse	
	EOR	End of Row (SM and CM only. Provides end wiring access for continuous row mounting.)	
	INT	Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)	
	CP	Chicago Plenum	

Accessories

☐	**FK14**	1' × 4' Single Flange Kit (Shipped separately)
☐	**CM48Y1SC3F48**	48" Cable Mount Kit for 1' wide Cable Mount fixtures, 3-wire
☐	**SMK-LCAT 1x4**	1x4 Surface Mount Kit, Field Install

Notes:

1 Available with ED driver and 80 CRI only. Not available with VL or XL lumen package
2 Refer to performance tables for exact values and available lumen outputs for fixture size
3 For drywall, order G with flange kit accessory
4 Not available with Air Return (A) air function
5 Dimming curves may vary dependent upon lumen output and driver option chosen. Separate dimming circuits are recommended if multiple driver options are chosen.
6 1V minimum low-end trim recommended when paired with a 0-10V dimmer
7 Not available in all lumen packages, refer to Driver Availability table
8 Not available with 347V
9 To determine lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW)
10 For compatibility with Dual-Lite Litegear inverters, contact lighting representative
11 Not available for use in Canada
12 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See wiring diagram.

All Controls
13 Minimum ambient temperature: 0°C (32°F)

NX Lighting Controls Options
14 NX combined with SpectraSync is not available in 347V
15 Not compatible with Surface Mount Kit
16 Available with ED, ED1 or EDD drivers only
17 NX Connect devices can be configured using the NX Connect Mobile App, available in the Apple App Store
18 NX Connect devices are not compatible with NX Networked Wireless or Wired Options

Other Lighting Controls Options
19 Not available with SpectraSync
20 Vive is a trademark of Lutron Electronics Co., Inc.
21 Only available with DALIP driver option
22 When installing in a hard ceiling application room side mounting is suggested, please consult factory

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Columbia LIGHTING

LCAT14

1' × 4' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PRODUCT EXCEPTIONS & DETAILS

Driver options listed below are available for the outputs as shown.

DRIVER AVAILABILITY TABLE								
	XW	VW	MW	LW	ML	HL	VL	XL
E	X	X	X	X	X	X	X	X
ED	X	X	X	X	X	X	X	X
ED1	X	X	X	X	X	X	X	X
EDD		X	X	X	X	X		
ESD	X	X	X	X	X	X	X	X
LUTH	X	X	X	X	X	X		
DALIP		X	X	X	X	X	X	X
347	X	X	X	X	X	X		

DELIVERED LUMENS

(View 90 CRI data on supplemental document)

Product Availability 80 CRI					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
XW		3000K	2403	18.8	128
		3500K	2622	18.6	141
		4000K	2651	18.6	143
		5000K	2651	18.6	143
	R	3000K	2314	18.8	123
		3500K	2491	18.6	134
		4000K	2519	18.6	136
		5000K	2519	18.6	136
VW		3000K	3086	24.5	126
		3500K	3276	24.5	134
		4000K	3312	24.5	135
		5000K	3312	24.5	135
	R	3000K	2984	24.4	122
		3500K	3168	24.4	130
		4000K	3203	24.4	131
		5000K	3203	24.4	131
MW		3000K	3412	27.3	125
		3500K	3622	27.3	133
		4000K	3662	27.3	134
		5000K	3662	27.3	134
	R	3000K	3297	27.3	121
		3500K	3500	27.3	128
		4000K	3538	27.3	130
		5000K	3538	27.3	130
LW		3000K	4193	32.4	129
		3500K	4451	32.4	137
		4000K	4500	32.4	139
		5000K	4500	32.4	139
	R	3000K	4018	32.4	124
		3500K	4266	32.4	132
		4000K	4313	32.4	133
		5000K	4313	32.4	133

Product Availability 80 CRI (continued)					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
ML		3000K	4423	32.6	136
		3500K	4696	32.6	144
		4000K	4748	32.6	146
		5000K	4748	32.6	146
	R	3000K	4246	32.6	130
		3500K	4507	32.6	138
		4000K	4557	32.6	140
		5000K	4557	32.6	140
HL		3000K	5282	40.0	132
		3500K	5607	40.0	140
		4000K	5669	40.0	142
		5000K	5669	40.0	142
	R	3000K	5063	40.0	127
		3500K	5375	40.0	134
		4000K	5434	40.0	136
		5000K	5434	40.0	136
VL		3000K	7222	56.9	127
		3500K	7664	56.9	135
		4000K	7749	56.9	136
		5000K	7749	56.9	136
	R	3000K	6959	56.9	122
		3500K	7384	56.9	130
		4000K	7466	56.9	131
		5000K	7466	56.9	131
XL		3000K	7857	63.0	125
		3500K	8203	62.4	131
		4000K	8294	62.4	133
		5000K	8294	62.4	133
	R	3000K	7424	62.9	118
		3500K	7860	62.4	126
		4000K	7947	62.4	127
		5000K	7947	62.4	127

PROJECTED LUMEN MAINTENANCE

Calculation Method	Ambient Temp	25,000 hrs	50,000 hrs	60,000 hrs *
TM-21-11	25C/77F	0.94	0.89	0.87
TM-21-21	25C/77F	0.94	0.88	0.86

* Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

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Columbia LIGHTING

LCAT14

1' × 4' LED CONTEMPORARY ARCHITECTURAL TROFFER

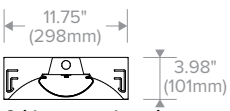
DATE: | LOCATION:

TYPE: | PROJECT:

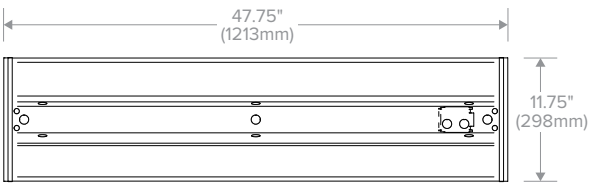
CATALOG #:

DIMENSIONS

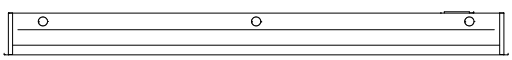
GRID



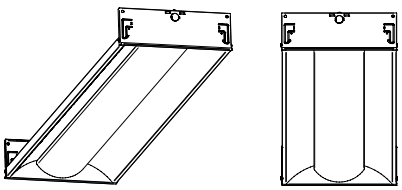
Grid, recessed section



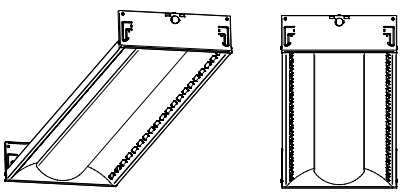
Grid, back of housing



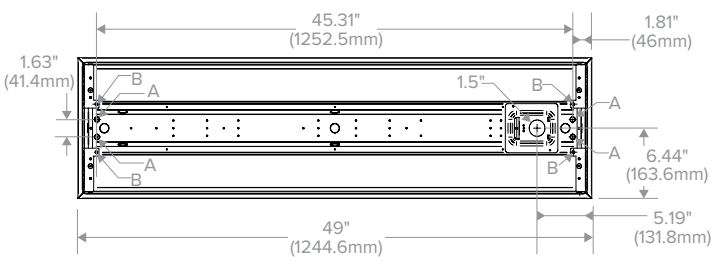
GRID, STATIC



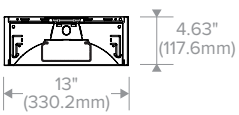
GRID, AIR RETURN



SURFACE MOUNT OR CABLE MOUNT, STATIC ONLY



Surface Mount (SM) and Cable Mount (CM), back of housing



Surface section (SM)

Surface Mount:
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3⁄8", provided in center channel as indicated at left, marked A.

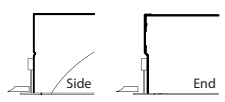
Cable Mount:
Order CM ceiling type. Use CM48Y1SC3F48 48" Cable Mount Kit for 1' wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

˙ For Cable Mount a 2" x 3" access plate with (4) **⅞"** KOs provided in place of Mounting Collar shown.

NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

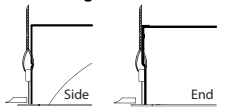
CEILING COMPATIBILITY

Type G



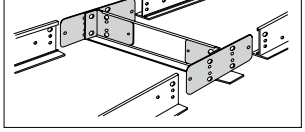
For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.

FK14 Flange Kit



For hard ceiling applications, order FK14 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

FKCR



For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK14 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK14 & (1) FKCR)

Row cut out dimensions using FK14s & FKCR adapters: Width 12⅜", Length [48" × (# in row)] + ⅜". Example: (48" × 2) + 3/8" = 96⅜"

Flange kit cut out dimension for single unit only: 12⅜" × 48⅜"

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Columbia LIGHTING

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

FEATURES

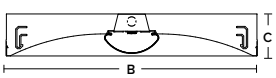
- High efficiency acrylic center lens features linear prisms for high performance without pixelation
- Appropriate for offices, schools, medical, and public spaces
- High performance reflector with matte white paint standard
- LED modules and electrical accessible from below
- Optional architecturally styled integration of daylight and occupancy sensor(s)
- QR code traceability
- Compatible with Dual-Lite inverters

SERVICE PROGRAMS

STOCK QS10

DLC LISTED | c SP us | Built to UL 924 Standards | CP Chicago Plenum | TAA

Typical Dimensions and Weights				
Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
2x2	23.75 (603)	23.77 (604)	3.98 (101)	11 (5)



CONTROLS TECHNOLOGY

SpectraSync Color Tuning Technology | NX WIRELESS | NX WIRED | NX CONNECT | OCCUPANCY SENSING | DAYLIGHT HARVESTING

SPECIFICATIONS

CONSTRUCTION

- Luminaire housing, reflectors and end caps are die-formed code-gauge cold-rolled steel
- High transmission extruded acrylic enclosed lens features linear prisms with custom frost for high efficacy without pixelation
- All reflective surfaces are finished after fabrication with unique formula high-reflectivity matte white paint for soft, uniform indirect illumination

OPTICS

- Removable lens for easy access to LED module and electrical components

INSTALLATION

- An access plate is furnished with each luminaire for fast wiring access without the necessity to open the fixture or wireway
- Luminaire fits recessed exposed Grid ceilings (G); four integral T-bar clips with holes for seismic wires are standard
- Can be placed in Slot Grid (SG) style ceiling with regress ⅜" above ceiling plane
- A Flange Kit (FK) accessory is available for recessed hard ceiling applications
- Surface Mount (SM) option allows placement below ceiling plane
- Cable Mount (CM) option allows suspension below ceiling plane

ELECTRICAL

- 60,000 hour LEDs at L80 for reduced maintenance
- 83 CRI standard or optional 90 CRI for color sensitive applications

CONTROLS

- Optional SpectraSync™Tunable White solution integrates seamlessly into a variety of control systems
- NX Lighting Controls provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments
- NX Connect is a standalone wireless deployment for room based application using wireless enabled and battery operated devices

CERTIFICATIONS

- Emergency battery pack options are California Energy Commission (CEC) Title 20 Compliant
- IC label is standard for recessed products. Note that IC label is void if product is installed on site with a combination of both battery pack plus through wiring or for air return fixtures
- All luminaires are built to UL1598 and bear appropriate cCSAus labels
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options

CERTIFICATIONS (CONTINUED)

- Damp Location label standard
- Adheres to LM79, LM80, and TM21 industry standards
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924.
- Product configurations not including battery packs or controls meet federal procurement law requirements under the Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year warranty

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Columbia LIGHTING

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

= Service Program Limit of 250 luminaires QS10

ORDERING GUIDE

Example: LCAT22–35MLG–ESDU

CATALOG #

LCAT22 –

Model	CRI	Color Temp	Nominal Lumens [2]	Ceiling Type	Shielding	Air Function	Driver [5]
LCAT22 2' x 2' LED Contemporary Architectural Troffer	**Blank** >80 **9** >90	**30** 3000K **35** 3500K **40** 4000K **50** 5000K **2765T** 2700K–6500K SpectraSync™ Tunable White [1]	**VW** 1510-1681 **MW** 1998-2253 **LW** 2581-2903 **ML** 3141-3532 **HL** 4056-4286 **VL** 4253-4794	**G** Grid Lay-in [3] **SM** Surface Mount [4] **CM** Cable Suspended Mount [4]	**Blank** Curve **R** Rectangular	**Blank** Static **A** Air Return Side Slots	**E** Fixed Output **ED** 0–10V Dimming [6] **ED1** 0–10V 1% Dimming **EDD** 0–10V Dim-to-Off [7] **ESD** Step Dimming [7] **LUTH** Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology [7,8] **DALIP** Powered by DALI [7,8]

–

Voltage	Options	Control Options [13]
U 120–277V **347** 347V	**ELL14** Emergency Battery Pack Installed, 1400 Lumens [8,9,10] **ELL14ST** Emergency Battery Pack, 1400 Lumens, Self Test [8,9,10] **ELL14H2** Emergency Battery Pack, 2-Hour Run Time [8,9,10,11] **DTS** Dimming Bypass Module [8,10,12] **C388** 3-wire Flex **C488** 4-wire Flex **C588** 5-wire Flex **GLR** Fast Blow Fuse **EOR** End of Row (SM and CM only. Provides end wiring access for continuous row mounting.) **INT** Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.) **CP** Chicago Plenum	**NX Lighting Controls** Networked Wireless **NXW** NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [14,15,16] **NXWSM** NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [14,16] Networked Wired **NXE** NX Wired Dual RJ45 SmartPORTS , without Sensor [14,15,16] **NXESM** NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [14,15,16] Independent Control **NXCS** NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor [8,17,18,19,21] **Other Lighting Controls** Networked Wireless **LVR** Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) [8,19,20,21] **LVS** Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC with Daylight and Occupancy Sensing [8,19,20,21] **AWNR** Lutron Athena Integral Fixture Control A-WN-DO1-RF-WH (RF only) [8,16,19,22] **AWNS** Lutron Athena Integral Fixture Control A-WN-D01-OCC-WH with Daylight and Occupancy Sensing [8,16,19] Independent Control **ODPG** Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 [8,19,21]

Accessories

- ☐ **FK22** 2' × 2' Single Flange Kit (Shipped separately)
- ☐ **CM48Y2SC3F-KIT** 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

Notes:

1 Available with ED driver and 80 CRI only. Not available with VL lumen package
2 Refer to performance tables for exact values and available lumen outputs for fixture size
3 For drywall, order G with flange kit accessory
4 Not available with Air Return (A) air function
5 Dimming curves may vary dependent upon lumen output and driver option chosen. Separate dimming circuits are recommended if multiple driver options are chosen.
6 1V minimum low-end trim recommended when paired with a 0-10V dimmer
7 Not available in all lumen packages, refer to Driver Availability table
8 Not available with 347V
9 To determine lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW)
10 For compatibility with Dual-Lite Litegear inverters, contact lighting representative
11 Not available for use in Canada
12 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0-10V drivers. Universal voltage only. See wiring diagram.

All Controls
13 Minimum ambient temperature: 0°C (32°F)
NX Lighting Controls Options
14 NX combined with SpectraSync is not available in 347V
15 Not compatible with Surface Mount Kit
16 Available with ED, ED1 or EDD drivers only
17 NX Connect devices can be configured using the NX Connect Mobile App, available in the Apple App Store
18 NX Connect devices are not compatible with NX Networked Wireless or Wired Options
Other Lighting Controls Options
19 Not available with SpectraSync
20 Vive is a trademark of Lutron Electronics Co., Inc.
21 Only available with DALIP driver option
22 When installing in a hard ceiling application room side mounting is suggested, please consult factory

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Columbia LIGHTING

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

PRODUCT EXCEPTIONS & DETAILS

Driver options listed below are available for the outputs as shown.

DRIVER AVAILABILITY TABLE						
	VW	MW	LW	ML	HL	VL
E	X	X	X	X	X	X
ED	X	X	X	X	X	X
ED1	X	X	X	X	X	X
EDD		X	X	X	X	
ESD			X	X	X	X
LUTH		X	X	X		
DALIP	X	X	X	X	X	X
347	X	X	X	X	X	X

DELIVERED LUMENS

(View 90 CRI data on supplemental document)

Product Availability 80 CRI					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
VW		3000K	1561	12.3	127
		3500K	1663	12.3	135
		4000K	1681	12.3	137
		5000K	1681	12.3	137
	R	3000K	1510	12.3	123
		3500K	1609	12.2	132
		4000K	1627	12.2	133
		5000K	1627	12.2	133
MW		3000K	2099	16.4	128
		3500K	2229	16.4	136
		4000K	2253	16.4	138
		5000K	2253	16.4	138
	R	3000K	1998	16.4	122
		3500K	2121	16.4	129
		4000K	2144	16.4	131
		5000K	2144	16.4	131
LW		3000K	2705	20.6	131
		3500K	2871	20.6	139
		4000K	2903	20.6	141
		5000K	2903	20.6	141
	R	3000K	2581	20.6	125
		3500K	2740	20.6	133
		4000K	2770	20.6	134
		5000K	2770	20.6	134
ML		3000K	3291	25.8	127
		3500K	3494	25.8	135
		4000K	3532	25.8	137
		5000K	3532	25.8	137
	R	3000K	3141	25.9	121
		3500K	3334	25.9	129
		4000K	3371	25.9	130
		5000K	3371	25.9	130

Product Availability 80 CRI (continued)					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
HL		3000K	4196	33.5	125
		3500K	4239	33.1	128
		4000K	4286	33.1	129
		5000K	4286	33.1	129
	R	3000K	4056	33.5	121
		3500K	4100	33.1	124
		4000K	4146	33.1	125
		5000K	4146	33.1	125
VL		3000K	4468	35.1	127
		3500K	4741	35.1	135
		4000K	4794	35.1	136
		5000K	4794	35.1	136
	R	3000K	4253	35.2	121
		3500K	4513	35.2	128
		4000K	4564	35.2	130
		5000K	4564	35.2	130

PROJECTED LUMEN MAINTENANCE

Calculation Method	Ambient Temp	25,000 hrs	50,000 hrs	60,000 hrs *
TM-21-11	25C/77F	0.94	0.89	0.87
TM-21-21	25C/77F	0.94	0.88	0.86

* Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

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Columbia LIGHTING

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE: | LOCATION:

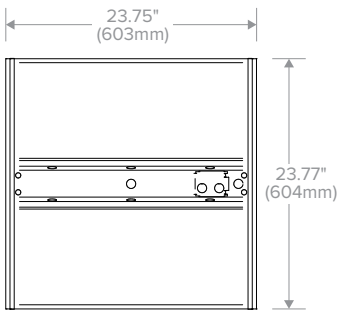
TYPE: | PROJECT:

CATALOG #:

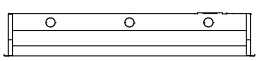
DIMENSIONS

GRID

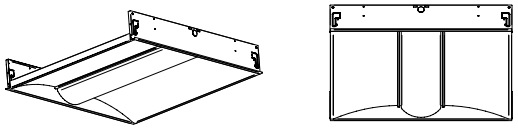
Grid, recessed section



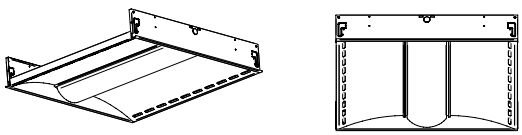
Grid, back of housing



GRID, STATIC

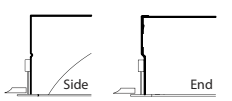


GRID, AIR RETURN



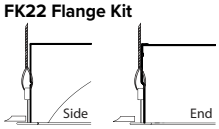
CEILING COMPATIBILITY

Type G



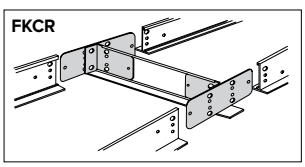
For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.

FK22 Flange Kit



For hard ceiling applications, order FK22 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

FKCR

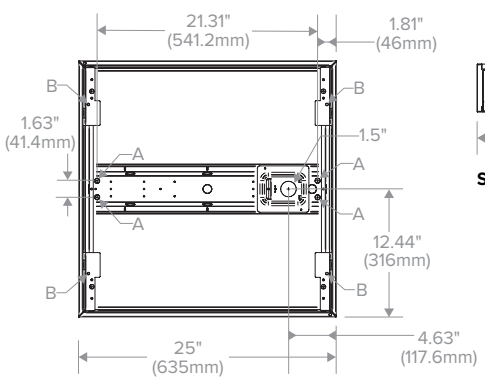


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK22 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK22 & (1) FKCR)

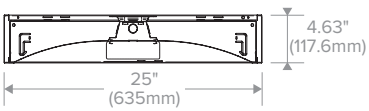
Row cut out dimensions using FK22s & FKCR adapters: Width 24⅜", Length [24" × (# in row)] + ⅜". Example: (24" × 2) + ⅜" = 48⅜"

Flange kit cut out dimension for single unit only: 24⅜" × 24⅜"

SURFACE MOUNT OR CABLE MOUNT, STATIC ONLY



Surface Mount (SM) and Cable Mount (CM), back of housing



Surface section (SM)

Surface Mount:
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3⁄8", provided in center channel as indicated at left, marked A.

Cable Mount:
Order CM ceiling type. Use CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

* For Cable Mount a 2" x 3" access plate with (4) **⅞"** KOs provided in place of Mounting Collar shown.

NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

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Columbia LIGHTING

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

LCAT22

2' × 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

= Service Program Limit of 250 luminaires QS10

ORDERING GUIDE

Example: LCAT22–35MLG–ESDU

CATALOG #

LCAT22 –

Model	CRI	Color Temp	Nominal Lumens [2]	Ceiling Type	Shielding	Air Function	Driver [5]
LCAT22 2' x 2' LED Contemporary Architectural Troffer	**Blank** >80 **9** >90	**30** 3000K **35** 3500K **40** 4000K **50** 5000K **2765T** 2700K–6500K SpectraSync™ Tunable White [1]	**VW** 1510-1681 **MW** 1998-2253 **LW** 2581-2903 **ML** 3141-3532 **HL** 4056-4286 **VL** 4253-4794	**G** Grid Lay-in [3] **SM** Surface Mount [4] **CM** Cable Suspended Mount [4]	**Blank** Curve **R** Rectangular	**Blank** Static **A** Air Return Side Slots	**E** Fixed Output **ED** 0–10V Dimming [6] **ED1** 0–10V 1% Dimming **EDD** 0–10V Dim-to-Off [7] **ESD** Step Dimming [7] **LUTH** Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology [7,8] **DALIP** Powered by DALI [7,8]

–

Voltage	Options	Control Options [13]
U 120–277V **347** 347V	**ELL14** Emergency Battery Pack Installed, 1400 Lumens [8,9,10] **ELL14ST** Emergency Battery Pack, 1400 Lumens, Self Test [8,9,10] **ELL14H2** Emergency Battery Pack, 2-Hour Run Time [8,9,10,11] **DTS** Dimming Bypass Module [8,10,12] **C388** 3-wire Flex **C488** 4-wire Flex **C588** 5-wire Flex **GLR** Fast Blow Fuse **EOR** End of Row (SM and CM only. Provides end wiring access for continuous row mounting.) **INT** Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.) **CP** Chicago Plenum	**NX Lighting Controls** Networked Wireless **NXW** NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [14,15,16] **NXWSM** NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [14,16] Networked Wired **NXE** NX Wired Dual RJ45 SmartPORTS , without Sensor [14,15,16] **NXESM** NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [14,15,16] Independent Control **NXCS** NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor [8,17,18,19,21] **Other Lighting Controls** Networked Wireless **LVR** Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) [8,19,20,21] **LVS** Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC with Daylight and Occupancy Sensing [8,19,20,21] **AWNR** Lutron Athena Integral Fixture Control A-WN-DO1-RF-WH (RF only) [8,16,19,22] **AWNS** Lutron Athena Integral Fixture Control A-WN-D01-OCC-WH with Daylight and Occupancy Sensing [8,16,19] Independent Control **ODPG** Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 [8,19,21]

Accessories

- ☐ **FK22** 2' × 2' Single Flange Kit (Shipped separately)
- ☐ **CM48Y2SC3F-KIT** 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

Notes:

1 Available with ED driver and 80 CRI only. Not available with VL lumen package
2 Refer to performance tables for exact values and available lumen outputs for fixture size
3 For drywall, order G with flange kit accessory
4 Not available with Air Return (A) air function
5 Dimming curves may vary dependent upon lumen output and driver option chosen. Separate dimming circuits are recommended if multiple driver options are chosen.
6 1V minimum low-end trim recommended when paired with a 0-10V dimmer
7 Not available in all lumen packages, refer to Driver Availability table
8 Not available with 347V
9 To determine lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW)
10 For compatibility with Dual-Lite Litegear inverters, contact lighting representative
11 Not available for use in Canada
12 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0-10V drivers. Universal voltage only. See wiring diagram.

All Controls
13 Minimum ambient temperature: 0°C (32°F)

NX Lighting Controls Options
14 NX combined with SpectraSync is not available in 347V
15 Not compatible with Surface Mount Kit
16 Available with ED, ED1 or EDD drivers only
17 NX Connect devices can be configured using the NX Connect Mobile App, available in the Apple App Store
18 NX Connect devices are not compatible with NX Networked Wireless or Wired Options

Other Lighting Controls Options
19 Not available with SpectraSync
20 Vive is a trademark of Lutron Electronics Co., Inc.
21 Only available with DALIP driver option
22 When installing in a hard ceiling application room side mounting is suggested, please consult factory

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EXO OUTDOOR LIGHTING

SLING Micro Strike

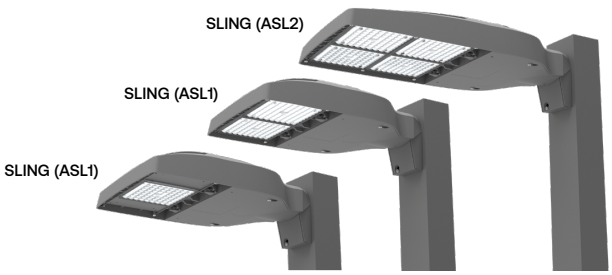
AREA/SITE/ROAD LIGHTER

DATE: | L

TYPE: | P

CATALOG #:

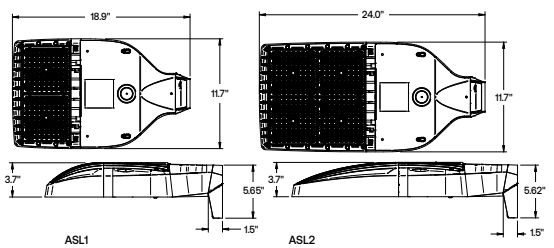
APPROVED



FEATURES

- Compact sleek design with multiple LED configurations and simple installation
- The SLING includes a square mounting block for easy pole installation or mast arm option for 2-3/8 ft OD roadway brackets
- Capable of replacing up to 1000w HID luminaires
- Micro Strike optical distributions of Type 2, 3, 4F, 4W or 5QW
- Tool-less entry option for easy installation and maintenance
- 3G rated for high vibration applications including bridges and overpasses

C US BAA TAA DLC LISTED PREMIUM



	Weight lbs. (kg)	EPA
ASL1	14.47 (6.56)	.46ft² 0.43m²
ASL2	17.47 (7.92)	.56ft² 0.52m²

CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID+

SERVICE PROGRAMS

QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Separate optical and electrical compartment for improved thermal management and optimum component operation
- TGIC thermoset polyester powder paint finish applied at nominal 2.5 mil thickness

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- Premium engineered individual acrylic lenses deliver IES Type 2, 3, 4F, 4W and 5QW distributions
- Lens distributions are field rotatable (in 90° increments) or exchangeable for job site fine-tuning
- 3000K, 4000K or 5000K (70 CRI) CCT
- 80, 160 or 320 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI) CCT
- Zero uplight at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Tool-less entry to wiring/driver compartment optional
- Arm mounting works with S2 drill pattern
- Fixture ships with square mounting block for ease of installation
- Mast arm fitter accessory or option available for 2-3/8" OD brackets with vertical tilt of +3°, 0° or -3°

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40° C to 40° C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Standard 6kV surge protection with optional field replaceable surge protection device provides 20KA and 10KV protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is consumed

CONTROLS

- Photo control, occupancy sensor and Zigbee wireless available for complete on/off and dimming control
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application

CERTIFICATIONS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations on this page are DLC Qualified. Refer to http://www.designlights.org/ for the most up-to-date list.
- 3G rated for ANSI C136.31 high vibration applications
- IP65 optical assembly
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions)

WARRANTY

- 5 Year warranty

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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

Gray Shading = Service Program Limit of 15 luminaires QS10

ORDERING GUIDE

Example: ASL1-80L-50-3K7-2-UNV-ASQU-BLT-7PRMD-40F

CATALOG # _____

ORDERING INFORMATION

Series	# LEDs	CCT/CRI	Distribution	Voltage	Mounting
ASL1 ASL Microstrike Series	**80L-25** 3,000 lm	**3K7** 3000K, 70 CRI	**2** Type II	**UNV** Universal 120-277V	**A** Arm for Square poles with S2 drill pattern
	80L-39 4,500 lm	**4K7** 4000K, 70 CRI	**3** Type III	**120** 120V	**A3** Square Arm with 3.25"-3.75" OD RPA3 Adapter
	80L-50 6,000 lm	**5K7** 5000K, 70 CRI	**4F** Type 4F	**208** 208V	**A4** Square Arm with 3.875"-4.5" OD RPA4 Adapter
	160L-70 9,000 lm		**4W** Type 4W	**240** 240V	**A5** Square Arm with 5" OD RPA5 Adapter
	160L-100 12,000 lm		**5QW** Type 5QW	**277** 277V	**MAF** Mast Arm Fitter for 2-3/8" OD
	160L-115 15,000 lm			**347** 347V	
	160L-135 18,000 lm			**480** 480V	
ASL2 ASL Microstrike Series	**320L-145** 21,000 lm				
	320L-170 24,000 lm				
	320L-185 27,000 lm				
	320L-210 30,000 lm				
	320L-235 33,000 lm				
	320L-255 35,000 lm				

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
Stand Alone Sensors	
7PR	7 Pin Receptacle
7PR-SC	7 Pin Receptacle with shorting cap
7PR-MD8F	7 pin receptacle with low voltage sensor at 8' mounting for external control accessory
7PR-MD40F	7 pin receptacle with low voltage sensor at 40' mounting for external control accessory
7PR-TL	7 Pin Receptacle with Photocontrol
Sensors	
BTS_F	Bluetooth Programmable, PIR Occupancy/Daylight Sensor, 360° lens [2,4]
BTSO_F	Bluetooth Programmable, PIR Occupancy/Daylight Sensor, 360° lens, up to 12' mounting height [3,4]

Options	
F[1]	Fusing
BC	Backlight Control
SP	20kA & 10kV Surge Protector

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Matte Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured
Color Option	
CC	Custom Color

Notes:

1 Must specify Voltage

2 Replace "_" with "14" for up to 14' mounting height, "40F" for 15-40' mounting height

3 Replace "_" with "12" for up to 12' mounting height

4 Available at 50W or higher only

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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
Independent	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–	7PR
	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–	7PR-SC
	7PR-TL	7-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–	7PR-TL

ACCESSORIES (ORDERED SEPARATELY)

	Catalog Number	Description
☐	**ASL1-HSS-90-B-XXX**[1]	House Side Shield Back 90 deg
☐	**ASL1-HSS-90-F-XXX**[1]	House Side Shield Front 90 deg
☐	**ASL1-HSS-90-S-XXX**[1]	House Side Shield Side 90 deg
☐	**ASL1-HSS-270-BSS-XXX**[1]	House Side Shield Back, Side & Side 270 deg
☐	**ASL1-HSS-270-FSS-XXX**[1]	House Side Shield Front, Side & Side 270 deg
☐	**ASL1-HSS-270-FSB-XXX**[1]	House Side Shield Front, Side & Back 270 deg
☐	**ASL1-HSS-360-XXX**[1]	House Side Shield 360 deg
☐	**ASL2-HSS-90-B-XXX**[1]	House Side Shield Back 90 deg
☐	**ASL2-HSS-90-F-XXX**[1]	House Side Shield Front 90 deg
☐	**ASL2-HSS-90-S-XXX**[1]	House Side Shield Side 90 deg
☐	**ASL2-HSS-270-BSS-XXX**[1]	House Side Shield Back, Side & Side 270 deg
☐	**ASL2-HSS-270-FSS-XXX**[1]	House Side Shield Front, Side & Side 270 deg
☐	**ASL2-HSS-270-FSB-XXX**[1]	House Side Shield Front, Side & Back 270 deg
☐	**ASL2-HSS-360-XXX**[1]	House Side Shield 360 deg
☐	**ASL-MAF**	Mast arm kit with wildlife shield for mounting on 2 3/8" OD arms
☐	**SETA2-XX**[1]	Square pole tenon adapter (4 at 90 degrees) (2 3/8" OD tenon)
☐	**RETA2-XX**[1]	Round pole tenon adapter (4 at 90 degrees) (2 3/8" OD tenon), requires CL1S-RPA4-ACC-XX for each luminaire
☐	**RARBC80L**	Backlight Control 80L
☐	**RARBC160L**	Backlight Control 160L
☐	**RARBC320L**	Backlight Control 320L
☐	**RARBC480L**	Backlight Control 480L
☐	**CL1S-RPA*-ACC-CC**[1]	Round Pole Adapter (*denotes pole diameter 3=3.25"-3.75", 4=3.875"-4.5", 5=5" and paint color replaces CC
☐	**ASL-ARMMTG-XX1**[1]	Arm mounting kit for side of pole attachment
☐	**WB-AREA-XX**[1]	Wall bracket, Compatible with standard arm mount option
☐	**ASL-MAF**	Mast arm kit with wildlife shield for mounting on 2 3/8" OD arms

1 Replace XX or XXX with color choice, eg.: DB for Dark Bronze or BLT for Black Matte Textured

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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
				Lumens	LPW[1]	B	U	G	Lumens	LPW[1]	B	U	G	Lumens	LPW[1]	B	U	G
ASL1	25	25.4	2	3430	135	2	0	2	3413	134	2	0	2	3225	127	2	0	2
			3	3465	136	2	0	2	3448	136	2	0	2	3259	128	2	0	2
			4F	3204	126	1	0	1	3201	126	1	0	1	3127	123	1	0	1
			4W	3401	134	2	0	3	3384	133	2	0	3	3198	126	2	0	3
			5QW	3483	137	4	0	2	3466	136	4	0	2	3274	129	4	0	2
	39	38.0	4F	5005	132	1	0	1	5000	132	1	0	1	4885	129	1	0	1
			2	5232	138	3	0	3	5206	137	3	0	3	4919	129	3	0	3
			3	5287	139	2	0	2	5260	138	2	0	2	4971	131	2	0	2
			4W	5188	137	2	0	3	5163	136	2	0	3	4879	128	2	0	3
			5QW	5319	140	4	0	2	5292	139	4	0	2	4975	131	4	0	2
	50	49.7	2	6295	127	2	0	2	6263	126	2	0	2	5918	119	2	0	2
			3	6361	128	2	0	2	6329	127	2	0	2	5981	120	2	0	2
			4F	6407	129	1	0	2	6401	129	1	0	2	6254	126	1	0	2
			4W	6243	126	2	0	3	6212	125	2	0	3	5870	118	2	0	3
			5QW	6392	129	4	0	2	6360	128	4	0	2	6009	121	4	0	2
	70	68.4	2	9460	138	3	0	3	9413	138	3	0	3	8895	130	3	0	3
			3	9559	140	2	0	2	9512	139	2	0	2	8989	131	2	0	2
			4F	8988	131	2	0	2	8979	131	2	0	2	8772	128	2	0	2
			4W	9382	137	2	0	3	9335	136	2	0	3	8822	129	2	0	3
			5QW	9610	140	4	0	2	9562	140	4	0	2	9034	132	4	0	2
	100	88.0	2	11939	136	2	0	2	11885	135	2	0	2	11232	128	2	0	2
			3	12064	138	2	0	2	12010	136	2	0	2	11349	129	2	0	2
			4F	12832	146	2	0	2	12819	146	2	0	2	12524	142	2	0	2
			4W	11840	135	2	0	3	11787	135	2	0	3	11138	127	2	0	3
			5QW	12132	138	4	0	2	12071	138	4	0	2	11404	130	4	0	2
	115	109.7	2	15651	143	2	0	2	15577	142	2	0	2	14977	137	2	0	2
			3	15487	141	2	0	2	15413	140	2	0	2	14820	135	2	0	2
			4F	14754	134	2	0	2	14740	134	2	0	2	14401	131	2	0	2
			4W	15305	140	2	0	3	15232	139	2	0	3	14646	134	2	0	3
			5QW	15731	143	4	0	2	15632	143	4	0	2	15031	137	4	0	2
	135	133.3	2	18089	136	3	0	3	17999	135	3	0	3	17275	130	3	0	3
			3	17863	134	2	0	2	17777	133	2	0	2	17094	128	2	0	2
			4F	17317	130	3	0	3	17300	130	3	0	3	16902	127	2	0	3
			4W	17653	133	2	0	3	17568	132	2	0	3	16893	127	2	0	3
			5QW	18155	136	4	0	2	18030	135	4	0	2	17338	130	4	0	2

ASL2 Performance Data on next page

1 VAC input Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations. Actual performance may differ as a result of end-user environment and application.

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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

ELECTRICAL DATA

Family	Nominal Wattage	Input Voltage (Volts)	Current (AMPS)	System Power (Watts)
SLING (ASL1)	25	120	0.21	25.4
		208	0.12	
		240	0.11	
		277	0.09	
		347	0.07	
		480	0.05	
	39	120	0.32	38
		208	0.18	
		240	0.16	
		277	0.14	
		347	0.11	
		480	0.08	
	50	120	0.41	49.7
		208	0.24	
		240	0.21	
		277	0.18	
		347	0.14	
		480	0.10	
	70	120	0.57	68.4
		208	0.33	
		240	0.29	
		277	0.25	
		347	0.20	
		480	0.14	
	100	120	0.73	88
		208	0.42	
		240	0.37	
		277	0.32	
		347	0.25	
		480	0.18	
	115	120	0.91	109.7
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
	135	120	1.11	133.3
		208	0.64	
		240	0.56	
		277	0.48	
		347	0.38	
		480	0.28	

SLING (ASL2) Next Page

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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11[1] L96 60,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

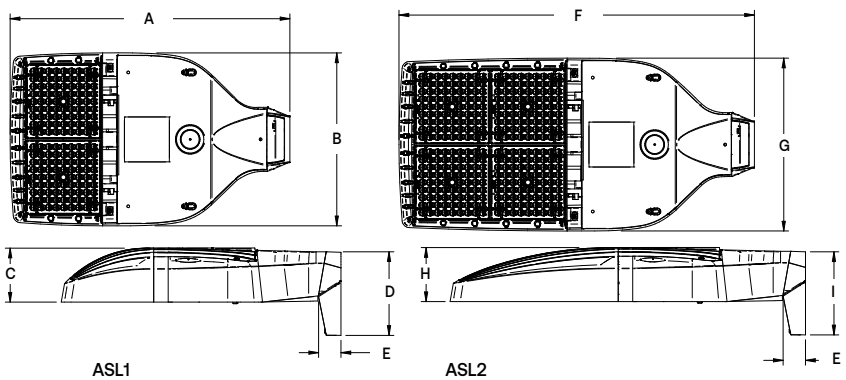
1. Projected per IESNA TM-21-11 (* Cree XP-L, 2100mA, 105°C Ts, 6,000hrs)

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0° C	32° F	1.06
10° C	50° F	1.03
20° C	68° F	1.01
25° C	77° F	1.00
30° C	86° F	0.99
40° C	104° F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

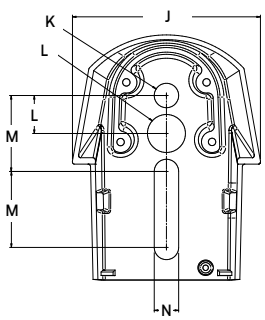
DIMENSIONS



ASL1 ASL2

A	B	C	D	E	F	G	H	I	ASL1 EPA@0°	ASL2 EPA@0°	ASL1 w/ HSS	ASL2 w/ HSS
18.9" 480mm	11.7" 297mm	3.7" 94mm	5.65" 144mm	1.5" 38mm	24.0" 610mm	11.7" 297mm	3.7" 94mm	5.62" 143mm	.46 ft.^{2} .043 m^2	.56 ft.^{2} .052 m^2	.73 ft.^{2} .068 m^2	1.01 ft.^{2} .094 m^2

	Weight
ASL1	14.47 lbs (6.56 kgs)
ASL2	17.47 lbs (7.92 kgs)

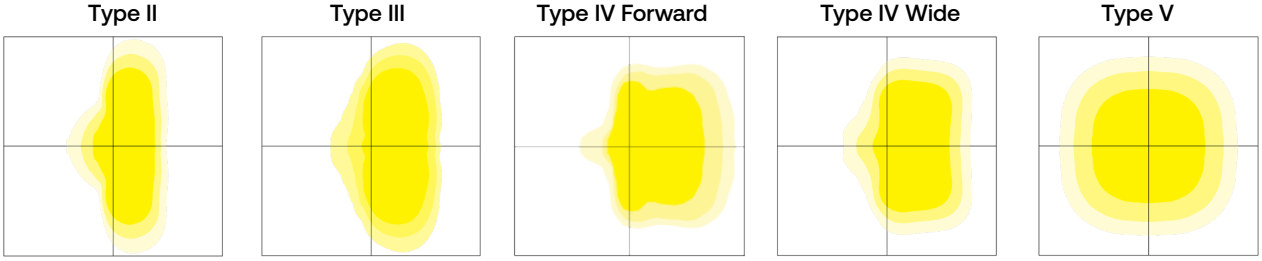


J	K	L	M	N
4.33" 480mm	.562" 297mm	.875" 94mm	1.75" 610mm	.562" 297mm

PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type II | Type III | Type IV Forward | Type IV Wide | Type V



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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

ADDITIONAL INFORMATION (CONT'D)

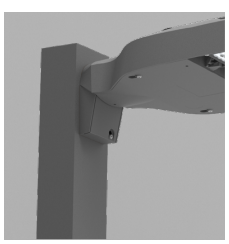
OCCUPANCY SENSOR

- Individual fixture control
- Dims product when space is not occupied

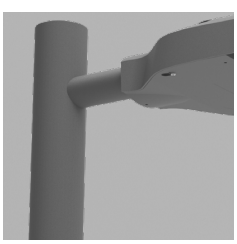
7-PIN RECEPTACLE

- Compatible with 3-pin, 5-pin or 7-pin photocontrols
- Turns fixture on when sun sets, off when sun rises
- For use with a variety of control platforms

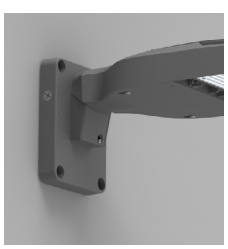
MOUNTING



Arm Mount – Fixture ships with integral arm for ease of installation. Compatible with Outdoor S2 drill pattern.

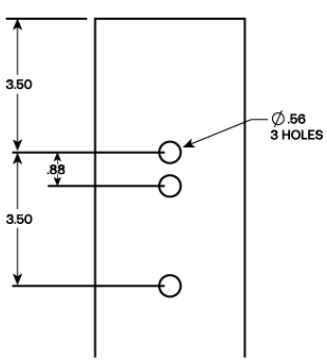


MAF – Fits 2-3/8" OD arms Roadway applications.



Wall Mount – Wall mount bracket designed for building mount applications.

DRILL PATTERN
S2



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EXO OUTDOOR LIGHTING

SLING Micro Strike

AREA/SITE/ROAD LIGHTER

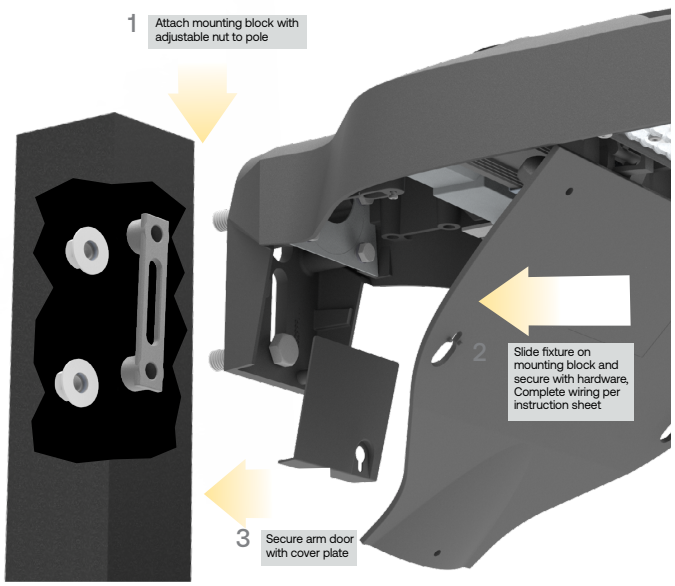
DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

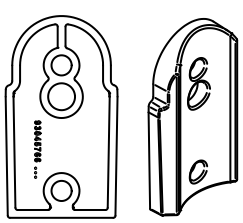
ADDITIONAL INFORMATION (CONT'D)

MOUNTING (CONT'D)



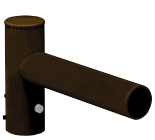
Square Arm Mounting Block –Arm mount block for ease of installation. Compatible with S2 drill patterns from 2.5" to 4.5"

ACCESSORY



ROUND POLE ADAPTER

WB-AREA-XX



SPOKE BRACKET (single arm shown) Horizontal round arm tenon adapters for use with MAF mounting type or accessory kit. Reference SBH Spoke Pole Top Brackets for ordering information.

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prescolite

LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LITEISTRY

FEATURES

- 6" architectural LED downlight and wall wash cylinder delivering 600–7000 lm
- Five beam distributions from 0.3 to 1.1 Spacing Criteria
- Quiet reflector appearance with 50° optical cutoff
- 2700K–5000K, 80+ and 90+ CRI options
- Available in Surface, Wall, Pendant, or Cord Mount configurations
- Versatile canopy options for recessed and surface-mounted J-box applications
- Variety of dimming protocol options including 0-10V, DALI, DMX, and Lutron EcoSystem

WET LOCATION (Select Models)

C SA US

ENERGY STAR

BUY AMERICAN SOLUTIONS
See Certification Specifications

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS

SPECIFICATIONS

CONSTRUCTION

- Seamless heavy gauge aluminum cylinder body with a clean appearance
- Available in Surface (S), Wall (W), Pendant (P), or Cord (CM) mounting types
- Canopy options include Conduit Canopy (CC), Power Canopy (PC), Power Conduit Canopy (PCC), or Recessed Mount Driver (RMD), (See Dimensions section for details)
- For S, P, or CM mounting with CC or PCC canopy options, use 4" octagonal junction box (by others)
- All Wall Mount: Die cast aluminum mounting arm allows direct mounting to standard 4" octagonal or square junction box
- Pendant Mount canopy options allow sloped ceiling up to 35° (5° for RMD)
- Select from 4 standard architectural painted finishes, Brushed Aluminum, or specified custom color

OPTICS

- Visually pleasing 50° cutoff to source and source image
- The light distribution is free of distracting bright spots or pixelation and the perimeter has a smooth transition
- Optical grade silicone lens integral to light engine
- High purity spun aluminum reflector, self-flanged
- Large selection of anodized finishes and colors
- Painted cones and flange options available

ELECTRICAL

- Chip-on-board (COB) LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >55,000 (TM-21)
- Universal voltage 120V–277V driver, 347V optional
- UL Class 2, inherent short circuit and overload protection
- Flicker free 0–10V dimming with 1% or <1% performance
- DALI, DMX, and Lutron EcoSystem options

INSTALLATION

- Light Engine/Trim assembly is mechanically secured with torsion springs for ease of installation
- A quick connect is provided for easy maintenance or upgrade
- Recessed Mount Driver (RMD) is accessible from above or below ceiling; assembly mounts with 1/4-20 threaded rod (by others) and requires 6" plenum clearance
- Conduit Canopy options (CC or PCC) allow field selectable conduit entry (up to 4@ 90°) (See Dimensions section)
- Conduit Canopies utilize a patent pending mounting yoke to secure cylinder to the ceiling surface
- Cord can be cut in the field to custom length
- Standard and Custom Pendant lengths available (specify when ordering)

CERTIFICATIONS

- cCSAus certified to UL 1598
- Wall Mount up to 55L (except CC and PC): Suitable for wet locations
- Pendant Mount up to 55L (except CC and PCC): Suitable for wet locations under covered ceiling
- 60L–70L Pendant & Wall, all Surface, Cable/Cord, all Wall Wash, all CC and PCC: Suitable for damp locations
- All with EM options: Suitable for Damp location
- EM: Certified under UL924 standard for emergency lighting and power equipment
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 6/6/2020.
- ENERGY STAR® certified models available (For list and additional information, visit http://www.energystar.gov)

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	600–7000
Wattage Range	8–72
Efficacy Range (LPW)	94–104*
Reported Life (Hours)	L90 / >55,000
Input Current (mA)	67–600 (120V)

*Based on Specular, 35K, 80 CRI

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

ORDERING GUIDE

Example: LTC-6RD-CM15WHPCC-15L35K9WD-DM1-SS-WH

CATALOG #

LTC-6RD –

Aperture/Shape/Function	
LTC-6RD	6" Round Downlight Cylinder
LTC-6RW	6" Round Wall Wash Cylinder

–

Cylinder Mounting	
S	Surface
W	Wall
P	Pendant (Standard) Nominal 18" length from cylinder top to ceiling [9]
P_	Pendant (Custom) Specify length from cylinder top to ceiling in 1 inch increments from 15 to 60 [9]

Cord [5]

CM	6ft Clear Cord
CMBL	6ft Black Cord
CMWH	6ft White Cord
CM15	15ft Clear Cord
CM15BL	15ft Black Cord
CM15WH	15ft White Cord

Canopy Option	
Refer to chart on Page 3 for available canopy options based on driver/controls selection	
Standard Canopy [3, 8]	
CC	Conduit Canopy [3, 8]
PC	Power Canopy [3, 8]
PCC	Power Conduit Canopy [3, 8]
RMD	Recessed Mount Driver [3, 8]

Lumen Output	
06L	600 Lumens [3]
10L	1000 Lumens [3]
15L	1500 Lumens [3]
20L	2000 Lumens [3]
25L	2500 Lumens [3]
30L	3000 Lumens [3]
35L	3500 Lumens [3]
40L	4000 Lumens [3]
45L	4500 Lumens [3]
50L	5000 Lumens [3]
55L	5500 Lumens [3]
60L	6000 Lumens [3, 7]
70L	7000 Lumens [3, 7]

CCT	
27K	2700K
30K	3000K
35K	3500K
40K	4000K
50K	5000K [1]

CRI	
8	80+ CRI
9	90+ CRI

–

Distribution	
VNR	Very Narrow (0.3 SC/20°)
NR	Narrow (0.4 SC/29°)
MD	Medium (0.7 SC/53°)
WD	Wide (1.0 SC/59°)
XW	Extra Wide (1.1 SC/66°)
WW	Wall Wash [7, 12]

Driver Options	
DM1	0–10V Dimming to 1% [3]
DM01	0–10V Dimming to <1% [3]
DMX	DMX with RDM dimming to <0.1% [3]
DALI	DALI Dimming to 1% [3]
EDM	Lutron Hi-Lume EcoSystem Dimming to 1% [3]

Control Options	
NXE	NX Wired Dual RJ45 SmartPORTS, without Sensor [2, 3]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [2, 3]
LV	Lutron Vive Enabled, 0–10V (requires DM1 driver) [3]
LVE	Lutron Vive Enabled, EcoSystem, (requires EDM) [3]

Voltage	
Standard 120–277V	
34	347V [3, 6]

Options	
EM	Emergency Battery Pack with integral test switch and indicator light [11]

Reflector Finish	
Finish not applicable with painted reflectors (WC or BC)	
S	Specular
SS	Semi-Specular
MFC	American Matte™
VS	Softglow®
VSS	SoftSheen™

Reflector Color	
Standard Clear	
CG	Champagne Gold
BL	Black
LW	Light Wheat
PW	Pewter
WC	Painted White Cone and Flange
BC	Painted Black Cone and Flange

–

Flange Color Options	
Standard matches reflector color	
WT	White Flange [4]
BT	Black Flange [4]

Exterior Cylinder Color	
BA	Brushed Aluminum [10]
BZ	Bronze
BL	Matte Black
WH	Matte White
SVR	Silver
CC_	Custom Color (Specify RAL#, Example: CCRAL1073)
TCC_	True Custom Color (Specify description, Example: TCC BABY BLUE, Paint chip must be provided to match)

Notes:

1 5000K available in 80+ CRI only.
2 NX requires DM1 driver option.
3 For lumen outputs/configurations available, see chart on page 3.
4 WT not needed for WC, BT not needed for BC.
5 Cord can be cut in the field to custom length.
6 347V requires DM1 driver; not available with Controls or EM.
7 60L and 70L require vented cylinder, Not available with WW.
8 See Dimensions section for canopy configuration details.
9 Stem length varies by canopy configuration. See Dimensions section for details.
10 Canopy color for Brushed Aluminum is Black.
11 EM for use with DM1 driver option only.
12 EM not available with WW.

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

DRIVER/CONTROL OPTION AVAILABILITY

Driver and Control options listed below are available in the configurations and lumen packages as shown.

Driver/Control Option		Cylinder Mounting [1]	Canopy Options [2]	06L	10L	15L	20L	25L	30L	35L	40L	45L	50L	55L	60L	70L [6]
DM1	0–10V 1%	W	Standard/CC	●	●	●	●	●	●	●	●	●	●	●	▼	▼
		P/S/CM	Standard/CC	●	●	●	●	●	●	●	●	●	●	●	▼	▼
DM01	0–10V <1%	W	Standard/CC	●	●	●	●	●								
		P/S/CM	Standard/CC	●	●	●	●	●								
DALI	DALI 1%	W	Standard/CC	●	●	●	●	●								
		P/S/CM	Standard/CC	●	●	●	●	●								
DMX	DMX w/ RDM <0.1%	W	Standard/CC	●	●	●	●	●	●	●	●	●	●	●		
		P/S/CM	PC/PCC	●	●	●	●	●	●	●	●	●	●	●		
			RMD [5]	●	●	●	●	●	●							
			RMD	●	●	●	●	●	●	●	●	●	●	●		
EDM	Lutron Hi-Lume EcoSysytem 1%	W	Standard/CC		●	●	●	●	●							
		P/S/CM	Standard/CC		●	●	●	●	●							
347V [3]	347 Volts (DM1 required)	W	Standard/CC	●	●	●	●	●	●							
		P/S/CM	Standard/CC	●	●	●	●	●	●							
NXE	NX (DM1 required)	W	PC/PCC	●	●	●	●									
		P/S/CM	PC/PCC/RMD	●	●	●	●									
NXW	NX Wireless (DM1 required)	W	PC/PCC	●	●	●	●									
		S	RMD	●	●	●	●									
		P/CM	PC/PCC/RMD	●	●	●	●									
LV	Lutron Vive® (DM1 required)	W	N/A													
		P/S/CM	RMD [5]	●	●	●	●									
LVE	Lutron Vive® (EDM required)	W	N/A													
		P/S/CM	RMD		●	●	●									

Driver/EM Option		Cylinder Mounting [1]	Canopy Options [2]	06L	10L	15L	20L	25L	30L
DM1	0–10V 1%	W	Standard/CC	●	●	●	●	●	▼
		P/S/CM	Standard/CC	●	●	●	●	●	▼

▼ Vented cylinder required, see line art for more details.

1 See Cylinder Mounting chart.

2 See Canopy Options chart and Dimensions section for details.

3 Not available with Controls or EM.

4 RMD is Non-IC rated unless noted.

5 IC Rated.

Cylinder Mounting	
W	Wall Mount
S	Surface Mount
CM	Cord Mount
P	Pendant Mount

Canopy Options	
(Blank)	*Standard Canopy*
CC	Conduit Canopy
PC	Power Canopy
PCC	Power Conduit Canopy
RMD	Recessed Mount Driver [4]

CONTROLS

NX Lighting Controls:
Supports applications in a variety of deployment options. Integrates with and enables a wide array of luminaires including those with SpectraSync™ Color Tuning Technology.

NX LIGHTING CONTROLS™

NX INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0–10V Dimming	On/off Control	Bluetooth® App Programming
NX Networked – Wired								
NXE	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC[1]
NX Networked – Wireless								
NXW[2]	N/A	Yes	Yes	No	No	Yes	Yes	Yes

1 NXBTC needs to be plugged into an available NX SmartPort™ on the fixture network

2 Programming via App requires factory assistance

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

PERFORMANCE DATA TABLE

Performance data provided below is for 3500K, 80 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
06L	600	Very Narrow	806	7.8	103
		Narrow	717	7.8	92
		Medium	746	7.8	96
		Wide	691	7.8	89
		Extra Wide	665	7.8	85
		Open Single Wall Wash	711	7.8	91
10L	1000	Very Narrow	1288	12.0	107
		Narrow	1146	12.0	96
		Medium	1192	12.0	99
		Wide	1104	12.0	92
		Extra Wide	1063	12.0	89
		Open Single Wall Wash	1136	12.0	95
15L	1500	Very Narrow	1851	18.7	99
		Narrow	1623	18.7	87
		Medium	1712	18.7	92
		Wide	1586	18.7	85
		Extra Wide	1527	18.7	82
		Open Single Wall Wash	1631	18.7	87
20L	2000	Very Narrow	2355	22.6	104
		Narrow	2263	22.7	100
		Medium	2265	22.6	100
		Wide	2180	22.7	96
		Extra Wide	2139	22.7	94
		Open Single Wall Wash	2211	22.8	97
25L	2500	Very Narrow	3093	27.7	112
		Narrow	2751	27.7	99
		Medium	2860	27.7	103
		Wide	2650	27.7	96
		Extra Wide	2551	27.7	92
		Open Single Wall Wash	2726	27.7	98
30L	3000	Very Narrow	3686	34.3	107
		Narrow	3278	34.3	96
		Medium	3409	34.3	99
		Wide	3158	34.3	92
		Extra Wide	3040	34.3	89
		Open Single Wall Wash	3248	34.3	95
35L	3500	Very Narrow	4477	43.0	104
		Narrow	3942	43.0	93
		Medium	4477	43.0	104
		Wide	3836	43.0	89
		Extra Wide	3693	43.0	86
		Open Single Wall Wash	3946	43.0	92

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LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

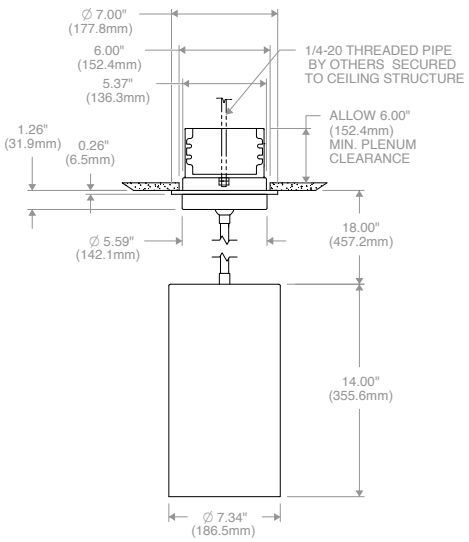
DATE: | LOCATION:

TYPE: | PROJECT:

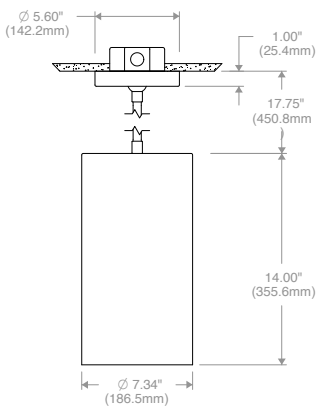
CATALOG #:

DIMENSIONS

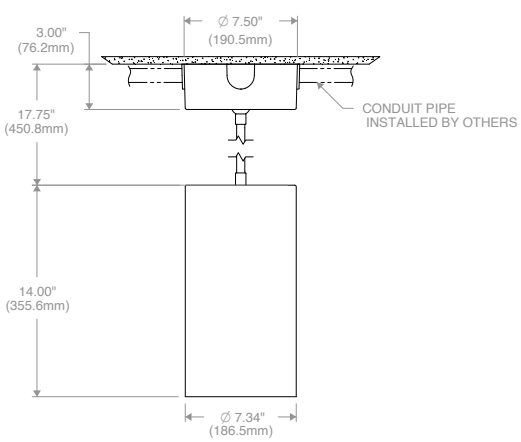
PENDANT (P)



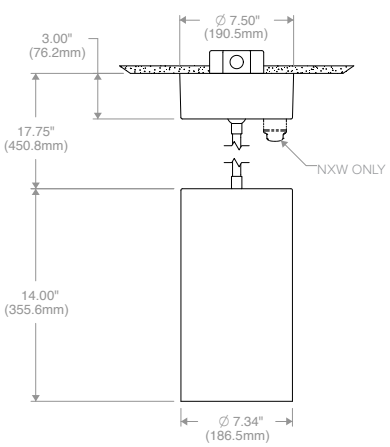
Pendant
Recessed Mount Driver
PRMD



Pendant
Standard Canopy
P



Pendant
Conduit Canopy
PCC



Pendant
Power Canopy
PPC

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LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

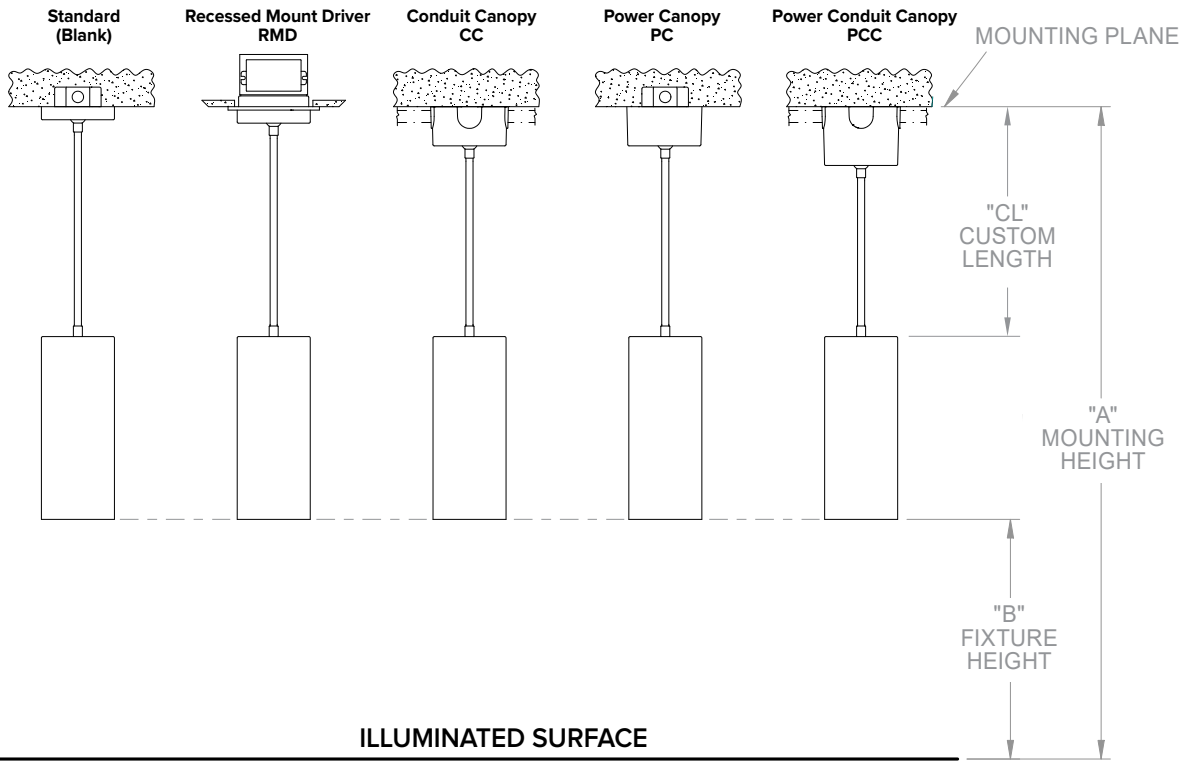
DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DIMENSIONS

PENDANT CUSTOM LENGTH



Custom Length (CL) = Mounting Height (A) - Fixture Height (B) - 14" Cylinder

Ordering Example:
A (120") - B (72") - 14" = 34" Custom Length
LTC-6RD-P34

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LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY CONTINUED

LTC-6RD-P-20L35K8WD-DM1-S-BL

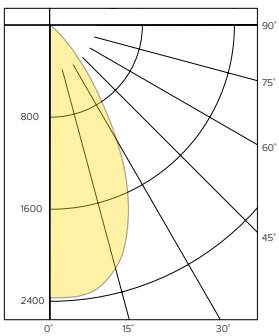
LUMINAIRE DATA

Test No.	**R19.00585-01**
Description	**2000 lm, Wide, 3500K, 80 CRI**
Delivered Lumens	**2180**
Watts	**22.6W**
Efficacy	**96.1**
Mounting	**Pendant**
Spacing Criterion	**0.9**
Beam Angle (FWHM)	**59**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2014	92.4
0-60	2176	99.8
0-90	2180	100.0
0-180	2180	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2368
5	2371
15	2189
25	1591
35	726
45	177
55	10
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	14942
55°	1041
65°	424
75°	231
85°	0

*Candela/Square Meter

LTC-6RD-P-20L35K8XW-DM1-S-BL

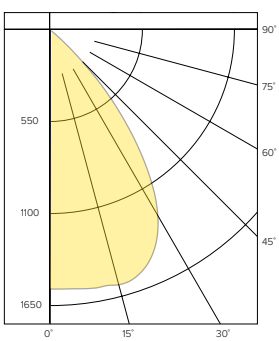
LUMINAIRE DATA

Test No.	**R19.00586-01**
Description	**2000 lm, Extra Wide, 3500K, 80 CRI**
Delivered Lumens	**2139**
Watts	**22.7W**
Efficacy	**94.4**
Mounting	**Pendant**
Spacing Criterion	**1.1**
Beam Angle (FWHM)	**76**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1875	87.7
0-60	2134	99.8
0-90	2139	100.0
0-180	2139	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1547
5	1552
15	1576
25	1461
35	1007
45	301
55	9
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	25409
55°	937
65°	424
75°	231
85°	0

*Candela/Square Meter

LUMEN MULTIPLIER

Option	27K8	30K8	35K8	40K8	50K8	27K9	30K9	35K9	40K9
Multiplier	0.94	0.98	1.00	1.01	1.02	0.81	0.84	0.85	0.85

Photometrics are published below at a nominal 3500 Kelvin, 80+ CRI. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LTC-6RDW

LITEISTRY 6" ROUND CYLINDER

ELECTRICAL DATA

DRIVER DATA		
Input Voltage	120–277 V	347 V
Input Frequency	50/60 Hz	50/60 Hz
Power Factor	≥0.90	≥0.90
THD	<20%	<20%
EMI Filtering (FCC 47 CFR Part 15)	Class A	Class A

* Values for DM1 option shown, values for other dimming options may vary.

ADDITIONAL INFORMATION

Dimming Compatibility
For more details and recommended dimmer list, see Dimming Compatibility Information on currentlighting.com/prescolite.

DMX
See instruction sheet on currentlighting.com/prescolite for connection & installation information.

Central Inverters
For full fixture output in back-up mode, we recommend you visit currentlighting.com/dual-lite. for your Central Lighting Inverter options. Please contact your local Current representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

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Submitted by Bell & McCoy Lighting and Controls

Job Name:
Palm Bay Charter Schools - A New Gymatorium for:
Engineer: HG ENGINEERS (PACE)

Catalog Number:
SWF-2FT-MS

Notes:

Type:
SB

GULF COAST25-111928

LEDALUX®

SWF Series
LED Linear Stairwell Fixture

APPROVED AS NOTED

L70 25°C 100,000 Hours

LUMEN SELECTABLE

CCT SELECTABLE 3500K

FIXTURE TYPE:

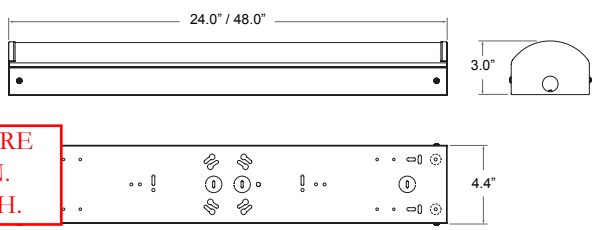
PROJECT:

FEATURES

The SWF LED Linear Stairwell Series features a sleek yet robust construction with an IK08 impact-tested steel housing, vandal-proof hardware and UV-stabilized polycarbonate lens. The SWF Series is offered in both 2' and 4' configurations and comes standard with an integral microwave sensor centered behind the lens providing 2 or 3 step - level dimming as well as optional daylight harvesting capability. Internal switches allow the user to select the CCT (3000K-3500K-4000K) and the power output (between 10W to 40W, depending on fixture size), providing maximum project flexibility.

The SWF is offered with a battery backup option providing 90 minutes of emergency egress lighting. The SWF is a DesignLights Consortium® PREMIUM qualified product in the stairwell and linear ambient category, maximizing energy-savings and utility rebates. Designed for stairwell applications, the SWF can be used in a wide variety of other indoor, general ambient lighting applications including schools, hospitals and stores and is the perfect choice for both new construction and retrofits.

DIMENSIONS



SPECIFIED FIXTURE IS A 4' SELECTION. REVISE TO MATCH.

SPECIFICATIONS

Construction:
- Durable 4-3/8" width, 22-gauge steel enclosure in a white powder coated finish, IK08 impact tested, 2' and 4' length
- Vandal-resistant Pin-In Torx hardware
- Flanged housing ends secure the lens in place
- Several knockouts across the bottom of the housing and the two ends
- All visible hardware in a white finish to match enclosure

Optics/LEDs:
- UV-stabilized frosted polycarbonate lens offering an even, diffused light
- Units provide a range of lumen packages by simply selecting the wattage desired for your application;
  - 2' unit – wattage selectable from 10W through 30W offering up to 3850 lumens
  - 4' unit – wattage selectable from 12W through 40W offering up to 5320 lumens
- Switches are located inside fixture
- Significant energy savings compared to traditional light sources with up to 130 LPW
- Color switchable between 3000K, 3500K and 4000K CCT. Switch is located inside the fixture.
- L70 >100,000 hours
- CRI ≥80

Electrical:
- Class 2 power supply, 120 to 277VAC, 50/60Hz
- 0-10V dimming driver, 1-100% flicker-free dimming
- 12V auxiliary output from the driver
- 4KV driver protection
- All units are provided with an integral microwave sensor, centered behind the lens. Sensor allows for 2 or 3 step - level dimming and has optional daylight harvesting capabilities. Settings can be adjusted via optional remote control accessory. See sensor details for default sensor settings.
- Sensor can easily be disabled for on/off fixture operation

Testing & Compliance:
- cETLus Listed for Damp Locations
- Operating temperatures: -20°C to 40°C (-40°F to 104°F)
- DesignLights Consortium® (DLC) PREMIUM Qualified in the stairwell and linear ambient category (consult QPL for qualified models)

Warranty:
- Five Year Warranty (Terms and Conditions Apply)

Options:
- Integral battery Backup (BB option) offers 875 lumens and over 90 minutes of emergency powered illumination for path of egress. Rated for ambient temperatures of 0°C to 40°C (32°F to 104°F)

ORDERING INFORMATION

EXAMPLE: SWF-4FT-MS

Model	Description
SWF-2FT-MS	2' Linear Stairwell, Switchable 3000K-3500K-4000K CCT, Switchable 10W-15W-20W-30W, Integral Microwave Sensor, White Finish
SWF-2FT-MS-BB	2' Linear Stairwell, Switchable 3000K-3500K-4000K CCT, Switchable 10W-15W-20W-30W, Integral Microwave Sensor, Battery Backup, White Finish
SWF-4FT-MS	4' Linear Stairwell, Switchable 3000K-3500K-4000K CCT, Switchable 12W-18W-25W-40W, Integral Microwave Sensor, White Finish
SWF-4FT-MS-BB	4' Linear Stairwell, Switchable 3000K-3500K-4000K CCT, Switchable 12W-18W-25W-40W, Integral Microwave Sensor, Battery Backup White Finish

Accessories[1] (Field Installed)
RC-SWF = Remote control required for sensor field programming
HT-T20-PIN = 2" Long, T20 Torx Pin-In Security, 1/4" Drive Bit Hex Shaft for Standard Drills

Notes
[1] Order as a separate line item.
Shipped in a separate box for final installation in the field

LEDALUX- a division of Mule Lighting, Inc • 46 Baker Street Providence, RI 02905 • 800 556-7690 P 401 941-2929 F • www.LEDALUX.com

LEDALUX®

SWF Series
LED Linear Stairwell Fixture

EZ SPEC

L70 25°C 100,000 Hours

COLOR & POWER SELECTABLE SWITCH DETAILS

*Specs at a Glance**								
Model	SWF-2				SWF-4			
Wattage (W)*	10W	15W	20W	30W	12W	18W	25W	40W
Lumens (lm)	1290	1980	2810	3850	1590	2320	3250	5320
Efficacy (LPW)	130LPW							
CCT (K)	Switchable (3000K-3500K-4000K)							
CRI	≥80							
Input Voltage	120-277VAC, 50/60Hz							
Operating Temp	-20°C to 40°C (-4°F to 104°F)							
Certifications	cETLus Listed for Damp Locations, DLC PREMIUM							
Warranty	5 Years							
Weight**	4.4 lbs				8.2 lbs			

* Nominal wattage. Tested at 4000K CCT.
** Net weight without battery backup (add 0.9 lbs for battery backup)

Note: Environment and application will affect performance. Typical values and 25°C used for testing. Specifications subject to change without notice.

ACCESSORIES

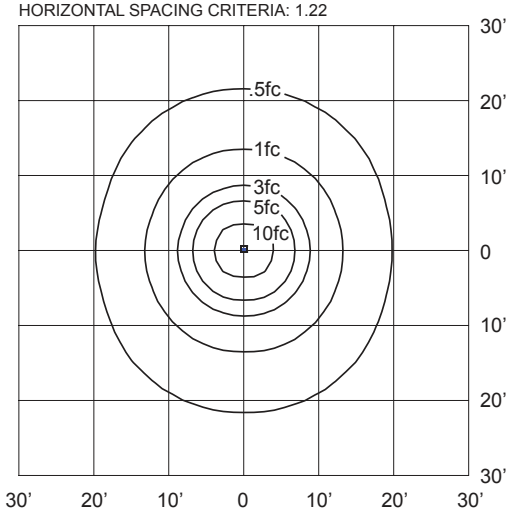
- Remote control for sensor (RC-SWF) allows field programming of sensor settings. Default sensor settings provided in sensor detail section (this accessory is not required if default settings are acceptable)
- 2' Long, T20 Torx Pin-In security (HT-T20-PIN), 1/4" drive bit hex shaft for standard drills

INSTALLATION

- For ceiling or wall surface mount installation
- Several knockouts behind the enclosure and on both ends for flexibility in mounting
- Remove one end cap to slide and snap out the lens for easy access to inside the fixture
- Clips inside the fixture provide simple access for wiring and installation as well as access to the CCT and power selectable switches
- Not suitable for installation in T-bar ceilings without field mounting modifications to be determined by installer
- Includes security cable to hold led tray in place during installation
- Includes quick connect on leads for easy easy wiring

SAMPLE PHOTOMETRY

SWF-4-CP: 40W, 4000K CCT
IES: TYPE VS Very Short
MOUNTING HEIGHT: **8'**
TILT: ZERO
HORIZONTAL SPACING CRITERIA: 1.22



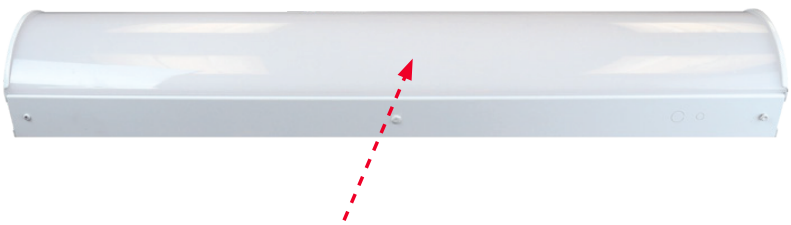
LEDALUX®

SWF Series
LED Linear Stairwell Fixture

EZ SPEC

L70 25°C 100,000 Hours

SENSOR DETAILS

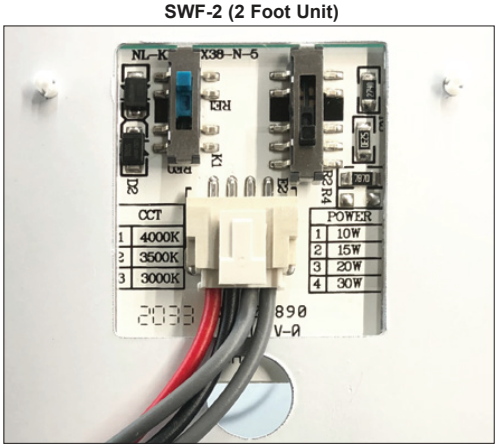


- 5.8Ghz C-band microwave sensor located in the center of the unit behind the lens
- 12V/24V DC input
- 0-10V DC output signal
- Can provide two or three step occupancy settings with optional daylight harvesting capabilities
- IR remote control programing/commissioning (sold separately) allows user to program:
  - Sensitivity (100%, 75%, 50% or 25%)
  - Daylight harvesting (400lux, 5000lux, 1000lux, disabled)
  - Standby/Hold time before dimming (30sec, 90sec, 5min, 10min, 30min)
  - Dim/Twilight level (0%, 10%, 30%, 50%)
  - Standby/Twilight time before unit turns off (+∞/does not turn off, 10min, 30min, 1hr)
- Detection range up to 40'. Mounting height between 8' – 20'
- Sensor can easily be disabled for fixture on/off operation

Sensor Default Settings
- Sensitivity: 100%
- Daylight: Disabled
- Hold time--5min
- Standby time-- +∞
- Standby dimming--50%

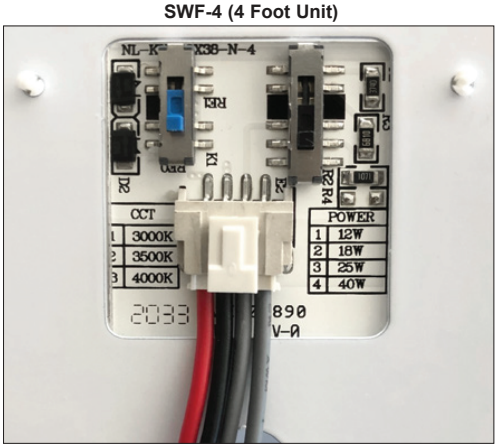
COLOR & POWER SELECTABLE SWITCH DETAILS

SWF-2 (2 Foot Unit)



Power Switchable: 10W-15W-20W-30W (default)
CCT Switchable: 3000K-3500K-4000K (default)

SWF-4 (4 Foot Unit)



Power Switchable: 12W-18W-25W-40W (default)
CCT Switchable: 3000K-3500K-4000K (default)

Columbia LIGHTING

RLW

REVALUME™ LINEAR WRAP

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

FEATURES

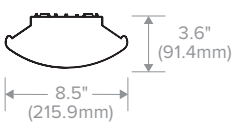
- Uninterrupted ribbon of light for single or row mount applications
- Optional integral emergency battery pack
- Decorative injection molded ABS material endcaps
- Modular replaceable LED boards and driver accessible for future maintenance or upgrades
- Surface mount, stem mount or cable mount
- DLC® (Design Lights Consortium) Qualified, with some Premium Qualified configurations - see www.designlights.org

DLC LISTED | DLC LISTED PREMIUM | c SA® us | Built to UL 924 Standards | BUY AMERICAN SOLUTIONS

See Certification Specifications

CONTROLS TECHNOLOGY

SpectraSync® Color Tuning Technology | NX LIGHTING CONTROLS



END VIEW (ALL SIZES)

SPECIFICATIONS

CONSTRUCTION
- Housing, and wireway are formed from code-gauge steel
- Back of housing knockouts are provided for electrical access and mounting
- Decorative injection molded ABS material endcaps

SHIELDING
- Round frosted acrylic lens offers a smooth appearance and even light distribution

FINISH
- White painted parts are treated with a five-stage phosphate bonding process and finished with high reflectance baked enamel

ELECTRICAL
- Long-life LEDs are rated for 60,000 hours at L80 lumen maintenance
- Driver options include fixed output for on/off function, step dimming (high/low/off), or continuous 0–10V dimming
- Superior drivers and long-life LEDs provide quality illumination for prolonged service life. Drivers < 10% THD at 120V, power factor > 0.95

CONTROLS
- Optional SpectraSync™ offers two modes of tunable white solutions and integrates seamlessly into a variety of control systems
- NX Lighting Controls provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments

CERTIFICATION
- All luminaires are built to UL 1598 and 2108 standards, and bear appropriate CSA labels.
- Damp location labeling is standard
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Adheres to LM79, LM80, and TM21 industry standards
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See page 6 for wiring diagram.

CERTIFICATION (CONTINUED)
- This product qualifies as a “designated country construction material” per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 06/01/2020.

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	1612-14474
Wattage Range	11-94
Efficacy Range (LPW)	144-164
Reported Life (Hours)	L80/60,000

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Columbia LIGHTING

RLW

REVALUME™ LINEAR WRAP

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: RLW4-40ML-FAW-EDU

CATALOG #

RLW		–		–		–	FA	W	–
Model	**Size**		**Color Temp**		**Nominal Lumens** [2]		**Shielding**	**Distribution**	
RLW Revalume™ Linear Wrap	**2** 2' **4** 4' **8** 8'		**30** 3000K **35** 3500K **40** 4000K **50** 5000K **2765T** 2700K–6500K SpectraSync™ Tunable White [1]		**XW** 4' (2700), 8' (5400) [3] **VW** 2' (1600), 4' (3400), 8' (6800) [3] **MW** 2' (2200), 4' (3800), 8' (7700) [3] **LW** 2' (2600), 4' (4200), 8' (8500) [3] **ML** 2' (3400), 4' (5300), 8' (9800) [3] **HL** 2' (3800), 4' (6000), 8' (11,800) [4] **VL** 2' (4500), 4' (7800), 8' (14,200) [4]		**FA** Frosted Acrylic	**W** Wide	

Driver		Voltage		–	Options		Control Options [24]	
E	Fixed Output	**U**	120–277V		**ELL14**	Emergency Battery Pack, 1400 Lumens [5, 6, 24]	**BTSMP Standalone**	
ED	0-10V Dimming	**347**	347V		**GTD**	Generator Transfer Device [5, 7]	**BTSO12F**	Bluetooth® Programmable, BTSMP-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
ED1	0-10V 1% Dimming				**DTS**	Dimming Bypass Module [5, 8]	**NX Connect Wireless**	
EDD	0-10V Dim-to-Off				**GLR**	Fast Blow Fuse	**NXCS**	NX Connect NXC-WIZ20 Wireless Indoor Occupancy & Photocell Sensor [19, 22, 23]
ESD	Step Dimming				**INT**	Intermediate (provides ends with wiring access for continuous row mounting) [9, 10, 11, 12, 13]	**NX Wireless**	
LUTH	Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology [5]				**EOR**	End of Row (provides end wiring access for continuous row mounting) [9, 10, 11, 12, 13]	**NXWOM**	NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [18]
DALIP	Powered by DALI [5]				**MST**	MASTER fixture that controls one or more SATELLITE fixtures in a continuous row application [10, 11, 12, 14, 15, 16, 17]	**Third-Party Control Options**	
					SAT	SATELLITE fixture controlled by MASTER fixture in a continuous row application [10, 11, 12, 15, 16, 17]	**LVR**	Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) [19, 20, 21]
							LVS	Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing) [19, 20, 21]
							ODPG	Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 [19, 21]

Accessories (Order Separately)

RLWWG2	2' Wire Guard
RLWWG4	4' Wire Guard
S18	18" Stem, Canopy
SS18	18" Swivel Stem–45˚Swivel
CM24SCF3-KIT	24" Adjustable Cable Mounting Kit, 3-wire feed
CM48SCF3-KIT	48" Adjustable Cable Mounting Kit, 3-wire feed

Notes:

1 Only available with ED driver
2 Nominal Lumens. Refer to performance tables for exact values and available lumen outputs for fixture size
3 RLW4' & RLW8' lumen packages XW - ML qualified up to 40°C
4 RLW4' & RLW8' lumen packages HL & VL qualified up to 35°C
5 Not available with 347V
6 For compatibility with Dual-Lite LiteGear® inverters in lieu of installed battery pack, contact Lighting representative. Not available with 2'
7 Available for universal voltage and fixed output driver options only
8 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0-10V drivers. Universal voltage only. See page 6 for wiring diagram
9 Suspension support required at every fixture coupling; see Mounting Accessories Guide
10 Not available with DTS, GTD or ATSD
11 All fixtures in a row must be the same driver type and voltage
12 Includes quick-connect wiring harness
13 A row-connector kit will be included with each fixture when EOR or INT is selected
14 MST option not available with INT row position
15 Multiple SAT fixtures can be controlled by one MST fixture. Any one SAT fixture can have no more than one connected MST fixture
16 NX is supported for this application, consult Brand for use with other controls systems
17 Not available with LUTH

NX In-Fixture Control Options:

18 Only available with ED and ED1 drivers. Universal voltage only

Third-Party Control Options:

19 Only available with DALIP driver option
20 VIVE is a trademark of Lutron Electronics Co., Inc
21 Not available with SpectraSync (2765T)

NX Connect Wireless

22 NX Connect devices can be configured using the NX Connect Mobile App, available on Apple App Store
23 NX Connect devices are not compatible with NX Wireless and NX Wired Options

All Controls

24 Minimum ambient temperature: 0°C (32°F)

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Columbia LIGHTING

RLW

REVALUME™ LINEAR WRAP

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS

FIXTURE	COLOR (K)	LUMENS	WATTS	LPW
RLW2-VW	3000K	1612	11.2	144
	3500K	1640	11.2	146
	4000K	1668	11.2	149
	5000K	1668	11.2	149
RLW2-MW	3000K	2213	15.0	148
	3500K	2251	15.0	150
	4000K	2289	15.0	153
	5000K	2289	15.0	153
RLW2-LW	3000K	2616	17.5	149
	3500K	2661	17.5	152
	4000K	2706	17.5	154
	5000K	2706	17.5	154
RLW2-ML	3000K	3396	23.0	148
	3500K	3454	23.0	150
	4000K	3513	23.0	153
	5000K	3513	23.0	153
RLW2-HL	3000K	3773	25.5	148
	3500K	3838	25.5	150
	4000K	3903	25.5	153
	5000K	3903	25.5	153
RLW2-VL	3000K	4469	30.5	147
	3500K	4546	30.5	149
	4000K	4623	30.5	152
	5000K	4623	30.5	152
RLW4-XW	3000K	2714	17.9	152
	3500K	2761	17.9	154
	4000K	2808	17.9	157
	5000K	2808	17.9	157
RLW4-VW	3000K	3408	22.2	154
	3500K	3467	22.2	156
	4000K	3526	22.2	159
	5000K	3526	22.2	159
RLW4-MW	3000K	3789	24.6	154
	3500K	3854	24.6	157
	4000K	3920	24.6	159
	5000K	3920	24.6	159
RLW4-LW	3000K	4166	26.9	155
	3500K	4238	26.9	157
	4000K	4310	26.9	160
	5000K	4310	26.9	160

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Columbia LIGHTING

RLW

REVALUME™ LINEAR WRAP

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

CONTROLS

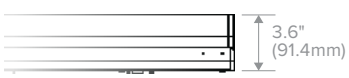
SpectraSync™ Color Tuning Technology:
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.

SpectraSync™ Color Tuning Technology

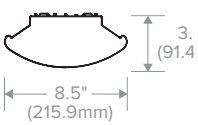
SPECTRASYNC COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Tunable White	2700K-6500K	Offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space

DIMENSIONS

FIXTURE HEIGHT (ALL SIZES)

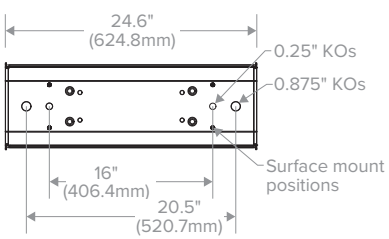


END VIEW (ALL SIZES)

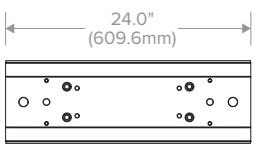


KOs (ALL SIZES)
- 0.25" (¼") KOs are for CM (Cable Mount) Kits
- 0.875" (⅞") KOs are for wiring and stem mounting

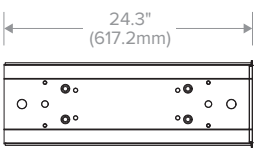
2' SINGLE ASSEMBLY



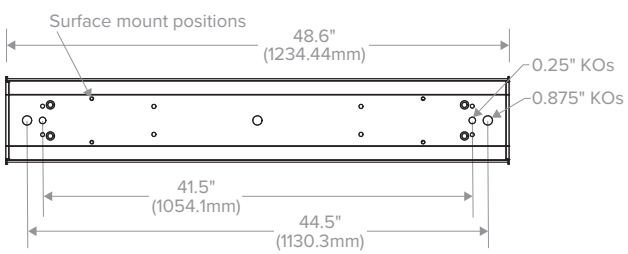
2' INTERMEDIATE ASSEMBLY



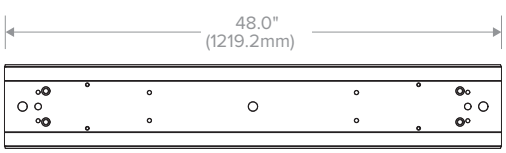
2' END OF ROW ASSEMBLY



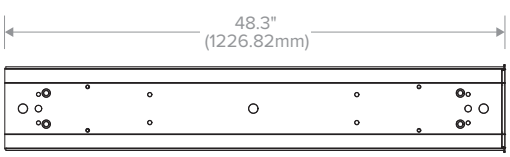
4' SINGLE ASSEMBLY



4' INTERMEDIATE ASSEMBLY



4' END OF ROW ASSEMBLY



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Columbia LIGHTING

RLW

REVALUME™ LINEAR WRAP

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY

RLW4-30XW-FAW-EDU

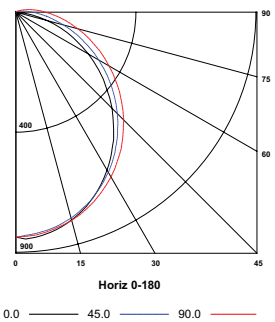
LUMINAIRE DATA

Test No.	**18.01231**
Description	**Revalume Linear Surface, Wraps 8.5" x 48" with frosted acrylic refractor**
Delivered Lumens	**2502**
Watts	**19.5**
Efficacy	**128**
Mounting	**Surface**
Spacing Criterion	**0° = 1.21 90° = 1.25**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	646	25.8	25.8
0-40	1051	42.0	42.0
0-60	1841	73.6	73.6
0-90	2431	97.1	97.1
0-180	2502	100.0	100.0

POLAR GRAPH



RLW4-35VW-FAW-EDU

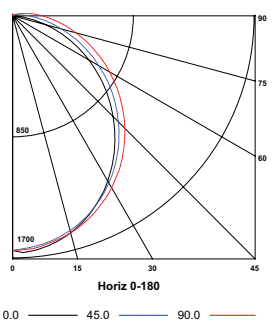
LUMINAIRE DATA

Test No.	**18.01221**
Description	**Revalume Linear Surface, Wraps 8.5" x 48" with frosted acrylic refractor**
Delivered Lumens	**3234**
Watts	**40.4**
Efficacy	**128**
Mounting	**Surface**
Spacing Criterion	**0° = 1.21 90° = 1.25**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	1263	25.8	25.8
0-40	2056	42.0	42.0
0-60	3607	73.6	73.6
0-90	4755	97.0	97.0
0-180	4901	100.0	100.0

POLAR GRAPH



RLW4-50VL-FAW-EDU

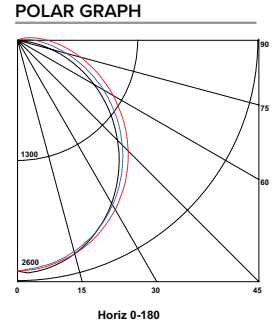
LUMINAIRE DATA

Test No.	**18.01234**
Description	**Revalume Linear Surface, Wraps 8.5" x 48" with frosted acrylic refractor**
Delivered Lumens	**7476**
Watts	**55.7**
Efficacy	**134**
Mounting	**Surface**
Spacing Criterion	**0° = 1.21 90° = 1.25**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	1914	25.6	25.6
0-40	3118	41.7	41.7
0-60	5479	73.3	73.3
0-90	7241	96.9	96.9
0-180	7476	100.0	100.0

POLAR GRAPH



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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

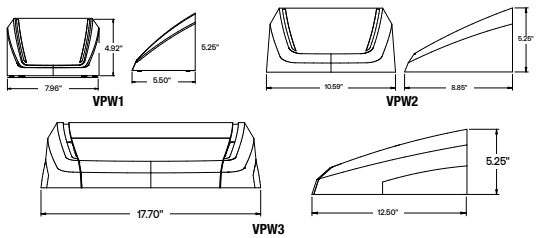
DATE:

TYPE:

CATALOG #:

APPROVED AS NOTED

MICRO STRIKE | STRIKE OPTICS



	Weight
VPW1	4.1 lbs / 1.86 kg
VPW2	7.15 lbs / 3.24 kg
VPW3	17.1 lbs / 7.80 kg

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Strike and Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual Comfort - Option for Size 2 and Size 3
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, and LightGRID+.
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada

C US BAA TAA

CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID+

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 2700K, 3000K, 3500K, 4000K and 5000K CCTs
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V input is available in most wattage, 480V is available for 55W and above.
- Ambient operating temperature -40˚C to 40˚C
- Driver RoHS and IP66
- 10kV Surge Protector optional
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one same fixture.
- Dimming drivers are standard. Select CD (Customer Dimming) for the dimming wires to be extended outside the fixture.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CONTROLS CONTINUED

- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -20˚C to 40˚C.
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor.

CERTIFICATIONS

- Certified to UL 1598 and CSA 22.2#250.0-24
- IP65 rated housing
- Emergency battery backup options are California Energy Commission (CEC) Title 20 Compliant
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225- 11). See Buy America(n) Solutions (link to https://http://www.currentlighting.com/resources/americasolutions).
- DarkSky approved with 3000K CCT or warmer

WARRANTY

- 5 year limited warranty

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: VPW1–24L-10–3K7–2–UNV–BLS

CATALOG # _____

REVISE TO 48L-20 TO BE MORE IN LINE WITH SPECIFIED LUMEN PACKAGE.

Series		# LEDs - Wattage		CCT/CRI		Distribution		Voltage		Color	
VPW1	Viper Wall 1	**24L-10**	1,000 Lumens	**27K8**	2700K, 80 CRI[16]	**FR**	Auto Front Row[7,15]	**UNV**	120-277V	**BLT**	Black Matte Textured
		24L-15	2,000 Lumens	**3K7**	3000K, 70 CRI[16]	**2**	IES TYPE 2	**120**	120V	**BLS**	Black Gloss Smooth
		24L-25	3,000 Lumens	**4K7**	4000K, 70 CRI	**3**	IES TYPE 3	**208**	208V	**DBT**	Dark Bronze Matte Textured
VPW2	Viper Wall 2	**48L-15**	2,000 Lumens	**5K7**	5000K, 70 CRI	**4F**	IES TYPE 4 Forward	**240**	240V	**DBS**	Dark Bronze Gloss Smooth
		48L-20	3,000 Lumens	**3K8**	3000K, 80 CRI	**4W**	IES TYPE 4W	**277**	277V	**GTT**	Graphite Matte Textured
		48L-30	4,000 Lumens	**35K8**	3500K, 80 CRI			**347**	347V	**LGS**	Light Grey Gloss Smooth
		48L-35	5,000 Lumens	**4K8**	4000K, 80 CRI			**480**	480V	**LGT**	Light Grey Matte Textured
		48L-45	6,000 Lumens	**5K8**	5000K, 80 CRI					**PSS**	Platinum Silver Smooth
		80L-20	3,000 Lumens	**AP**	Phosphor Converted Amber[1]					**WHT**	White Matte Textured
		80L-25	4,000 Lumens							**WHS**	White Gloss Smooth
		80L-35	5,000 Lumens							**VGT**	Verde Green Textured
		80L-45	6,000 Lumens							**Color Option**	
		80L-55	7,000 Lumens							**CC**	Custom Color
		80L-65	8,000 Lumens								
		80L-70	8,500 Lumens								
		18L-25	3,000 Lumens, Strike Optics								
		18L-30	4,000 Lumens, Strike Optics								
		18L-39	4,750 Lumens, Strike Optics								
		18L-50	6,000 Lumens, Strike Optics								
		18L-60	6,500 Lumens, Strike Optics								
VPW3	Viper Wall 3	**160L-45**	7,000 Lumens								
		160L-70	10,000 Lumens								
		160L-95	12,500 Lumens								
		160L-105	15,000 Lumens								
		160L-135	17,500 Lumens								
		160L-155	20,000 Lumens								
		36L-55	7,000 Lumens, Strike Optics								
		36L-80	9,500 Lumens, Strike Optics								
		36L-100	11,500 Lumens, Strike Optics								
		36L-120	13,000 Lumens, Strike Optics								

Control Options Network[3,7,11,13]	
NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[14]
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS24F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-HM PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor
WIR	LightGRID+ In-Fixture Module[9]
WIRSC	LightGRID+ In-Fixture Moduel with BTS occupancy[9]
Stand Alone Sensors[7,11,13]	
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor[4,9]
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height[14]
Photocontrol[13]	
PC	Button Photocontrol 120-277V

Options	
F	Fusing[5,7]
E	Battery[6,7,8]
EH	Battery with Heater[6,7,8]
CS	Comfort Shield[7,10]
SP	10kA Surge Protector
2PF	Dual Power Feed[2,7,8]
2DR	Dual Driver[2,7,8]
CD	Customer Dimming[12]
DTS	Dimming Transfer Switch[7]

Notes:
1 Available with Micro Strike Optics only
2 Not available with 480V in Size 1 and Size 2
3 Networked controls cannot be combined with other control options
4 Not available with VPW1 or with 2PF or 2DR options
5 Must specify voltage (VPW1 & VPW2: 120V, 277V or 347V, VPW3: 120V, 208V, 240V, 277V, 347V or 480V)
6 See page 10 for detail Battery configurations
7 Not available in VPW1
8 2PF can't be combined with E or EH; 2DR can't be combined with E or EH in VPW2
9 Not avialable in VPW1 and VPW2
10 Not available with Micro Strike 24L and 48L. Not available with Strike 18L and 36L
11 Not available with 2PF
12 Not available with Network Control options or Stand Alone Sensors. Can be ordered with PC
13 Not available in 480V in VPW2; Only available in 480V in VPW3 in 80W, 100W, 120W, 135W and 155W
14 NXWS12F and BTSO-12F are the only sensors available in VPW2
15 Available with Strike Optics only (18L or 36L)
16 DarkSky approved with 3000K CCT or warmer

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PERFORMANCE DATA: MICROSTRIKE CONT'D

Description	# of LEDs	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
					Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
VPW2	48L	15	13.1	2	2139	145	1	0	1	2139	145	1	0	1	1981	134	1	0	1
				3	2163	146	1	0	1	2163	146	1	0	1	2003	135	1	0	1
				4F	2097	143	0	0	1	2097	143	0	0	1	1942	132	0	0	1
				4W	2101	143	1	0	1	2101	143	1	0	1	1946	132	0	0	1
		20	20.5	2	2973	141	1	0	1	2973	141	1	0	1	2753	130	1	0	1
				3	3007	142	1	0	1	3007	142	1	0	1	2784	132	1	0	1
				4F	2915	138	1	0	1	2915	138	1	0	1	2699	128	1	0	1
				4W	2921	138	1	0	1	2921	138	1	0	1	2705	128	1	0	1
		30	28.8	2	4000	137	1	0	1	4000	137	1	0	1	3704	126	1	0	1
				3	4045	138	1	0	1	4045	138	1	0	1	3745	128	1	0	1
				4F	3922	134	1	0	1	3922	134	1	0	1	3631	124	1	0	1
				4W	3930	134	1	0	2	3930	134	1	0	2	3638	124	1	0	1
		35	37.3	2	4997	134	1	0	1	4997	134	1	0	1	4627	124	1	0	1
				3	5053	135	1	0	2	5053	135	1	0	2	4679	125	1	0	1
				4F	4899	131	1	0	1	4899	131	1	0	1	4536	122	1	0	1
				4W	4909	132	1	0	2	4909	132	1	0	2	4545	122	1	0	2
		45	45.9	2	5990	127	1	0	1	5990	127	1	0	1	5546	118	1	0	1
				3	6057	128	1	0	2	6057	128	1	0	2	5608	119	1	0	2
				4F	5872	124	1	0	2	5872	124	1	0	2	5437	115	1	0	1
				4W	5884	125	1	0	2	5884	125	1	0	2	5448	115	1	0	2
	80L	20	19.4	2	3485	161	1	0	1	3485	161	1	0	1	3200	147	1	0	1
				3	3516	162	1	0	1	3516	162	1	0	1	3229	149	1	0	1
				4F	3485	161	1	0	1	3485	161	1	0	1	3200	147	1	0	1
				4W	3535	163	1	0	1	3535	163	1	0	1	3246	150	1	0	1
		25	26.7	2	4443	154	1	0	1	4443	154	1	0	1	4080	141	1	0	1
				3	4483	155	1	0	1	4483	155	1	0	1	4117	142	1	0	1
				4F	4443	154	1	0	1	4443	154	1	0	1	4080	141	1	0	1
				4W	4507	156	1	0	1	4507	156	1	0	1	4139	143	1	0	1
		35	34.2	2	5438	147	1	0	1	5438	147	1	0	1	4994	135	1	0	1
				3	5488	148	1	0	1	5488	148	1	0	1	5039	136	1	0	1
				4F	5438	147	1	0	1	5438	147	1	0	1	4994	135	1	0	1
				4W	5516	149	1	0	2	5516	149	1	0	2	5066	137	1	0	1
		45	41.7	2	6369	145	1	0	1	6369	145	1	0	1	5848	133	1	0	1
				3	6427	146	2	0	2	6427	146	2	0	2	5901	134	1	0	1
				4F	6369	145	1	0	1	6369	145	1	0	1	5848	133	1	0	1
				4W	6460	147	1	0	2	6460	147	1	0	2	5933	135	1	0	2
		55	50.6	2	7209	137	2	0	2	7209	137	2	0	2	6620	126	1	0	1
				3	7275	139	2	0	2	7275	139	2	0	2	6680	127	2	0	2
				4F	7209	137	1	0	1	7209	137	1	0	1	6620	126	1	0	1
				4W	7313	139	1	0	2	7313	139	1	0	2	6715	128	1	0	2
		65	58.3	2	7781	130	2	0	2	7781	130	2	0	2	7145	119	2	0	2
				3	7852	131	2	0	2	7852	131	2	0	2	7210	120	2	0	2
				4F	7781	130	2	0	1	7781	130	2	0	1	7145	119	1	0	1
				4W	7893	132	1	0	2	7893	132	1	0	2	7248	121	1	0	2
		70	63.5	2	8367	128	2	0	2	8367	128	2	0	2	7683	117	2	0	2
				3	8443	129	2	0	2	8443	129	2	0	2	7753	119	2	0	2
				4F	8367	128	2	0	1	8367	128	2	0	1	7683	117	2	0	1
				4W	8487	130	1	0	2	8487	130	1	0	2	7794	119	1	0	2

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

ELECTRICAL DATA: MICROSTRIKE

# OF LEDS	24L		
NOMINAL WATTAGE	10	15	25
SYSTEM POWER (W)	6.6	14.0	23.0
INPUT VOLTAGE (V)	CURRENT (Amps)		
120	0.06	0.12	0.19
208	0.03	0.07	0.11
240	0.03	0.06	0.10
277	0.02	0.05	0.08
347	0.02	0.04	0.07
480	0.01	0.03	0.05

# OF LEDS	48L				
NOMINAL WATTAGE	15	20	30	35	45
SYSTEM POWER (W)	13.1	20.5	28.8	37.3	45.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.11	0.17	0.24	0.31	0.38
208	0.06	0.10	0.14	0.18	0.22
240	0.05	0.09	0.12	0.16	0.19
277	0.05	0.07	0.10	0.13	0.17
347	0.04	0.06	0.08	0.11	0.13
480	0.03	0.04	0.06	0.08	0.10

# OF LEDS	80L						
NOMINAL WATTAGE	20	25	35	45	55	65	70
SYSTEM POWER (W)	19.4	26.7	34.2	41.7	50.6	58.3	63.5
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.16	0.22	0.29	0.35	0.42	0.49	0.53
208	0.10	0.13	0.18	0.22	0.27	0.28	0.31
240	0.08	0.12	0.15	0.19	0.24	0.24	0.26
277	0.07	0.10	0.13	0.17	0.21	0.21	0.23
347	0.06	0.08	0.11	0.13	0.16	0.17	0.18
480	0.04	0.06	0.08	0.10	0.12	0.12	0.13

# OF LEDS	160L					
NOMINAL WATTAGE	45	70	95	105	135	155
SYSTEM POWER (W)	46.2	68.3	91	106.3	134.8	158.3
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	0.39	0.57	0.76	0.89	1.12	1.32
208	0.22	0.33	0.44	0.51	0.65	0.76
240	0.19	0.28	0.38	0.44	0.56	0.66
277	0.17	0.25	0.33	0.38	0.49	0.57
347	0.13	0.20	0.26	0.31	0.39	0.46
480	0.10	0.14	0.19	0.22	0.28	0.33

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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: | LOCATION:

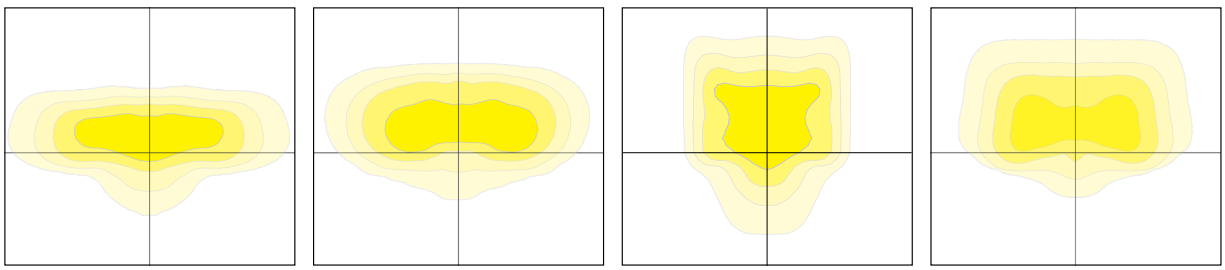
TYPE: | PROJECT:

CATALOG #:

PHOTOMETRY

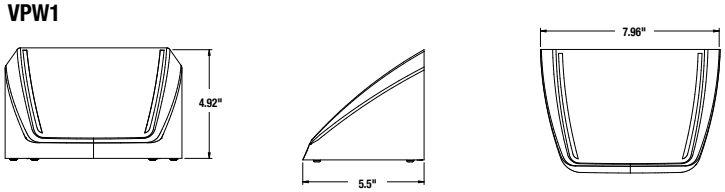
Mounting Height: 10ft

Type 2 | **Type 3** | **Type 4F** | **Type 4W**

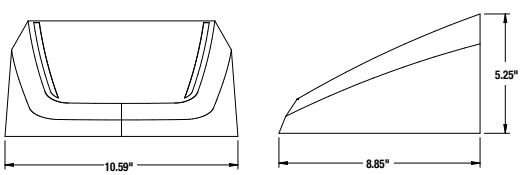


DIMENSIONS

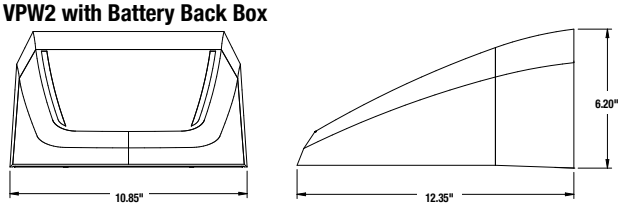
VPW1



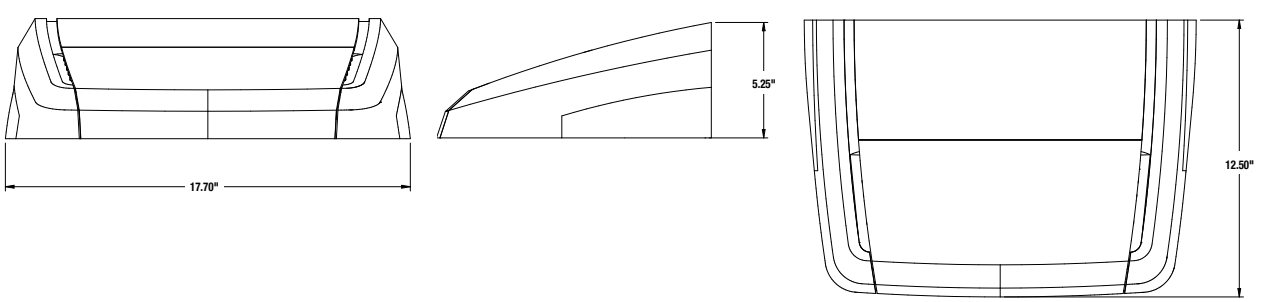
VPW2



VPW2 with Battery Back Box



VPW3



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VIPER Wall

VPW1/VPW2/VPW3 LED WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

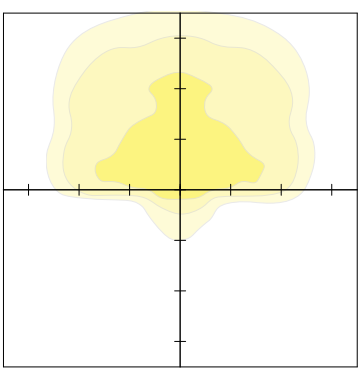
BATTERY OPTIONS & HOUSING SIZES

SIZE	OPTICS	OPTION	BATTERY WATTAGE	FIXTURE WATTAGES	HOUSING
VPW1	NO BATTERY OFFERED				
VPW2	Micro Strike	E	10W	20W, 25W, 35W	Standard
	Micro Strike	E	10W	45W, 55W, 65W, 70W	Not offered
	Micro Strike	EH	13W	20W, 25W, 35W, 45W, 55W, 65W, 70W	Housing with Backbox
	Strike	E	10W	15W, 20W, 25W, 35W, 39W	Standard
	Strike	E	10W	50W, 60W	Not offered
	Strike	EH	13W	15W, 20W, 25W, 30W, 39W, 50W, 60W	Housing with Backbox
VPW3	Micro Strike	E	10W	Not offered	
	Micro Strike	EH	13W	45W, 70W, 95W	Standard
	Micro Strike	EH	13W	105W, 135W, 155W	Not offered
	Strike	E	10W	Not offered	
	Strike	EH	13W	55W, 80W, 100W	Standard
	Strike	EH	13W	120W	Not offered

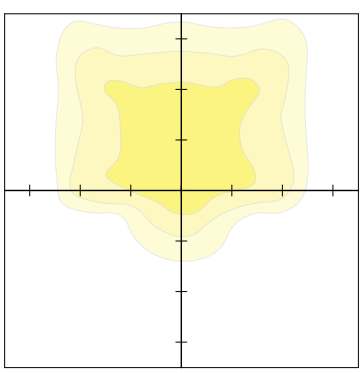
PHOTOMETRY - BATTERY

Mounting Height: 12ft
Scale: 10ft

18L BATTERY PHOTOMETRY



80L BATTERY PHOTOMETRY



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EXO OUTDOOR LIGHTING

CHANGE TO 30 TO KEEP THE LUMEN OUTPUT SIMILAR TO SPECIFIED.

DATE:

APPROVED AS NOTED

TYPE:

CATALOG #:

tradeSELECT

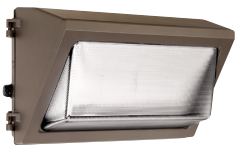
WGH LED SERIES

SWITCHABLE - GLASS WALLPACK

FEATURES

- Three sizes: Small, Medium and Large
- 20–120 Watts
- Field switchable lumens and LED color temperature (3000K, 4000K & 5000K), 80 CRI
- Up to 162 lumens per watt
- Borosilicate glass refractor softens LED pixilation and provides uniform distribution

WGH1



WGH2

WGH3

c UL us LISTED | DLC LISTED PREMIUM | IP65 | SWITCHABLE WATTAGE & CCT

SPECIFICATIONS

CONSTRUCTION

- Die-cast Aluminum Frame holds and seals to housing with 2 stainless steel screws
- All sizes contain photocell, which can be disabled.
- Cast aluminum housing has three 1/2" conduit entries on top and sides
- All units have dark bronze matte textured powder coat finish (matches DBT finish)
- Operating Temp -40C to 40C

OPTICS

- High efficacies, up to 162 LPW
- Impact resistant borosilicate glass lens

INSTALLATION

- Door assembly hinges on side
- Leveling device contained inside the housing for ease of installation

ELECTRICAL

- Voltage 120-347V
- Built in 6kV surge protector
- WGH1 Switchable Wattage includes 20, 30, 40, 50
- WGH2 Switchable Wattage includes 30, 40, 50, 60, 70
- WGH3 Switchable Wattage includes 80, 90, 100, 110, 120

CERTIFICATIONS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- Wet listed
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- IP65 rated housing

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	3200-17,000
Wattage Range	20–120
Efficacy Range (LPW)	140-162

ORDERING GUIDE

Housing	Catalog Number	Wattage	Voltage	Dist. Type	Delivered Lumens	LPW	CCT	Weight lbs. (kg)
Small	WGH1-50-LSCS-UNVC	20-50W	120-347V	4	3200-7520	143-159	3000K, 4000K, 5000K	8.4 (3.8)
Medium	WGH2-70-LSCS-UNVC	30-70W	120-347V	4	4800-10,700	146-162	3000K, 4000K, 5000K	10.8 (4.9)
Large	WGH3-120-LSCS-UNVC	80-120W	120-347V	4	11,400-17,000	140-154	3000K, 4000K, 5000K	13.9 (6.3)

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EXO OUTDOOR LIGHTING

WGH LED SERIES

SWITCHABLE - GLASS WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PERFORMANCE DATA

Description	System Watts	Distribution Type	5K (5000K NOMINAL)					4K (4000K NOMINAL)					3K (3000K NOMINAL)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
WGH1	20	4	3218	159	1	3	2	3457	171	1	3	3	2976	147	1	3	2
	30	4	4768	157	1	3	3	5123	169	1	3	3	4411	146	1	3	3
	40	4	6228	155	2	3	3	6691	166	2	3	3	5760	143	2	3	3
	50	4	7522	150	2	3	4	8081	161	2	3	4	6958	139	2	3	3
WGH2	30	4	5025	162	1	3	4	5399	174	1	3	4	4648	150	1	3	3
	40	4	6417	161	1	3	4	6894	173	1	3	4	5936	149	1	3	4
	50	4	7840	159	1	4	5	8424	171	1	4	5	7252	147	1	4	5
	60	4	9433	156	1	4	5	10135	168	1	4	5	8725	145	1	4	5
	70	4	10700	154	1	4	5	11496	165	1	4	5	9897	142	1	4	5
WGH3	80	4	12015	154	2	4	5	12909	165	2	4	5	11114	142	2	4	5
	90	4	13607	152	2	4	5	14619	163	3	5	5	12587	140	2	4	5
	100	4	15328	149	3	5	5	16468	160	3	5	5	14178	138	3	4	5
	110	4	16436	148	3	5	5	17659	159	3	5	5	15204	137	3	5	5
	120	4	17116	147	3	5	5	18390	158	3	5	5	15833	136	3	5	5

ELECTRICAL DATA

WGH1-Small

Nominal Wattage	Input Voltage	Oper.Current (Amps)	System Power (Watts)
20	120	0.17	20.3
	208	0.10	
	240	0.08	
	277	0.07	
	347	0.06	
30	120	0.25	30.0
	208	0.14	
	240	0.13	
	277	0.11	
	347	0.09	
40	120	0.33	39.2
	208	0.19	
	240	0.16	
	277	0.14	
	347	0.11	
50	120	0.42	49.8
	208	0.24	
	240	0.21	
	277	0.18	
	347	0.14	

WGH2-Medium

Nominal Wattage	Input Voltage	Oper.Current (Amps)	System Power (Watts)
30	120	0.24	29.3
	208	0.14	
	240	0.12	
	277	0.11	
	347	0.08	
40	120	0.34	41.2
	208	0.20	
	240	0.17	
	277	0.15	
	347	0.12	
50	120	0.44	53.1
	208	0.26	
	240	0.22	
	277	0.19	
	347	0.15	
60	120	0.49	59.2
	208	0.28	
	240	0.25	
	277	0.21	
	347	0.17	
70	120	0.56	66.8vv
	208	0.32	
	240	0.28	
	277	0.24	
	347	0.19	

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EXO OUTDOOR LIGHTING

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

WGH LED SERIES

SWITCHABLE - GLASS WALLPACK

ELECTRICAL DATA (CONTINUED)

WGH3-Large

Nominal Wattage	Input Voltage	Oper.Current (Amps)	System Power (Watts)
80	120	0.66	79.6
	208	0.38	
	240	0.33	
	277	0.29	
	347	0.23	
90	120	0.74	88.2
	208	0.42	
	240	0.37	
	277	0.32	
	347	0.25	
100	120	0.84	100.2
	208	0.48	
	240	0.42	
	277	0.36	
	347	0.29	
110	120	0.91	109.2
	208	0.53	
	240	0.46	
	277	0.39	
	347	0.31	
120	120	0.99	118.9
	208	0.57	
	240	0.50	
	277	0.43	
	347	0.34	

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25° C	77° F	1.00
30° C	86° F	0.99
40° C	104° F	0.98
50° C	122° F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	36,000	50,000	TM-21-11 60,000	100,000
40°C / 104°F	1.00	0.95	0.93	0.90	0.88	0.81

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EXO OUTDOOR LIGHTING

WGH LED SERIES

SWITCHABLE - GLASS WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

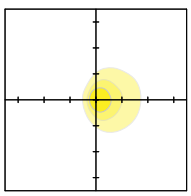
CATALOG #:

SWITCHABLE WATTAGE & CCT

PHOTOMETRY

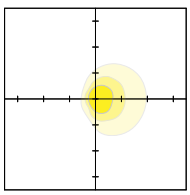
WGH1

WGH1 - 20W



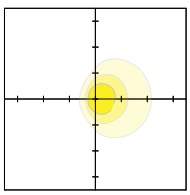
Mounting Height: 10 ft
Scale: 25 ft

WGH1 - 30W



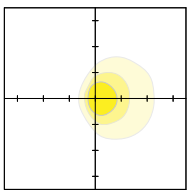
Mounting Height: 10 ft
Scale: 25 ft

WGH1 - 40W



Mounting Height: 10 ft
Scale: 25 ft

WGH1 - 50W

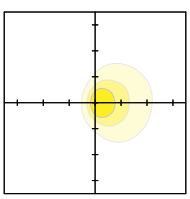


Mounting Height: 10 ft
Scale: 25 ft

Switchable from **20 to 50 watts**

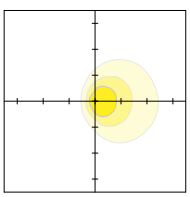
WGH2

WGH2 - 30W



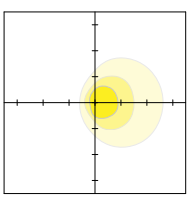
Mounting Height: 10 ft
Scale: 25 ft

WGH2 - 40W



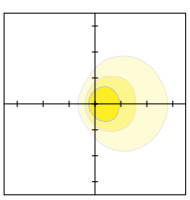
Mounting Height: 10 ft
Scale: 25 ft

WGH2 - 50W



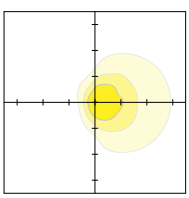
Mounting Height: 10 ft
Scale: 25 ft

WGH2 - 60W



Mounting Height: 10 ft
Scale: 25 ft

WGH2 - 70W

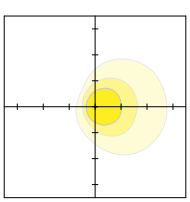


Mounting Height: 10 ft
Scale: 25 ft

Switchable from **30 to 70 watts**

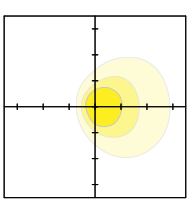
WGH3

WGH3 - 80W



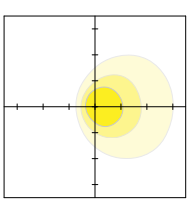
Mounting Height: 10 ft
Scale: 25 ft

WGH3 - 90W



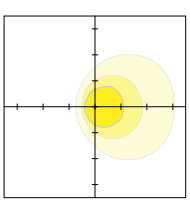
Mounting Height: 10 ft
Scale: 25 ft

WGH3 - 100W



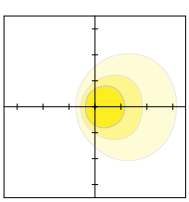
Mounting Height: 10 ft
Scale: 25 ft

WGH3 - 110W



Mounting Height: 10 ft
Scale: 25 ft

WGH3 - 120W



Mounting Height: 10 ft
Scale: 25 ft

Switchable from **80 to 120 watts**

WGH1, WGH2 & WGH3 CCT Switchable **3K, 4K, 5K**

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EXO OUTDOOR LIGHTING

DATE: | LOCATION:

TYPE: | PROJECT:

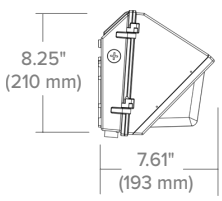
CATALOG #:

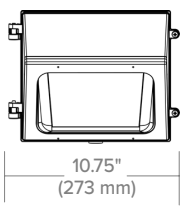
WGH LED SERIES

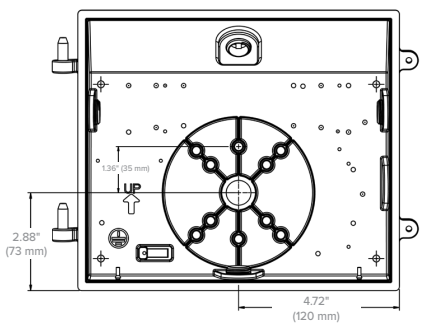
SWITCHABLE - GLASS WALLPACK

DIMENSIONS

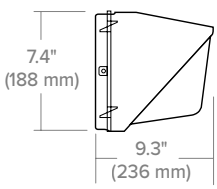
WGH1

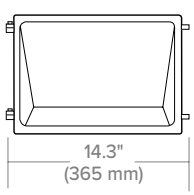


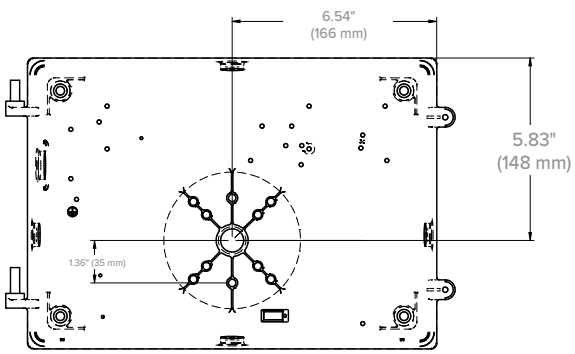




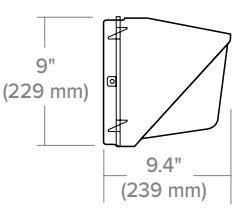
WGH2

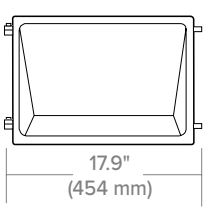


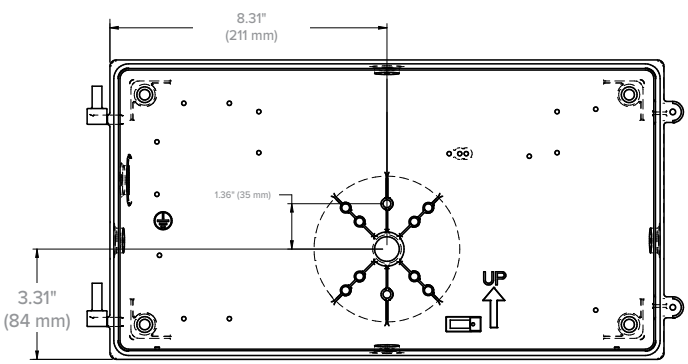




WGH3







LEVEL SYSTEM

Incorporated level system in fixture

USE OF TRADEMARKS AND TRADE NAMES

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DUAL-LITE®

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

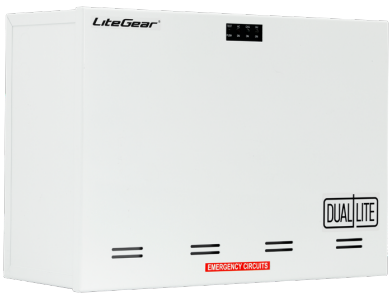
LG Series

SINGLE-PHASE CENTRAL LIGHTING INVERTER

LiteGear®

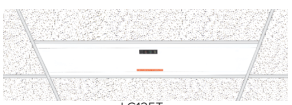
FEATURES

- AC output provides full lumen output for emergency lighting loads
- Compatible with LED, fluorescent and incandescent lamps
- Pure sine wave output mitigates LED inrush current
- For normally-on, normally-off and switched loads
- 90-minute emergency operation
- Input/Output VAC : 120/120 or 277/277
- 125 – 250VA maximum capacity
- UL 924 Listed
- UL Plenum rating on recessed T-Grid ceiling model
- Self-testing/diagnostics and Adjustable Output available



LG250S 250VA Surface Mount Model

LG125S 125VA
Surface Mount Model



LG125T
125VA Recessed
Ceiling T-Grid Mount Model

LG125R 125VA Recessed
Wall Mount Model

UL LISTED 56B5 EMERGENCY LIGHTING EQUIPMENT

BC

DAMP LOCATION

CEC T20 COMPLIANT

SPECIFICATIONS

APPLICATION

- Designed for indoor installation in commercial or industrial applications.
- Emergency AC power is supplied to lighting fixtures equipped with incandescent, linear fluorescent, compact fluorescent or LED lamps
- The lighting load can be installed at a distance of up to 1,000 feet from the LiteGear® central lighting inverter
- Observe all required AC conductor sizing requirements
- When using LED lamps, consider LED in-rush current in load calculations
- Ceiling T-Grid mount model approved for use in City of Chicago

OPERATION

- When normal utility supplied power is interrupted, the LiteGear® Series unit will automatically transfer to emergency mode in less than 2-seconds and begin supplying inverted, battery-derived pure sine wave output power to the load for 90 minutes
- The unit is capable of operating normally on, normally off or switched loads
- A low voltage battery disconnect circuit will prevent “deep discharge” damage to the battery
- The charging circuit will bring the batteries to full recharge within UL time standards
- A "brownout" circuit will automatically transfer the unit to emergency power if the utility voltage falls to a pre-determined “low line” limit

CONSTRUCTION

- The LiteGear® enclosure and cover are constructed of heavy-duty, steel with a white powder-coat paint finish.

COMPLIANCES

- UL 924 (Emergency Lighting)
- Suitable for Damp Location
- UL 2043 (Plenum Air Handling Spaces) and City of Chicago (CCEA) for LG125T
- Life Safety Code (NFPA 101)
- National Electrical Code (NFPA 70)
- State and Local Code compliant
- CEC Title 20 Compliant

WARRANTY

- Unit and Electronics: 3 years full*
- Self-Test Model Unit and Electronics: 5 years full*
- SLA Lead Calcium Battery: 3 years full, 7 years pro-rata

* excludes fuses

KEY DATA	
Input/Output (VAC)	120/120 or 277/277
Wattage Range	110/220W
Input Current Range (Amps)	0.5 - 2.4

Current

currentlighting.com/dual-lite

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DUAL LITE®

LG Series

SINGLE-PHASE CENTRAL LIGHTING INVERTER

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

ORDERING GUIDE

Example: LG125R-AO

CATALOG # _____

LG		–		–	
Model	**Capacity**		**Mounting**	**Self-Diagnostics**	**Dimming Control**
LG Litegear® Central Lighting Inverter	**125** 125VA/110W		**S** Surface Wall	**Blank** None	**Blank** None
	250 250VA/220W[3]		**R** Recessed Wall[1]	**I** Self Testing/Diagnostics[2,4]	**AO** Adjustable Output (4 - levels)
			T Recessed Ceiling T-Grid[1]		

Accessories (Order Separately)	
RTSLP	Remote Test Switch

Notes:
1 Only available on 125VA/110W version
2 Only available on 250VA/220W version
3 Housing (93098085) and batteries (93068259) ship in separate cartons
4 Housing (93098087) and batteries (93068259) ship in separate cartons

SPECIFICATIONS

ELECTRONICS

Input/Output: 120/120VAC or 277/277VAC, 60 Hz

Input/Output Connections: Terminal block

Operating Temperature Range: 20°C to 30°C (68°F to 86°F)

AC Lockout: Prevents battery discharge following installation when branch circuit AC power is not present.

Low Voltage Battery Disconnect: Protects the battery from damaging "deep discharge" conditions during prolonged power failures.

Brownout Protection: Automatically transfers to emergency power when utility voltage drops to a point that would cause fluorescent lamps to extinguish.

Overload and Short Circuit Protection: AC and DC protection provided by fuses and automatic shut down.

Test Means: Manual "TEST" button.

LED Indicators: LG125/LG250: "AC-ON" (red), "Charging-ON" (green), "Inverter On" (amber) LG250SI: "Normal Mode" (green steady), "Test Mode" (green blink), "High Charge" (red/green blink), "Inverter ON" (amber).

BATTERY

Maintenance-free, SLA lead calcium with 10 year rated life.

OPTIONAL SELF-TEST/SELF DIAGNOSTICS

Provides visual indication for battery, charger and load faults. Conducts automatic 30-second battery discharge test every 30 days, a 30-minute test every 6 months, and a 90-minute test once a year. Test switch allows for manual initiation of a 30-second, a 30-minute or a 90-minute system test

OPTIONAL ADJUSTABLE OUTPUT

Allows dimmable LED fixtures with 0-10V drivers to be connected to and powered by the LiteGear inverter during power outages. In emergency mode, two independent output circuits disconnect the load side of the local dimmer control, and connect the selected loads to the LiteGear output(s). Both emergency circuits are user-programmable to operate the connected fixtures at approximately 25%, 50%, 75% or 100% of nominal output during power outages.

	LG125S	LG125R	LG125T	LG250S	LG250SI
Power Rating (VA - W)	125/110			250/220	
Power Factor Range	0.88 lead to 0.88 lag				
Form and Fit	Wall Mount Surface	Wall Mount Recessed	Ceiling Mount Recessed T-grid	Wall Mount Surface	
Weight (lb) with batteries	42	42	43	60	
Maximum Input Current (A)	120 VAC: 1.2 A 277 VAC: 0.52 A	120 VAC: 1.2 A 277 VAC: 0.52 A	120 VAC: 1.2 A 277 VAC: 0.52 A	120 VAC: 2.4 A 277 VAC: 1.1 A	
System DC Voltage	24			48	
Recharge Time (Hr)	96			96	

OUTPUT LOADING

	Maximum Load (Watts)							
Dimming Circuits[1] Output (V)	2.5		5.0		7.5		10.0	
Model	Norm Mode	Emerg Mode	Norm Mode	Emerg Mode	Norm Mode	Emerg Mode	Norm Mode	Emerg Mode
LG125S-AO	400	110	200	110	133	110	110	110
LG125R-AO	400	110	200	110	133	110	110	110
LG125T-AO	400	110	200	110	133	110	110	110
LG250S-AO	800	220	400	220	267	220	220	220
LG250SI-AO	800	220	400	220	267	220	220	220

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DUAL LITE®

LG Series

SINGLE-PHASE CENTRAL LIGHTING INVERTER

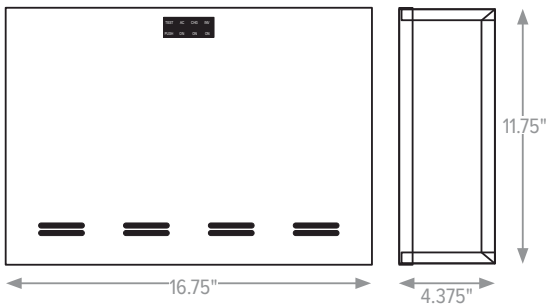
DATE: LOCATION:

TYPE: PROJECT:

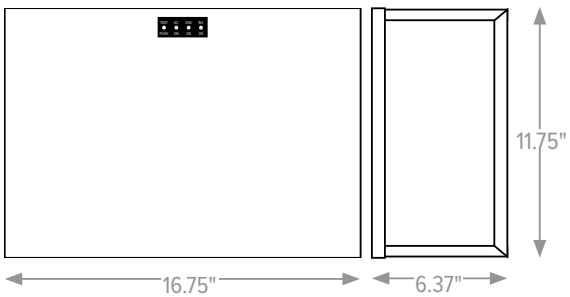
CATALOG #:

DIMENSIONS

LG125S Wall Mount Surface Model

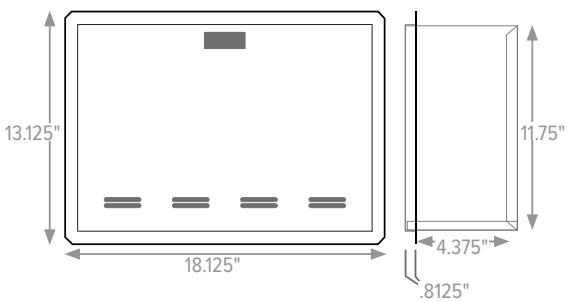


LG250S and LG250SI Wall Mount Surface Models



LG125T Recessed Ceiling T-Grid Mount Model

LG125R Recessed Wall Mount Model



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DUAL LITE®

EVE Series

LED EXIT SIGN

DATE: | L

TYPE: | P

CATALOG #:

APPROVED

EV LED FAMILY

FEATURES

- Architectural LED based exit and emergency light for wall, ceiling or end mounting commercial applications
- High impact, flame rated and UV stable white thermoplastic housing
- SW- Available with Special Wording
- 2C- 2 circuit operation
- FAP- Fire Alarm Panel
- FM- Flasher Module
- AF- Audible Flasher
- DC- Remote DC Operation
- 24K- 220-240VAC Input
- EV Unit Indoor Emergency Light

UL924 SPECTRON Self-Testing/Self-Diagnostic Electronics System TITLE 20

SPECIFICATIONS

APPLICATION
- The EVE series is a compact architectural LED exit sign designed for fast installation and reliable service

CONSTRUCTION
- The EVE Series has a flame-rated, UV stable thermoplastic housing with a lightly textured white or black finish
- The EVE series housing and canopy are made from durable injection molded ABS thermoplastic
- Available with special worded options
- Weight: 2.5 lbs

ELECTRICAL
- Available in AC only or emergency operation which includes a nickel metal hydride(NiMH) battery and provides a full 90 minutes of emergency exit illumination in the event of power failure
- Includes a constant current charger
- The EVE accepts 120/277VAC input at 60Hz and optional 220-240VAC input at 50 or 60 Hz with self-diagnostics option

INSTALLATION
- EVE can be wall mounted by use of back-plate with molded-in template, ceiling or end mounted with the use of supplied canopy to standard 3-½" or 4" square or octagonal electrical boxes
- Pre-stripped AC input leads provided

ILLUMINATION
- The EVE series provides bright and uniform exit panel illumination by using energy saving, long-life red or green LEDs with a 10 year lifecycle
- The panel face exceeds UL924 requirements for brightness and uniformity

COMPLIANCES
- Listed to UL924 Standard
- NFPA 101
- NFPA 70
- UL Damp Location Listed
- CEC T20 Compliant

WARRANTY
- EVE: 5 year warranty
- Battery: 3 years full, 7 years pro-rata

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DUAL-LITE®

EVE Series

LED EXIT SIGN

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: EVEURW-2C

CATALOG # _____

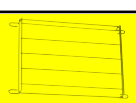
EVE – _____

Model	Faces	Letter Color	Finish	Operation	Self-Diagnostic	Options
EVE LED Exit Sign	**U** Universal Face	**R** Red **G** Green	**W** White **B** Black	**Blank** AC Only **E** Emergency	**Blank** None **I** Spectron® self-testing/ self-diagnostic electronics [1]	**2C** 2 Circuit Operation [2,5] **FAP** Fire Alarm Panel [3,5,6,7] **FM** Flasher Module [1,6,7] **AF** Audible Flasher [1,6,7] **DC** Remote DC Operation [2,4,5] **24K** 220 - 240 VAC 50, 60 Hz with Spectron® [1,7] **SW** Special Wording [8,9]

Notes:

1 For use with emergency models only
2 For use with AC models only
3 Operates with 24 volt AC or DC fire alarm panels
4 For emergency illumination of sign from remote 6-24 VDC power source
5 DC option may not be specified with 2C or FAP options
6 AF, FM and FAP options may not be specified together
7 For use with Spectron® equipped models only
8 SW option limited to selections on pg.3
9 Special worded sign ships as a universal single or double face

Accessories

☐ **EV Unit**	2 LED Indoor Emergency Light	
☐ **EVC**	Exit Sign/ LED Emergency Light	
☐ **VRS3**	Vandal Resistant Shield	
☐ **WGLX**	Wire Guard (Wall Mount)	
☐ **WGLXC**	Wire Guard (Ceiling Mount)	
☐ **WGLXE**	Wire Guard (End Mount)	
☐ **PMLXW**	12 ½" Pendant Mounting Kit (white)	

ELECTRONICS

Upon failure of the normal utility power, a solid-state transfer switch automatically activates the exit LEDs. Upon resumption of the normal utility power, the battery is disconnected from the load and recharged through a constant current charger. The battery is a maintenance-free Nickel Metal Hydride(NiMH) type. The EVE series accepts 120/ 277VAC at 60 Hz, or an optional 220-240VAC input (-24K option)at 50 or 60 Hz. A low voltage battery disconnect(LVD) feature protects the battery from damage during prolonged power failures. Manual testing is available at any time using the push-to-test button. Rated LED lifecycle-greater than 100,000hrs. or 10 years.

STANDARD FEATURES INCLUDE

- External push-to-test switch and AC-on indicator
- Battery re-charge within 24 hours
- AC Lock-out circuit
- Low voltage battery disconnect

OPTIONAL SPECTRON FEATURE

- Self-diagnostics monitors LED status, LED load transfer circuit, battery capacity and charger function and displays any fault detection by means of a flashing code
- Self-Test feature automatically runs a 1 minute test once a month and an alternating 30 or 60 minute test once every 6 months. Multi-color LED indicator provides visible fault detection and charging status User initiated 1 or 90-minute system test feature
- 15 minute re-transfer delay
- Automatic unit transfer in brown-out conditions(below 80% of nominal AC input voltage)

OPERATING TEMPERATURE RANGE

0° to 40°C

WEIGHT

2.5 lbs

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DUAL LITE®

EVE Series

LED EXIT SIGN

DATE: LOCATION:

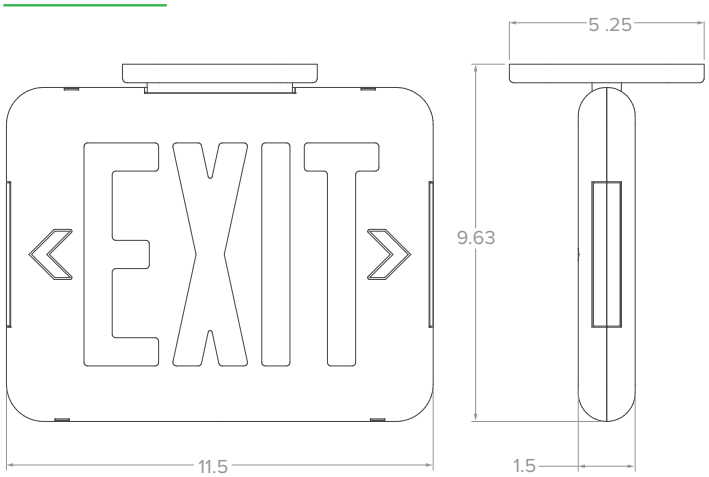
TYPE: PROJECT:

CATALOG #:

POWER CONSUMPTION (120/277VAC)

Model	120VAC, 60Hz			277VAC, 60Hz		
	A	W	PF	A	W	PF
Red AC Only	0.02	1.42	0.59	0.009	1.36	0.54
Green AC Only	0.02	1.36	0.57	0.009	1.30	0.57
Red Emergency	0.027	2.01	0.62	0.0127	1.94	0.55
Green Emergency	0.027	2.01	0.62	0.0127	1.94	0.55

DIMENSIONS



SPECIAL WORDING OPTIONS

SW13

SW10

SW11

SW69

SW3

SW4

** All special worded selections ship as a universal sign for single or double-face application.*

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EXO OUTDOOR LIGHTING

DATE:
TYPE:
CATALOG #:

APPROVED AS NOTED

RTAH Series Poles

ROUND TAPERED ALUMINUM

SPECIFICATIONS

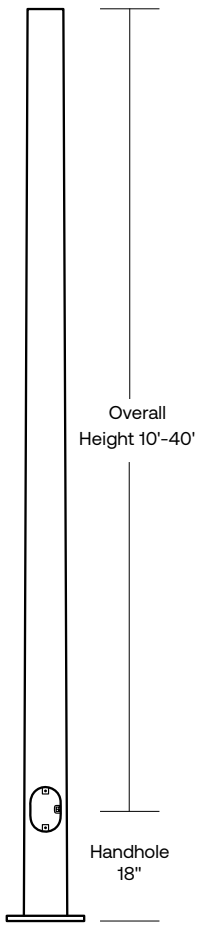
CONSTRUCTION

- Shaft: One-piece tapered aluminum with round cross section, made of 6061-T6 shaft and 356-T6 cast aluminum base
- **Group 1:**
  - Anchor bolts: Supplied with (3) galvanized anchor bolts with minimum yield of 55,000 psi (ASTM F1554. Galvanized hardware with two washers and two nuts per bolt for leveling. Top nut is acorn nut.
    - Size: (3) 3/4 x 17 x 3
  - Pole cap: 3" pole top standard; supplied with removable cover when applicable; tenon configurations also available
  - HANDHOLE: 2" X 4" handhole opening with cover grounding provision provided opposite handhole opening. The handhole is located 18" from the base of the pole.
  - Comes with a one piece round base cover.
- **Group 2:**
  - Anchor bolts: Supplied with (4) galvanized anchor bolts with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling.
    - Part number: 1.00 X 36.00 X 4 — TAB-30-M38
  - Bolt cover: Four individual bolt covers provided
  - Pole cap: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
  - HANDHOLE: 4" X 6" handhole opening with cover and grounding provision handhole 3" x 5" for 20' pole. The handhole is located 18" from the base of the pole

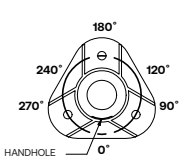
Super Durable polyester-TGIC powder coat finish with nominal 3.0 mil thickness. Meets or exceeds AAMA 2604 standards.

INSTALLATION

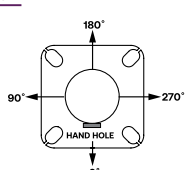
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location



BASE

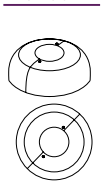


Group 1

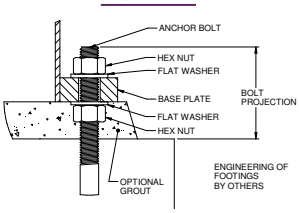


Group 2

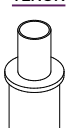
BASE COVER[1]



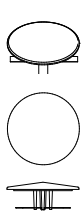
BASE DETAIL



TENON



POLE CAP



1 Group 1 poles only.

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EXO OUTDOOR LIGHTING

RTAH Series Po

ROUND TAPERED ALUMINUM

SELECT 'B' TO MATCH SPECIFIED.

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

ORDERING INFORMATION

Example: RTAH20-50A–1–B3–BLT

RTAH – ___ – ___ – ___ – ___ – ___ – ___ – **Black Anodized** – ___

Series	Height	Shaft	Thickness	Mounting	Drill Pattern	Finish	Options
RTAH Round Tapered Aluminum Pole Exo	Reference page 3 Ordering matrix	Reference page 3 Ordering matrix	Reference page 3 Ordering matrix A - .125" Wall B - .188" Wall C - .250" Wall	1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) OT Open Top (includes pole cap)	B3 2 bolt (2-1/2" spacing), Viper "A" arm S2 2 bolt (3-1/2" spacing), Viper "AD" arm UDP Universal Drill Pattern	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGT Light Grey Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured **Color Option** CC Custom Color[1]	GFI[2] 20 Amp GFCI Receptacle and Cover EHH[2] Extra Handhole C05[2] .5" Coupling C07[2] .75" Coupling C20[2] 2" Coupling VM2 2nd mode vibration dampener LAB Less Anchor Bolts UL UL Certified

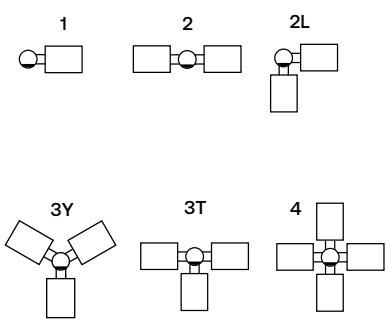
Accessories (Order Separately)

- ☐ VM2S08 Field-installed 2nd mode vibration dampener - 8 ft
- ☐ VM2S12 Field-installed 2nd mode vibration dampener - 12 ft
- ☐ VM2S16 Field-installed 2nd mode vibration dampener - 16 ft
- ☐ VM2S20 Field-installed 2nd mode vibration dampener - 20 ft
- ☐ VM2S25 Field-installed 2nd mode vibration dampener - 25 ft

1 Custom colors available; RAL number preferable
2 Specify option location using logic found on page 3 (Option Orientation)

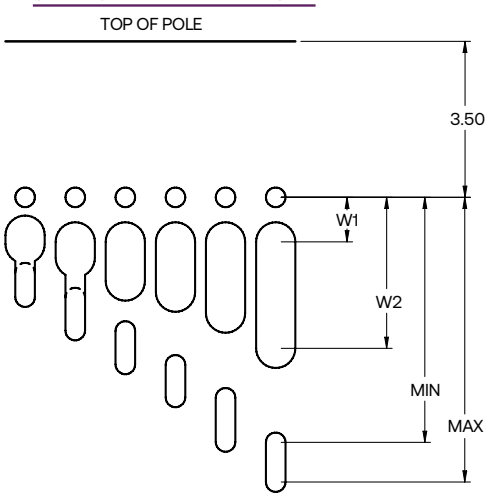
MOUNTING ORIENTATION

○ ← Denotes handhole location



DRILL PATTERNS

UNIVERSAL DRILL PATTERN (UDP)



Two Bolt Mounting with Center Wireway						
Mounting Hardware	Universal Mounting Patterns					
⅜" or less	UDP01	UDP03	UDP05	UDP07	UDP09	UDP011
7/16" to ½"	UDP02	UDP04	UDP06	UDP08	UDP010	UDP012
"Min" Attachment Dimension	1.69	2.25	3.00	3.76	4.50	5.50
"Max" Attachment Dimension	2.24	2.99	3.75	4.49	5.49	6.00
W1 (Wireway min)	0.85	1.00	1.00	1.00	1.00	1.00
W2 (Wireway max)	1.05	1.36	1.88	2.13	2.60	3.00

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EXO OUTDOOR LIGHTING

RTAH Series Poles

ROUND TAPERED ALUMINUM

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

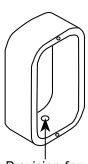
ORDERING INFORMATION (CONTINUED)

CATALOG NUMBER	HEIGHT		NOMINAL SHAFT DIMENSIONS	WALL THICKNESS	BOLT CIRCLE	BOLT CIRCLE RANGE	BASE PLATE SIZE	BASE PLATE SHAPE	ANCHOR BOLT SIZE	BOLT PROJECTION	POLE WEIGHT
	FEET	METERS									
Group 1											
RTAH10-40A	10	3	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x16x3"	3.00"	24
RTAH12-40A	12	3.7	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x16x3"	3.00"	27
RTAH14-40A	14	4.3	4" x 3"	.125"	7"	-	7.25	Triangular	3/4x16x3"	3.00"	32
RTAH16-50A	16	4.9	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x16x3"	3.00"	35
RTAH18-50A	18	5.5	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x16x3"	3.00"	42
RTAH20-50A	20	6.1	5" x 3"	.125"	8"	-	8.31	Triangular	3/4x16x3"	3.00"	47
Group 2											
RTAH20-60B	20	6.1	6" x 4"	.188"	9.5"	9-10"	9.75	Square	1" x 36" x 4"	4.25"	90
RTAH25-70B	25	7.6	7" x 4"	.188"	11"	10-11"	10.5	Square	1" x 36" x 4"	4.25"	120
RTAH30-80B	30	9.1	8" x 4.5"	.188"	11"	11-12"	11.25	Square	1" x 36" x 4"	4.25"	150
RTAH35-80C	35	10.7	8" x 4.5"	.250"	11"	11-12"	11.25	Square	1" x 36" x 4"	4.25"	205
RTAH40-80C	40	12.2	8" x 4.5"	.250"	11"	11-12"	11.25	Square	1" x 36" x 4"	4.25"	260

Notes:
- Factory supplied template must be used when setting anchor bolts. Current will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.
- For more information about pole vibration and vibration dampeners, please consult factory.
- Unwrap poles immediately upon receipt to avoid condensation build up and possible corrosion.

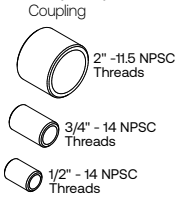
[1] There will be a weld witness mark on the side of the pole with the Factory installed VM2.

EHH
Extra handhole

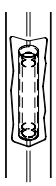


Provision for Grounding

C05 / C07 / C20
Coupling



VM2[1]
2nd mode vibration dampener



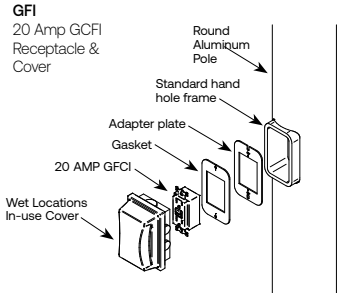
Factory installed, internal dampener designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX
Field-installed 2nd mode vibration dampener

VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

Field installed, internal dampener designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

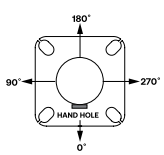
GFI
20 Amp GCFI Receptacle & Cover

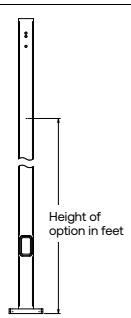


Option Orientation

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet).

Example: Option C05 should be ordered as: RTAH20-65A-TA-DB-C05-0-15 (.5" coupling on the handhole side of pole, 15' up from the pole base) 1' spacing required between option. Consult factory for other configurations.





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EXO OUTDOOR LIGHTING

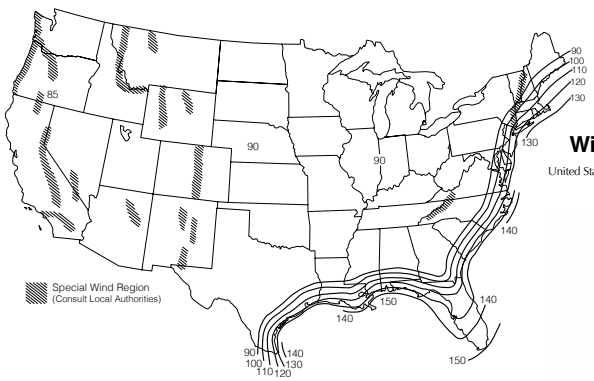
RTAH Series Poles

ROUND TAPERED ALUMINUM

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

WIND MAPS

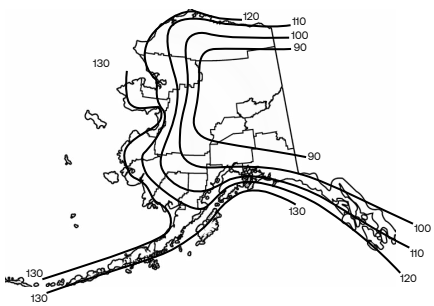
ASCE7-05 WIND MAP



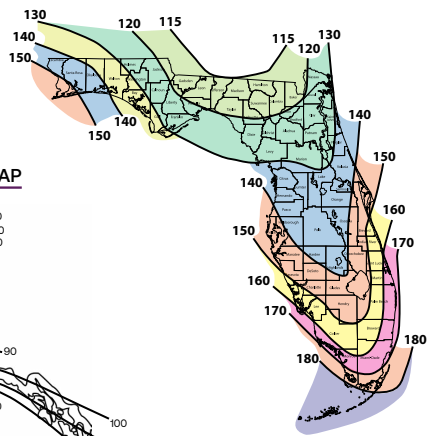
HAWAII – 105 mph
PUERTO RICO – 145 mph

*Printed with permission from ASCE

ALASKA REGION WIND MAP



FLORIDA REGION WIND MAP



Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code.

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)

Catalog Number	Height	85	90	100	110	120	130	140	150
Group 1									
RTAH10-40A	10.0	11.4	10.0	7.8	6.2	5.0	4.0	3.4	2.8
RTAH12-40A	12.0	9.0	7.8	6.0	4.6	3.6	2.8	2.2	1.8
RTAH14-40A	14.0	7.0	6.0	4.4	3.4	2.4	1.8	1.4	1.0
RTAH16-50A	16.0	9.8	8.6	6.4	4.8	3.8	3.0	2.4	2.0
RTAH18-50A	18.0	8.0	6.8	4.8	3.6	2.8	2.0	1.6	1.2
RTAH20-50A	20.0	6.2	5.2	3.6	2.4	1.8	1.2	N/R	N/R
Group 2									
RTAH20-60B	20.0	15.0	12.8	9.9	7.8	6.2	5.0	4.2	3.5
RTAH25-70B	25.0	14.5	12.5	9.4	7.2	5.5	4.5	3.7	3.0
RTAH30-80B	30.0	13.9	11.8	8.7	6.6	5.2	4.1	3.3	2.6
RTAH35-80C	35.0	12.8	10.5	7.6	5.6	4.3	3.4	2.6	1.9
RTAH40-80C	40.0	8.6	6.9	4.4	2.8	1.9	1.2	N/R	N/R

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)

Catalog Number	115	120	130	140	150	160	170	180
Group 1								
RTAH10-40A	10.2	9.2	7.6	6.4	5.4	4.6	3.8	3.4
RTAH12-40A	8.0	7.0	5.8	4.8	4.0	3.2	2.6	2.2
RTAH14-40A	6.2	5.4	4.4	3.6	2.8	2.2	1.8	1.4
RTAH16-50A	8.8	7.8	6.2	5.2	4.2	3.4	2.8	2.4
RTAH18-50A	6.8	6.0	4.8	3.8	3.0	2.4	2.0	1.6
RTAH20-50A	5.4	4.6	3.4	2.6	2.0	1.6	1.2	N/R
Group 2								
RTAH20-60B	10.2	9.0	8.8	7.3	6.0	4.9	4.0	3.3
RTAH25-70B	11.7	10.5	8.4	6.8	5.4	4.4	3.5	2.7
RTAH30-80B	11.2	9.9	7.8	6.1	4.7	3.5	2.6	1.8
RTAH35-80C	10.6	9.3	7.1	5.4	4.0	2.9	1.9	1.1
RTAH40-80C	7.5	6.4	4.5	3.1	1.9	1.0	N/R	N/R

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EXO OUTDOOR LIGHTING

RTAH Series Poles

ROUND TAPERED ALUMINUM

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Current Lighting's Pole Vibration Application Guide for environmental risk factors and design considerations.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

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DUAL LITE®

DATE: L

TYPE: P

CATALOG #:

APPROVED

LSN D Series

SINGLE-PHASE CENTRAL LIGHTING INVERTERS

LSN LIFE SAFETY NETWORK

FEATURES

- Uninteruptible emergency AC power system
- 90 minute emergency operation supplied standard
- “No Break” design transfers the load instantaneously when normal power is interrupted
- Single-phase
- For normally-on and normally-off loads
- User interface module includes multiple LED indicators and audible alarms to provide system status
- Overload and short circuit protection

UL924 SPECTRON NFPA 101 NFPA 111 OSHPD CBSC

SPECIFICATIONS

APPLICATION

- Indoor Commercial
- Indoor Industrial

OPERATION

- Automatic, programmable self-diagnostic operation
- When normal utility-supplied power is present, the LSN model central lighting inverter provides load-side line conditioning with “brownout” protection, and charges the system batteries when required.
- When utility-supplied power is interrupted, or the voltage varies from predetermined limits, the system will automatically and instantaneously transfer to emergency mode without interruption to connected loads.
- DC battery-derived emergency power is inverted to AC power and supplied in a pure sine wave output form for 90 minutes (standard run time).
- A low voltage battery disconnect circuit prevents “deep discharge” damage to the batteries during prolonged power outages. When normal power is restored the system will automatically restart, providing power to connected loads and recharging the batteries.
- The charging circuit will bring the batteries to full recharge within UL time standards.

CONSTRUCTION

- Steel Cabinet
- Light grey paint finish
- Locking cabinetry and password-protected user interface for security
- Louvers at front and top of cabinet allow venting.

INSTALLATION

- Input power entry point is from the cabinet top.
- Bottom channels for lifting straps
- Wall brackets for anchoring.
- Servicing is accessible from cabinet front.

CERTIFICATIONS/COMPLIANCES

- UL 924 Listed, Emergency Lighting and Power Equipment (standard 90 minute run time), type S battery, all voltages except 347V
- UL & CUL 1778 Listed, Uninterruptible Power Supply Equipment (alternate run times; type G batteries; 347V input/output)
- ANSI C62.41: ANSI C62.45 (Cat. A & B)
- FCC class A
- National Electrical Code (NFPA 70)
- Life Safety Code (NFPA 101)
- NFPA 111 (Stored Emergency Power Supply Systems - SEPSS)
- NEMA Type 1 Cabinetry
- OSHA, state and local codes

WARRANTY

- Two years full on all components from date of shipment when a Factory Start-Up is performed; one year full when a Factory Start-Up is not performed.
- Batteries are covered under a separate warranty:

BATTERY WARRANTY INFORMATION

Battery Type	Full	Pro-rata
S (VRLA lead-calcium)	1 year	9 years
G (VRLA lead-calcium)	1 year	14 years

- Batteries must be connected to an energized charging circuit within 90 days from date of shipment or warranty is void.
- Start-Up must be performed by an Authorized Service Center within 6 months of inverter shipment and will increase the inverter warranty to 2 years. Order quantity of 1 per system. Systems powered up by others are done so at their own risk.

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DUAL LITE®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LSN D Series

SINGLE-PHASE CENTRAL LIGHTING INVERTERS

ORDERING GUIDE

Example: D120-01S120/208-N2007U-EML

CATALOG #

D –			–				–					
Model	**Input Voltage** [2]		**Capacity**	**Battery Type**	**Output Voltage (VAC)** [2,3,4]		**Output Circuit Breaker Type**	**Output Circuit Breaker Voltage Rating**	**Output Circuit Breaker Ampere Rating** [6]	**Output Circuit Breaker Quantity** [7]	**Output Circuit Breaker Supervision**	
D LSN Central Lighting Inverter	**120**	120VAC	**01** 1.0KVA	**S** 10-year VRLA Lead-Calcium	**120**		**Blank** Normally On	**A** 120VAC	15	01 - 20	**Blank**	Monitored
	208	208VAC	**02** 2.0KVA		120/208			**B** 240VAC	20	5	**U**	Unmonitored
	240	240VAC	**27** 2.7KVA	**G** 20-year VRLA Lead-Calcium	120/240 [5]		**N** Normally Off	**C** 277VAC	25			
	277	277VAC	**37** 3.7KVA		120/277			**D** 208VAC	30			
	347	347VAC	**48** 4.8KVA		277				35			
			55 5.5KVA		347				40			
			66 6.6KVA						50			
			83 8.3KVA						60			
			10 10.0KVA						80			
			12 12.5KVA [1]									
			15 15.0KVA [1]									
			17 17.5KVA									

Options And Accessories	
EML	Email Device
RSP	Remote Status Panel
SMT	System Monitoring Terminal Including Emergency Power Off Terminal
AR	Alternate Runtime [8]
SBC	Short Battery Cabinet [9]
IBS	Internal Maintenance Bypass Switch (Make Before Break)
C10	10 Amp Charger Upgrade [10]
C20	20 Amp Charger Upgrade [11]
S	Seismic Qualified [12]
Accessories	
DSFK_	Seismic Kit [12]
Service Options	
FSL	Factory Start-Up [13]

Notes:

1 Requires a provided external transformer for 208VAC or 240VAC input.
2 Refer to Specifications table (page 4) for available Input/Output voltage combinations.
3 Other voltages available. Consult factory.
4 External transformer may be provided.
5 Loading may not exceed 50% of the system's total rating on any 120VAC leg.
6 Normally Off circuit breakers: a maximum rating of 20 amps
7 Normally On circuit breakers: a maximum of 14 monitored, single pole positions or 20 unmonitored, single pole positions may be specified. Normally Off circuit breakers: a maximum of 8 single pole positions (monitored or unmonitored) may be specified.
8 Specify runtime in minutes when ordering. Example: AR120.
9 Available with 1.0, 2.0, 2.7, 3.7, 5.5, and 6.6KVA Series with S batteries only.
10 Available on 1.0 KVA - 4.8KVA Series.
11 Available on 5.5 KVA - 17.5KVA Series. Not available with 120V input on 6.6KVA and above. Not available with 208V input on 12.5 KVA and above. Not available with 240V input on 15.0 KVA and above.
12 Type S Battery in standard height cabinet only; See system configuration for 90-minute run time.
13 Start-Up is non-cancellable / non-returnable and must be performed by an Authorized Service Center within 6 months of battery shipment to increase the inverter warranty to 2 years. Order a quantity of 1 per system. Systems powered up by others are done so at their own risk.

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DUAL LITE®

LSN D Series

SINGLE-PHASE CENTRAL LIGHTING INVERTERS

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

OPTIONS AND ACCESSORIES INFORMATION

Suffix	Options	Description
EML	Email Device	A device that automatically notifies the user of system test results and alarm conditions. The Email Device sends detailed notifications to up to six pre-programmed email addresses. Requires customer supplied CAT5 cable connected to user network.
RSP	Remote Status Panel	Provides remote annunciation for the LSN inverter to indicate inverter and alarm status. Owner-installed option. Must be installed within 1,000 ft. of the LSN inverter. Seven-conductor-minimum, 22AWG wire for connection from options board to Remote Status Panel must be supplied by installer.
SMT	System Monitoring Terminals including Emergency Power Off Terminal	Provides connections points for Inverter and Alarm Relays (low power contacts change status with either inverter or alarm events), and Remote Status Panel (allows the addition of an RSP at any time). Provides a set of terminals to which an Emergency Power Off switch can be wired. Closing the switch will immediately shut down the system. Note: the EPO option requires the SMT option.
AR	Alternate Runtime	Runtimes other that the standard 90 minutes may be specified. When ordering alternate runtimes, specify discharge time required in minutes. Example: AR30
SBC	Short Battery Cabinet	For applications where headroom is limited. Reduces the overall height by 15 inches. Available on systems with ratings from 1.0, 2.0, 2.7, 3.7, 5.5, and 6.6KVA series with Type S batteries only. Dimensions: 31"H x 30"W x 18 5/8"D.
C10 C20	Charger Upgrades	10 Amp charger upgrade. Available on 1.0KVA - 4.8KVA Series. 20 Amp charger upgrade. Available on 5.5KVA - 17.5KVA Series.
CL60	Cabinet Locks	Universal cabinet locks for all electronic and battery cabinets.
	Monitored Circuit Breakers	Monitored output circuit breakers (normally-on or normally-off) will sound an alarm when tripped. See Ordering Guide.
	Normally-On Circuit Breakers	Specified when connected loads are to be energized at all times. See Ordering Guide.
	Normally-Off Circuit Breakers	Specified when connected loads are only energized during emergency operation. A user-programmable retransfer delay (up to 999 seconds) to normal utility power is provided. See Ordering Guide.
IBS	Internal Maintenance Bypass Switch	A three-position "make before break" service switch mounted inside the cabinet. Compatible with all input/output combinations and any combination or quantity of output circuit breakers.
S	Seismic Qualified	Unit provided as a seismic tested and qualified inverter. Unit will continue to operate during and after a seismic event when installed per instructions. Complies with UBC-1997, IBC-2012, CBC 2013 (OSHPD OSP-0365-10), and ASCE7-10 SDS=2.0g for z/h=1 and SDS=2.5g for z/h=0,Ip=1.5. Available for systems with standard height battery cabinets only.

Suffix	Accessories	Description
FSL	Factory Start-Up	Inspection, start-up, testing, calibration of system and user training by Dual-Lite factory authorized technician.
DSFK	Seismic Kit	Certified to seismic requirements in CBC 2007, Cat. D through calculations only.

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DUAL LITE®

LSN D Series

SINGLE-PHASE CENTRAL LIGHTING INVERTERS

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

SPECIFICATIONS

KVA/KW Rating	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
Power Factor Range	.8 lead to .75 lag											
Input/Output Voltage Combinations Available – Single Phase (VAC)[1] [2]	Input: 120 / Output: 120/240, 120/277, 277, 120/347, 347 Input: 208 / Output: 120, 120/208, 208, 120/240 Input: 240 / Output: 120, 120/240 Input: 277 / Output: 120, 120/240, 120/277, 277 Input: 347 / Output: 120, 120/240, 120/347, 347							Input: 208 / Output: 120, 120/208, 208, 120/240 Input: 240 / Output: 120, 120/240 Input: 277 / Output: 120, 120/240, 120/277, 277 Input: 347 / Output: 120, 120/240, 120/347, 347				—
AC Input Circuit Breaker Rating — 120/277V	120/30A 208/20A 240/20A 277/30A 347/15A	120/40A 208/30A 240/20A 277/30A 347/15A	120/50A 208/30A 240/30A 277/30A 347/20A	120/60A 208/50A 240/30A 277/30A 347/20A	120/60A 208/50A 240/30A 277/30A 347/25A	120/80A 208/50A 240/40A 277/40A 347/25A	120/100A 208/60A 240/60A 277/50A 347/30A	— 208/80A 240/80A 277/60A 347/50A	— 208/100A 240/80A 277/70A 347/50A	— 208/100A 240/100A 277/90A 347/60A	— 208/100A 240/100A 277/100A 347/80A	— — — 277/100A 347/80A
Output Voltage and Maximum Output Current in Amperes	120/8.3 240/4.2 277/3.6 347/2.9	120/16.7 240/8.3 277/7.2 347/5.8	120/22.5 240/11.3 277/9.7 347/7.8	120/30.8 240/15.4 277/13.4 347/10.**7**	120/40.0 240/20.0 277/17.3 347/13.8	120/45.8 240/22.9 277/19.9 347/15.9	120/55.0 240/27.5 277/23.8 347/19.0	120/69.2 240/34.6 277/29.9 347/23.9	120/83.3 240/41.7 277/36.1 347/28.8	120/104.0 240/52.1 277/45.1 347/36.0	120/125 240/62.5 277/54.2 347/43.2	120/146 240/72.9 277/63.2 347/50.4
Standard Charger Size	5 Amps					10 Amps				15 Amps		
System DC Voltage	96	96	96	96	96	96	96	144	144	144	144	144
Heat Output (BTU/Hr)	175	350	473	648	840	963	1,155	1,453	1,750	2,188	2,625	3,063

[1] On systems with 120/240VAC output, loading may not exceed 50% of the system's total KVA rating on any 120V leg. Loading beyond 50% on any 120V leg will cause an unsafe condition and transformer failure will occur. Call our Service Line at 800-848-6439 for alternate load connection configurations.

[2] An external transformer will be provided for 12.5K and 15.0K configurations with 208VAC and 240VAC input.

ELECTRICAL

System Short Circuit Rating: 42K AIC, RMS symmetrical

Surge Voltage Test: Per UL 924

Input Power Connection: Terminal block

Input Circuit Breaker: Sized to system rating

Power Factor: Unity 1.0 (KW = KVA)

Power Consumption: Offline, 98% efficient

Inverter Design: Pulse width modulation via IGBT circuitry

IGBT Frequency Switching Rate: 16K Hz per second

INPUT VOLTAGE:

1.0 - 6.6KW/KVA	8.3 - 17.5KW/KVA[1]
120, 208, 240, 277, 347VAC	208, 240, 277, 347

(1) Input voltage on 17.5KVA model limited to 277 and 347VAC only.

Input Voltage Range: Invert, +10%, - 12%; boost, -8%

Input Frequency: 60 Hz, ±3%

Synchronizing Slew Rate: 1 Hz per second, nominal

Transfer Time: "No break" switching; instantaneous

Output Wave Shape: True AC sine wave

Output Frequency: Normal: synchronized to utility; Inverter: ±0.05, 60 Hz, +0.05 Hz

OUTPUT VOLTAGE:

Main Output Overcurrent Protection: Circuit breaker, output fuse

1.0 - 6.6KW/KVA	8.3 - 17.5KW/KVA
120, 240, 277, 347, 120/240 [1], 120/277	120, 240, 277, 347, 120/240 [1], 120/277

(1) On systems with 120/240VAC output, loading may not exceed 50% of the system's total KVA rating on any 120V leg. Loading beyond 50% on any 20V leg will cause an unsafe condition and transformer failure will occur. Call factory for alternate load configurations.

Optional Output Circuit Breakers: Normally-On or Normally-Off, monitored or unmonitored, per customer requirements. See "Ordering Guide".

Output Regulation: (static) ±5% (5% to 100% resistive load)

Output Distortion: Less than 5% THD (linear load)

Battery Circuit Breaker: Sized to system rating

Battery Cabinet Short Circuit Breaker Protection: Circuit breaker and fuses

Overload Rating: 150% momentary; 120% for five minutes, 110% for 10 minutes

Two way communication: DB9/RS232 standard

Overload/Short Circuit Protection: Circuit breakers and fuses

AC Lockout: Prevents battery discharge following installation when AC power is not present

Output Voltage Regulation: Automatic boost tap circuit maintains output voltage during utility low voltage "brownout" periods without switching to battery power

Low Voltage Battery Disconnect: Protects the batteries from damaging "deep discharge" conditions during prolonged power outages

Time Delay Retransfer: Supplied with "normally off" optional output circuit breakers. Holds the unit in emergency mode after normal AC power is restored, allowing utility power to stabilize and voltage sensitive lighting to resume normal operation. Delay time is user programmable.

Test Means: Spectron® self-test/self-diagnostic microprocessor controlled circuitry; manual programmable testing

Indicators: Visual LED indicators, visual graphic display (2 lines, 40 characters), audible alarm system, RS232 two-way communication. Security: Password protected user interface; locking cabinets

Interior Relative Humidity: 95% non-condensing

BATTERY/CHARGING SYSTEM SPECIFICATIONS

Standard Run Time: 90 minutes per UL 924. Optional run times available via UL 1778 listing.

Charger: Three-step float, temperature compensated. 5 amp, 10 amp, or 15 amp, depending on system rating.

Bus Voltage: 96VDC or 144VDC (system rating dependent)

Battery Condition Monitoring System: Standard

Recharge Cycle: Within UL requirements

Type: Non-spillable "S" Series standard; optional type G available. See "Battery" section on following page.

DC Switch: Provides isolation and back-feed protection

Operating Temperature Range: 20°C to 30°C (68°F to 86°F)

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DUAL LITE®

LSN D Series

SINGLE-PHASE CENTRAL LIGHTING INVERTERS

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

SYSTEM CONFIGURATIONS FOR 90-MINUTE RUNTIME

TYPE S BATTERY

Maintenance-Free VRLA Lead-Calcium — 10-Year Design Life Expectancy at 25°C (77°F)
Standard LSN system battery; lead calcium grid alloy with electrolyte trapped in absorbent glass mat (AGM) separators. Completely sealed and requires no addition of water over its life expectancy. Polypropylene case and cover includes UL recognized low pressure safety release vents. No gassing will occur in normal use.

System Capacity	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
System Configuration	A	A	A	A	A	B(1)	B(1)	B(1)	B(1)	B(1)	C(1)	C(1)
Total Weight (lbs.)*	838	1,116	1,122	1,222	1,492	1,926	2,130	2,475	2,829	2,861	4,121	4,393
Seismic Kit Configuration	DSFKA1					DSFKB1 (1)		DSFKB2 (1)		DSFKB3 (1)	DSFKC1 (1)	

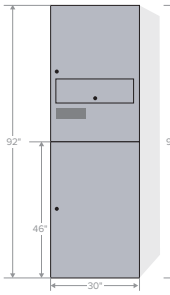
TYPE G BATTERY

Maintenance-Free VRLA Lead-Calcium — 20-Year Design Life Expectancy at 27°C (80°F)
Optional LSN system battery; plates are separated by a highly porous glass mat, which functions as the electrolyte retainer. Provides the highest possible oxygen recombination. Completely sealed and requires no addition of water over its life expectancy. ABS flame retardant case and lid.

System Capacity	1.0K	2.0K	2.7K	3.7K	4.8K	5.5K	6.6K	8.3K	10.0K	12.5K	15.0K	17.5K
System Configuration	A	A	A	A	B	B	B	B	B	D	D	D
Total Weight (lbs.)*	1,365	1,384	1,390	1,472	1,684	2,062	2,630	2,679	3,589	3,657	4,885	5,491

DIMENSIONS

Configuration"A"
Depth 18 ⅝"



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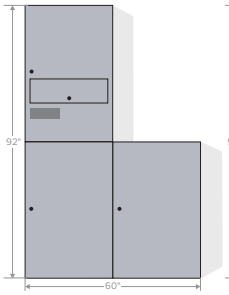
Depth 18 ⅝"



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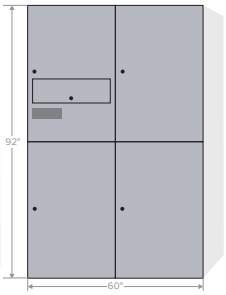
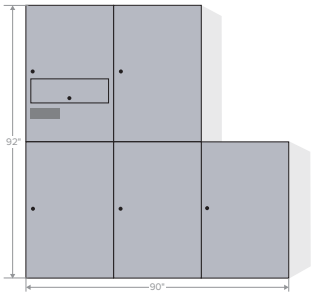
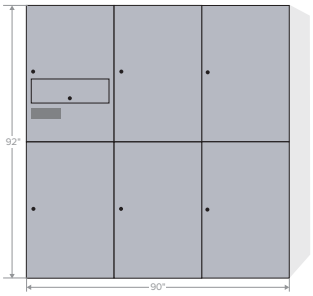


Configuration "D"
Depth 18 ⅝"



Configuration "E"
Depth 18 ⅝"



Consult factory for alternate runtimes and battery cabinet configurations.
External transformer (not illustrated) is provided for 12.5K and 15.0K configurations with 208VAC and 240VAC input.
Transformer cabinet dimensions are 18" W x 28" H x 15" D and weighs 250 lbs.

Add 12" of space to the width between cabinet stacks for seismic qualified option or DSFK seismic kits.

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22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

LEGEND

FW	FIRE WATER SUPPLY (SITE)
PW	POTABLE WATER SUPPLY
WM	WATER MAIN
FW	EXISTING FIRE WATER SUPPLY
	FIRE SPRINKLER MAIN
	FIRE RISER
FDC	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT

SYSTEM ENGINEERING SUMMARY

AREA SERVICED	30,086 SF
HYDRAULICALLY MOST REMOTE AREA	1500 SF
HAZARD CLASSIFICATION OF REMOTE AREA	LIGHT HAZARD
SYSTEM DESIGN FLOW RATE (INDOOR)	195 GPM
OUTSIDE HOSE STREAM DEMAND	100 GPM
DOMESTIC DEMAND	0 GPM
TOTAL WATER DEMAND	295 GPM
WATER PRESSURE DATA	
END HEAD PRESSURE	7.0 PSI
ELEVATION LOSS	18.62 PSI
OUTSIDE FRICTION LOSS	7.62 GPM
BACK FLOW PREVENTOR	3 PSI
SAFETY FACTOR	10 PSI
AVAILABLE INSIDE FRICTION LOSS	20 PSI

DESIGN CRITERIA

THE NEW FACILITY SHALL BE PROTECTED BY A WET PIPE SPRINKLER SYSTEM. INCLUDE A DOMESTIC WATER DEMAND OF - GPM ON THE MAIN SERVING THE SITE FIRE AND DOMESTIC WATER SYSTEMS. THE WET PIPE SYSTEM SHALL BE HYDRAULICALLY DESIGNED WITH AN OUTSIDE HOSE STREAM ALLOWANCE AS NOTED ON EACH SYSTEM ENGINEERING SUMMARY AND DENSITY VALUES AS FOLLOWS:

LIGHT HAZARD = 0.10 GPM/SF WITH A MAXIMUM OF 225 SF COVERAGE PER SPRINKLER

ORDINARY HAZARD GROUP 1 = 0.15 GPM/SF WITH A MAXIMUM OF 130 SF COVERAGE PER SPRINKLER

ORDINARY HAZARD GROUP 2 = 0.20 GPM/SF WITH A MAXIMUM OF 130 SF COVERAGE PER SPRINKLER

THE SPRINKLER DESIGN SHALL BE BASED ON THE MOST HYDRAULICALLY DEMANDING 1500 SF. THE CONTRACTOR IS ALLOWED TO REDUCE THE DESIGN AREA BASED ON THE USE OF QUICK RESPONSE SPRINKLERS AND CEILING HEIGHT IN ACCORDANCE WITH NFPA 13.

THE DESIGN OF THE SPRINKLER SYSTEM SHALL BE BASED UPON WATER SUPPLY INFORMATION OBTAINED BY THE SPRINKLER CONTRACTOR AND WITNESSED BY THE AUTHORITY HAVING JURISDICTION. WATER SUPPLY SHALL BE PRESUMED AVAILABLE AT THE POINT OF CONNECTION OF THE FIRE MAIN TO THE WATER SUPPLY SYSTEM. THE FOLLOWING FLOW TEST DATA WAS OBTAINED BY THE ENGINEER ON OCTOBER 11, 2022, PROVIDED BY SEAGO FIRE PROTECTION.

HYDRANT #1:

STATIC = 67

RESIDUAL = 51

HYDRANT #2:

FLOWING = 760

COEFFICIENT = 0.9

GENERAL NOTES

1. IT IS NOTED THAT SOME AREAS WILL BE REQUIRED TO BE PROTECTED AS ORDINARY HAZARD (MECHANICAL ROOMS, ETC.) THESE AREAS HAVE BEEN IDENTIFIED BY A DIFFERENT HATCHING PATTERN THEN THE LIGHT HAZARD AREAS ON THE PLANS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN CURRENT WATER FLOW DATA AND DESIGN SPRINKLER SYSTEMS ACCORDINGLY. SHALL OBTAIN CURRENT WATER FLOW DATA AND DESIGN MODIFICATIONS ACCORDINGLY.
3. MAINTAIN THE INTEGRITY OF ALL FIRE RATED ASSEMBLIES AND ACOUSTICAL ASSEMBLIES.
4. CONTRACTOR SHALL COORDINATE SYSTEM DESIGN WITH ALL OTHER TRADES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING INSPECTOR'S TEST LOCATIONS IN ACCORDANCE WITH NFPA 13 AND THE AUTHORITY HAVING JURISDICTION.
6. ALL PIPING SHALL OBSERVE PROPER PITCH. PROVIDE DRAINS FOR LOW POINTS.
7. THE SPRINKLER SYSTEM SHALL BE ARRANGED FOR FLUSHING. READILY REMOVABLE FITTINGS SHALL BE PROVIDED AT THE END OF ALL CROSSMAINS.
8. PIPE HANGERS SHALL BE INSTALLED AS REQUIRED BY NFPA 13 FOR SUPPORTING SPRINKLER PIPING. NO OTHER PIPING OR DEVICES SHALL BE ATTACHED TO THE SPRINKLER HANGER SYSTEM UNLESS THE HANGER HAS BEEN DESIGNED TO CARRY THE ADDITIONAL LOAD.
9. THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.
10. ALL ABOVE GROUND WET SPRINKLER PIPE THAT IS THREADED SHALL BE SCHEDULE 40 BLACK WITH BLACK CAST/MALEABLE IRON FITTINGS WITH JOINTS PER NFPA 13. TEFLON TAPE SHALL BE ADDED TO ALL MALE THREADS OF PIPE AS A JOINING COMPOUND. CPVC PIPING IS NOT ACCEPTABLE.
11. ALL ABOVE GROUND WET SYSTEM SPRINKLER PIPE THAT IS WELDED OR ROLL-GROOVED SHALL BE SCHEDULE 10 BLACK WITH BLACK CAST/MALEBLE IRON FITTINGS WITH JOINTS PER NFPA 13. CPVC PIPING IS NOT ACCEPTABLE.
12. INSTALL SPRINKLER HEADS CENTER OF TILE IN ACOUSTICAL CEILINGS. HEAD LOCATIONS SHALL BE GUIDED BY ARCHITECTURAL ELEMENTS FOR OTHER CEILING TYPES.
13. DO NOT LOCATE INSPECTORS TEST LOCATIONS OR DRAINS IN FINISHED SPACES. INDICATE ALL LOCATIONS OF EXPOSED PIPING ON SHOP DRAWINGS.
14. FLEXIBLE CONNECTIONS TO SPRINKLER HEADS ARE NOT ALLOWED.
15. PROVIDE CLASS II WET STANDPIPES WITH 1.5" HOSE STATIONS ON EACH SIDE OF THE STAGE IN ACCORDANCE WITH NFPA 14.

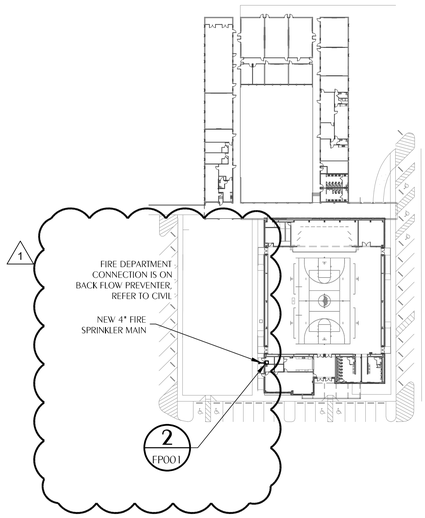
WATER BASED SPRINKLER SYSTEM REQUIREMENTS

1. THE POINT OF SERVICE AND BACKFLOW PREVENTER ARE SHOWN FOR REFERENCE ONLY. REFER TO THE CIVIL SITE UTILITY PLAN FOR FURTHER INFORMATION.
2. THE BUILDING SHALL BE FULLY SPRINKLED IN ACCORDANCE WITH THE MOST RECENT EDITION OF NFPA 13 AND LOCAL CODES.
3. REFER TO PLAN SHEETS AND HAZARD CLASSIFICATION LEGEND FOR HAZARD CLASSIFICATION OF EACH ROOM OR AREA.
4. THE NEW SYSTEMS SHALL SHALL BE HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA 13.

   LIGHT HAZARD: 0.10 GPM/SF, MAX 225 SF PER HEAD, 15 FT MAX NOMINAL SPACING, ORDINARY TEMPERATURE RATING HEADS.
   ORDINARY HAZARD GROUP 1: 0.15 GPM/SF, MAX 130 SF PER HEAD, 15 FT MAX NOMINAL SPACING, INTERMEDIATE TEMPERATURE RATING HEADS.
   ORDINARY HAZARD GROUP 2: 0.20 GPM/SF, MAX 130 SF PER HEAD, 15 FT MAX NOMINAL SPACING, INTERMEDIATE TEMPERATURE RATING HEADS.

   FOR ADDITIONAL REQUIREMENTS, REFER TO DESIGN CRITERIA NOTES ON THIS SHEET.

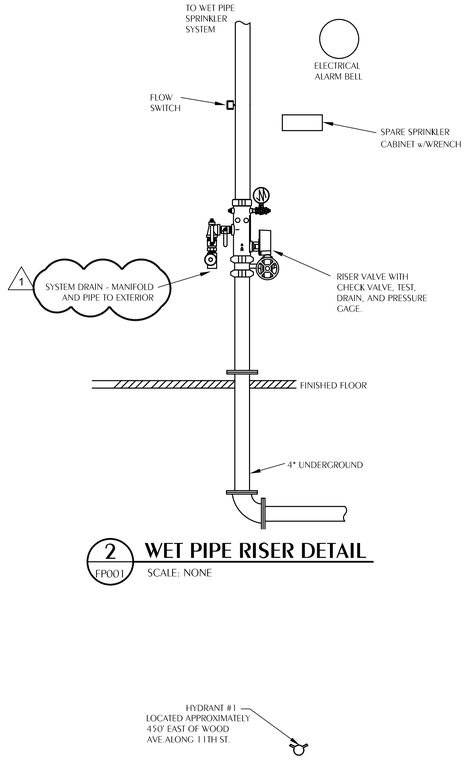
5. THE POINT OF SERVICE CONNECTION IS NOT A CIRCULATING MAIN.
6. REFER TO DESIGN CRITERIA NOTES ON THIS SHEET FOR FLOW TEST DATA.
7. REFER TO WET PIPE RISER DETAIL FOR VALVE AND SUPERVISION REQUIREMENTS.
8. MICROBIAL INDUCED CORROSION IS NOT ANTICIPATED IN THIS PROJECT.
9. REFER TO CIVIL SITE UTILITY DRAWINGS FOR BACKFLOW PREVENTER. MAXIMUM DESIGN PRESSURE DROP SHALL NOT EXCEED 3 PSI.
10. REFER TO DIVISION 21 SPECIFICATIONS FOR QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL FIRE PROTECTION COMPONENTS.
11. NO FIRE PUMP IS REQUIRED.
12. NO ON SITE FIREWATER STORAGE TANK IS REQUIRED.



WEST 11TH STREET

HYDRANT #2
LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF 11TH ST. AND BALBOA AVE.

1 FP001 FIRE PROTECTION SITE PLAN
SCALE: 1" = 60'



2 FP001 WET PIPE RISER DETAIL
SCALE: NONE

HYDRANT #1
LOCATED APPROXIMATELY 450' EAST OF WOOD AVE. ALONG 11TH ST.

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Kaitlin A. Johnson, PE
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850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: TLC

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

FIRE PROTECTION LEGEND, NOTES, AND SITE PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

FP001

22019
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01/31/2025

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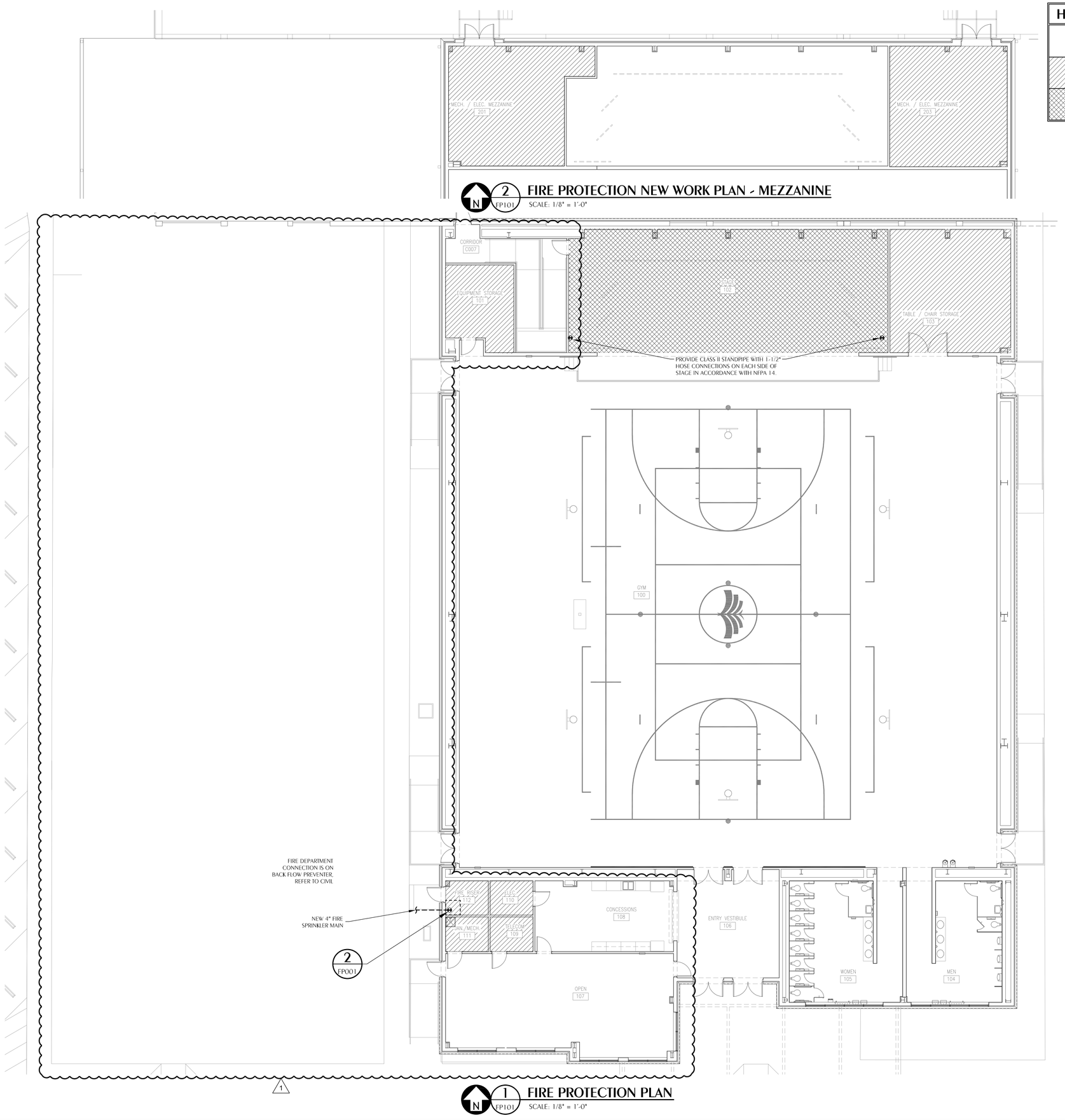
HAZARD CLASSIFICATION

	LIGHT HAZARD
	ORDINARY HAZARD GROUP 1
	ORDINARY HAZARD GROUP 2



N 2 FP101 **FIRE PROTECTION NEW WORK PLAN - MEZZANINE**
SCALE: 1/8" = 1'-0"

N 1 FP101 **FIRE PROTECTION PLAN**
SCALE: 1/8" = 1'-0"

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REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

FIRE PROTECTION PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

FP101

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
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01/31/2025

LEGEND

- AHU-1 — EQUIPMENT TAG
- 1 / M3 — DETAIL TAG ("1" INDICATES IDENTIFICATION NUMBER; "M3" INDICATES THE SHEET NUMBER DRAWN ON)
- 1 — SHEET NOTE
- SUPPLY DUCT SECTION POSITIVE PRESSURE
- RETURN OR EXHAUST DUCT NEGATIVE PRESSURE
- AxB — RECTANGULAR DUCT SIZE ("A" INDICATES SIDE SHOWN; "B" INDICATES SIDE NOT SHOWN)
- INDICATES RISE IN ELEVATION OF DUCT.
- EXTERNALLY INSULATED DUCTWORK
- DOUBLE WALL SPIRAL DUCTWORK
- INTERNALLY INSULATED DUCTWORK
- FABRIC DISPERSION DUCTWORK
- EXTERNALLY INSULATED ROUND FLEXIBLE DUCTWORK
- DUCT ELBOW WITH TURNING VANES
- RADIUSED DUCT ELBOW
- FLEXIBLE DUCT CONNECTION
- MANUAL VOLUME BALANCING DAMPER
- M — MOTORIZED DAMPER
- FD — FIRE DAMPER WITH ACCESS DOORS
- SD — SMOKE DAMPER WITH ACCESS DOORS
- BD — BACKDRAFT DAMPER
- TEE WITH TURNING VANES
- TRANSITION
- FLEX DUCT TAKE OFF WITH MVD SIZE EQUALS DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE
- LOW PROFILE RECTANGULAR TO ROUND SIDE TAKEOFF FITTING WITH MVD; CROWN MODEL 3300-DS OR EQUAL
- BRANCH DUCT TAKEOFF WITH MVD
- CO — CLEANOUT
- C — CONDENSANE DRAIN LINE
- REF = REFRIGERANT PIPE PAIR

- EXISTING DUCTWORK TO BE DEMOLISHED
- 18x16e — EXISTING DUCTWORK TO REMAIN
- SR-1 / 100 — AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM
- (2)SR-1 / 100 — AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM (2) INDICATES TYPICAL OF TWO DEVICES

TYP	TYPICAL
TEMP	TEMPERATURE
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
MA	MIXED AIR
OA	OUTDOOR AIR
TA	TRANSFER AIR
EF	EXHAUST FAN
CD	CEILING DIFFUSER
RG	RETURN GRILLE
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
CEF	CEILING MOUNTED EXHAUST FAN
AHU	INDOOR AIR HANDLING UNIT
HP	OUTDOOR HEAT PUMP UNIT
OAU	OUTSIDE AIR PRECONDITIONING UNIT
CU	OUTDOOR CONDENSING UNIT-COOLING ONLY
T1	THERMOSTAT AND HUMIDISTAT, "1" INDICATES UNIT CONTROLLED
C	CO2 MONITORING STATION
S	DUCT MOUNTED SMOKE DETECTOR
FD	FLOOR DRAIN
UC	UNDERCUT DOOR ¾"
DG	DOOR GRILLE, REFER TO DOOR SCHEDULE
FD DG	22x22 FIRE RATED DOOR GRILLE WITH AUXILIARY FRAME
AFF	ABOVE FINISHED FLOOR
FD	FIRE DAMPER AT CEILING DIFFUSER OR GRILLE.
XFR	TRANSFER AIR
RLF	PRESSURE RELIEF
	TYPICAL 4 WAY THROW CEILING DIFFUSER
	CEILING DIFFUSER WITH THROW INDICATED
VRF	VARIABLE REFRIGERANT FLOW
E OR (E)	EXISTING
CC	DUCTLESS FCU-CEILING MOUNTED CASSETTE
CAH	DUCTED FCU-CONCEALED AIR HANDLING UNIT
WM	DUCTLESS FCU-WALL MOUNTED UNIT
DP	DEW POINT
	POINT OF CONNECTION TO EXISTING

GENERAL NOTES

1. ALL DUCT DIMENSIONS ARE NET INSIDE.
2. VERIFY COLLAR SIZES ON ALL AIR TERMINALS, EQUIPMENT OUTLETS AND INLETS, TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE TRANSITIONS AT EQUIPMENT CONNECTIONS.
3. FIELD VERIFY CLEAR SPACE AVAILABLE, ROUTING PATH, AND CONFLICTS WITH STRUCTURE AND THE WORK OF OTHER TRADES PRIOR TO FABRICATING DUCTWORK. PROVIDE OFFSETS IN DUCTWORK AS REQUIRED, WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT. SUBMIT SHOP DRAWINGS ON DUCTWORK LAYOUT PRIOR TO COMMENCING WORK. MAINTAIN CLEARANCE AROUND ALL LIGHT FIXTURES AS REQUIRED TO REMOVE AND SERVICE FIXTURES. COORDINATE WITH ROOF TRUSSES/STRUCTURE. PRESSURE TEST ALL DUCTWORK FOR LEAKS.
4. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, PIPING, AND DUCTWORK SUCH THAT MANUFACTURERS' RECOMMENDED CLEARANCES ARE MET FOR ALL ACCESS PANELS, MOTORS, FANS, BELTS, FILTERS AND AIR INTAKES. CONDENSATE LINES SHALL BE CLEAR OF FILTER RACK ACCESS.
5. PROVIDE DUCT FLEX CONNECTIONS & VIBRATION ISOLATION FOR ALL UNITS NOT INTERNALLY ISOLATED.
6. ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR INTAKE DUCTWORK SHALL BE GALVANIZED SHEET METAL UNLESS OTHERWISE NOTED.
7. ALL AHU FILTERS SHALL BE OF A READILY AVAILABLE SIZE, OF DISPOSABLE TYPE, AND BE ACCESSIBLE WITHOUT THE USE OF SCREWS OR OTHER MECHANICAL DEVICES REQUIRING TOOLS.
8. PROVIDE ACCESS PANELS IN CEILINGS AS REQUIRED FOR MAINTENANCE AND ADJUSTMENT OF EQUIPMENT LOCATED ABOVE CEILING.
9. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION OF ALL EQUIPMENT AND UTILITIES.
10. ALL WORK SHALL COMPLY WITH THE EIGHTH EDITION (2023) FLORIDA BUILDING CODE.
11. COORDINATE LOCATION OF ALL CEILING MOUNTED EQUIPMENT WITH ARCHITECTS REFLECTED CEILING PLAN.
12. SLOPE ALL CONDENSATE DRAIN PIPING AT 1/8" PER FOOT.

DUCTWORK NOTES

1. ALL ROUND FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 8M ACOUSTICAL FLEX OR ENGINEER APPROVED EQUAL. MAXIMUM LENGTH OF ANY FLEXIBLE DUCT RUNOUT SHALL BE 5'-0". WHERE LENGTH REQUIRED EXCEEDS 5'-0", INSTALL EXTERNALLY INSULATED ROUND SNAPLOCK DUCT FOR BALANCE OF DISTANCE TO SPIN-IN TAP AT MAIN DUCT TRUNK.
2. SEAL ALL DUCT PENETRATIONS OF WALLS AIRTIGHT, REGARDLESS OF WHETHER WALLS ARE FIRE RATED OR NOT.
3. ALL SUPPLY AIR DUCTWORK FROM AHU'S (EXCEPT TAKEOFFS TO SUPPLY AIR DIFFUSERS) SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
4. ALL RETURN AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
5. ALL OUTSIDE AIR INTAKE DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
6. STANDARD EXHAUST AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1/2" W.G., SEAL CLASS A.
7. WHEN ROUTING DUCTWORK OVER LIGHTS, PROVIDE A MINIMUM 6" CLEARANCE BETWEEN DUCT AND LIGHTS.
8. EXTERNALLY INSULATE DUCTWORK WITH 2" THICK FLEXIBLE FIBERGLASS INSULATION.

VENTILATION SCHEDULE

SPACE TYPE	VENTILATION CFM/S.F.	VENTILATION CFM/PERSON
CLASSROOM	0.12	10
CORRIDOR	0.06	0
STORAGE	0.06	0
OFFICE	0.06	5
BREAK	0.18	7.5
CAFETERIA	0.18	7.5
MULTIPURPOSE ASSEMBLY	0.06	7.5
DRESSING ROOM	0.25	0
RESTROOM-INTERMITTENT	0	70/FIXTURE
RESTROOM-CONTINUOUS	0	50/FIXTURE
SHOWER-CONTINUOUS	0	20/FIXTURE
JANITORS CLOSETS	1	0

NOTE:
VENTILATION RATES IN COMPLIANCE WITH ASHRAE STANDARD 62.1-2019.

LOUVER SCHEDULE

MARK	AIRFLOW CFM (MAX)	LOUVER SIZE (WxH) INCHES	FREE AREA FT² (MIN)
LVR-1 / CFM	320	24x12	0.6
LVR-2 / CFM	180	20x12	0.4
LVR-3 / CFM	395	36x12	0.9
LVR-4 / CFM	140	16x12	0.3
LVR-5 / CFM	700	36x18	1.8

1. PROVIDE GREENHECK MODEL 'EHV-901D' (OR EQUAL) EXTRUDED ALUMINUM, WIND-DRIVEN RAIN RESISTANT, STATIONARY LOUVER WITH BIRDSCREEN.
2. FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

FAN SCHEDULE

UNIT	TYPE	CFM	MAX. FAN RPM	ESP (IN. H20)	MAX. MOTOR POWER	SONES/db (MAX.)	BASIS OF DESIGN	MODEL	CONTROL	ELECTRICAL VOLTS/PHASE	NOTES
							NOT USED				1
EF-2	CEF	70	799	0.20	10 W	0.3	GREENHECK	SP-A110	INTERLOCK WITH LIGHTS	115/1	1,2,3,4,5,6,7
							NOT USED				1
EF-4	INLINE	700	801	0.25	318 W	0.3	GREENHECK	CSP-A900	INTERLOCK WITH AHU-8 OA DAMPER	115/1	1,2,3,4,5,7

1. PROVIDE DISCONNECT
2. PROVIDE SOLID STATE SPEED CONTROLLER.
3. PROVIDE BACK DRAFT DAMPER
4. PROVIDE THERMAL OVERLOAD
5. PROVIDE DIRECT DRIVE FAN
6. PROVIDE WHITE FINISH ALUMINUM GRILLE
7. PROVIDE VIBRATION ISOLATION HANGERS.

MINI SPLIT SYSTEM CONDENSING UNIT SCHEDULE

UNIT MHP	BASIS OF DESIGN	MODEL	NOMINAL COOL CAPACITY (BTUH)	DESIGN COOLING OUTDOOR TEMP DB	SEER2	NOMINAL HEAT CAPACITY (BTUH)	DESIGN HEATING OUTDOOR TEMP DB	HSPF	VOLTS/PHASE	MCA (AMPS)	MOP (AMPS)	NOTES
1	MITSUBISHI	PUY-A18NKA7	18000	95.0	19.8	NA	25.0	NA	208/1	11.0	28.0	1,2,3,4

1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°(WB)
3. EFFICIENCY VALUES FOR EER, IEER, AND COP ARE BASED ON AHRI 1230 TEST METHOD FOR MIXTURE OF DUCTED AND NON-DUCTED INDOOR UNITS.
4. PROVIDE UNITS WITH EPA APPROVED REFRIGERANT. PROVIDE INSTALLED REFRIGERANT MONITORING SYSTEM

MINI SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

UNIT	BASIS OF DESIGN	MODEL	TYPE	NOMINAL COOL CAPACITY (BTUH)	DESIGN COOLING EAT °F DB/WB	DESIGN COOLING CAPACITY (BTUH) COOLING TOTAL	DESIGN COOLING CAPACITY (BTUH) COOLING SENSIBLE	NOMINAL HEAT CAPACITY (BTUH)	DESIGN HEATING TOTAL CAPACITY (BTUH)	DESIGN HEATING EAT °F DB	AIRFLOW (CFM)	VOLTS/PHASE	MCA (AMPS)	MOP (AMPS)	NOTES
WM-1.1	MITSUBISHI	PKA-A18LA	WALL MOUNT	18000	18000	18000	18000	NA	NA	NA	310	FED FROM MHP	NA	NA	1,2,3,4,6,7,8

1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°(WB)
3. DESIGN COOLING CONDITIONS ARE AT 95°F AMBIENT; DESIGN HEATING CONDITIONS ARE AT 26°F AMBIENT
4. DESIGN CAPACITY IS NET CAPACITY FOR INSTALLATION ACCOUNTING FOR 150 FT PIPE RUN LENGTHS, ETC.
5. DESIGN CAPACITY IS NET CAPACITY FOR INSTALLATION ACCOUNTING FOR 65 FT PIPE RUN LENGTHS, ETC.
6. CALCULATE REFRIGERANT LINE SIZES BASED UPON FINAL FIELD PIPING LAYOUT.
7. EXPOSED (INDOOR OR OUTDOOR) REF PIPING SHALL BE HARD DRAWN COPPER.
8. PROVIDE HARD WIRED REMOTE THERMOSTAT.

100% OUTSIDE AIR UNIT SCHEDULE

UNIT OAU	BASIS OF DESIGN	OAU MODEL	CONFIGURATION	OA (CFM)	WEIGHT (LBS)	ESP (IN. WC)	FAN POWER (HP)	COOLING EAT° (DB/WB)	COOLING LAT° (DP)	COOLING TOTAL (BTUH)	COOLING SENSIBLE (BTUH)	ISMRE2 ASHRAE 90.1 MIN EFFICENCY	ISMRE2 CALCULATED EFFICENCY	HEATING EAT (DB)	HEATING LAT° (F)	HEATING KW	OAU ELECTRICAL VOLTS/PHASE	OAU ELECTRICAL MCA	OAU ELECTRICAL MOP	NOTES
1	GREENHECK	RV-45-30L-1-F2	PACKAGED	3500	3251	1	2	83.9/80.5	52.5/51.9	345500	113100	3.8	7.1	25.4	69.8	49.2	208/3	179.2	200	1,2,3,4,5,6

1. DIRECT DRIVE FAN WITH ECM MOTOR
2. REFER TO CONDENSING UNIT SCHEDULE FOR EFFICIENCIES
3. ESP DOES NOT INCLUDE FILTER, CASING, ETC.
4. PROVIDE 100% OUTSIDE AIR DEHUMIDIFICATION UNIT WITH HOT GAS REHEAT.
5. PROVIDE MOTORIZED OA DAMPER
6. PROVIDE COATED INDOOR COILS, NON FUSED DISCONNECT, PHASE FAILURE MONITOR, DIRTY FILTER SWITCH, OUTSIDE AIR TEMPERATURE SENSOR, DISCHARGE AIR TEMPERATURE SENSOR AND LEAVING COIL TEMPERATURE SENSOR.

AIR DEVICE SCHEDULE

MARK	MAX AIRFLOW CFM	AIR DEVICE SIZE	DUCT CONNECTION SIZE	TITUS MODEL
CD-1 / CFM	80	9x9	6Ø	TDC
CD-2 / CFM	245	12x12	8Ø	TDC
CD-3 / CFM	350	12x12	10Ø	TDC
CD-4 / CFM	210	18-1/4Ø	10Ø	TMR
RG,EG,SG,IG,RR,ER				
xx-1 / CFM	450	12x12	12x12	350FL
xx-2 / CFM	1705	22x22	22x22	350FL
xx-3 / CFM	220	8x8	8x8	33RL
xx-4 / CFM	1255	22x22	22x22	33RL
xx-5 / CFM	3470	48x36	48x36	33RL

NOTES:
1. MAX NC=20
2. PROVIDE 2x2 LAY IN PANEL FOR AIR DEVICES IN LAY IN CEILINGS.
3. PROVIDE BEVELED MOUNTING FRAME FOR CEILING DIFFUSERS IN HARD CEILINGS.
4. PROVIDE FLAT MOUNTING FRAME FOR GRILLES LOCATED IN HARD CEILINGS.

AIR PURIFICATION EQUIPMENT SCHEDULE

ZONE AHU	SUPPLY CFM	OA CFM	PRESS. IN. W.C.	BASIS OF DESIGN	MODEL	QUANTITY	ELECTRICAL VOLTS/PHASE	ELECTRICAL WATTS	NOTES
-	-	-	-	-	NOT USED	-	-	-	1
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
8	2020	200	<0.01	GPS	DM-2	1	24 VAC	11	1,2,3,4
9	1310	1750	-	GPS	GPS-DM48-AC	2	24VAC	12	1,2,3,4
-	-	-	-	-	NOT USED	-	-	-	1
11	2535	1750	-	GPS	GPS-DM48-AC	2	24VAC	12	1,2,3,4
12	1540	145	<0.01	GPS	DM-2	1	24 VAC	11	1,2,3,4

1. GPS = GLOBAL PLASMA SOLUTIONS.
2. PROVIDE BASIS OF DESIGN OR APPROVED EQUAL.
3. BI-POLAR IONIZATION SYSTEMS REQUIRING PERISHABLE GLASS TUBES ARE NOT ACCEPTABLE.
4. MANUFACTURER MUST PASS UL-867-2007 OZONE CHAMBER TESTING BY EITHER UL OR ETL

SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT	SA (CFM)	OA (CFM)	ESP (IN.H20)	FAN (HP)	COOLING MAT °F (DB/WB)	COOLING OAT °F (DB/WB)	COOLING TOTAL (BTUH)	COOLING SENSIBLE (BTUH)	COOLING SEER2	HEATING MAT °F (DB)	HEATING OAT °F (DB)	HEATING TOTAL (BTUH)	HEATING HSPF2	SUPPL HEAT	AHU ELECTRICAL VOLTS/PHASE	AHU ELECTRICAL MCA	AHU ELECTRICAL MOP	HP ELECTRICAL VOLTS/PHASE	HP ELECTRICAL MCA	HP ELECTRICAL MOP	NOTES
								NOT USED													1
								NOT USED													
								NOT USED													
								NOT USED													
								NOT USED													
								NOT USED													
								NOT USED													
8	2020	200	0.75	1.00	74.5/63.0	95.0/78.0	52100	39300	14.3	65.7	25.0	38800	7.5	5.9KW	208/1	32	35	208/3	23	35	1,2,3,4,5,8,10,11
9	1310	1750	0.50	1.50	71.9/62.2	95.0/78.0	158000	129100	10.6 EER	70.1	25.0	30000	3.3 COP	10.2KW	208/3	82	90	208/3	39	60	1,2,3,4,7,6,7,8,9,10,11,12
								NOT USED													1
11	2535	1750	0.50	2.40	71.8/62.1	95.0/78.0	162100	137800	10.6 EER	69.8	25.0	34500	3.3 COP	13.2KW	208/3	82	90	208/3	58	60	1,2,3,4,5,6,7,8,9,10,11,12
12	1540	145	0.50	1.00	74.7/63.4	95.0/78.0	42900	31300	15.2	65.8	25.0	32200	7.5	6.2KW	208/1	30	30	208/3	18	30	1,2,3,4,5,8,10,11

1. PROVIDE 2 " MERV 13 FILTERS.
2. EFFICIENCIES IN ACCORDANCE WITH ARI STANDARD 210/240.
3. ESP DOES NOT INCLUDE FILTER, CASING, ETC.
4. PROVIDE CONTROL KIT TO INCLUDE BLOWER CONTACTOR OR STARTER, TRANSFORMER, ELECTRIC HEATER INTLERLOCKS. ELECTRICAL SERVICE SHALL BE A SINGLE POINT OF CONNECTION.
5. PROVIDE THERMAL EXPANSION VALVES.
6. BELT DRIVE AHU FAN.
7. PRETREATED OUTSIDE AIR.
8. COOLING CAPACITY IS NET AND DOES NOT INCLUDE FAN HEAT.
9. PROVIDE TWO STAGE COMPRESSORS.
10. PROVIDE SEACOAST COATING ON CONDENSER COILS.
11. PROVIDE UNITS WITH EPA APPROVED REFRIGERANT. PROVIDE FACTORY INSTALLED REFRIGERANT MONITORING SYSTEM.
12. PROVIDE TWO 7.5 TON HEAT PUMPS. HP ELECTRICAL DATA IS FOR A SINGLE UNIT.

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

HVAC LEGEND, SCHEDULES, AND NOTES

PROJECT NUMBER	22019
DATED	01/31/2025

M001

WATFORD ENGINEERING
4402 Clinton Street Marianna, Florida 32446
Florida CA Number: 27525
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By:KAJ
Drawn By:BBS

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

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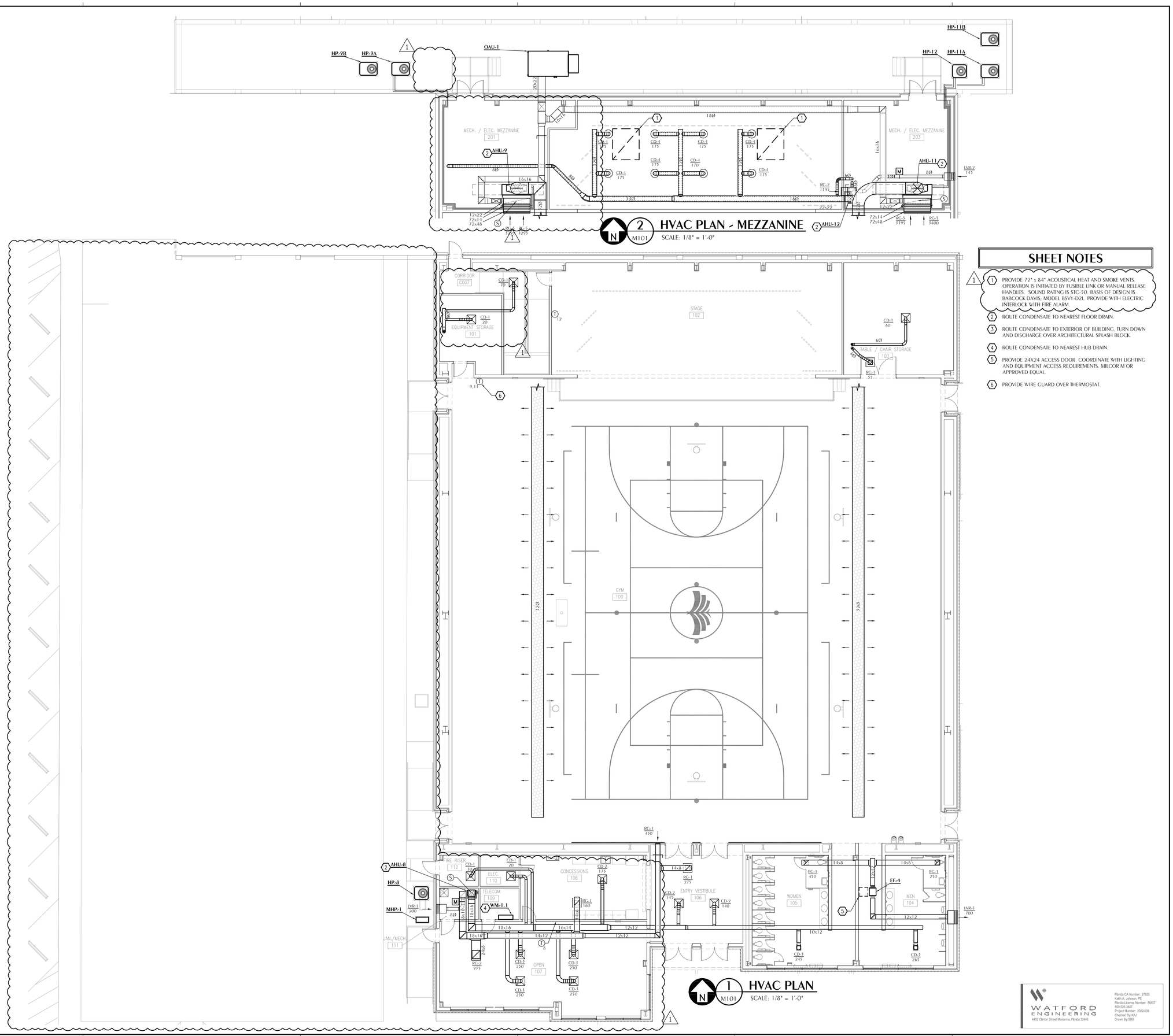

SHEET NOTES

1. PROVIDE 72" x 84" ACOUSTICAL HEAT AND SMOKE VENTS. OPERATION IS INITIATED BY FUSIBLE LINK OR MANUAL RELEASE HANDLES. SOUND RATING IS STC-50. BASIS OF DESIGN IS BABCOCK DAVIS, MODEL BSVV-D2L. PROVIDE WITH ELECTRIC INTERLOCK WITH FIRE ALARM.
2. ROUTE CONDENSATE TO NEAREST FLOOR DRAIN.
3. ROUTE CONDENSATE TO EXTERIOR OF BUILDING. TURN DOWN AND DISCHARGE OVER ARCHITECTURAL SPLASH BLOCK.
4. ROUTE CONDENSATE TO NEAREST HUB DRAIN.
5. PROVIDE 24X24 ACCESS DOOR. COORDINATE WITH LIGHTING AND EQUIPMENT ACCESS REQUIREMENTS. MILCOR M OR APPROVED EQUAL.
6. PROVIDE WIRE GUARD OVER THERMOSTAT.

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

HVAC PLAN

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27925
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By:KAJ
Drawn By:SBS

PROJECT NUMBER 22019
DATED 01/31/2025

M101

LEGEND

	S OR W	SOIL OR WASTE PIPING
	V	VENT PIPING
	CW	COLD WATER SUPPLY PIPING
	HW	HOT WATER SUPPLY PIPING
	HWR	HOT WATER RETURN PIPING
GAS GAS	G	GAS PIPING
	GV	GATE VALVE
	CV	CHECK VALVE
	BV	BALL VALVE
	HB	HOSE BIBB
	WH	WALL HYDRANT
	CO	CLEANOUT TO FLOOR
	FD	FLOOR DRAIN
	COTS	CLEANOUT TO GRADE
		UNION
	VTR	VENT THRU ROOF
1		SHEET NOTE
		POINT OF CONNECTION TO EXISTING
S		SOLENOID VALVE
	MR	MOP RECEPTOR
	WC	WATER CLOSET
	TP	TRAP PRIMER
	EWH	ELECTRIC WATER HEATER
	WHA	WATER HAMMER ARRESTOR TYPE A
	WHB	WATER HAMMER ARRESTOR TYPE B
	WHC	WATER HAMMER ARRESTOR TYPE C
	L	LAVATORY
	UR	URINAL
	KW	KILOWATT
	TVC	TEMPERATURE CONTROL VALVE
	MS	MASTER SHUT OFF VALVE
	S	SWITCH
	WV	WET VENT
	CP	CIRCULATOR PUMP
	HD	2" HUB DRAIN WITH FLEXIBLE TRAP SEAL BY MIFAB OR EQUAL ABOVE CEILING UNLESS NOTED
	MV	MIXING VALVE
	EWC	ELECTRIC WATER COOLER
	UB	UTILITY BOX
	SH	SHOWER
	SK	SINK

GENERAL NOTES

1. COORDINATE ALL PIPING WITH DUCTWORK SHOP DRAWINGS AND EXISTING CONDITIONS. ROUTE PIPING AS REQUIRED TO AVOID CONFLICTS.
2. PRIOR TO START OF ANY WORK, COORDINATE SANITARY SEWER AND POTABLE WATER PIPING WITH CIVIL DRAWINGS.
3. FIELD VERIFY PIPE INVERTS PRIOR TO LAYING OUT SANITARY SEWER PIPING.
4. ALL PIPING PASSING THROUGH ANY WALL SHALL HAVE A SLEEVE PER SPECIFICATIONS.
5. ALL PIPING PASSING THROUGH FIRE-RATED WALLS SHALL HAVE A FIRE-RATED SLEEVE PER SPECIFICATIONS. ALL PIPING PENETRATIONS THROUGH WALLS OR FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE WALLS OR FLOORS.
6. ALL PIPING INDICATED IS ABOVE THE CEILING EXCEPT THE OBVIOUS SANITARY SOIL, WASTE, VENT AND POTABLE WATER PIPING BELOW FLOOR OR GRADE.
7. SEE TOILET ROOM ELEVATIONS ON ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHT.
8. COORDINATE EXACT LOCATION OF ALL EXTERIOR WALL HYDRANTS WITH ARCHITECTURAL DRAWINGS.
9. UNDER SLAB SOIL, WASTE AND VENT PIPING PASSING TO UNDERSIDE OR THROUGH FOUNDATION FOOTING, WALL OR GRADE BEAM SHALL BE PROVIDED WITH A RELIEVING ARCH OR PIPE SLEEVE 2 (TWO) PIPE SIZES GREATER THAN PIPE SIZE INDICATED ON PLANS. COORDINATE FINAL PIPE ROUTING AND LAYOUT WITH STRUCTURAL DRAWINGS.
10. PRIOR TO SUBSTANTIAL COMPLETION OF NEW AND ALTERED WORK AREAS, CONTRACTOR SHALL HAVE SANITARY PLUMBING SYSTEM CLEARED OF DEBRIS OR ANY MATTER THAT WOULD INTERFERE OR PREVENT ADEQUATE CONVEYANCE OF MATERIALS FROM MOVING THROUGH AND TERMINATING INTO BUILDING OR PUBLIC DISPOSAL FACILITIES.
11. ALL (VTR'S) VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
12. ALL TRAP PRIMERS AND DOMESTIC WATER ISOLATION VALVES SHALL BE ACCESSIBLE. TRAP PRIMERS LOCATED IN THE VICINITY OF WATER CLOSETS SHALL BE ACTIVATED BY WATER CLOSET USAGE. ISOLATION VALVES SHALL BE OF THE QUARTER TURN BALL OR GATE TYPE.
13. CONTRACTOR SHALL DEVELOP AND SUBMIT COORDINATION SHOP DRAWINGS WHICH IDENTIFY ROUTING OF PLUMBING PIPE AND LOCATION OF EQUIPMENT. SHOP DRAWINGS SHALL INDICATE COORDINATION WITH THE WORK OF OTHER TRADES.
14. ALL WORK SHALL COMPLY WITH THE FLORIDA BUILDING CODE 8TH EDITION (2023) PLUMBING.

PLUMBING SPECIFICATIONS

WC-1 WATER CLOSET, FLOOR-MOUNT (ADULT HANDICAP, MANUAL VALVE):

VITREOUS CHINA, 1.28 GALLONS PER FLUSH, ELONGATED, HIGH EFFICIENCY SIPHON JET, WHITE, WATER SAVER BOWL WITH 1-1/2" TOP SPUD, 17" HIGH FOR HANDICAPPED. EXPOSED CHROME PLATE FLUSH VALVE, WITH SCREWDRIVER STOP, VACUUM BREAKER, QUIET FLUSH FEATURE, WITH SWEAT SOLDER KIT AND CAST WALL FLANGE. HEAVY MOLDED PLASTIC, WHITE, ELONGATED, OPEN FRONT SEAT LESS COVER, WITH STAINLESS STEEL, SELF-SUSTAINING CHECK HINGES. HOLD CENTERLINE FLUSH VALVE ASSEMBLY OFF FINISH WALL FOR GRAB BAR CLEARANCES, COORDINATE WITH ARCHITECTURAL DRAWINGS.

WATER CLOSET	ZURN Z5665BWL
VALVE	ZURN Z6000PL-HET
SEAT	ZURN Z5955SS-EL-STS
CLOSET BOLT/WAX RING KIT	ZURN Z5972-COMB

WC-2 WATER CLOSET, FLOOR-MOUNT (ADULT STANDARD/CHILD ADA, MANUAL VALVE):

VITREOUS CHINA, 1.28 GALLONS PER FLUSH, ELONGATED, HIGH EFFICIENCY SIPHON JET, WHITE, WATER SAVER BOWL WITH 1-1/2" TOP SPUD. 15" HIGH FOR HANDICAPPED CHILDREN AGES 5 THROUGH 8. EXPOSED CHROME PLATE FLUSH VALVE, WITH SCREWDRIVER STOP, VACUUM BREAKER, QUIET FLUSH FEATURE, WITH SWEAT SOLDER KIT AND CAST WALL FLANGE. HEAVY MOLDED PLASTIC, WHITE, ELONGATED, OPEN FRONT SEAT LESS COVER, WITH STAINLESS STEEL, SELF-SUSTAINING CHECK HINGES.

WATER CLOSET	ZURN Z5454-BWL
VALVE	ZURN Z6000PL-HET
SEAT	ZURN Z5955SS-JUV-STS
CLOSET BOLT/WAX RING KIT	ZURNZ5972-COMB

UR-1 URINAL, WALL-MOUNT (HANDICAP, MANUAL VALVE):

VITREOUS CHINA, 0.5 GALLONS PER FLUSH, SIPHON JET FLUSH, 3/4" TOP SPUD, AND 2" OUTLET URINAL. EXPOSED CHROME PLATED FLUSH VALVE WITH SCREWDRIVER STOP, VACUUM BREAKER AND QUIET FLUSH FEATURE. MOUNT TO SATISFY ADA REQUIREMENTS, COORDINATE WITH ARCHITECTURAL DRAWINGS (TOILET ROOM ELEVATIONS) FOR FINAL MOUNTING HEIGHT. FURNISH FLOOR MOUNTED SINGLE CARRIER WITH HANGER PLATE, BEARING PLATE, ADJUSTABLE SUPPORTING RODS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325.

URINAL	ZURN Z5738-U
VALVE	ZURN Z6003AV
URINAL FLANGE KIT	ZURN Z5976-URINAL
CARRIER	ZURN Z-1222
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375

UR-2 URINAL, WALL-MOUNT (STANDARD, MANUAL VALVE):

VITREOUS CHINA, 0.5 GALLONS PER FLUSH, SIPHON JET FLUSH, 3/4" TOP SPUD, AND 2" OUTLET URINAL. EXPOSED CHROME PLATED FLUSH VALVE WITH SCREWDRIVER STOP, VACUUM BREAKER AND QUIET FLUSH FEATURE. SEE ARCHITECTURAL DRAWINGS (TOILET ROOM ELEVATIONS) FOR MOUNTING HEIGHT. FURNISH FLOOR MOUNTED SINGLE CARRIER WITH HANGER PLATE, BEARING PLATE, ADJUSTABLE SUPPORTING RODS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325.

URINAL	ZURN Z5738-U
VALVE	ZURN Z6003AV-EWS
URINAL FLANGE KIT	ZURN Z5976-URINAL
CARRIER	ZURN Z-1222
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375

1

L-1 LAVATORY, WALL-MOUNT HANDICAP):

VITREOUS CHINA 20" X 18", COLOR "WHITE", 3 FAUCET HOLES ON 8" CENTER, FRONT OVERFLOW, FOR CONCEALED ARM SUPPORT. FURNISH FLOOR-MOUNTED SINGLE CARRIER WITH CONCEALED ARMS, LEVELING AND SECURING SCREWS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325. PROVIDE CHROME PLATED ANGLE STOP TO WALL WITH CHROME PLATED 1/2" IPS X 3/8" OD FLEXIBLE COPPER SUPPLY RISERS AND LOOSE KEY OPERATOR, INTEGRAL PERFORATED CAST BRASS STRAINER WITH 1-1/4" OFFSET TAILPIECE AND P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL, WITH WATER SAVER TRAP PRIMER AND STAINLESS-STEEL PRIMER HOSE. POLISHED CHROME PLATED CAST BRASS SINGLE WATER METERING FAUCET WITH COVER PLATE, 0.5 GPM AERATOR OUTLET AND PUSH BUTTON. LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE INSULATED WITH FULLY MOLDED INSULATION KIT, AND LIGHT GRAY COLOR WITH 3-PIECE INTERLOCKING TRAP ASSEMBLY AND 2-PIECE INTERLOCKING ANGLE VALVE ASSEMBLY. FASTENERS SHALL BE NYLON-TYPE SUPPLIED WITH KIT. LAVATORY SHALL BE MOUNTED WITH A CLEARANCE OF AT LEAST 28" FROM FLOOR TO BOTTOM OF THE APRON. KNEE AND TOE CLEARANCES SHALL BE AS FOLLOWS: 27" CLEAR HEIGHT SHALL BE PROVIDED FROM FINISHED FLOOR TO A POINT ON UNDERSIDE OF BOWL 8" IN FROM FRONT APRON. TOE CLEARANCE SHALL BE A MINIMUM HEIGHT OF 9" UNDER P-TRAP AND SUPPLIES OR STOPS. SEE ARCHITECTURAL DRAWINGS FOR FINAL MOUNTING HEIGHT.

LAVATORY	ZURN Z5348
FAUCET	ZURN Z-86500-3M
SUPPLY W/STOP	ZURN Z-8802LRUK-PC
P-TRAP	ZURN Z1021
STRAINER/TAILPIECE	ZURN Z-8746
INSULATION KIT	ZURN Z8946-3-NT
AERATOR	ZURN -3M
CARRIER	ZURN Z-1231
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375
MIXING VALVE	MV-1

L-2 LAVATORY, COUNTERTOP-MOUNT (HANDICAP):

VITREOUS CHINA 20" X 17", OVAL, COLOR "WHITE", CENTER HOLE SETTING, FRONT OVERFLOW. . PROVIDE CHROME PLATED 1/2" IPS X 3/8"OD, LOOSE KEY OPERATED, ANGLE STOP TO WALL WITH CHROME PLATED 3/8" FLEXIBLE COPPER RISERS, INTEGRAL PERFORATED CAST BRASS STRAINER WITH ELBOW AND 1-1/4" OFFSET TAILPIECE, CHROME PLATED 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL. POLISHED CHROME PLATED CAST BRASS SINGLE WATER METERING FAUCET WITH COVER PLATE, 0.5 GPM AERATOR OUTLET AND PUSH BUTTON.

1

LAVATORY	ZURN Z5111
FAUCET	ZURN Z-86500-3M
SUPPLY W/STOP	ZURN Z8802LRUK-PC
P-TRAP	ZURN Z8700-PC
STRAINER/TAILPIECE	ZURN Z8746
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375
MIXING VALVE	MV-1

SK-1 DOUBLE COMPARTMENT STAINLESS STEEL SINK (MATERIAL STORAGE):

29" X 22" X 8" DEEP (BOWL IS 11-1/2X16X6-3/8), TYPE 304, 18 GAUGE, 8" CENTERS, SELF RIMMING SINGLE COMPARTMENT, (18-8) NICKEL BEARING STAINLESS STEEL, BACK LEDGE SINK WITH SATIN FINISH AND SOUND DEADENING MATERIALS ON SIDE AND BOTTOM OF SINK. PROVIDE POLISHED CHROME PLATED TOP MOUNT SWING GOOSENECK SPOUT AND VACUUM BREAKER, STRAIGHT LEVER HANDLES, PRESSURE COMPENSATING AERATOR, STRAINER WITH REMOVABLE CRUMB CUP AND STOPPER, CHROME PLATED 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL . CHROME PLATED LOOSE KEY ANGLE STOP TO WALL WITH 3/8" CHROME PLATED FLEXIBLE HOT AND COLD WATER SUPPLIES. COORDINATE WITH CABINET SHOP DRAWINGS, BASE CABINET MUST BE A TRUE MINIMUM 24" DEEP BACK TO FRONT IN ORDER FOR SINK TO DROP INTO COUNTERTOP OPENING. SINK DRILLINGS SHALL ACCOMMODATE FITTING INSTALLATION, ONLY, NO OTHER CAPPED OPENINGS WILL BE ALLOWED.

SINK	ELKAY LRAD292265PD-3
FAUCET	ZURN Z-871 B1
STRAINER	ELKAY LK-35
SUPPLIES	ZURN Z-8800-LR-LK
P-TRAP	ZURN Z8700-PC
MIXING VALVE	MV-1

MV-1 WATER MIXING VALVE (THERMOSTATIC MIXING):

UNDER SINK 3/8" COMPRESSION FITTING MIXING VALVE, BRASS BODY, LEAD FREE, LIMITS HOT WATER BETWEEN 80°F & 120°F, DUAL CHECK VALVES, 0.25GPM MIN. FLOW, 40 MESH STAINLESS STEEL STRAINER, TAMPER RESISTANT LOCKING CAP. MEETS ASSE 1070 STANDARDS.

EXPOSED MIXING VALVE	WATTS LFUSG-B

UB-1 ICE MAKER HOOK-UP (REFRIGERATOR SPACE):

RECESSED METAL WALL BOX CONSTRUCTED AND SUITABLE FOR FIRE RATED PARTITIONS, COMPLETE WITH FACTORY INSTALLED SHANK VALVE WITH 1/4" O.D. COPPER OUTLET TESTED @ 100 P.S.I. PROVIDE APPROXIMATELY 5'-0" OF 1/4" O.D. SOFT COPPER TUBING WITH COMPRESSION FITTING IN TIGHT COIL. ANCHOR BOX TO WALL STRUCTURE. VERIFY LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS OR MOUNT TO MANUFACTURERS RECOMMENDATIONS.

WALL BOX	GUY GRAY BIM 875

CP-1 CIRCULATOR PUMP (INLINE TYPE):

INFINITELY VARIABLE CIRCULATOR MADE OF COMPOSITE CASING, HOUSING, IMPELLER, CERAMIC SHAFT, AND CARBON BEARINGS. A 44 WATT ECM PERMANENT MAGNET MOTOR AND ELECTRICAL CHARACTERISTICS ARE 120V/1 PHASE, 60 HZ., WITH 1" CONNECTIONS, MAXIMUM OPERATING PRESSURE OF 150 PSI, UL STANDARD 778 AND NSF CERTIFIED. DIGITAL TIMER WITH CIRCULATOR PROGRAMMING. TEMPERATURE AQUASTAT, MAINTAINS WATER TEMPERATURE BETWEEN 95°F AND 115°F. CIRCUIT SETTER CALIBRATED BALANCE VALVE, LEAD-FREE BRASS, WITH 1/4" NPT TAPPED DRAIN PORT, MEMORY STOP FEATURE, SET AT 1 GPM. PROVIDE CIRCUIT SOLVER A SELF-ACTING THERMOSTATIC RECIRCULATION VALVE SET AT 110°F.

CIRCULATOR	TACO 006E3
TIMER	TACO 265-3
AQUASTAT	TACO 563-2
CIRCUIT SETTER	XYLEM CB-1/2S LF
RECIRCULATION VALVE (TVC)	CIRCUIT SOLVER CS-1/2-110,

EWH-1 ELECTRIC WATER HEATER:

ASHRAE STANDARD 90, GLASS LINED TANK SUITABLE FOR 150 PSI WORKING PRESSURE, 300-PSI TEST. FINISH OF DURABLE HIGH GLOSS BAKED ENAMEL. BLANKET GLASS FIBER INSULATION OVER ENTIRE TANK. CONTROL CIRCUIT TRANSFORMER AND MANUAL RESET HIGH TEMPERATURE LIMIT CONTROL. ASME PRESSURE AND TEMPERATURE RELIEF VALVE. WATER HEATER SHALL BE ACCEPTABLE FOR COMMERCIAL APPLICATION BY MANUFACTURER. PROVIDE 3 FULL YEAR WARRANTY, SNAP ACTION AUTOMATIC IMMERSION MOUNTED THERMOSTATS, IMMERSION TYPE HEATING ELEMENTS AND MAGNESIUM ANODE ROD. PROVIDE UNIT MOUNTED DISCONNECT SWITCH. PROVIDE INLET AND OUTLET SHUT-OFF VALVES, VACUUM RELIEF VALVE ON INLET WATER SUPPLY. PROVIDE GALVANIZED STEEL DRIP PAN. PROVIDE PRE-CHARGED EXPANSION TANK, OUTER STEEL SHELL (FLEXIBLE DIAPHRAGM TYPE), ON COLD WATER INLET SIDE OF WATER HEATER FOR THERMAL EXPANSION CONTROL, TANK VOLUME IN GALLONS SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE WATER HEATER SIZE IN GALLONS. 80 GAL 9KW 208V/3 PHASE. WIRED FOR SIMULTANEOUS OPERATION.

WATER HEATER	A. O. SMITH DEN 80
VACUUM RELIEF	WATTS 36A
EXPANSION TANK	AMTROL "THERM-X-TROL"

EWH-2 ELECTRIC WATER HEATER:

ASHRAE STANDARD 90, GLASS LINED TANK SUITABLE FOR 150 PSI WORKING PRESSURE, 300-PSI TEST. FINISH OF DURABLE HIGH GLOSS BAKED ENAMEL. BLANKET GLASS FIBER INSULATION OVER ENTIRE TANK. CONTROL CIRCUIT TRANSFORMER AND MANUAL RESET HIGH TEMPERATURE LIMIT CONTROL. ASME PRESSURE AND TEMPERATURE RELIEF VALVE. WATER HEATER SHALL BE ACCEPTABLE FOR COMMERCIAL APPLICATION BY MANUFACTURER. PROVIDE 3 FULL YEAR WARRANTY, SNAP ACTION AUTOMATIC IMMERSION MOUNTED THERMOSTATS, IMMERSION TYPE HEATING ELEMENTS AND MAGNESIUM ANODE ROD. PROVIDE UNIT MOUNTED DISCONNECT SWITCH. PROVIDE INLET AND OUTLET SHUT-OFF VALVES, VACUUM RELIEF VALVE ON INLET WATER SUPPLY. PROVIDE GALVANIZED STEEL DRIP PAN. PROVIDE PRE-CHARGED EXPANSION TANK, OUTER STEEL SHELL (FLEXIBLE DIAPHRAGM TYPE), ON COLD WATER INLET SIDE OF WATER HEATER FOR THERMAL EXPANSION CONTROL, TANK VOLUME IN GALLONS SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE WATER HEATER SIZE IN GALLONS. 36 GAL 3KW 208V/3 PHASE. WIRED FOR SIMULTANEOUS OPERATION.

WATER HEATER	A. O. SMITH DEL 30
VACUUM RELIEF	WATTS 36A
EXPANSION TANK	AMTROL "THERM-X-TROL"

FD FLOOR DRAIN:

DURA-COATED CAST IRON BODY, BOTTOM OUTLET AND TRAP PRIMER CONNECTION. TYPE B POLISHED NICKEL BRONZE STRAINER, MEMBRANE CLAMP & ADJUSTABLE COLLAR WITH SLOTS.

FLOOR DRAIN	ZURN Z-415B-P

WH RECESSED HOSE BIB & WALL HYDRANT:

ANTI-SIPHON VACUUM BREAKER, FLUSH MOUNTING STAINLESS STEEL WALL BOX WITH HINGED COVER, 3/4 INCH HOSE THREAD, BRONZE BODY AND INTER PARTS, WHEEL HANDLE, LOOSE KEY FAUCET OPERATED CONTROL VALVE, DUAL CHECK VALVE, SCREWDRIVER OPERATED STOP VALVE IN SUPPLY, NARROW INSTALLATION.

WALL FAUCET	ZURN Z1335

HB RECESSED HOSE BIB & WALL HYDRANT:

ANTI-SIPHON VACUUM BREAKER, FLUSH MOUNTING WALL BOX, 3/4 INCH, MALE HOSE THREAD, BRASS CASTING WITH CHROME FINISH POLYCARBONATE WHEEL HANDLE, LOOSE KEY FAUCET OPERATOR.

WALL FAUCET	WOODFORD MODEL B24

TP TRAP PRIMERS:

PROVIDE BRASS TRAP PRIMERS AND DISTRIBUTION UNITS TO SEAL FLOOR DRAINS INDICATED ON DRAWINGS. TRAP PRIMER VALVES SHALL BE AUTOMATIC, SELF CONTAINED TYPE WITH NO SPRINGS OR DIAPHRAGMS AND SHALL NOT REQUIRE ADJUSTMENT. INLET AND OUTLET SIZE IS 1/2". TRAP PRIMER VALVES SHALL BE THE TYPE THAT CAN BE INSTALLED ANYWHERE ON COLD WATER PIPING SIZE 1-1/2" OR LESS. DISTRIBUTION UNITS SHALL SUPPLY 1-4 FLOOR DRAINS. TRAP PRIMER VALVES SHALL COMPLY WITH ASSE 1018. PRECISION PLUMBING PRODUCTS (PPP)

TRAP PRIMER	PPP PR-500
DISTRIBUTION UNIT	PPP DU-U

MR-1 SERVICE SINK (FLOOR TYPE):

24" X 24" X 12" DEEP, NEO-CORNER FLOOR MOUNT, TERRAZZO WITH 20 GAUGE STAINLESS STEEL INTEGRAL CAST CAP, 3" CAST BRASS OUTLET DRAIN WITH STAINLESS STEEL STRAINER. ROUGH CHROME PLATED 8" FAUCET WITH TOP BRACE, STRAIGHT LEVER HANDLES, SWIVEL INLETS, BUCKET HOOK, VACUUM BREAKER, STOPS AND HOSE END.

1

SINK	ACORN TSH-24-KF24
FAUCET	ZURN Z843 M1 RC

PLUMBING FIXTURE SCHEDULE

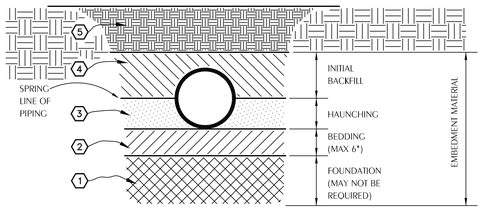
MARK	FIXTURE	FIXTURE CONNECTIONS			PIPE SIZES-INCHES			
		CW	HW	W	CW	HW	W	V
WC-1	WATER CLOSET (ADULT HANDICAP, MANUAL)	1	"	4	1	"	4	"
WC-2	WATER CLOSET (CHILD HANDICAP/ADULT STANDARD, MANUAL)	1	"	4	1	"	4	"
UR-1	URINAL (HANDICAP, MANUAL)	3/4	"	2	3/4	"	2	1-1/2
UR-2	URINAL (STANDARD, MANUAL)	3/4	"	2	3/4	"	2	1-1/2
L-1	LAVATORY (HANDICAP, 20X18)	1/2	1/2	2	3/8	3/8	1-1/4	1-1/2
L-2	LAVATORY (HANDICAP, 20X18)	1/2	1/2	2	3/8	3/8	1-1/4	1-1/2
SK-1	SINK (29"x22"x7-8")	1/2	1/2	2	3/8	3/8	1-1/2	1-1/2
UB-1	RECESSED UTILITY WALL BOX (ICE-MAKER HOOK-UP)	"	"	-	1/4	"	-	-
EWC-1	ELECTRIC WATER COOLER (DUAL LEVEL, BOTTLE FILL STATION)	1/2	"	2	3/8	"	1-1/2	-
MV-1	WATER MIXING VALVE	"	"	-	3/8	3/8	-	-
EWH-1	ELECTRIC WATER HEATER	1	1	-	3/4 INLET	3/4 OUTLET	-	-
EWH-2	ELECTRIC WATER HEATER	1	1	-	3/4 INLET	3/4 OUTLET	-	-
CP-1	CIRCULATOR PUMP(INLINE)	"	1/2	-	"	3/4 FLANGE	"	"
TCV-1	TEMPERATURE CONTROL VALVE	-	1/2	-	-	1/2	-	-
FD	FLOOR DRAIN	"	"	3	1/2	"	3	"
HB	HOSE BIBB	3/4	"	"	3/4	"	"	"
WH	RECESSED WALL HYDRANT	3/4	"	"	3/4	"	"	"
TP-1	TRAP PRIMER	"	"	-	1/2	"	"	"
MR-1	MOP (24"x24"x12")	3/8	3/8	3	1/2	1/2	3	1-1/2

1

1. WATER SUPPLY TAPPING TO EACH PLUMBING FIXTURE SHALL BE FULL SIZE (MINIMUM).
2. SEE ELECTRICAL DWGS FOR FINAL POWER REQUIREMENTS.
3. PROVIDE WATER HAMMER ARRESTERS ON HOT & COLD WATER SUPPLY BRANCHES SERVING SINGULAR, MULTIPLE OR GROUPS OF PLUMBING FIXTURES. ADHERENCE TO THE PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I.-WH201 (PER SPECIFICATIONS) SHALL BE EMPLOYED IN DETERMINING PROPER SIZE, SELECTION, PLACEMENT, LOCATION AND INSTALLATION OF ARRESTERS.

1. A FOUNDATION MAY BE REQUIRED IN VERY POOR SOIL CONDITIONS.
2. BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE. IN DRY SOIL CONDITIONS, CLASS II OR III MATERIAL SHALL BE HAND PLACED IN 4-6", LIGHTLY COMPACTED UNIFORM AND NOT FINER THAN THE FOUNDATION MATERIAL. IN WET CONDITIONS, CLASS I, II OR III MATERIAL SHALL BE HAND PLACED IN 4-6", UNIFORM AND NOT FINER THAN THE FOUNDATION MATERIAL. WHEN UTILIZING CLASS I MATERIAL, SUFFICIENT AMOUNTS OF CLASS II OR III MATERIAL SHALL BE ADDED TO FILL ALL VOIDS CREATED BY THE USE OF CLASS I MATERIAL.
3. HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. CLASS II OR III MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4. INITIAL BACKFILL MATERIAL SHALL BE CLASS II OR III. IT SHALL BE PLACED WITHIN 24-30" ABOVE THE TOP OF THE PIPE AND TAMPED BY A PORTABLE VIBRATOR. FINAL BACKFILL MATERIAL MAY BE MACHINE PLACED. THE MATERIAL SHALL BE CLASS II OR III MATERIAL. CLASS IV MATERIAL MAY BE INSTALLED OUTSIDE OF ROADWAY.
5. FINAL BACKFILL UNDER ROADWAYS MAY REQUIRE SPECIAL COMPACTION AND DENSITY TESTS. A MINIMUM OF 30" OF COVER OVER THE TOP OF THE PIPE SHALL BE PROVIDED BEFORE THE TRENCH IS WHEEL- LOADED.

NOTE:
ALL EMBEDMENT MATERIALS SHALL BE NO LESS THAN 95% OF MAXIMUM DENSITY. LABORATORY TESTING OF THE SOIL WILL BE REQUIRED. THIS PROCEDURE SHALL BE REQUIRED ON ALL INSTALLATIONS. ALL TRENCHING, EXCAVATION, AND BACKFILLING SHALL BE IN ACCORDANCE WITH 2023 FLORIDA BUILDING CODE, PLUMBING SECTION 306.



EMBEDMENT MATERIALS

CLASS I: ANGULAR, 1/4"-1-1/2", GRADED STONE, INCLUDING A NUMBER OF FILL MATERIALS THAT HAVE REGIONAL SIGNIFICANCE SUCH AS CORAL, SLAG, CINDERS, CRUSHED STONE AND CRUSHED SHELLS.

CLASS II: COARSE SANDS AND GRAVELS WITH MAXIMUM PARTICLE SIZE OF 1-1/2" INCLUDING VARIOUS GRADED SANDS AND GRAVELS CONTAINING SMALL PERCENTAGES OF FINES, GENERALLY GRANULAR AND NON-COHESIVE, EITHER WET OR DRY. SOIL TYPES GW, GP, SW, AND SP ARE INCLUDED IN THIS CLASS.

CLASS III: FINE SAND AND CLAY GRAVELS, INCLUDING FINE SANDS, SAND-CLAY MIXTURES AND GRAVEL-CLAY MIXTURES. SOIL TYPES GM, GC, SM, AND SC ARE INCLUDED IN THIS CLASS.

CLASS IV: SILT, SILTY CLAYS, AND CLAYS, INCLUDING INORGANIC CLAYS AND SILT OF MEDIUM TO HIGH PLASTICITY AND LIQUID LIMITS. SOIL TYPES MH, ML, CH, AND CL ARE INCLUDED IN THIS CLASS. THESE MATERIALS ARE NOT TO BE USED FOR BEDDING, HAUNCHING, OR INITIAL BACKFILL.

CLASS V: THIS CLASS INCLUDES THE ORGANIC SOILS, AS WELL AS SOILS CONTAINING FROZEN EARTH, DEBRIS, ROCKS LARGER THAN 1-1/2" IN DIAMETER AND OTHER FOREIGN MATERIALS. THESE MATERIALS ARE NOT TO BE USED FOR BEDDING, HAUNCHING, OR INITIAL BACKFILL.

1 P001 EXCAVATION AND BACKFILL DETAIL

SCALE: NONE

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

PLUMBING LEGEND, SCHEDULE, NOTES, AND DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

P001

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850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: TLC

22019
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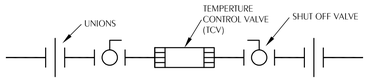
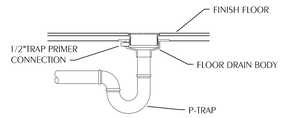
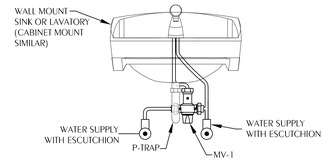
01/31/2025



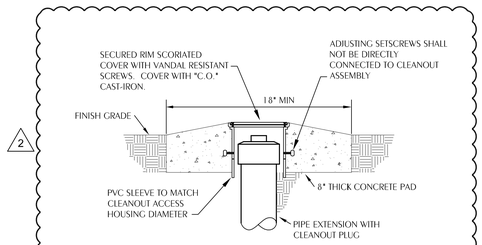
1 P002 THERMOSTATIC TEMPERATURE CONTROL VALVE DETAIL
SCALE: NONE



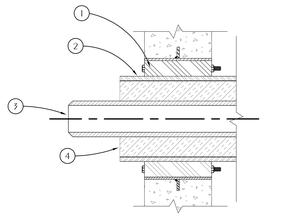
2 P002 FLOOR DRAIN WITH TRAP PRIMER DETAIL
SCALE: NONE



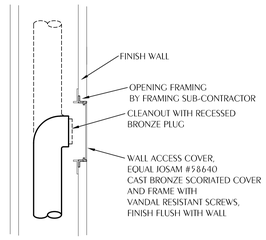
3 P002 LAV/SINK MIXING VALVE DETAIL
SCALE: NONE
NOTE: MIXING VALVE WILL BE TYPICAL FOR L-1, L-2, & SK-1



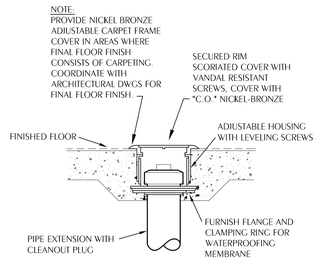
4 P002 CLEANOUT TO GRADE
SCALE: NONE



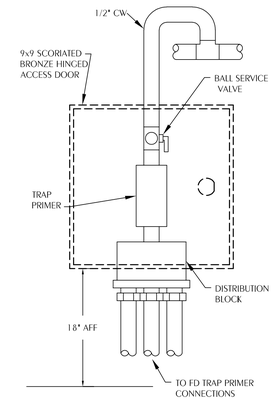
5 P002 TYPICAL PIPE PENETRATION OF WALL
SCALE: 1/8" = 1'-0"



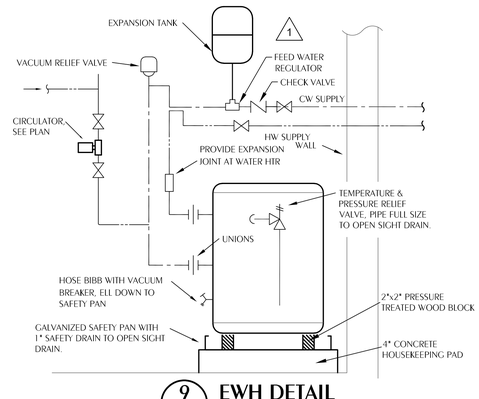
6 P002 CLEANOUT TO WALL
SCALE: NONE



7 P002 CLEANOUT TO FLOOR
SCALE: NONE



8 P002 TRAP PRIMER DETAIL
SCALE: NONE



9 P002 EWH DETAIL
SCALE: NONE

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SANITARY REVISION	07/01/2025
2	REBID REVISION #1	02/24/2026

PLUMBING DETAILS

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
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PROJECT NUMBER	22019
DATED	01/31/2025

P002

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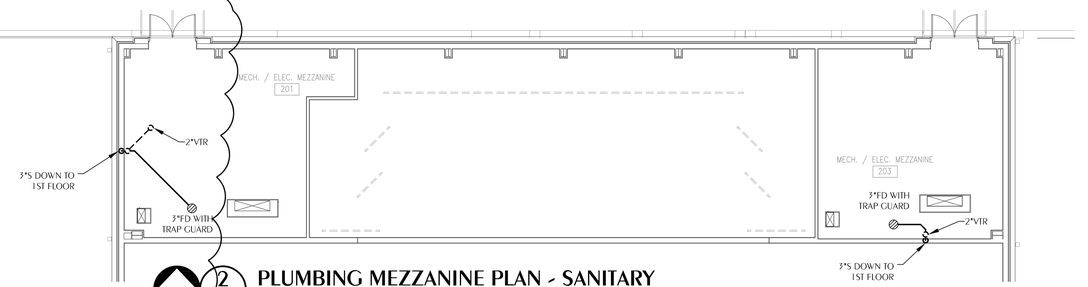
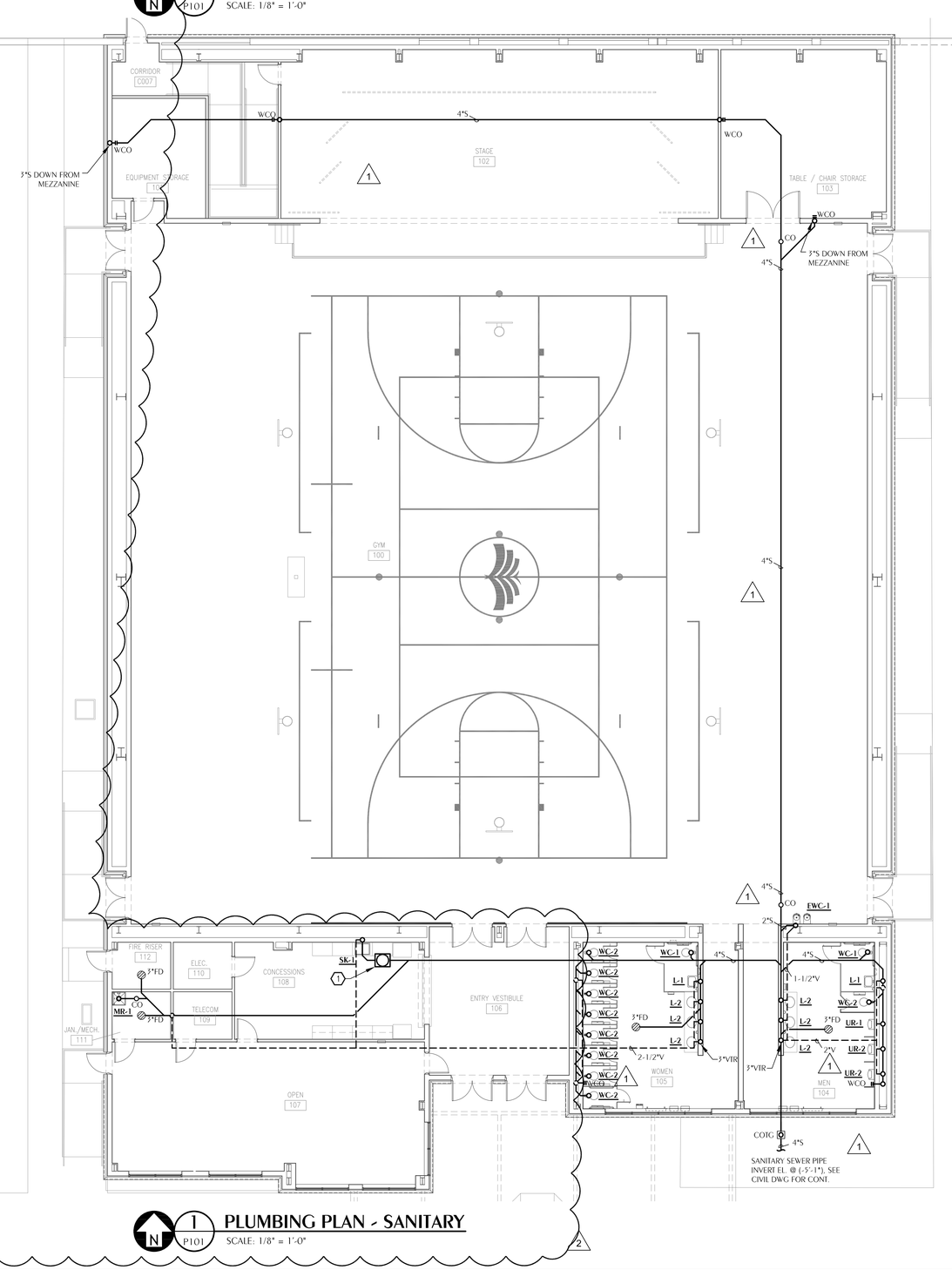


N 2 P101 **PLUMBING MEZZANINE PLAN - SANITARY**
SCALE: 1/8" = 1'-0"



N 1 P101 **PLUMBING PLAN - SANITARY**
SCALE: 1/8" = 1'-0"

REFERENCE:
FINISHED FLOOR ELEVATION = 0'-0"

SHEET NOTES

1. GI-1 GREASE INTERCEPTOR:
SEAMLESS, ROTATIONALLY- MOLDED POLYETHYLENE GREASE INTERCEPTOR WITH A UNIFORM WALL THICKNESS OF 5/16". AVAILABLE FOR ABOVE OR BELOW GRADE INSTALLATION. INTERCEPTOR SHALL HAVE BUILT-IN FLOW CONTROL. FLOW RATE SHALL BE 20GPM AND HAVE A CAPACITY OF 70LBS OR A FLOW RATE SHALL BE 25GPM AND HAVE A CAPACITY OF 65LBS. THE SOLID CAPACITY IS 1.3CAL & LIQUID IS 10CAL. PEDESTRIAN RATED COVER SHALL BE WATER/GAS TIGHT SEAL WITH A MINIMUM OF 450LBS LOAD CAPACITY. 4"FPT INLET/OUTLET, WITH 2" & 3" PLAIN END FITTING ADAPTERS.

GREASE INTERCEPTOR SCHIER GB1

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PLUMBING PLAN - SANITARY

PROJECT NUMBER	22019
DATED	01/31/2025

P101

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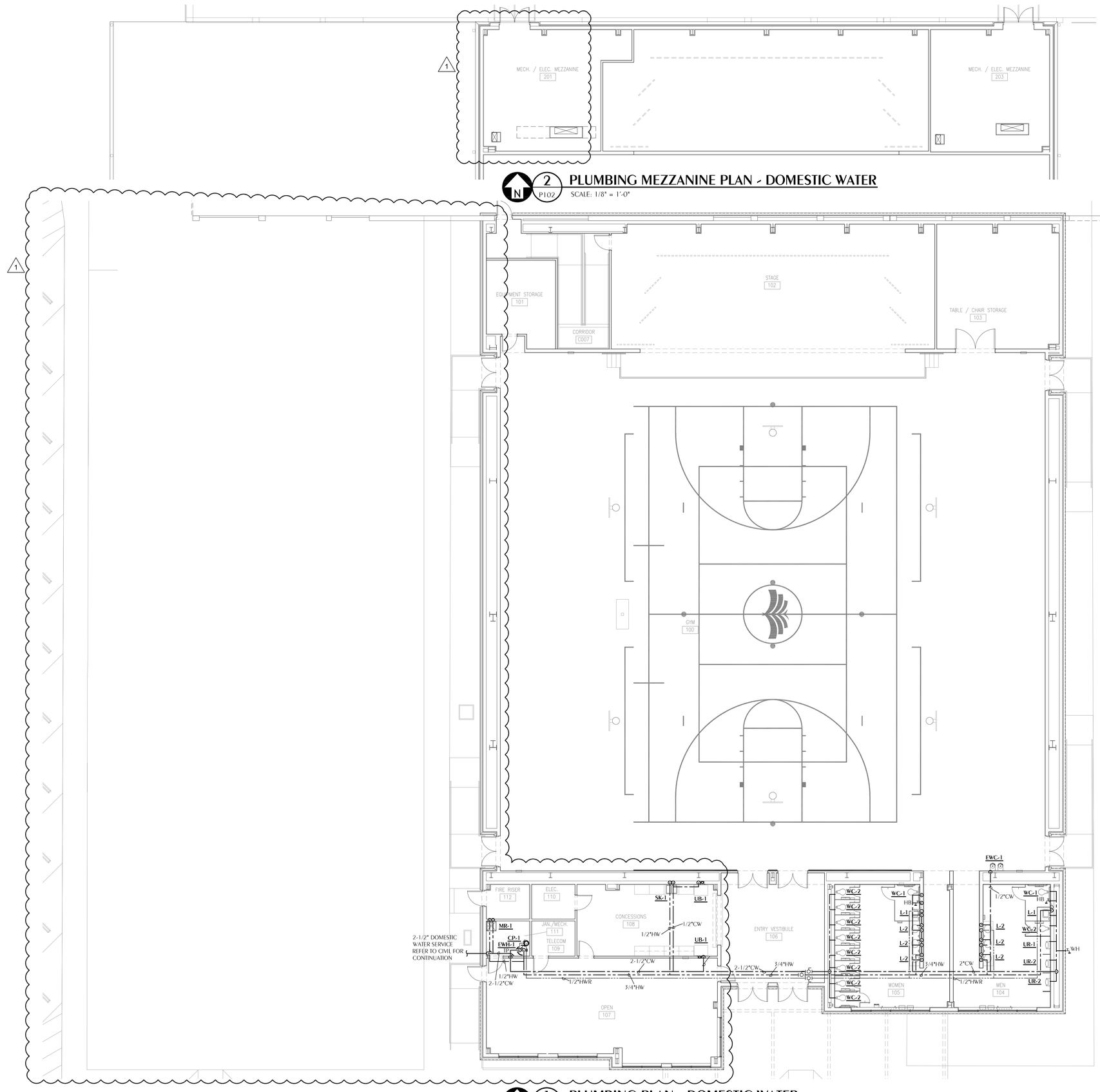

N 2 P102 **PLUMBING MEZZANINE PLAN - DOMESTIC WATER**
SCALE: 1/8" = 1'-0"

N 1 P102 **PLUMBING PLAN - DOMESTIC WATER**
SCALE: 1/8" = 1'-0"

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No.	Description	Date
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PLUMBING PLAN - DOMESTIC WATER

PROJECT NUMBER 22019
DATED 01/31/2025

P102

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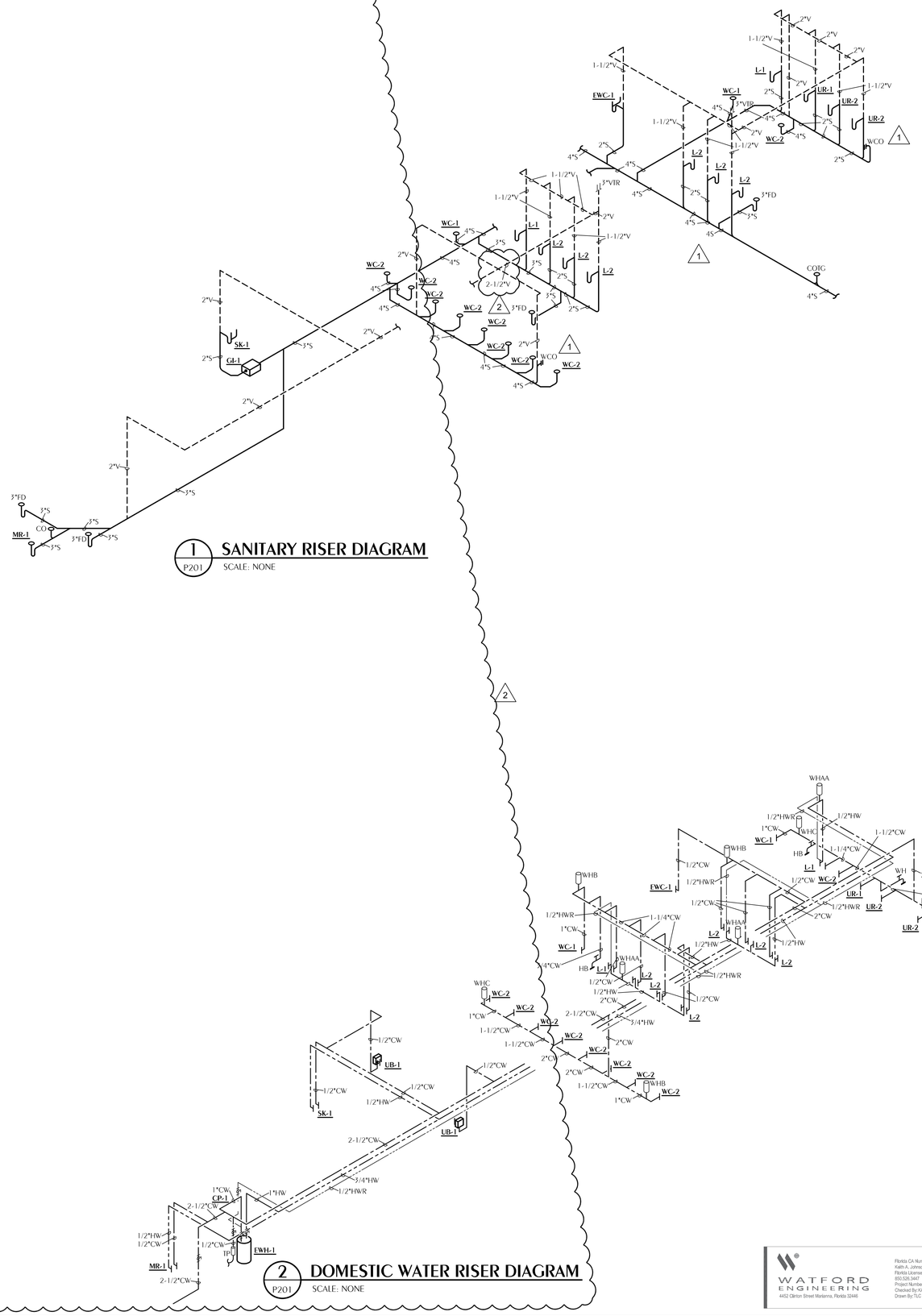
01/31/2025



1 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE

2 P201 **DOMESTIC WATER RISER DIAGRAM**
SCALE: NONE

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SANITARY REVISION	07/01/2025
2	REBID REVISION #1	02/24/2026

PLUMBING
RISER DIAGRAMS

PROJECT NUMBER	22019
DATED	01/31/2025

P201

ELECTRICAL LEGEND

A–1 'B' — A–1 ADJACENT TO ARROW INDICATES HOMERUN OF CIRCUIT NO. 1 TO PANEL A; "B" INDICATES FIXTURE TYPE; MARKS ACROSS RACEWAY RUN INDICATES THE NUMBER OF NO. 12 CONDUCTORS; UNLESS NOTED OTHERWISE NO MARKS INDICATES TWO NO. 12 CONDUCTORS AND ONE NO. 12 GREEN GROUND CONDUCTOR IN 1/2" CONDUIT (2#12 & 1#12 GND–1/2"C)

CEILING FIXTURE

CEILING FIXTURE WITH INTEGRAL EMERGENCY BATTERY BACKUP

WALL BRACKET FIXTURE

2' X 2' FIXTURE; CEILING MOUNTED; ARROW INDICATES LENS DIRECTION

2' X 2' FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; CEILING MOUNTED; ARROW INDICATES LENS DIRECTION

1' x 4' FIXTURE; CEILING MOUNTED

LED 1' x 4' FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE

LED WALL MOUNTED FIXTURE; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE

HIGH BAY FIXTURE; PENDANT MOUNTED

HIGH BAY EMERGENCY FIXTURE; PENDANT MOUNTED

POLE MOUNTED LIGHT FIXTURE.

EXIT SIGN; CEILING MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN

WG — EXIT SIGN; BACK MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN; WG, IF SHOWN, INDICATES WIRE GUARD

JUNCTION BOX; MOUNTED ABOVE CEILING

JUNCTION BOX; MOUNTED FLUSH IN WALL WITH BLANK COVER

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

CEILING MOUNTED DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT FLUSH IN CEILING UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

CEILING MOUNTED QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT FLUSH IN CEILING UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

DUPLEX FLOOR RECEPTACLE, 125 V, 20 A; NEMA 5–20R; HUBBELL SERIES HBL5352

QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

TAMPER RESISTANT DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL SERIES BR20xxTR

TAMPER RESISTANT QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL SERIES BR20xxTR

TAMPER RESISTANT DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES GFTR20

QUAD RECEPTACLE; TAMPER RESISTANT; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES GFTR20

QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA GF–5–20R; HUBBELL SERIES GF5362

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA GF–5–20R; HUBBELL SERIES GF5362

WP — LETTERS "WP" ADJACENT TO SYMBOL INDICATES GFI WEATHER RESISTANT RECEPTACLE; HUBBELL HBLGFTW20 SERIES WITH WEATHERPROOF COVER; HUBBELL/TAYMAC MR420CW COVER.

DUPLEX RECEPTACLE FOR TELEVISION WITH SURGE PROTECTION, LED AND ALARM; 125V; 20A; 2 POLE; 3 WIRE; GND; SEE TELECOM PLANS FOR MOUNTING DETAILS. NEMA 5–20R; HUBBELL SERIES HBL5362SA

COMBINATION POWER/TELECOM FLOOR BOX; FOUR DUPLEX RECEPTACLES; 125V; 20A; 3 POLE GND; NEMA 5–20R; HUBBELL SERIES HBL5352; REFER TO TELECOM AND A/V PLANS FOR FLOOR BOX PART NUMBERS, INSTALLATION DETAILS AND LOCATION.

LETTERS +XX" ADJACENT TO SYMBOL INDICATES RECEPTACLE MOUNTING HEIGHT.
+AC" = ABOVE COUNTER.
+DF" = VERIFY HEIGHT FOR DRINKING FOUNTAIN WITH MECHANICAL CONTRACTOR
+TV" = VERIFY HEIGHT OF TV WITH OWNER.
+SB" = SMARTBOARD/INTERACTIVE FLAT PANEL TV RECEPTACLE, VERIFY MOUNTING REQUIREMENTS WITH TELECOM PLANS.
+TS" = TEACHER STATION RECEPTACLE, VERIFY MOUNTING REQUIREMENTS WITH TELECOM PLANS.
+DW" = DISHWASHER RECEPTACLE, VERIFY MOUNTING REQUIREMENTS WITH MECHANICAL CONTRACTOR.
+REF" = REFRIGERATOR, VERIFY & COORDINATE MOUNTING HEIGHT WITH REFRIGERATOR MANUFACTURER.

SIMPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5351

S — WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1221

S — WALL SWITCH; 120/277V; 20A; VACANCY SENSOR DUAL TECHNOLOGY MULTI–WAY TYPE; MT 48" AFF TO C/L; REFER TO SPECS; WATTSTOPPER #DW–100–W.

S — WALL MOUNT SINGLE POLE–DOUBLE THROW KEYED MOMENTARY SWITCH; 120/277V; 20A; MT 48" AFF TO C/L; WATTSTOPPER #1250–L

S — LOW VOLTAGE WALL SWITCH; CONNECT TO LOCAL NON–NETWORKED POWER PACK OR ROOM CONTROLLER; MT 48" AFF TO C/L; REFER TO SPECS; SEE LIGHTING CONTROL DETAILS. NUMBER "x" INDICATES BUTTON COUNT; REFER TO LOW VOLTAGE SWITCH MATRIX FOR SPECIFIC INFORMATION.

MOTOR CONTROL SWITCH; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL–BRYANT 30102D.

WP — NEMA 3R MOTOR CONTROL SWITCH; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL–BRYANT 30322D.

LIGHTING CONTROLS ROOM CONTROLLER; INSTALL CONCEALED ABOVE CEILING SPACE; REFER TO LIGHTING CONTROLS DETAILS

ELM — EMERGENCY RELAY; EQUAL TO WATTSTOPPER #ELCU–200. MOUNT ABOVE CEILING; UNLESS NOTED OTHERWISE. REFER TO EMERGENCY LIGHTING RELAY CONNECTION DETAIL.

LOW VOLTAGE OCCUPANCY SENSOR; 360° DUAL–TECHNOLOGY TYPE; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

LOW VOLTAGE VACANCY SENSOR; 360° DUAL–TECHNOLOGY TYPE; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

LOW VOLTAGE DAYLIGHTING SENSOR; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

HIGH BAY PASSIVE INFRARED OCCUPANCY SENSOR; CEILING MOUNTED; CONNECT TO LIGHTING CONTROL PANEL, UNLESS OTHERWISE NOTED.

PHOTOCELL; REFER TO LIGHTING CONTROL DIAGRAM

PANEL; 120/208V; MT 72" AFF TO TOP

T — TRANSFORMER; SIZE AND RATING AS NOTED

NON–FUSED DISCONNECT SWITCH; AMP SIZE AS NOTED

FUSED DISCONNECT SWITCH; AMP SIZE AS NOTED; FUSE SIZE PER EQUIPMENT NAMEPLATE DATA

MOTOR; FURNISHED BY OTHERS

RACEWAY INSTALLED CONCEALED IN WALLS AND/OR ABOVE CEILING

RACEWAY INSTALLED CONCEALED IN FLOOR SLAB AND/OR BELOW GRADE

RACEWAY INSTALLED EXPOSED

LV — LOW VOLTAGE CONDUCTOR; COORDINATE WITH DEVICE CONNECTION REQUIREMENTS.

FLEXIBLE CONDUIT CONNECTION

CONDUIT STUB UP WITH FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT

ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT SIZE AND LOCATION OF EQUIPMENT WHICH IS FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL.

B. RECEPTACLES, SWITCHES AND COVERPLATES COLOR SHALL BE SELECTED BY THE ARCHITECT FROM STANDARD COLORS.

C. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING–IN WALL FOR SWITCHES.

D. LOCATION OF LIGHTING FIXTURES, DISCONNECT SWITCHES, ETC. FOR MECHANICAL EQUIPMENT/ROOM SHALL BE COORDINATED WITH FINAL MECHANICAL EQUIPMENT LOCATION TO PROVIDE NATIONAL ELECTRIC CODE REQUIRED ACCESS SPACE.

E. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION.

F. ALL EXIT AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.

G. ALL PANELBOARDS, BACKBOARDS, TERMINAL CABINETS, ETC SHALL HAVE CUSTOM ENGRAVED MICARTA NAMEPLATE MECHANICALLY AFFIXED IDENTIFYING SYSTEM.

H. PROVIDE GREEN GROUND CONDUCTOR IN ALL CIRCUITS – SIZE PER N.E.C.

I. ALL EXPOSED CONDUITS, BOXES, STRAPS AND HANGERS IN THE CONTRACT AREA WHETHER NEW OR EXISTING THAT ARE PART OF THE ELECTRICAL SYSTEM SHALL BE PAINTED TO MATCH ADJACENT FINISH.

J. PROVIDE CONCRETE MARKER AT END OF ALL CONDUITS STUBBED OUT OF BUILDING FOR FUTURE USE. MARKER SHALL BE 6" DIA X 18" HIGH WITH 2" ABOVE FINISHED GRADE. INSCRIBE IN TOP OF MARKER "E" FOR ELECTRICAL,"T" FOR TELEPHONE,"V" FOR TV CABLE,"F" FOR FIRE ALARM, AND "IC" FOR INTERCOM.

K. GENERAL CONTRACTOR SHALL FIELD–VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.

L. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.

M. FIRE ALARM LOW VOLTAGE SOURCE AND BATTERY STANDBY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.

N. VERIFY EXACT LOCATION OF ALL FLOOR OUTLETS WITH THE ARCHITECT PRIOR TO ROUGHING–IN.

O. FINAL CONNECTION TO ALL DRY TYPE TRANSFORMERS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION

P. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FAULT CURRENT CALCULATIONS FOR THE SERVICE EQUIPMENT AND SHALL MARK THE EQUIPMENT WITH THE AVAILABLE FAULT CURRENT AND DATE OF THE CALCULATION PER NEC 110.24. REFER TO TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL.

Q. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FAULT LABELS PER NFPA 70E ARTICLE 110.16 FOR NEW EQUIPMENT. THE OWNER SHALL PROVIDE AVAILABLE CALCULATION DATA FOR THE EXISTING EQUIPMENT IN THE ELECTRICAL SYSTEM. REFER TO TYPICAL ARC FLASH HAZARD LABEL DETAIL.

R. PROVIDE NEUTRAL AT ALL LINE VOLTAGE SWITCH LOCATIONS PER N.E.C. 404.2(C).

S. PROVIDE 'LSI' TRIP UNITS FOR ALL BREAKERS GREATER THAN OR EQUAL TO 200A.

T. PROVIDE BUSHINGS ON ALL CONDUIT.

ABBREVIATIONS

AFF – ABOVE FINISHED FLOOR
AHU – AIR HANDLING UNIT
C. – CONDUIT
C/L – CENTERLINE
CP – CIRCULATION PUMP
EC – ELECTRICAL CONTRACTOR
EF – EXHAUST FAN
EMT – ELECTRICAL METALLIC TUBING
EWC – ELECTRIC WATER COOLER
EWH – ELECTRIC WATER HEATER
GFI – GROUND FAULT PROTECTION
GND – GROUND CONDUCTOR
HP – HEAT PUMP
IMC – INTERMEDIATE METAL CONDUIT
LSI – INDICATES BREAKER SETTING (LONG, SHORT, INSTANTANEOUS)
LTG – LIGHTING
LTS – LIGHTS
MHP – MINI–SPLIT HEAT PUMP
MW – MINI–SPLIT WALL MOUNT
NEC – NATIONAL ELECTRIC CODE (NFPA–70)
NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
OAU – OUTDOOR AIR UNIT
PC – POLYCARBONATE COVER
PVC – POLYVINYL CHLORIDE CONDUIT
REC – RECEPTACLE
UNO – UNLESS NOTED OTHERWISE
WG – WIRE GUARD (SIZE AS REQUIRED)
WP – WEATHERPROOF

DRAWING SHEET INDEX

Sheet Number	Sheet Title
E001	LEGEND AND NOTES
E101	SITE PLAN - ELECTRICAL
E201	FLOOR PLAN - POWER
E202	FLOOR PLAN - HVAC POWER
E203	FLOOR PLAN - FIRE ALARM
E204	FLOOR PLAN - LIGHTING
E205	FLOOR PLAN - AV POWER & THEATRICAL LIGHTING
E206	MEZZANINE PLAN - ELECTRICAL
E301	ELECTRICAL DETAILS
E302	LIGHTING FIXTURE SCHEDULE AND CONTROLS
E303	LIGHTING CONTROLS DETAILS
E304	LIGHTING CONTROLS DETAILS
E401	SINGLE LINE POWER & FIRE ALARM RISER DIAGRAMS
E501	MECHANICAL EQUIPMENT & PANEL SCHEDULES
E601	GROUNDING DETAILS

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LEGEND AND NOTES

PROJECT NUMBER 22019
DATED 03/12/2026

E001

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Thomas A. Alexander: FL. PE No.73172
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22022 Job No.

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22019
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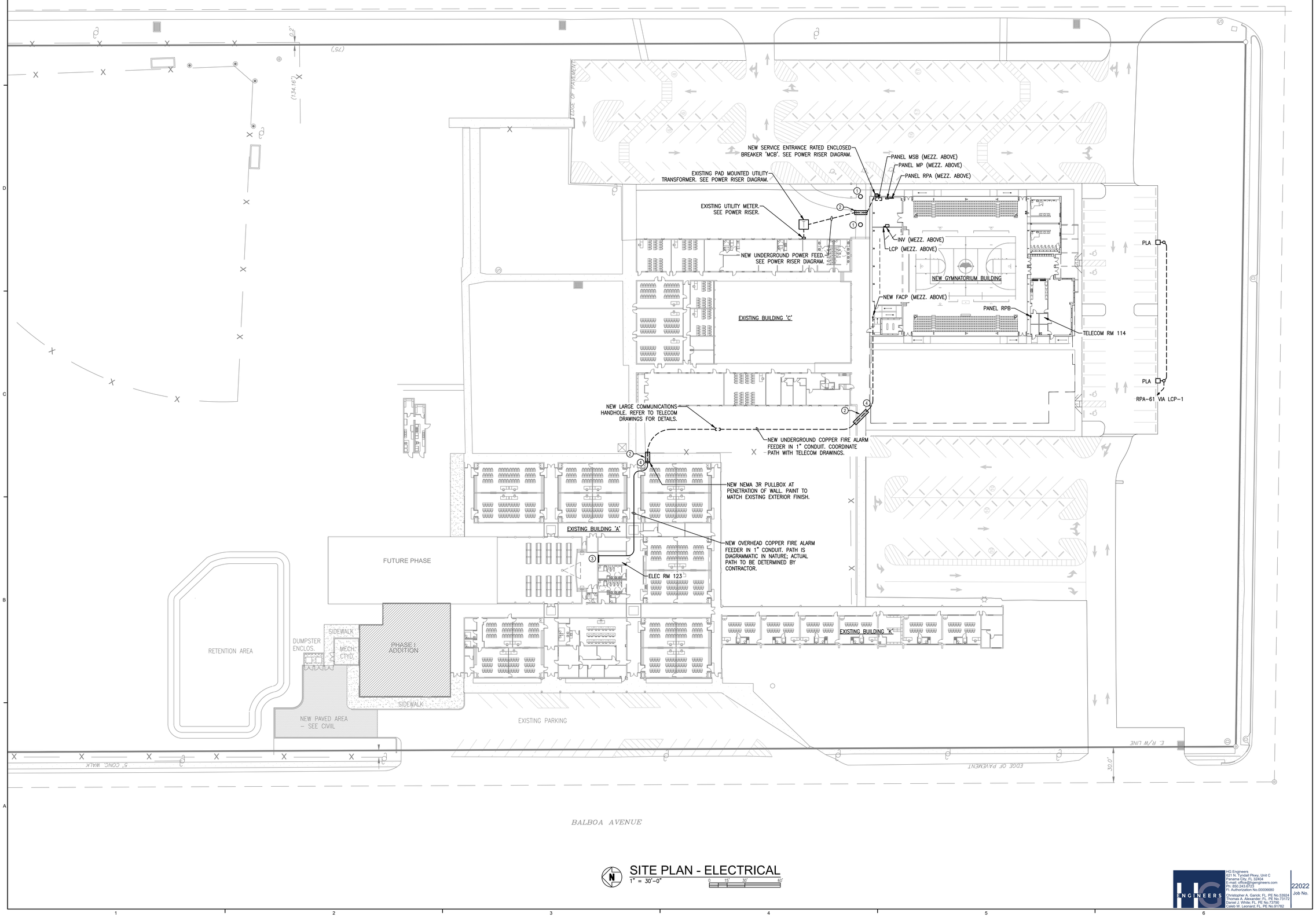
10/13/2025

SPECIAL NOTE

REFER TO TELECOM PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

KEYNOTES

1. DEMO AND REMOVE EXISTING CANOPY LIGHT FIXTURES IN THEIR ENTIRETY. ENSURE THAT THE EXISTING CIRCUIT CONDUIT AND CONDUCTORS, IF FEEDING OTHER DEVICES OR FIXTURES, ARE EXTENDED AS NECESSARY TO MAINTAIN CIRCUIT CONTINUITY.
2. SAW, CUT AND PATCH EXISTING SIDEWALK AS REQUIRED.
3. EXISTING EDWARDS IO-SERIES FIRE ALARM CONTROL PANEL WITH AUDIO NOTIFICATION SYSTEM AND POWER SUPPLIES. NEW SYSTEM SHALL BE FULLY COMPATIBLE WITH EXISTING SYSTEM.
4. PROVIDE SURGE PROTECTION FOR FIRE ALARM CABLING WITHIN 6 FEET UPON EXITING AND ENTERING BUILDINGS.



SITE PLAN - ELECTRICAL

1" = 30'-0"

0 15' 30' 60'

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REVISIONS:

No.	Description	Date

SITE PLAN - ELECTRICAL

PROJECT NUMBER	22019
DATED	03/12/2026

E101

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22019
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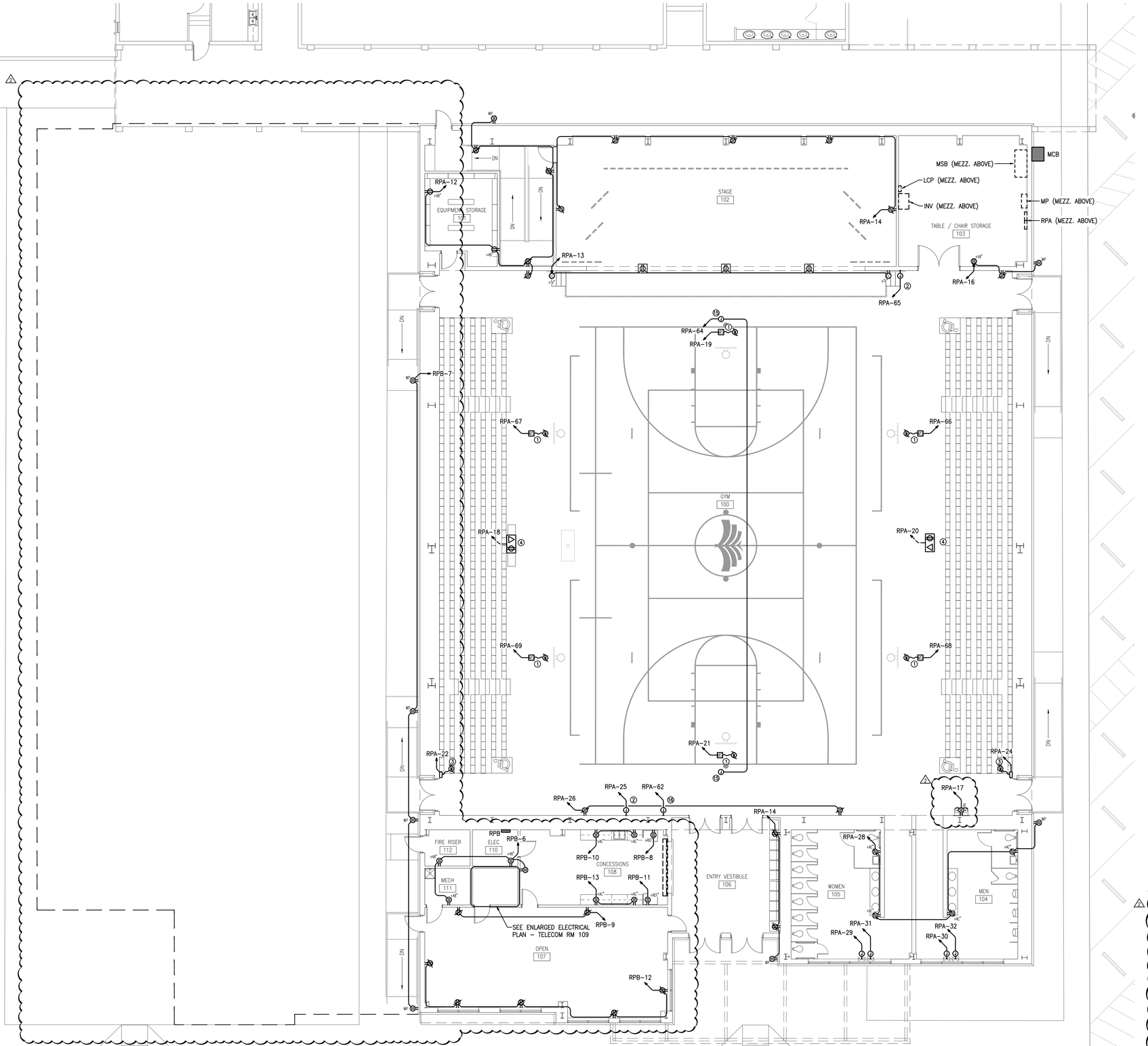
12/12/2025



KEYNOTES

1. INSTALL 4-SQUARE JUNCTION BOX (POWER) AND CONTROL WIRING (BY OTHERS) FOR GOAL HOIST SYSTEM. CONCEAL CONDUIT ALONG CEILING JOISTS. INSTALL GOAL HOIST CONTROLS (2-GANG BOX) AT LOCATION SELECTED BY OWNER/ARCHITECT. INSTALL PER MANUFACTURERS SPECIFICATIONS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
2. INSTALL JUNCTION BOX FOR SCOREBOARD POWER AND CONTROLS. INSTALL PER MANUFACTURERS REQUIREMENTS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
3. INSTALL DISCONNECT SWITCH FOR CONNECTION TO MOTORIZED AUTOMATIC BLEACHER. COORDINATE ELECTRICAL REQUIREMENTS WITH MANUFACTURER PRIOR TO PURCHASING AND INSTALLING EQUIPMENT. INSTALL CONTROLS AS REQUIRED. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
4. PROVIDE FLOOR BOX DATA AND POWER FOR SCORER'S TABLE. REFER TO TELECOM DRAWINGS FOR DETAILS. COORDINATE LOCATION WITH OWNER/ARCHITECT. COORDINATE INSTALLATION WITH TELECOM CONTRACTOR.

1
5. NOT USED
6. NOT USED
7. NOT USED

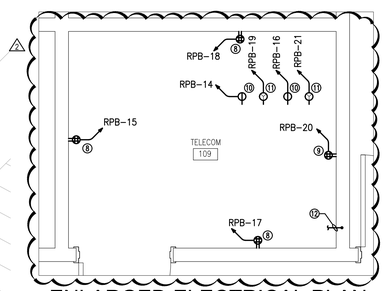
8. PROVIDE DEDICATED 120V 20A QUAD RECEPTACLE CIRCUIT. ROUGH-IN WALL BOX FLUSH WITH FACE OF BACKBOARD. EXTEND EMT CONDUIT FROM BOX CONCEALED BEHIND BACKBOARD. SEE TELECOM DRAWINGS.
9. PROVIDE DEDICATED 120V 20A QUAD RECEPTACLE CIRCUIT MOUNTED DIRECTLY UNDER CCTV ENCLOSURE. ROUGH-IN WALL BOX FLUSH WITH FACE OF BACKBOARD. EXTEND EMT CONDUIT FROM BOX CONCEALED BEHIND BACKBOARD. SEE TELECOM DRAWINGS.
10. INSTALL DEDICATED 120V 20A SIMPLEX RECEPTACLE ON BACKSIDE OF CABLE RUNWAY IN NON-METALLIC BOX FOR SURGE SUPPRESSOR POWER. SEE TELECOM DRAWINGS.
11. INSTALL DEDICATED 120V L5-30 30A RECEPTACLE ON REAR OF RACK FOR 3000VA UPS. PROVIDE 2#10, #10G, IN 3/4"C SEE TELECOM DRAWINGS.
12. INSTALL 3/4" EMT CONDUIT WITH PULLSTRING TO MAIN CIRCUIT BREAKER MCB. SEE TELECOM DRAWINGS.

1
13. NOT USED
14. NOT USED

15. INSTALL JUNCTION BOX FOR SHOT CLOCK POWER AND CONTROLS. INSTALL PER MANUFACTURERS REQUIREMENTS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
16. INSTALL JUNCTION BOX FOR BASKETBALL HOIST OPERATOR SWITCHES. INSTALL PER MANUFACTURERS REQUIREMENTS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.

SPECIAL NOTE

REFER TO TELECOM, AV, AND THEATRICAL PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.



ENLARGED ELECTRICAL PLAN - TELECOM RM 109
1/2" = 1'-0"

FLOOR PLAN - POWER
1/8" = 1'-0"

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FLOOR PLAN - POWER

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E201

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22019
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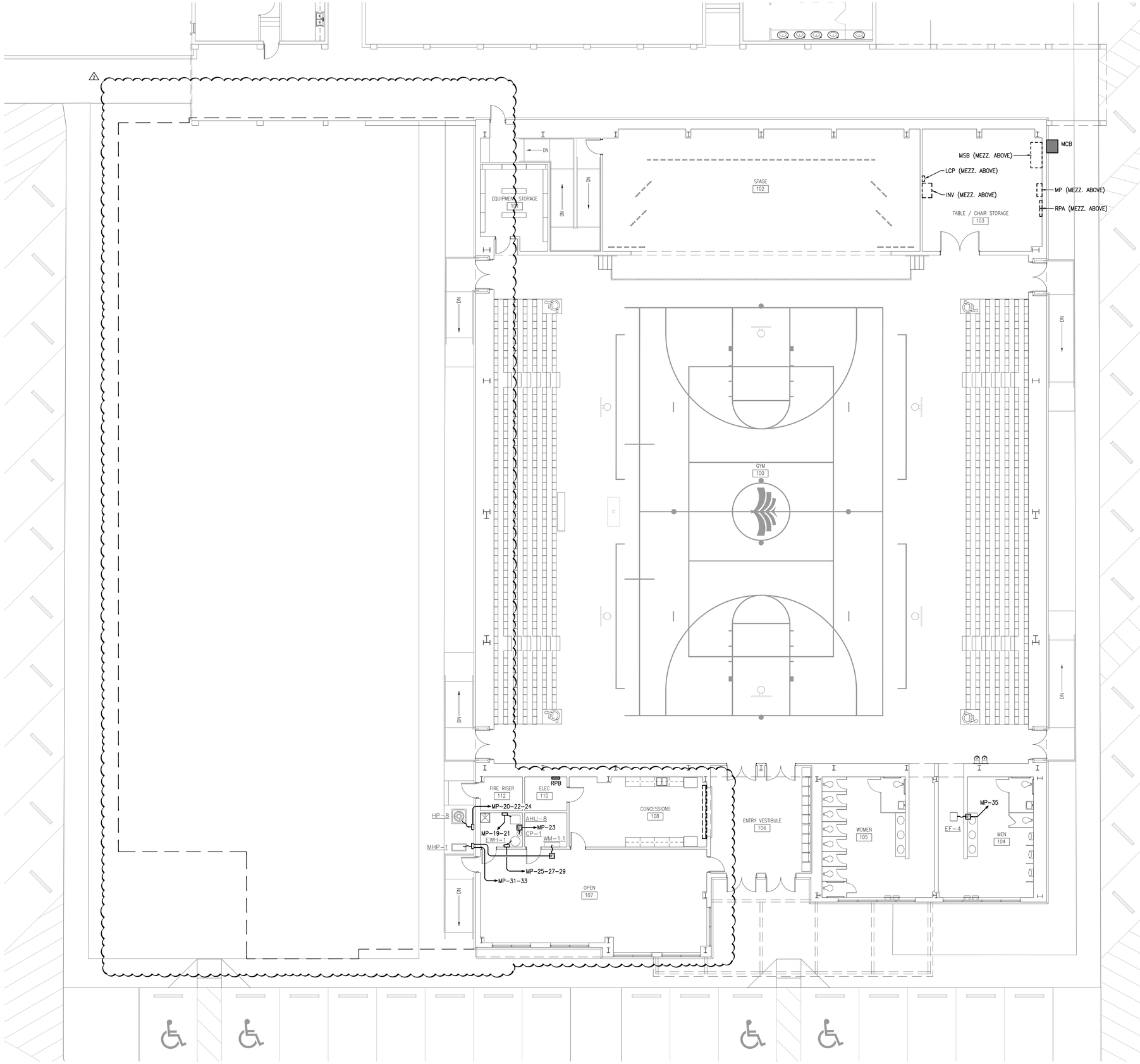
03/12/2026



FLOOR PLAN - HVAC POWER
1/8" = 1'-0"
0 4' 8' 16'

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FLOOR PLAN - HVAC POWER

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E202

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Thomas A. Alexander: FL. PE No.73172
Daniel J. White: FL. PE No.73172
Caleb W. Leonard: FL. PE No.91782

22022
Job No.

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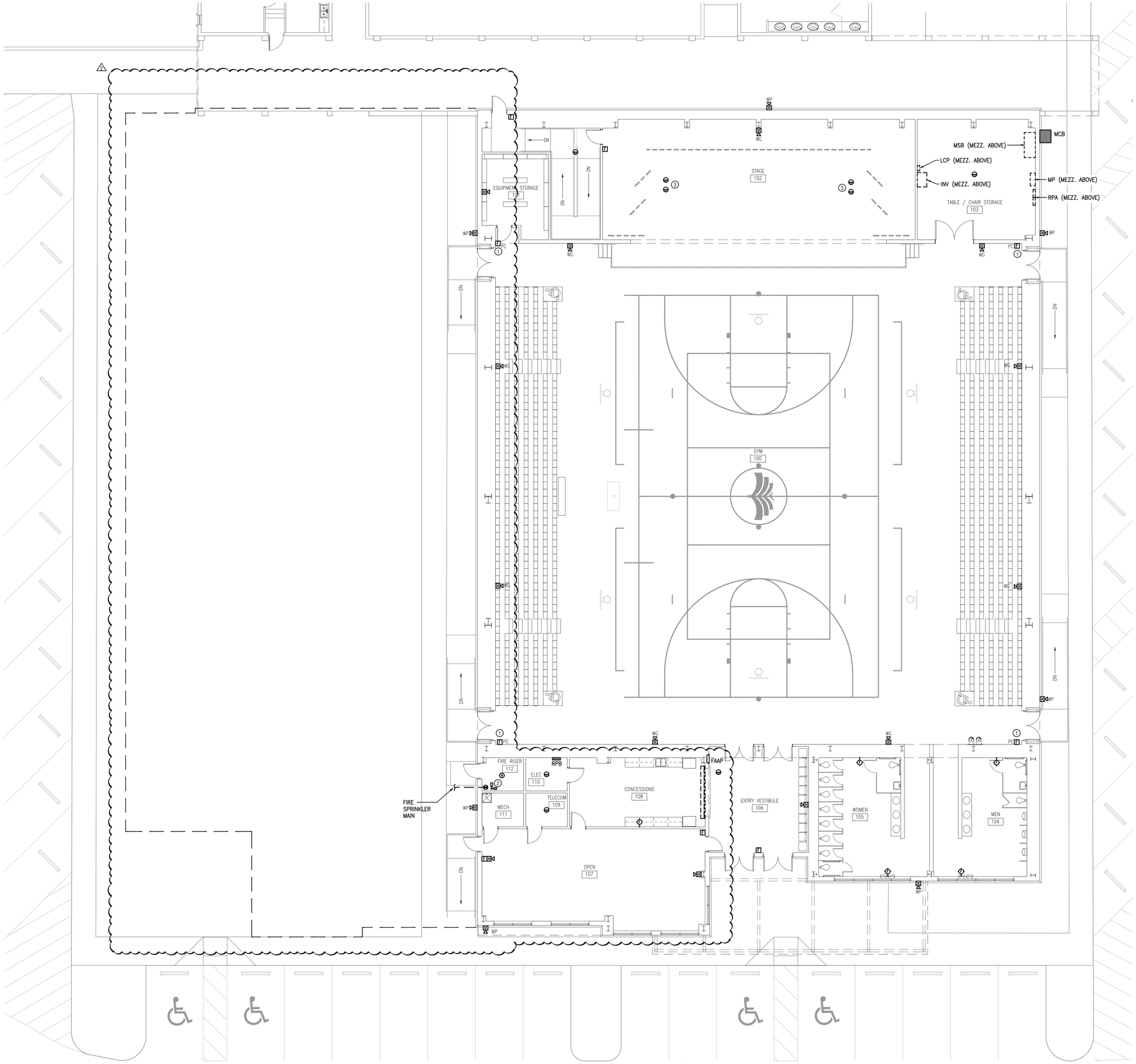
22019
100% CONSTRUCTION DOCUMENTS
03/12/2026

KEYNOTES

1. INSTALL PROTECTIVE POLYCARBONATE SHIELD.
2. VERIFY QUANTITY & LOCATION WITH FIRE SPRINKLER SUPPLIER.
3. ONE SMOKE DETECTOR TO SERVE THE ABOVE-STAGE SPACE. THE SECOND SMOKE DETECTOR TO SERVE THE BENEATH-STAGE CAVITY.



FLOOR PLAN - FIRE ALARM
1/8" = 1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

FLOOR PLAN - FIRE ALARM

PROJECT NUMBER	22019
DATED	03/12/2026

E203

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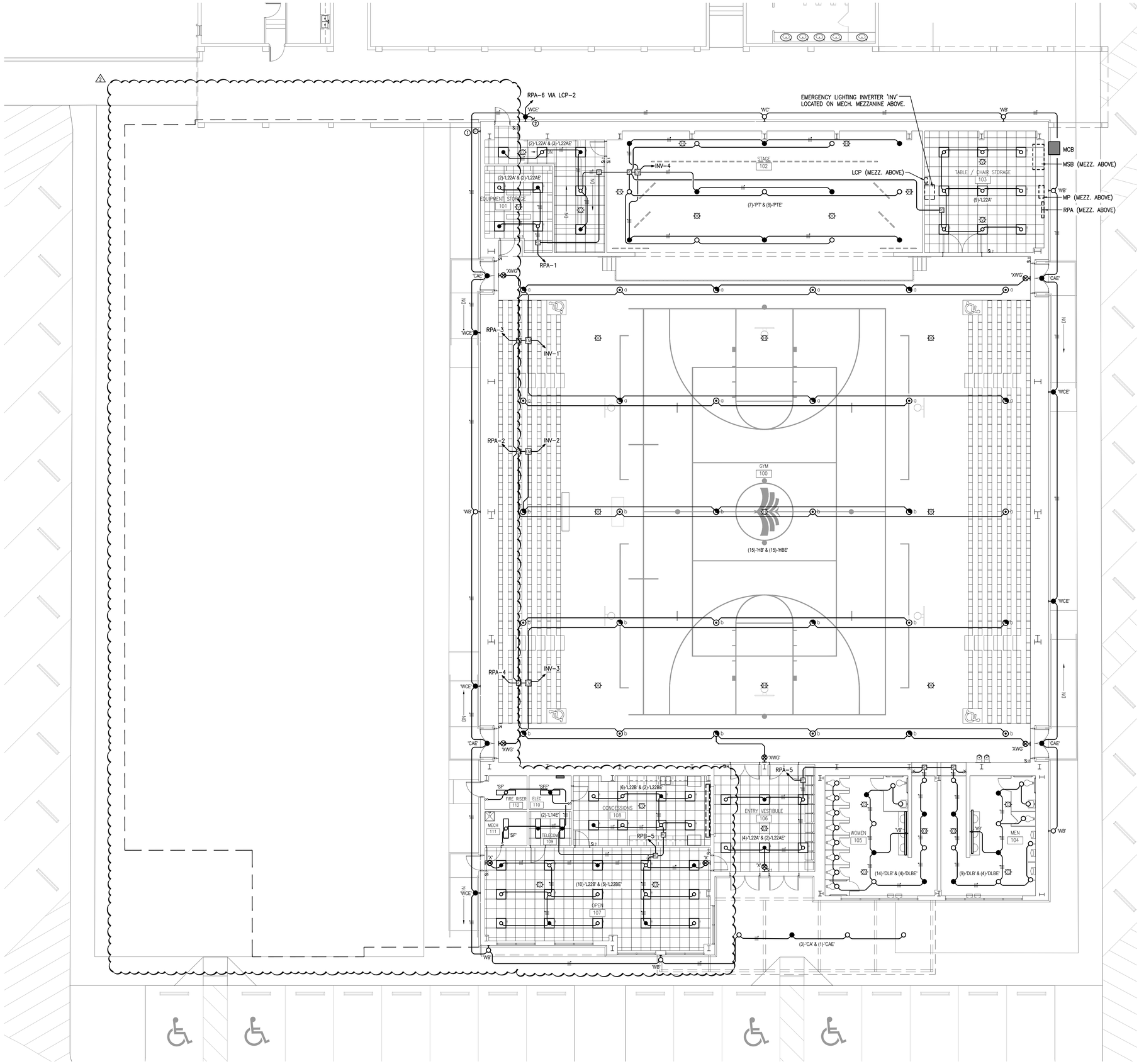

KEYNOTES

1. MOUNT PHOTOCELL AS HIGH AS POSSIBLE FACING NORTH. REFER TO LIGHTING CONTROL DETAILS.
2. CONNECT TO MEZZANINE EXTERIOR LIGHTING CIRCUIT.

FLOOR PLAN - LIGHTING

1/8" = 1'-0"

0 4' 8' 16'

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A New Gymatorium for:
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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

FLOOR PLAN - LIGHTING

PROJECT NUMBER	22019
DATED	03/12/2026

E204

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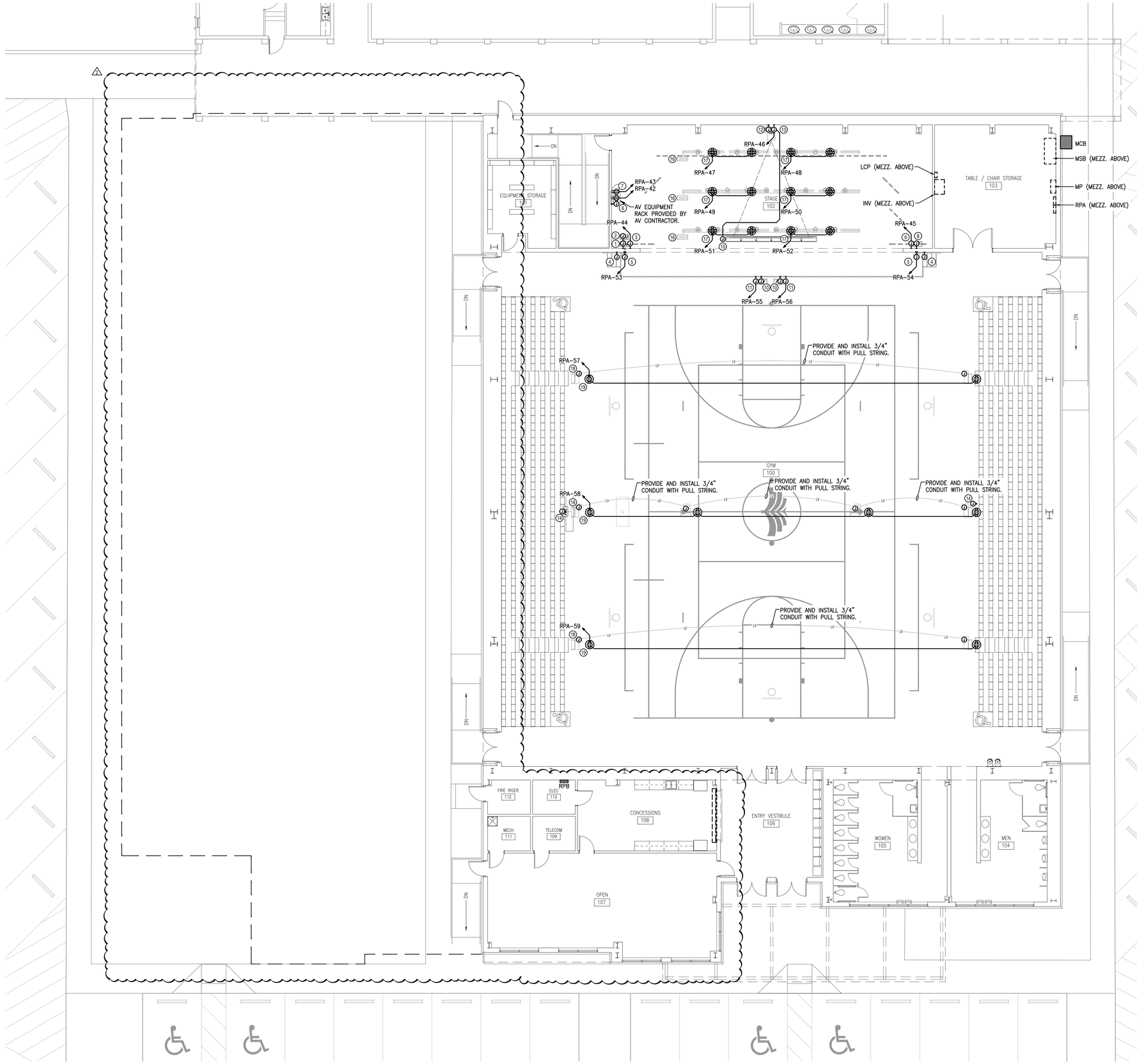
12/12/2025



KEYNOTES

1. INSTALL 8" X 8" JUNCTION BOX RECESSED IN-WALL 18" AFF FOR AV INPUT PLATE. PROVIDE AND INSTALL 1" CONDUIT FROM AV INPUT PLATE TO WALL REMOTE. PROVIDE AND INSTALL THREE 1" CONDUITS FROM AV INPUT PLATE TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL BOXES, CONDUIT AND POWER. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
2. PROVIDE AND INSTALL RECESSED IN-WALL 2-GANG JUNCTION BOX 60" AFF FOR AV INPUT PLATE AND AV WALL REMOTE. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL BOXES, CONDUIT AND POWER. WALL REMOTE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
3. AV COMPONENT POWER. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO AV INPUT PLATE FOR AV COMPONENT POWER. REFER TO AV/THEATRICAL DRAWINGS.
4. LOUDSPEAKER JUNCTION BOX. INSTALL SINGLE GANG JUNCTION BOX 84" AFF. INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK. INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO JUNCTION BOX 84" AFF FOR LOUDSPEAKER POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
5. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO JUNCTION BOX 84" AFF FOR LOUDSPEAKER POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
6. INSTALL STAGE JUNCTION BOX RECESSED IN-WALL 18" AFF. SIZE JUNCTION BOX BASED ON QUANTITY AND SIZE OF CONDUIT TERMINATIONS PER NEC. INSTALL 1" CONDUIT FROM STAGE JUNCTION BOX TO 'OVER STAGE' AREA FOR SUSPENDED MICROPHONE CABLES. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
7. INSTALL TWO 120V 20A DEDICATED RECEPTACLE CIRCUITS ADJACENT TO STAGE JUNCTION BOX FOR AV COMPONENT POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
8. PROVIDE AND INSTALL 8" X 8" AV JUNCTION BOX 18" AFF RECESSED IN-WALL. PROVIDE AND INSTALL THREE 1" CONDUITS TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101. BOXES AND CONDUIT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
9. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT FOR AV COMPONENT POWER. REFER TO AV/THEATRICAL DRAWINGS.
10. PROVIDE AND INSTALL SINGLE GANG BOX IN VERTICAL STEP RISER. PROVIDE AND INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT ROOM 101. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
11. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO AV JUNCTION BOX FOR AV COMPONENT POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
12. PROVIDE AND INSTALL 2-GANG JUNCTION BOX 9'-0" AFF. PROVIDE AND INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT STORAGE 101. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. PROJECTOR PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
13. PROVIDE AND INSTALL 120V 20A SHARED CIRCUIT 9'-0" AFF FOR PROJECTOR AND PROJECTION SCREEN POWER. REFER TO AV/THEATRICAL DRAWINGS.
14. PROVIDE AND INSTALL 1" CONDUIT FROM SCORER'S DESK FLOOR BOX TO AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101 FOR GYM AV INPUT. FLOOR BOX AND CONDUIT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
15. PROVIDE AND INSTALL 120V 20A SHARED CIRCUIT WITH PROJECTOR. PROVIDE AND INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK FOR UP/DOWN CONTROL CABLING. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. PROJECTION SCREEN PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
16. PROVIDE AND INSTALL 1" CONDUIT TO FROM DMX JUNCTION BOX ON BATTEN TO STAGE JUNCTION BOX IN EQUIPMENT STORAGE RM 101 FOR DMX CABLING. CONDUIT, BOXES & POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. STAGE LIGHTING LED FIXTURES, 1.5" PIPE BATTEN & DMX CABLING PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
17. PROVIDE AND INSTALL 120V 20A CIRCUITS (TWO QUADRAPLEX RECEPTACLES PER CIRCUIT) FOR DMX AND STAGE LIGHTING FIXTURE POWER. COORDINATE LOCATION AND INSTALLATION WITH AV/THEATRICAL LIGHTING CONTRACTOR. STAGE LIGHTING LED FIXTURES, 1.5" PIPE BATTEN & DMX CABLING PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
18. PROVIDE AND INSTALL SINGLE GANG JUNCTION BOX TO STEEL STRUCTURE. PROVIDE AND INSTALL 1" CONDUIT TO FROM LOUDSPEAKER JUNCTION BOX TO AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. LOUDSPEAKER PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
19. PROVIDE AND INSTALL 120V 20A CIRCUIT PER ROW OF LOUDSPEAKERS. MOUNT CEILING RECEPTACLE ADJACENT TO LOUDSPEAKER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. LOUDSPEAKER PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.

SPECIAL NOTE

REFER TO TELECOM, AV, AND THEATRICAL PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

FLOOR PLAN - AV POWER & THEATRICAL LIGHTING

1/8" = 1'-0"

0 4' 8' 16'

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

FLOOR PLAN - AV POWER & THEATRICAL LIGHTING

PROJECT NUMBER	22019
DATED	03/12/2026

E205

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22019
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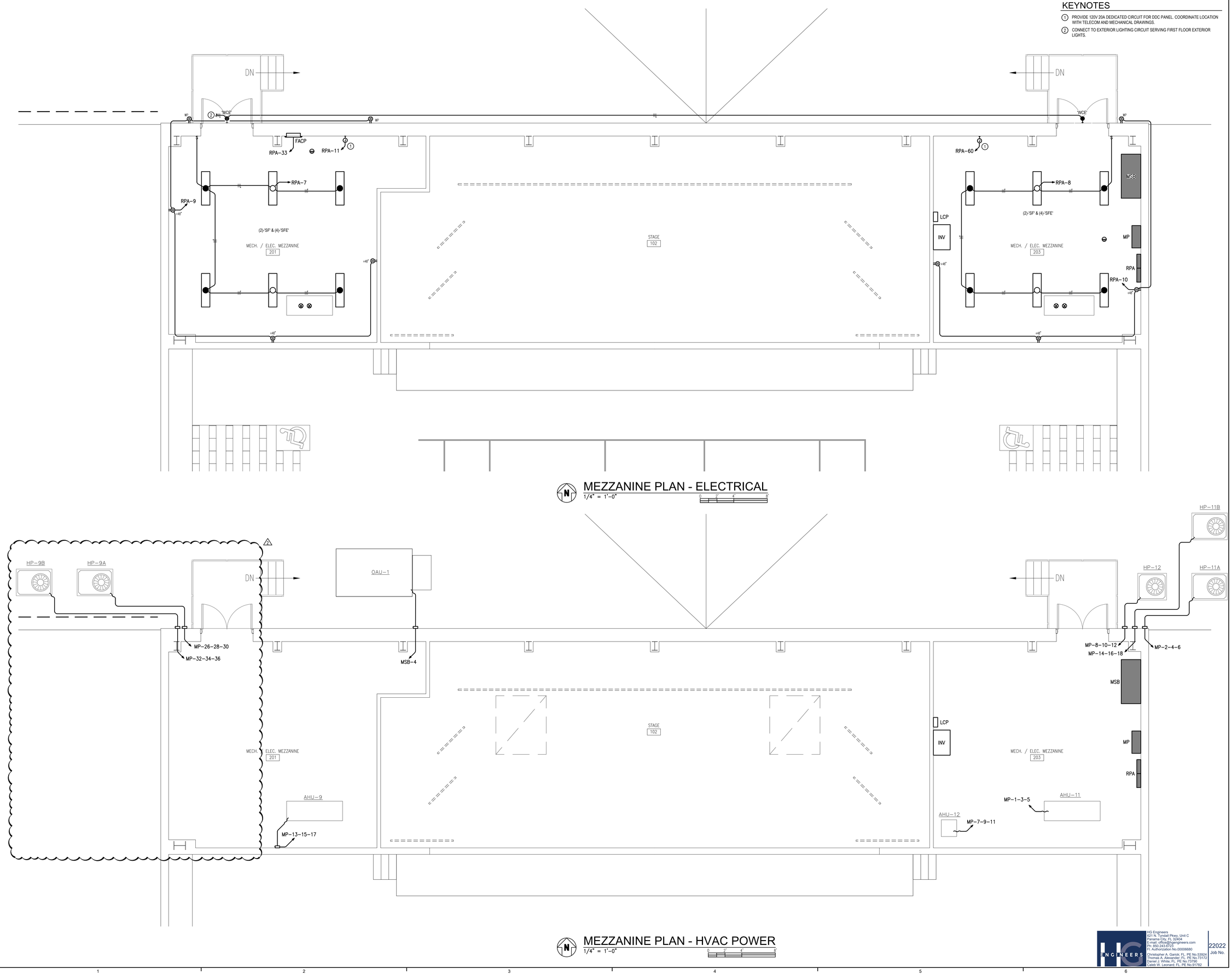
12/12/2025

KEYNOTES

1. PROVIDE 120V 20A DEDICATED CIRCUIT FOR DDC PANEL. COORDINATE LOCATION WITH TELECOM AND MECHANICAL DRAWINGS.
2. CONNECT TO EXTERIOR LIGHTING CIRCUIT SERVING FIRST FLOOR EXTERIOR LIGHTS.



MEZZANINE PLAN - ELECTRICAL
1/4" = 1'-0"

MEZZANINE PLAN - HVAC POWER
1/4" = 1'-0"

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PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

MEZZANINE PLAN - ELECTRICAL

PROJECT NUMBER	22019
DATED	03/12/2026

E206

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10/13/2025

WARNING

MAXIMUM AVAILABLE FAULT CURRENT

____ SYMMETRICAL RMS AMPERES

__/__/__ DATE OF CALCULATION

____ EQUIPMENT NAME

COMPANY RESPONSIBLE FOR CALCULATION CONTACT INFORMATION; COMPANY NAME, ADDRESS, PHONE NUMBER

ORANGE

WHITE

4"H x 6"W VINYL LABEL WITH BLACK LETTERING PER ANSI Z535 STANDARDS.

TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL
NOT TO SCALE

WARNING

Arc Flash and Shock Risks Appropriate PPE Required

ARC FLASH RISK PROTECTION		MINIMUM PPE
Incident Energy:	1.3 cal/cm^2	▪ 4 cal/sq cm, FR shirt (long-sleeve) plus FR pants (long), or FR coverall, rainwear as needed.
Arc Flash Boundary	19 in	
SHOCK PROTECTION		
Shock Risk When Cover is Removed	480 VAC	▪ Hardhat + Safety Glasses or Goggles + Ear Canal Inserts
Limited Approach:	42 in	▪ Glove Class 00
Restricted Approach:	12 in	▪ Leather work shoes
Bus ID:		Calculated Fault Current:
Prot Device ID:		Date of Analysis:

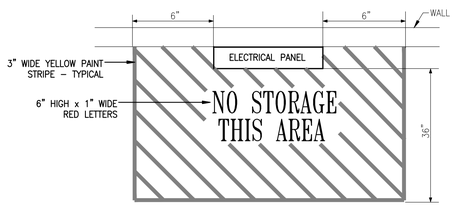
Warning: Changes in equipment settings or system configuration may invalidate the calculated results.

ORANGE

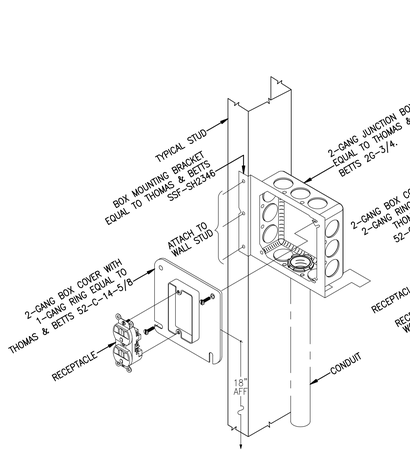
WHITE

4"H x 6"W VINYL LABEL WITH BLACK LETTERING PER ANSI Z535 STANDARDS.

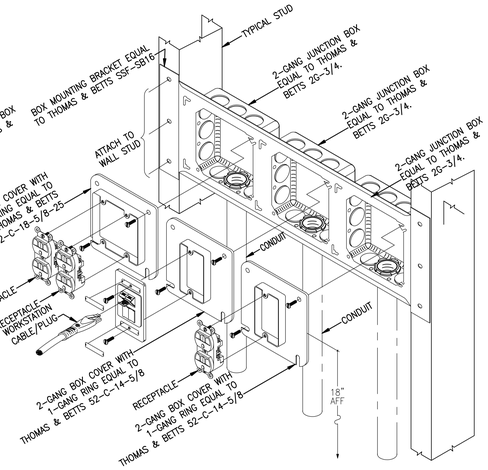
TYPICAL ARC FLASH HAZARD LABEL DETAIL
NOT TO SCALE



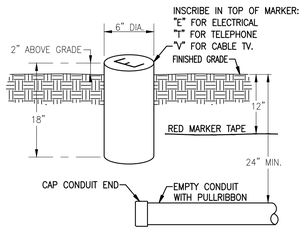
TYPICAL FLOOR MARKING AT ELECTRICAL PANELS
NOT TO SCALE



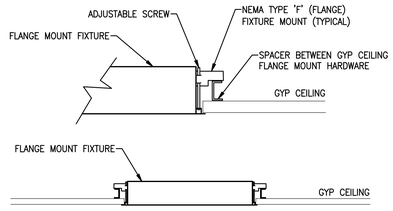
TYPICAL POWER OUTLET INSTALLATION DETAIL
NOT TO SCALE



TYPICAL POWER/COMMUNICATIONS OUTLET INSTALLATION DETAIL
NOT TO SCALE

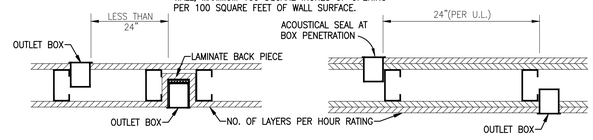


CONDUIT MARKER DETAIL
NOT TO SCALE



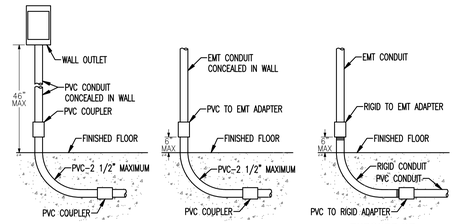
FLANGE MOUNT FIXTURE IN GYP BOARD CEILING
NOT TO SCALE

note:
FOR ONE HOUR OR TWO HOUR FIRE OR SMOKE WALL; MAXIMUM 100 SQUARE INCHES OF OPENING PER 100 SQUARE FEET OF WALL SURFACE.



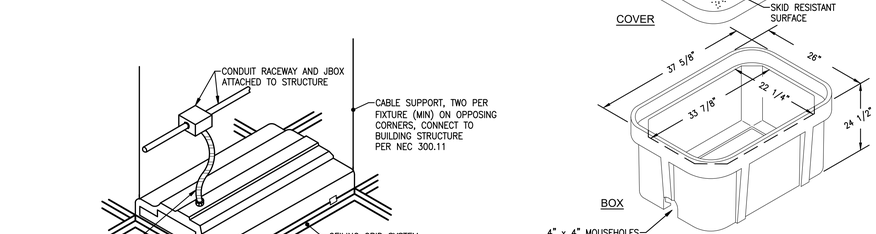
FIVE SIDED ELECTRICAL BOX — ADJACENT ELECTRICAL BOXES

WALL DETAILS - ELECTRICAL BOX INSTALLATION
NOT TO SCALE

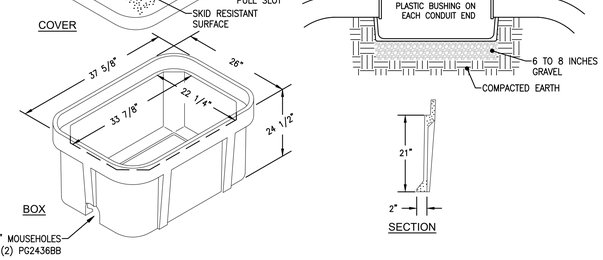


WITH OUTLET BOX — WITHOUT OUTLET BOX — EXPOSED OR FEEDER CONDUIT

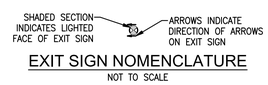
PVC STUB-UP DETAILS
NOT TO SCALE



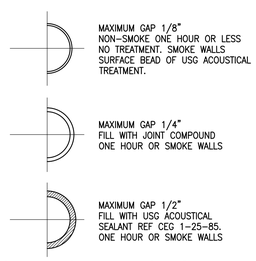
LAY-IN FIXTURE CABLE SUPPORT DETAIL
NOT TO SCALE



ELECTRICAL PULLBOX DETAIL
NOT TO SCALE

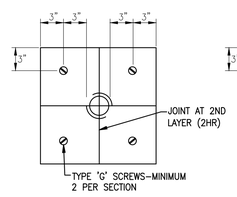


EXIT SIGN NOMENCLATURE
NOT TO SCALE

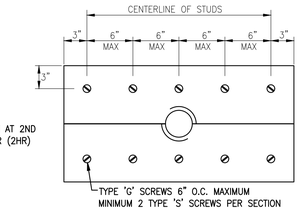


SMALL DIAMETER GAPS IN ONE HOUR WALLS

NOTE:
BUTTER BACK SIDE OF PATCH WITH JOINT COMPOUND–DO NOT STRIKE OFF EXCESS. LEAVE SCREWS EXPOSED

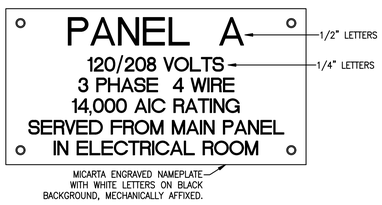


OPENINGS UP TO 3" DIA.

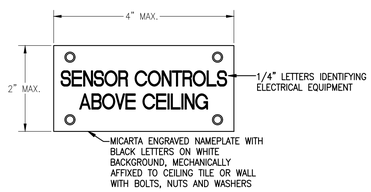


OPENINGS OVER 3" DIA.

WALL PENETRATIONS —APPLIES TO ALL CORRIDOR, SMOKE AND FIRE RATED WALLS
NOT TO SCALE

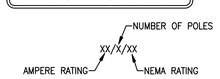


TYPICAL ELECTRICAL EQUIPMENT NAMEPLATE
NOT TO SCALE



TYPICAL ELECTRICAL EQUIPMENT ABOVE CEILING NAMEPLATE
NOT TO SCALE

GENERAL NOTE
REFER TO MECHANICAL SCHEDULE FOR DISCONNECT, CONDUIT, AND WIRE SIZE.



DISCONNECT SWITCH DESCRIPTION NOMENCLATURE

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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

ELECTRICAL DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E301

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22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
10/1/2026

LIGHTING FIXTURE SCHEDULE

Project: #2022 - PALM BAY GYMNATORIUM

Note: Per electrical specifications, alternate fixtures shall be submitted to the engineer for prior approval a minimum of (10) ten business days prior to bid date. Any alternate fixtures not submitted for prior approval will not be reviewed.

Luminaire Designation	Manufacturer	Catalog Number	Connected Voltage	Luminaire Load (va)	Lamping Source	Color Rendering Index(CRI)	Kelvin Temperature	Mounting	Comments
CA	GARDCO	SFC-5R-48L-250-NW-G2-UNV-MGY	120	38	LED	80	4000	CANOPY SURFACE	
CAE	GARDCO	SFC-5R-48L-250-NW-G2-UNV-MGY	120	38	LED	80	4000	CANOPY SURFACE	PROVIDE WITH BATTERY PACK CAPABLE OF OPERATING FIXTURE FOR 90-MINUTES UPON LOSS OF POWER. IF EXTERNAL BATTERY PACK REQUIRED, MOUNT INDOORS ABOVE ACCESSIBLE CEILING.
DLB	HE WILLIAMS	6DR-TL-L15/840-DIM-UNV-OW-OF-CS-N	120	14	LED	80	4000	CEILING RECESSED	
DLBE	HE WILLIAMS	6DR-TL-L15/840-EM/10W-DIM-UNV-OW-OF-CS-N	120	14	LED	80	4000	CEILING RECESSED	
HB	TGS	CHB-P-150W-40K-WD-U-D-W-PM	120	150	LED	80	4000	PENDANT MOUNT 25'-0" AFF TO BOTTOM OF FIXTURE	WIRE GUARD: CHB-P-WG-W; SPECIFY PENDANT LENGTH
HBE	TGS	CHB-P-150W-40K-WD-U-D-W-PM	120	150	LED	80	4000	PENDANT MOUNT 25'-0" AFF TO BOTTOM OF FIXTURE	WIRE GUARD: CHB-P-WG-W; SPECIFY PENDANT LENGTH; HOMERUN VIA INVERTER.
L14E	HE WILLIAMS	LT-14-L63/840-EM/10W-AF-DRV-UNV	120	49	LED	80	4000	CEILING GRID LAY-IN	
L22A	HE WILLIAMS	LT-22-L27/840-AF-DIM-UNV	120	22	LED	80	4000	CEILING GRID LAY-IN	
L22AE	HE WILLIAMS	LT-22-L27/840-EM/10W-AF-DIM-UNV	120	22	LED	80	4000	CEILING GRID LAY-IN	
L22B	HE WILLIAMS	LT-22-L39/840-AF-DIM-UNV	120	34	LED	80	4000	CEILING GRID LAY-IN	
L22BE	HE WILLIAMS	LT-22-L39/840-EM/10W-AF-DIM-UNV	120	34	LED	80	4000	CEILING GRID LAY-IN	
PLA	GARDCO	ECF-S-48L-900-NW-G2-AR-3-UNV-DD-TLRD5-BZ	-	135	LED	70	4000	POLE MOUNTED 18'-0" AFG TO BOTTOM OF FIXTURE	MOUNT TO POLE - PL(POLE)
PT	HE WILLIAMS	6CR-TL-L30/840-WHT-DIM-UNV-OW-CS-PM36	120	28	LED	80	4000	PENDANT MOUNT 20'-0" AFF TO BOTTOM OF FIXTURE	SPECIFY PENDANT LENGTH
PTE	HE WILLIAMS	6CR-TL-L30/840-WHT-DIM-UNV-OW-CS-PM36	120	28	LED	80	4000	PENDANT MOUNT 20'-0" AFF TO BOTTOM OF FIXTURE	SPECIFY PENDANT LENGTH; HOMERUN VIA INVERTER
SF	HE WILLIAMS	39-4-L30/840-A-DRV-UNV	120	23	LED	80	4000	CEILING SURFACE MOUNT	
SFE	HE WILLIAMS	39-4-L30/840-A-EM/10WLP-DRV-UNV	120	23	LED	80	4000	CEILING SURFACE MOUNT	
V9	HE WILLIAMS	P2WDP-5W-C1R-108-40K-WH	120	45	LED	80	4000	WALL MOUNT 6" ABOVE VANITY MIRROR TO BOTTOM OF FIXTURE	
WB	HE WILLIAMS	VWM-V-L20-740-T3-DBZ-SDGL-DIM-UNV	120	27	LED	80	4000	WALL MOUNT 10'-0" AFG TO BOTTOM OF FIXTURE	
WC	HE WILLIAMS	WPAL-L49/850-BZ-DIM-UNV	120	69	LED	80	5000	WALL MOUNT 8'-0" AFG TO BOTTOM OF FIXTURE	
WCE	HE WILLIAMS	WPAL-L49/850-BZ-EM/6W-DIM-UNV	120	69	LED	80	5000	WALL MOUNT 8'-0" AFG TO BOTTOM OF FIXTURE	WITH EMERGENCY BATTERY
X	HE WILLIAMS	EXIT-R-EM-WHT-SDT-D	120	4	LED	-	-	WALL MOUNT ABOVE DOOR AT 8'-0" AFF TO BOTTOM OF FIXTURE	
XWG	HE WILLIAMS	EXIT-R-EM-WHT-SDT-WG-D	120	4	LED	-	-	WALL MOUNT ABOVE DOOR AT 8'-0" AFF TO BOTTOM OF FIXTURE	
PL(POLE)	VALMONT	R170830506T4-D1-335	-	-	-	-	-	CONCRETE BASE	REFER TO POLE BASE DETAIL

2

Lighting Space and Zones				Sequence of Opperations										Low Voltage Switch Matrix (Button Labels to be designated by owner duringinstallation)			
		ZONE OF CONTROL		CONTROL SCENARIOS										CONNECT TO NON-NETWORKED LOCAL ROOM CONTROL			
Space Type	Room Number	Description	Designator	Manual On	Manual Off	Dimming	Multi-Level Control	Timeclock On	Timeclock Off	Occupancy Sensor On	Vacancy Sensor Off	Daylight Harvesting	Photo Sensor On	SL2 (2-Button)	SL4 (4-Button)	SL8 (8-Button)	Control Detail #
GYM	100	ZONE A	a	X	X	X					X					X	7
		ZONE B	b	X	X	X					X						6
EQUIPMENT STORAGE	101			X	X					X	X			X			5
STAGE	102			X	X	X					X				X		6
ENTRY VESTIBULE	106			X	X					X	X			X			1
OPEN	107			X	X					X	X			X			5
CONCESSIONS	108			X	X					X				X			5
RESTROOMS	TYPICAL			X						X	X						4
CORRIDORS	TYPICAL			X	X					X							1
EXISTING CANOPY - NORTH	N/A							X	X				X				9
BUILDING EXTERIOR	N/A							X	X				X				9
PARKING/SITE LIGHTING	N/A							X	X				X				9

2

LIGHTING CONTROL PANEL

PANEL LCP

VOLTAGE: 120V **SUPPLY CIRCUIT:** RPA-63 **MOUNTING:** SURFACE
PANEL: LMCP8-115/277-8 **AIC RATING:** 10k MINIMUM
NEMA RATING 1 **OPTIONS:** **LOCATION** MEZZ. RM 201

RELAY	LOAD (VA)	LINE FEED	SERVING	VOLTAGE	VOLTAGE	SERVING	LINE FEED	LOAD (VA)	RELAY
1	270	RPA-61	PARKING/SITE LIGHTING	120V	120V	BUILDING EXTERIOR	RPA-6	1003	2
3	--	--	SPARE	120V	120V	SPARE	--	--	4
5	--	--	SPARE	120V	120V	SPARE	--	--	6
7	--	--	SPARE	120V	120V	SPARE	--	--	8

LIGHTING CONTROL GENERAL NOTES

A. THE DIAGRAMS ARE NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR ESTIMATED DEVICE QUANTITIES AND LOCATIONS.

B. THE LOCAL DEVICE INTERCONNECTIONS FOR ALL LIGHTING CONTROL DEVICES SHALL BE OF THE TOPOLOGY FREE TYPE.

C. COLORS FOR ALL DEVICES AND DEVICE COVERS SHALL BE SELECTED BY THE ARCHITECT.

D. ALL DATA LINE SWITCHES SHALL INCLUDE CUSTOM ENGRAVED LABEL INDICATING FUNCTION OF SWITCH. COORDINATE EXACT LABEL DESCRIPTIONS WITH OWNER PRIOR TO INSTALLATION.

E. PROVIDE ADDITIONAL POWER AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

F. THE DIAGRAMS REPRESENT A TYPICAL SYSTEM AND ARE NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

G. E.C. SHALL COORDINATE FIELD PROGRAMMING OF LIGHTING CONTROL SYSTEM WITH SYSTEM PROGRAMMER, SPECIFYING ENGINEER, AND OWNER TO ENSURE PROPER OPERATION AND TIME SCHEDULES.

H. ALL EMERGENCY AND EXIT LIGHTING CIRCUITS SHALL BE CONNECTED TO CONTINUOUS POWER SOURCE AHEAD OF RELAY PANEL OR INDIVIDUAL RELAY COMPONENTS.

I. INSTALL ALL CEILING SENSORS MINIMUM OF 6FT CLEAR OF DUCT REGISTERS.

J. THE LIGHTING CONTROL AND EMERGENCY LIGHTING SYSTEMS SHALL BE CAPABLE OF BEING ACCESSED VIA THE LOCAL AREA NETWORK AND REMOTELY VIA AUTHORIZED PERSONNEL ONLY.

K. PROGRAMMER / COMMISSIONING AGENT SHALL BE CERTIFIED BY THE EQUIPMENT MANUFACTURER ON THE SYSTEM INSTALLED.

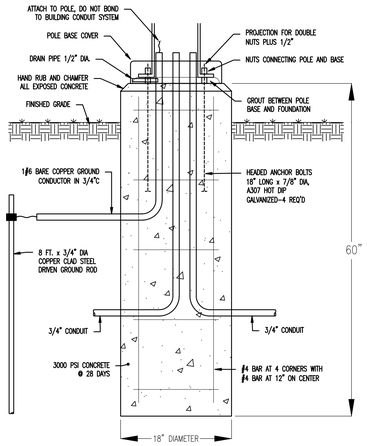
L. THE MANUFACTURER CERTIFIED TECHNICIAN WILL MEET ONSITE WITH THE ELECTRICAL CONTRACTORS TO COORDINATE INSTALLATION DETAILS, REVIEW BEST PRACTICES, AND DISCUSS PROJECT SPECIFIC CHALLENGES; PRIOR TO THE INSTALLATION BEING STARTED, ENABLING THE CONTRACTORS TO WORK WITH THE TECHNICIAN TO PREPARE AND MAKE CHANGES UP FRONT.

M. THE MANUFACTURER'S LIGHTING SYSTEMS TEAM SHALL WORK ONSITE AFTER FIXTURE AND CONTROLS INSTALLATION IS COMPLETED. THE MANUFACTURER'S AGENT IS TO VERIFY THE PROJECT IS REVIEWED AND CHECKED FOR PROPER WIRING, INSTALLATION AND FUNCTIONALITY OF THE SYSTEM AS A WHOLE. ANY PROBLEMS SHALL BE ADDRESSED AND RESOLVED WITH THE ONSITE CONTRACTORS.

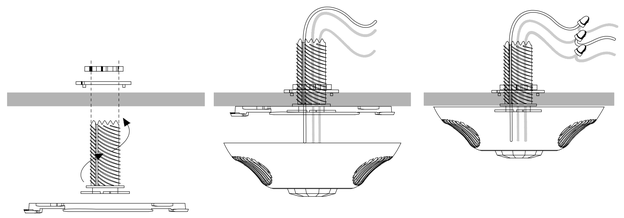
N. MANUFACTURER'S TECHNICIANS SHALL MAP OUT THE FIXTURE LOCATIONS AND ADDRESSES WITHIN THE LIGHTING CONTROL SOFTWARE. ASTRONOMIC TIMECLOCK EVENTS, SCENES, AND SCHEDULES ARE PROGRAMMED ACCORDING TO A PRE-DEFINED SCRIPT. THESE EVENTS, SCENES, AND SCHEDULES ARE TESTED AND FINALIZED FOR FINAL APPROVAL BY THE PROJECT'S OWNERSHIP.

O. MANUFACTURER'S TECHNICIANS SHALL PROVIDE TRAINING FOR SYSTEM USERS AND THE SYSTEM MAINTENANCE TEAM. THE DETAILS OF THE TECHNOLOGY SHALL BE COVERED FROM A MAINTENANCE AND TROUBLESHOOTING POINT OF VIEW. THIS COVERS THE LIGHTING CONTROL SYSTEM AND ITS CORE FUNCTIONALITY, WITH A FOCUS ON HOW TO EDIT EXISTING SCENES AND ASTRONOMIC LIGHTING EVENTS.

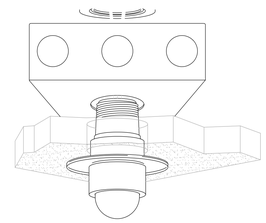
P. THE MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE IN-DEPTH TRAINING TO THE END USER ON MANAGING THE SPECIFIC CONTROL SYSTEM, GIVING THEM THE TOOLS AND KNOWLEDGE TO OPERATE THEIR SYSTEM.



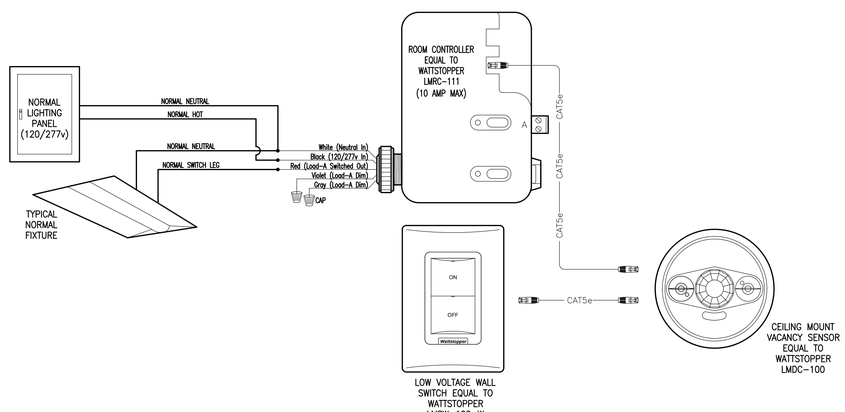
POLE PL - CONCRETE POLE BASE FOR FIXTURE "PLA"
NOT TO SCALE



OCCUPANCY SENSOR MOUNTING DETAIL
NOT TO SCALE



INDOOR PHOTOCELL MOUNTING DETAIL
NOT TO SCALE



LIGHTING CONTROL DETAIL #1
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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIGHTING FIXTURE SCHEDULE AND CONTROLS

PROJECT NUMBER	22019
DATED	03/12/2026

E302

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22022 Job No.

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22019
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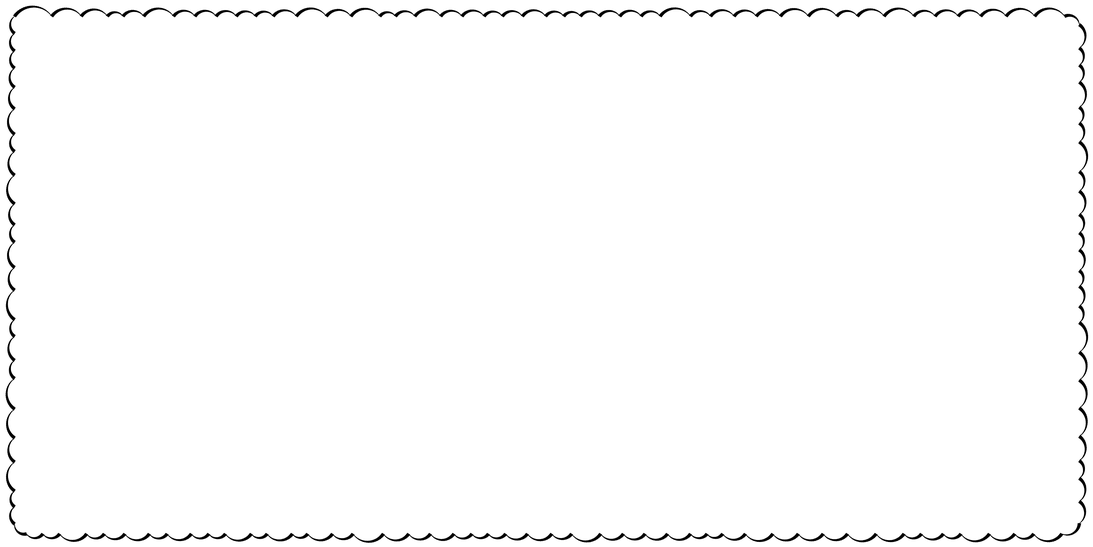
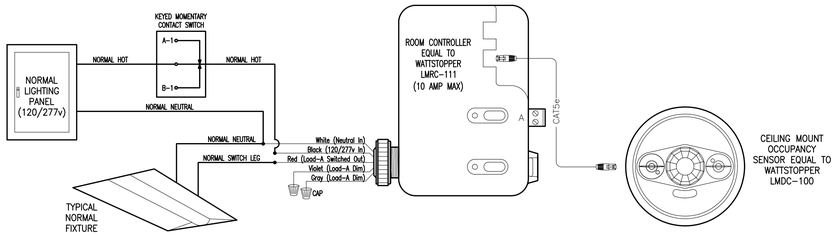
03/12/2026



LIGHTING CONTROL DETAIL #2
NOT TO SCALE

LIGHTING CONTROL DETAIL #3
NOT TO SCALE



LIGHTING CONTROL DETAIL #4
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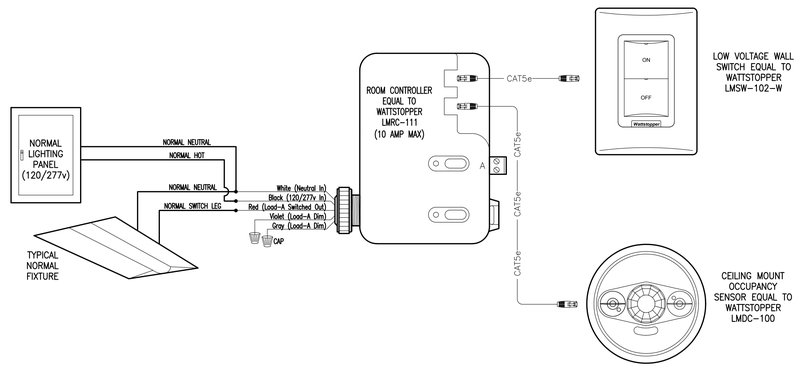

LIGHTING CONTROL DETAIL #5
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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIGHTING CONTROLS DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E303

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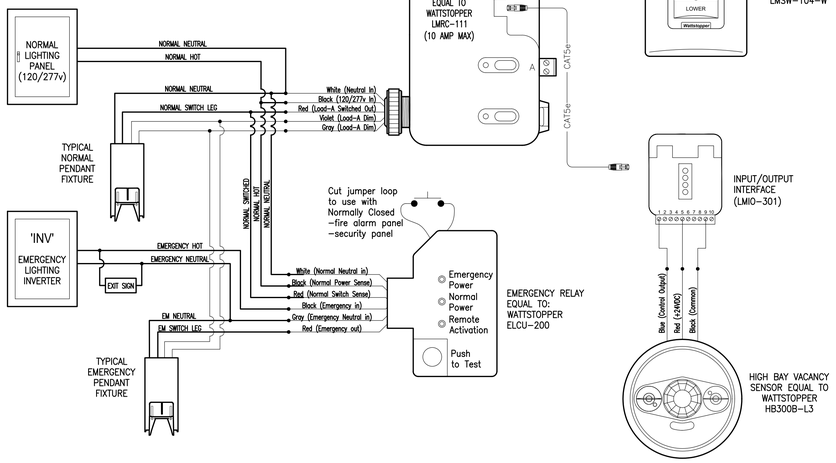
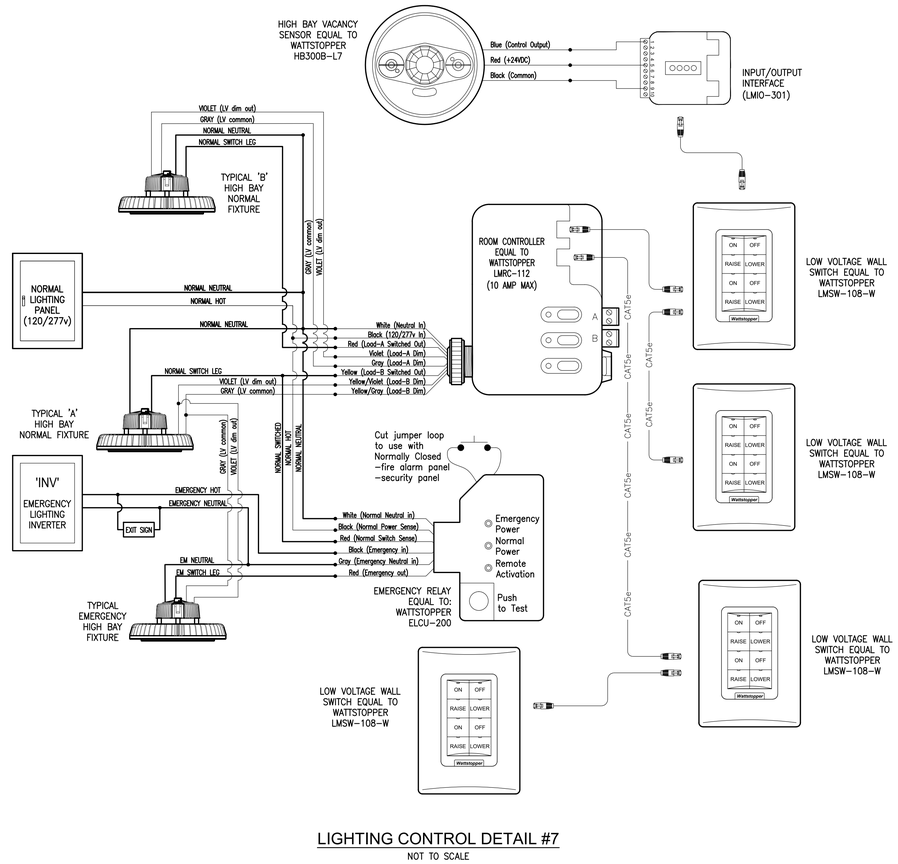
22019
100% CONSTRUCTION DOCUMENTS
03/12/2026



LIGHTING CONTROL DETAIL #6
NOT TO SCALE



LIGHTING CONTROL DETAIL #7
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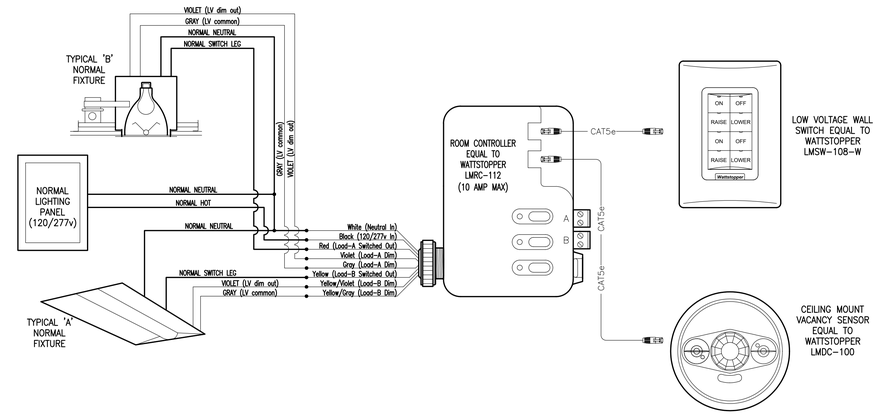

LIGHTING CONTROL DETAIL #8
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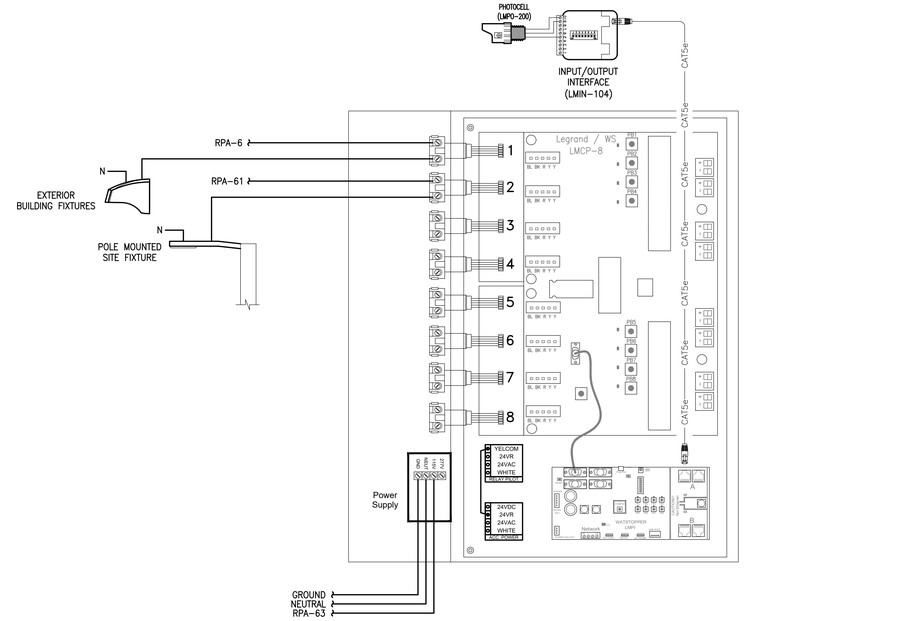

LIGHTING CONTROL DETAIL #9
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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIGHTING CONTROLS DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E304

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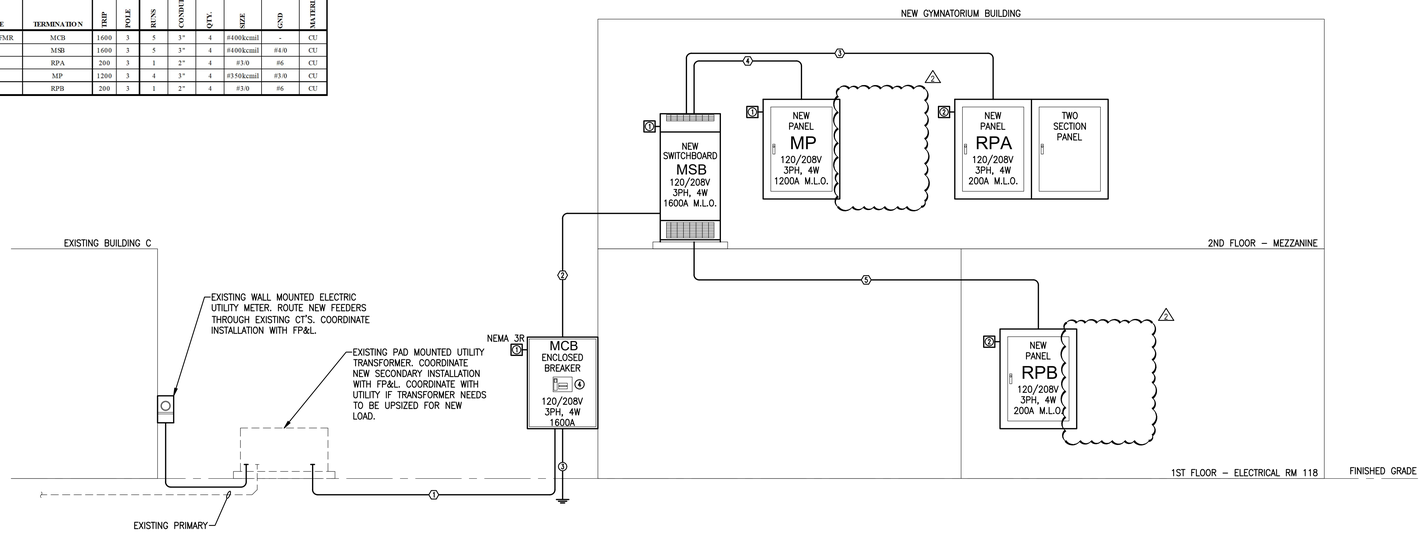
Daniel J. White: FL. PE No.73790
Caleb W. Leonard: FL. PE No.91782

22022 Job No.

FEEDER SCHEDULE											
(#) DESIGNATION	EQUIPMENT		BREAKER		CONDUCTOR / CONDUIT SIZE						
							CONDUCTORS				
	SOURCE	TERMINATION	TRIP	POLE	RUNS	CONDUIT	QTY.	SIZE	GND	MATERIAL
1	UTILITY XFMR	MCB	1600	3	5	3"	4	#400kcmil	-	CU
2	MCB	MSB	1600	3	5	3"	4	#400kcmil	#4/0	CU
3	MSB	RPA	200	3	1	2"	4	#3/0	#6	CU
4	MSB	MP	1200	3	4	3"	4	#350kcmil	#3/0	CU
5	MSB	RPB	200	3	1	2"	4	#3/0	#6	CU



SINGLE LINE POWER RISER DIAGRAM

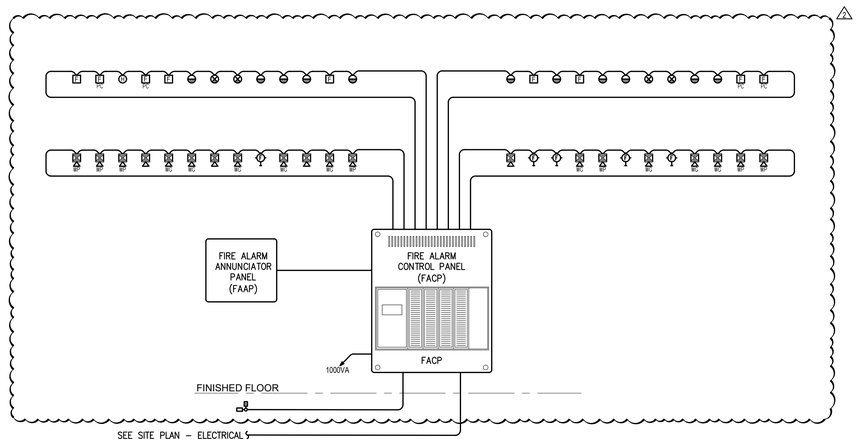
NOT TO SCALE

KEYNOTES

1. INSTALL SURGE SUPPRESSOR WITH 4#6, 1#10 GROUND IN 1" CONDUIT; LOCATE SURGE SUPPRESSOR SO LEAD LENGTH DOES NOT EXCEED 14 INCHES PER 1449–2014 4TH EDITION. PROVIDE FUSES PER MANUFACTURER RECOMMENDATIONS.
2. INSTALL SURGE SUPPRESSOR WITH 4#10, 1#10 GROUND IN 3/4" CONDUIT; LOCATE SURGE SUPPRESSOR SO LEAD LENGTH DOES NOT EXCEED 14 INCHES PER ANSI/UL 1449–2014 4TH EDITION. PROVIDE FUSES PER MANUFACTURER RECOMMENDATIONS.
3. REFER TO GROUNDING DETAILS.
4. SERVICE ENTRANCE RATED ENCLOSED BREAKER. LSI TYPE. SURFACE MOUNT NEMA 3R. 65K AIC MIN.

***** SPECIAL NOTE *****

PROVIDE 'LSI' TRIP UNITS FOR BREAKERS GREATER THAN OR EQUAL TO 200A.



FIRE ALARM SYSTEM RISER

NOT TO SCALE

LEGEND

FIRE ALARM WIRING

FIRE ALARM RISER GENERAL NOTES

A. THIS DIAGRAM IS NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR DEVICE QUANTITIES AND LOCATIONS.

B. THE RISER REPRESENTS A TYPICAL SYSTEM AND IS NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

C. PROVIDE ADDITIONAL MONITOR AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

D. FIRE ALARM SYSTEM SHALL HAVE U.L. APPROVED DIGITAL ALARM DIALER/COMMUNICATOR TO SEND ALARM SIGNAL TO MONITORING SERVICE.

E. FIRE ALARM SYSTEM LOW VOLTAGE SOURCE AND BATTERY STAND–BY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.

F. REFER TO MECHANICAL DRAWINGS FOR SMOKE AND/OR SMOKE/FIRE DAMPER LOCATIONS. CONNECT TO FIRE ALARM SYSTEM AND TO 120V POWER.

G. VERIFY LOCATION AND QUANTITIES OF FLOW AND TAMPER SWITCHES WITH SPRINKLER CONTRACTOR.

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SINGLE LINE POWER & FIRE ALARM RISER DIAGRAMS

PROJECT NUMBER	22019
DATED	03/12/2026

E401

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Caleb W. Leonard: FL. PE No.91782

22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
10/17/2025

SWITCHBOARD

MSB

SYSTEM 208/120V 3Φ 4W
RATING 1600A M.L.O. 65,000 AIC MINIMUM
ENCLOSURE NEMA 1 FREE STANDING; 4' CONCRETE PAD
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR UNIT	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)
1	PANEL MP	LSI	1200	3	181496
2	PANEL RPA	LSI	200	3	46787
3	PANEL RPB	LSI	200	3	17857
4	OUTSIDE AIR HANDLER UNIT - OAU	LSI	200	3	47951
5	EMERGENCY LIGHTING INVERTER - INV	-	40	1	2774
6	SPACE ONLY (100A FRAME)	-	-	3	-
7	SPACE ONLY (200A FRAME)	-	-	3	-
8	SPACE ONLY (200A FRAME)	-	-	3	-
9	SPACE ONLY (60A FRAME)	-		3	-
10	SURGE PROTECTIVE DEVICE	-	60	3	-

TOTAL CONNECTED LOAD = 296865 VA / 360 = 824.6 A

NOTES:

*** SPECIAL NOTE ***
PROVIDE 'LSI' TRIP UNITS FOR BREAKERS GREATER THAN OR EQUAL TO 200A.

POWER PANEL

RPA

SYSTEM 208/120V 3Φ 4W
RATING 200A M.L.O. 65,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS; TWO EQUAL SECTIONS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	LTG - EQ/CHAIR STO, STAGE - 101-103	20	1	816	1500	1	20	LTG - GYM 100 - CNTR	2
3	LTG - GYM 100 - N.	20	1	1500	1500	1	20	LTG - GYM 100 - S.	4
5	LTG - ENTRY, MENS, WOMENS - 104-106	20	1	572	1003	1	20	LTG - EXTERIOR BLDG/CANOPY LIGHTING	6
7	LTG - MEZZ 201	20	1	138	138	1	20	LTG - MEZZ 203	8
9	REC - MEZZ 201	20	1	540	540	1	20	REC - MEZZ 203	10
11	DDC PANEL - MEZZANINE 201	20	1	500	1260	1	20	REC - EQ. STORAGE 101, GYM 100 N.	12
13	REC - FLR REC STAGE, TV'S STAGE - 102	20	1	1040	900	1	20	REC - STAGE 102	14
15	A/V EQUIPMENT - TABLE/CHAIR STO 103	20	1	1000	540	1	20	REC - ENTRY VESTIBULE/ EXTERIOR	16
17	REC- EWC-1 - GYM	20	1	600	500	1	20	GYM 100 - SCORER'S TABLE W.	18
19	BASKETBALL GOAL - GYM 100 N.	20	1	1000	500	1	20	GYM 100 - SCORER'S TABLE E.	20
21	BASKETBALL GOAL - GYM 100 S.	20	1	1000	1500	1	20	GYM 100 - BLEACHERS W.	22
23	SPARE	20	1	---	1500	1	20	GYM 100 - BLEACHERS E.	24
25	GYM 100 S. - WALL SCOREBOARD	20	1	1200	360	1	20	REC - GYM 100 S.	26
27	SPARE	20	1	---	720	1	20	REC - MENS 105/WOMENS 104	28
29	HAND DRYER - WOMENS	20	1	1000	1000	1	20	HAND DRYER - MENS	30
31	HAND DRYER - WOMENS	20	1	1000	1000	1	20	HAND DRYER - MENS	32
33	FIRE ALARM CONTROL PANEL (FACP) - 106*	20	1	500	---	1	20	SPARE	34
35	SPARE	20	1	---	---	1	20	SPARE	36
37	SPARE	20	1	---	---	1	20	SPARE	38
39	SPARE	20	1	---	790	1	20	REC - CONF 110 - SW.	40
41	REC - CORR C001, SUPPLIES 115	20	1	900	500	1	20	REC - AV COMPONENT PWR - EQ STO 101	42
43	REC - AV COMPONENT PWR - EQ STO 101	20	1	500	500	1	20	AV COMPONENT - STAGE 102	44
45	AV COMPONENT - STAGE 102	20	1	500	500	1	20	PROJECTOR AND PROJECTION SCREEN	46
47	CLG REC - STAGE LTG - 102	20	1	720	720	1	20	CLG REC - STAGE LTG - 102	48
49	CLG REC - STAGE LTG - 102	20	1	720	720	1	20	CLG REC - STAGE LTG - 102	50
51	CLG REC - STAGE LTG - 102	20	1	720	720	1	20	CLG REC - STAGE LTG - 102	52
53	STAGE LEFT - LOUDSPEAKER	20	1	500	500	1	20	STAGE RIGHT - LOUDSPEAKER	54
55	AV COMPONENT - FRONT STAGE 102	20	1	500	500	1	20	AV COMPONENT - FRONT STAGE 102	56
57	GYM 100 - LOUDSPEAKERS - N. ROW	20	1	360	720	1	20	GYM 100 - LOUDSPEAKERS - CNTR. ROW	58
59	GYM 100 - LOUDSPEAKERS - S. ROW	20	1	360	500	1	20	DDC PANEL - MEZZANINE 203	60
61	LTG - PARKING LOT - SOUTH	20	1	270	500	1	20	GYM 100 - HOIST SWITCHES	62
63	LIGHTING CONTROL PANEL (LCP)	20	1	500	1000	1	20	GYM 100 - SHOT CLOCKS	64
65	GYM 100 N. - WALL SCOREBOARD	20	1	1200	1000	1	20	BASKETBALL GOAL - GYM 100 NE.	66
67	BASKETBALL GOAL - GYM 100 NW.	20	1	1000	1000	1	20	BASKETBALL GOAL - GYM 100 SE.	68
69	BASKETBALL GOAL - GYM 100 SW.	20	1	1000	-	1	20	SPARE	70
71	SPARE	20	1	-	-	1	20	SPARE	72
73	SPARE	20	1	-	-	1	20	SPARE	74
75	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	76
77	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	78
79	SPACE ONLY	-	-	-	0	3	30	SURGE PROTECTIVE DEVICE	80
81	SPACE ONLY	-	-	-	-	-	-	----	82
83	SPACE ONLY	-	-	-	-	-	-	----	84

TOTAL CONNECTED LOAD = 46787 VA / 360 = 130.0 A

NOTES:
* PROVIDE BREAKER LABELED "FIRE ALARM CIRCUIT" WITH RED HANDLE LOCKABLE IN THE ON POSITION.

POWER PANEL

RPB

SYSTEM 208/120V 3Φ 4W
RATING 200A M.L.O. 10,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	SPARE	20	1	---	---	1	20	SPARE	2
3	SPARE	20	1	---	---	1	20	SPARE	4
5	LTG - CONCESSION & OPEN	20	1	957	720	1	20	REC - ELEC RM 110	6
7	REC - EXTERIOR WEST	20	1	720	1500	1	20	REC - CONCESSION 108 - REF	8
9	REC - OPEN 107	20	1	360	1200	1	20	REC - CONCESSION 108	10
11	REC - CONCESSION 108 - REF	20	1	1500	900	1	20	REC - OPEN 107	12
13	REC - CONCESSION 108	20	1	1200	500	1	20	REC - DED. SIMPLEX REC - TELECOM 109	14
15	REC - DEDICATED QUAD - TELECOM 109	20	1	720	500	1	20	REC - DED. SIMPLEX REC - TELECOM 109	16
17	REC - DEDICATED QUAD - TELECOM 109	20	1	360	360	1	20	REC - DEDICATED QUAD - TELECOM 109	18
19	REC - DED. 30A REC - TELECOM 109	30	1	3000	360	1	20	REC - DEDICATED QUAD - TELECOM 109	20
21	REC - DED. 30A REC - TELECOM 109	30	1	3000	---	1	20	SPARE	22
23	SPARE	20	1	---	---	1	20	SPARE	24
25	SPARE	20	1	---	---	1	20	SPARE	26
27	SPARE	20	1	---	---	1	20	SPARE	28
29	SPARE	20	1	---	---	1	20	SPARE	30
31	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	32
33	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	34
35	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	36
37	SPACE ONLY	--	-	---	0	3	30	SURGE PROTECTIVE DEVICE	38
39	SPACE ONLY	--	-	---	---	-	--	----	40
41	SPACE ONLY	--	-	---	---	-	--	----	42

TOTAL CONNECTED LOAD = 17857 VA / 360 = 49.6 A

POWER PANEL

MP

SYSTEM 208/120V 3Φ 4W
RATING 1200A M.L.O. 65,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	AHU-11	90	3	28718	20000	3	60	HP-11A	2
3	----	--	-	---	---	-	--	----	4
5	----	--	-	---	---	-	--	----	6
7	AHU-12	30	3	10738	8000	3	30	HP-12	8
9	----	--	-	---	---	-	--	----	10
11	----	--	-	---	---	-	--	----	12
13	AHU-9	90	3	28718	20000	3	60	H9-11B	14
15	----	--	-	---	---	-	--	----	16
17	----	--	-	---	---	-	--	----	18
19	AHU-8	40	2	7481	10000	3	35	HP-8	20
21	----	--	-	---	---	-	--	----	22
23	CP-1 - CIRCULATION PUMP - MECH 120	15	1	65	---	-	--	----	24
25	EWH-1 - WATER HEATER - MECH 120	15	3	5000	20000	3	60	HP-9A	26
27	----	--	-	---	---	-	--	----	28
29	----	--	-	---	---	-	--	----	30
31	MINISPLIT - MHP-1/WM-1.1	25	2	1600	20000	3	60	HP-9B	32
33	----	--	-	---	---	-	--	----	34
35	EF-4 - WOMENS 105, MENS 104	20	1	1176	---	-	--	----	36
37	SPARE	20	1	---	---	1	20	SPARE	38
39	SPARE	20	1	---	---	1	20	SPARE	40
41	SPARE	20	1	---	---	1	20	SPARE	42
43	SPARE	20	1	---	---	1	20	SPARE	44
45	SPARE	20	1	---	---	1	20	SPARE	46
47	SPARE	20	1	---	---	1	20	SPARE	48
49	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	50
51	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	52
53	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	54
55	SPACE ONLY	--	-	---	0	3	60	SURGE PROTECTIVE DEVICE	56
57	SPACE ONLY	--	-	---	---	-	--	----	58
59	SPACE ONLY	--	-	---	---	-	--	----	60

TOTAL CONNECTED LOAD = 181496 VA / 360 = 504.2 A

Emergency Lighting Inverter

INV

INPUT VOLTAGE 120V **OUPUT VOLTAGE** 120V
PART NUMBER CHLORIDE#: CHT-AA-3.5-S0-05A-00-Z-0-Z*
SUPPLY CIRCUIT MDP-13; 2/#8, #10G, 3/4"C

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)
1	LTG - GYM RM 100 - NORTH	20	1	1050
2	LTG - GYM RM 100 - CENTER	20	1	750
3	LTG - GYM RM 100 - SOUTH	20	1	750
4	LTG - STAGE RM 102 - HOUSE LTS	20	1	224
5	SPARE	20	1	-

TOTAL CONNECTED LOAD = 2774 VA / 120 VOLT = 23.1 A

NOTES:
* PROVIDE COMPLETE FACTORY STARTUP.

MECHANICAL EQUIPMENT SCHEDULE

(VERIFY ALL EQUIPMENT CIRCUIT REQUIREMENTS WITH MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN)

EQUIPMENT DESIGNATION	DESCRIPTION	CFM	VOLT	Φ	ELECTRICAL LOAD: MOTOR(S) FLA QTY	LARGEST	SUM OF REMAINING	ELECTRIC HEAT KW	OTHER VA	TOTAL CONNECTED V/A	PROTECTION: MCA	MOCP	SPECIFIED TRIP	SPECIFIED POLE	CONDUCTOR / CONDUIT SIZE: SETS	CONDUCTORS QTY.	SIZE	GND	CONDUIT	DISC.	REMARKS
AHU-8	AIR HANDLER UNIT	2070	208	1	1	7.6		5.9		7481	32	35	40	2	1	4	#8	#10	3/4"	60/3/1	
AHU-9	AIR HANDLER UNIT	7310	208	3	1	24.2		20		28718	82	90	90	3	1	4	#3	#8	1-1/4"	100/3/1	
AHU-11	AIR HANDLER UNIT	7535	208	3	1	24.2		20		28718	82	90	90	3	1	4	#3	#8	1-1/4"	BREAKER	
AHU-12	AIR HANDLER UNIT	1599	208	3	1	7.6		8		10738	30	30	30	3	1	4	#10	#10	3/4"	BREAKER	
HP-8	HEAT PUMP		208	3	1			10		10000	23	35	35	3	1	4	#8	#10	3/4"	60/3/3R	
HP-9A	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-9B	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-11A	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-11B	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-12	HEAT PUMP		208	3	2			8		8000	18	30	30	3	1	4	#10	#10	3/4"	30/3/3R	
OAU-1	OUTDOOR AIR HANDLER	3500	208	3	6	55.8	77.3			47951	179.2	200	200	3	1	4	#3/0	#6	2"	200/3/3R	
CP-1	CIRCULATION PUMP		120	1	1	0.54				65	0.7	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	
EF-1	EXHAUST FAN	300	120	1	1	3.3				396	4.1	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	INTERLOCK WITH AHU-10 OUTSIDE AIR DAMPER
EF-4	EXHAUST FAN	700	120	1	1	3				360	3.8	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	INTERLOCK WITH AHU-8 OUTSIDE AIR DAMPER
EWH-1	ELECTRIC WATER HEATER		208	3	1			5		5000	13.9	15	15	3	1	4	#12	#12	3/4"	30/3/1	
MHP-1	MINI-SPLIT OUTDOOR UNIT	1590	208	1	2	7	0.5			1560	11	28	25	2	1	3	#10	#10	3/4"	30/2/3R	
WM-1.1	MINI-SPLIT INDOOR UNIT	455	208	1	1	0.19				40	1	15	15	2	1	3	#12	#12	3/4"	MOTOR SWITCH	INDOOR UNIT IS POWERED BY OUTDOOR UNIT

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

MECHANICAL EQUIPMENT & PANEL SCHEDULES

PROJECT NUMBER 22019
DATED 03/12/2026

E501

HG ENGINEERS
HG Engineers
621 N. Tyndall Pkwy, Unit C
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FL Authorization No.00006680
Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782

22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
10/13/2026

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GENERAL NOTES

1 BOND HOT AND COLD WATER PIPING SYSTEMS.

2 CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.

3 INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.

4 INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.

5 INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.

KEYNOTES

① INSTALL GROUNDED (NEUTRAL) CONDUCTOR SAME SIZE AS THE LARGEST PHASE CONDUCTOR IF THE LINE-TO-NEUTRAL LOAD EXCEEDS 5% OF THE CONNECTED LOAD. IF NEUTRAL LOAD IS SMALLER, INSTALL THE NEC MINIMUM GROUNDED CONDUCTOR.

② INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE, BUT NOT SMALLER THAN NO 4.

③ INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER OVERCURRENT DEVICE SIZE.

④ 20 FOOT MINIMUM X 3/4" DIAMETER COPPER CLAD STEEL SECTIONAL DRIVEN GROUND ROD.

⑤ INSTALL BONDING JUMPER WIRE THAT IS SIZED BASED ON NEC TABLE 250-66 OR 250.28(D)(1) USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE PHASE CONDUCTOR SIZE.

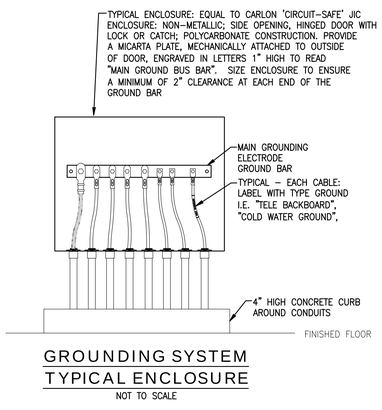
⑥ INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION PER NEC ARTICLE 250.52 (A) (3).

⑦ BOND EACH PERIMETER STRUCTURAL STEEL COLUMN TO THE CONCRETE-ENCASED MAIN GROUNDING ELECTRODE. USE COMPRESSION CONNECTORS THAT MEET IEEE 837 REQUIREMENTS OR USE EXOTHERMIC WELDS.

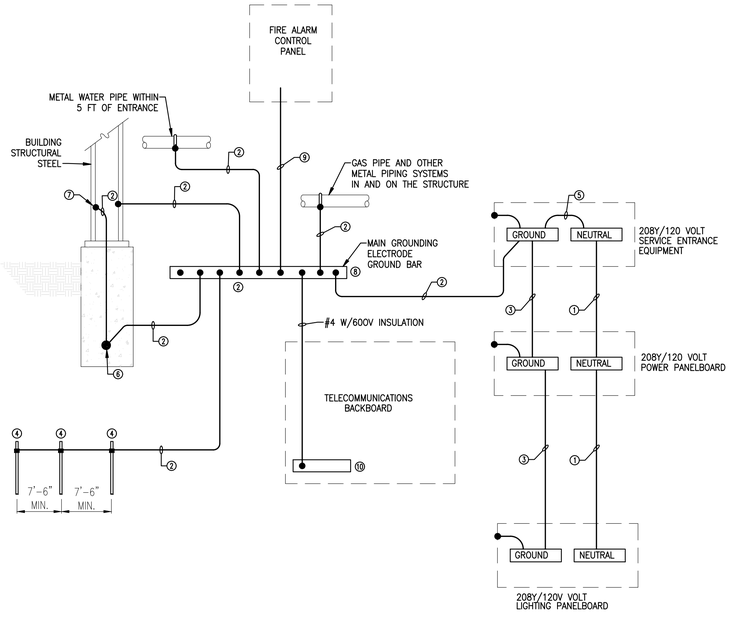
⑧ INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND ELECTRODE CONDUCTOR USING IRREVERSIBLE CONNECTORS OR EXOTHERMIC WELDS. MAKE OTHER CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR

⑨ FIRE ALARM CONTROL PANEL GROUND – #6 COPPER CONDUCTOR.

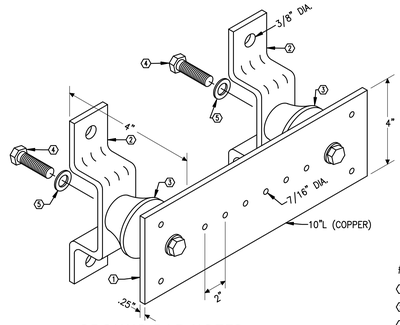
⑩ INSTALL A COPPER GROUNDING BAR IN EACH TELECOMMUNICATIONS ROOM. CONNECT TO THE "MAIN GROUNDING ELECTRODE GROUND BAR" USING 600V INSULATED #4 COPPER CABLE AND COMPRESSION SPADE LUGS.



GROUNDING SYSTEM
TYPICAL ENCLOSURE
NOT TO SCALE



208Y/120V GROUNDING SYSTEM DIAGRAM
NOT TO SCALE



GROUND BAR NOTES:

1 INSTALL ONE BAR AT EACH COMMUNICATIONS ROOM.

2 ROUTE 1#4 BARE CU IN 1"CONDUIT FROM GROUND BAR TO BUILDING ELECTRICAL SERVICE ENTRANCE GROUND.

3 CONNECT BARS WITH 1#6 BARE CU IN 1" CONDUIT.

#	DESCRIPTION
①	GROUND BAR
②	WALL MTG. BRACKET
③	INSULATORS
④	5/8" X 1" H.H.C.S. BOLT
⑤	5/8" LOCKWASHER

INSULATED GROUNDING BAR DETAIL
NOT TO SCALE

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

GROUNDING DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E601

HG ENGINEERS
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Daniel J. White, FL. PE No.73790
Caleb W. Leonard, FL. PE No.91782

22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	DOOR MATERIAL	DOOR SIZE	FRAME TYPE	FRAME MATERIAL	FRAME: DOOR DETAILS ARE LABELED ON THE "TYPES" OF THIS SHEET — HEAD (DETAIL, LOCATED ON SHEET A501.2 & A501.3)	FRAME: JAMB	FRAME: SILL	FIRE RATING LABEL	REMARKS SEE SPECIFIC NOTES
C007	NL	GHM	3'-0"x7'-0"	HM1	GHM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100A	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100B	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100C	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100D	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
101	NL	SCWD	3'-0"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A3 / 501.2	60 MIN	
102	NL	SCWD	3'-0"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	60 MIN	
103	NL	SCWD	PR 4'-0"x7'-0"	HM2	HM	E2 / 501.2	D2 / 501.2	A3 / 501.2	60 MIN	
106A	SF	AL	PR 3'-0"x7'-0"	AL2	HM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106B	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106C	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106D	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
107	SF	AL	3'-0"x7'-0"	AL1	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
107A	SF	AL	3'-0"x7'-0"	AL1	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	DOOR ADDED ON REV. 2
108	FL	SCWD	3'-0"x7'-0"	HM1	HM	C1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
108A	OHCD SEE SPECS		10'-0"Wx4'-0"H"	O.H. ROLLING COIL DOOR		E1 / 501.3 SIM	D1 / 501.3 SIM	C1 / 501.3 SIM	N/A	BASIS OF DESIGN - MANUF.: OVERHEAD DOOR / MODEL: 650 ROLLING COUNTER DOOR, FACE MOUNT / OPERATION: MANUAL PUSH UP RH
109	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
110	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
111	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
112	F	GHM	3'-0"x7'-0"	HM1	GHM	C3 / 501.2	B2 & B3 / A501.2	A2 / 501.2	N/A	
201	F	GHM	PR 3'-0"x7'-0"	HM2	GHM	C2 / 501.2	B2 / 501.2	A2 / 501.2	N/A	
203	F	GHM	PR 3'-0"x7'-0"	HM2	GHM	C2 / 501.2	B2 / 501.2	A2 / 501.2	N/A	
DOORS LISTED BELOW WERE DELETED OR RENUMBERED ON SCOPE REDUCTION										
101A										
113										
114										
115										
116										
117										
118										
119										
120										
121										
122										
122A										
122B										
123										
123A										
124										
124A										
125										
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126										
126A										
127										
127A										
128										
128A										
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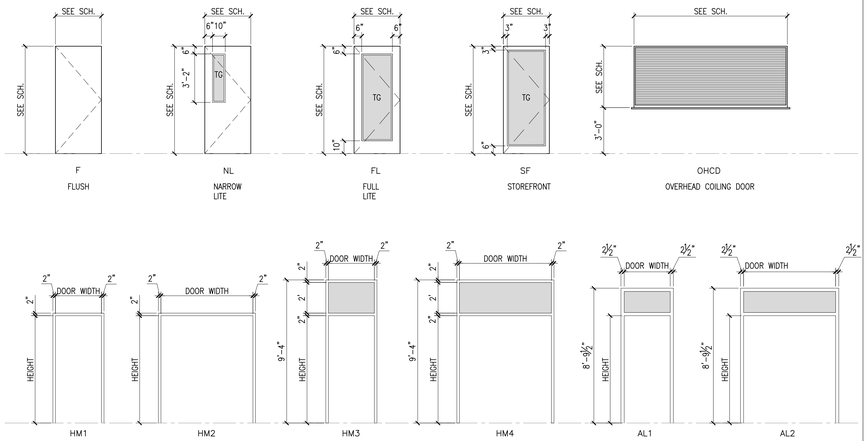
130A										
131A										
132										
133										
C001										
C001A										
C002										
C003										
C003A										
C004										
C004A										
C005										
C005A										
C006										

C3 DOOR AND FRAME SCHEDULE

SCALE: 1/4" = 1'-0"



B3 H.M. DOOR AND FRAME TYPES

SCALE: 1/4" = 1'-0"

DOOR SCHEDULE GENERAL NOTES

1. MATERIAL ABBREVIATIONS
   HM = HOLLOW METAL
   GHM = GALVANIZED HOLLOW METAL
   SCWD = SOLID CORE WOOD DOOR
   SF = ALUMINUM STOREFRONT
   AL = ALUMINUM
   PR = PAIR
2. UNLESS NOTED OTHERWISE WHERE GLASS OCCURS IN DOORS PROVIDE TEMPERED GLASS (TG)
3. GLASS TYPE ABBREVIATIONS SEE SPECIFICATIONS
4. UNLESS NOTED OTHERWISE ALL DOORS ARE 1-3/4" THICK.
5. SEE DOOR HARDWARE SPECIFICATIONS FOR HARDWARE LOCKSET SCHEDULE.
6. ALL STOREFRONT DOOR GLASS TO BE LAMINATED GLASS (LG).
7. ALL STOREFRONT TRANSOM GLASS TO BE INSULATED, SEE SPECIFICATIONS.
8. EXTERIOR AND WET AREA HOLLOW METAL FRAMES AND DOORS TO BE GALVANIZED.
9. ALL CLASSROOM DOORS OFF OF CORRIDORS TO HAVE A CLOSER.

A3 GENERAL NOTES

SCALE: NTS

DAG ARCHITECTS

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
DOOR & WINDOW
SCHEDULES

PROJECT NUMBER	22019
DATED	01/31/2025

A501.A

PLOT DATE: 3/10/2026 12:37:11 PM
DWG. LOCATION: G:\PC Harrison\Projects\2022 Projects\22019 Palm Bay Gymatorium\B-Design\B2Schematic Design\B2Working\Docs\A501.A Door & Frame Schedule.dwg
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22019
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01/31/2025

CONSTRUCTION DOCUMENTS

PALM BAY PREP ACADEMY
PALM BAY GYMATORIUM

1104 BALBOA AVENUE,
PANAMA CITY, FL, 32401

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A010 ABBREVIATIONS, SYMBOLS, & LEGEND
LS101 LIFE SAFETY PLAN
LS102 CODE SUMMARY

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C2 SITE PLAN
C3 GRADING AND DRAINAGE PLAN
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C12 STORMWATER POLLUTION PREVENTION PLAN

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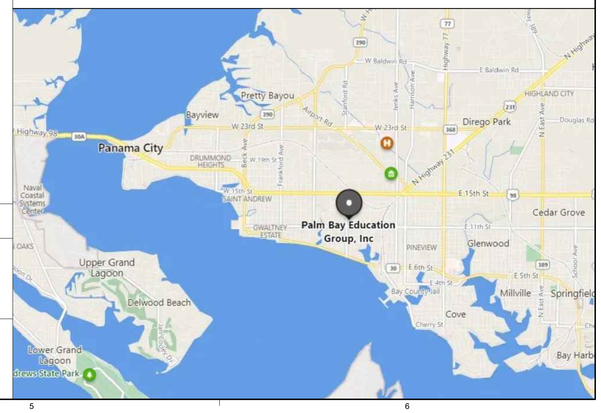
AUDIO-VISUAL
AV100 AV FLOOR PLAN
AV200 AV REFLECTED CEILING PLAN
AV300 AV SECTIONS & ELEVATIONS
AV400 AV SYSTEM SCHEMATIC - PART 1
AV401 AV SYSTEM SCHEMATIC - PART 2

PROJECT LOCATION



PROJECT TEAM

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ELECTRICAL: HG ENGINEERS 142 EGLIN PARKWAY SE FORT WALTON BEACH, FL 32548 CONTACTS: KYLE SCHNEIDER	**TELECOM:** PREMIER ENGINEERING GROUP, LLC 410 W. NINE MILE ROAD PENSACOLA, FLORIDA 32534 CONTACTS: JOSH COOK	**AUDIO-VISUAL:** WALTHALL & ASSOCIATES INC. 200 SWIFT CREEK DRIVE, SUITE G CANTONMENT, FL 32533 CONTACTS: CHUCK WALTHALL	

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

COVER SHEET

PROJECT NUMBER	22019
DATED	01/31/2025

A000

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C1 SYMBOLS / LEGEND

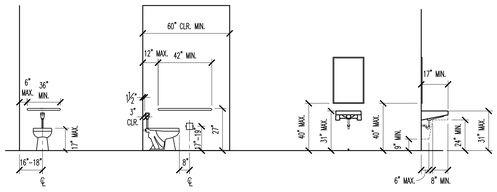
SCALE: NTS

0" DENOTES FINISH FLOOR
-10" DENOTES DISTANCE BELOW FINISH FLOOR
27.8' FINISH FLOOR ELEVATION
27.8' SPOT ELEVATION
CONCRETE WALL THICKNESS SEE FLOOR PLAN FOR THICKNESS
CONCRETE MASONRY UNIT WALL, 8" (UNLESS NOTED OTHERWISE)
W1 WALL TYPE CODE
1 HOUR FIRE RATED WALL ASSEMBLY
2 HOUR FIRE RATED WALL ASSEMBLY
GRID KEY A1 / SHEET APPEARS ON A500 — DETAIL KEY
GRID KEY A1 / SHEET APPEARS ON A300 — BUILDING SECTION WALL SECTION
GRID KEY A1 / SHEET APPEARS ON A400 — INTERIOR ELEVATION ONE WALL
A1 / D1 A600 B1 / C1 — INTERIOR ELEVATION MORE THAN ONE WALL SAME ROOM
WINDOW TYPE W1 — WINDOW TYPE
DOOR NUMBER — DOOR NUMBER
STOREFRONT NUMBER AL-1 — STOREFRONT DESIGNATION
SHEET LARGE SCALE PLAN OCCURS ON A4.17 — LARGE SCALE PLAN
ROOM 100 — NAME / NUMBER — ROOM NAME & NUMBER

C3 TYPICAL MOUNTING HEIGHTS

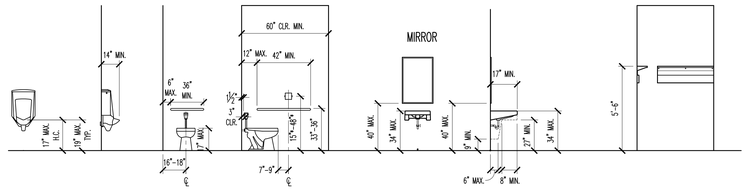
SCALE: NTS

CHILDREN'S USE (TO AGE 12)



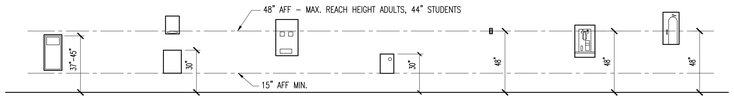
WATER CLOSET — WALL MOUNTED LAVATORY

ADULT/STAFF USE



WALL MOUNTED URINAL — WATER CLOSET — WALL MOUNTED LAVATORY — UTILITY SHELF W/ MOP HOLDER

* PROVIDE 12" CLEARANCE ABOVE GRAB BAR AND 1½" CLEARANCE BELOW GRAB BAR



RECESSED WASTE RECEPTACLE UNIT — TOWEL/WASTE RECEPTACLE UNIT — SANITARY NAPKIN TAMPON VENDOR — SANITARY NAPKIN DISPOSAL — ROBE/TOWEL HOOK — PHONE — F.E.C.

A1 ABBREVIATIONS

SCALE: NTS

A/C	AIR CONDITION
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AHU	AIR HANDLING UNIT
AFF	ABOVE FINISHED FLOOR
ALM	ALARM
ALUM	ALUMINUM
ANOD	ANODIZED
ARCH	ARCHITECT
AWT	ACOUSTICAL WALL TREATMENT
BALC	BALCONY
BD	BOARD
BI FLD DR	BIFOLDING DOORS
BITUM	BITUMINOUS
BLDG	BUILDING
BM	BENCHMARK
BOT	BOTTOM
BR	BEDROOM
BRKT	BRACKET
CL	CENTER LINE
C/C	CENTER TO CENTER
CAB	CABINET
CBB	CEMENTITIOUS (BACKER) BOARD
CH	COAT HOOK
CH BD	CHALKBOARD
CJ	CONTROL JOINT
CLG	CEILING
CLL	COLUMN LINE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CPT	CARPET
CR	CLOSET ROD
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTR	CENTER
CW	CASEMENT WINDOW
DBL	DOUBLE
DEMO	DEMOLISH OR DEMOLITION
DET	DETAIL
DHW	DOUBLE HUNG WINDOWS
DIA	DIAMETER
DIM	DIMENSION
DMPF	DAMP PROOFING
DN	DOWN
DR	DOOR
DS	DOWN SPOUT
DWG	DRAWING
E	EAST
EA	EACH
EB	EXPANSION BOLT
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR OR ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXT	EXTERIOR
FA	FIRE ALARM
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FLR	FLOOR
FLR FIN	FLOOR FINISH
FLR SK	FLOOR SINK
FLUOR	FLUORESCENT
FO	FINISHED OPENING
FOS	FACE OF STUD
FT	FEET
FX	FIRE EXTINGUISHER
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GDR	GUARD RAIL
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GL	GLASS
GL BLK	GLASS BLOCK
GR FL	GROUND FLOOR
GYM	GYMNASIUM
GYP BD	GYPSUM WALL BOARD
H&CW	HOT AND COLD WATER
HB	HOSE BIB
HC	HANDICAP
HCT	HOSE CABINET
HDG	HOT DIPPED GALVANIZED
HMD	HOLLOW METAL DOOR
HMDF	HOLLOW METAL DOOR AND FRAME
HMF	HOLLOW METAL FRAME
HORIZ	HORIZONTAL
HT	HEIGHT
HW	HOT WATER
ID	INSIDE DIAMETER
INCL	INCLUDED
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
JAN CLO	JANITOR CLOSET
LAM	LAMINATE
LAM GL	LAMINATED GLASS
LAV	LAVATORY
LD BRG	LOAD-BEARING
LT GA	LIGHT GAGE
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
MAX	MAXIMUM
MBR	MASTER BEDROOM
MD	METAL DECK
MEMB	MEMBRANE
METD	METAL DOOR
METF	METAL FLASHING
MEZZ	MEZZANINE
MID	MIDDLE
MO	MASONRY OPENING
MECH	MECHANICAL
MFR	MANUFACTURER
MFR REC	MANUFACTURER'S RECOMMENDATION
MIN	MINIMUM
MISC	MISCELLANEOUS
MLDG	MOLDING (MOULDING)
MRT	MARBLE THRESHOLD
MS	MOP SINK
MTL	METAL
MWB	MEMBRANE WATERPROOFING
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER
OF/CI	OWNER FURNISHED INSTALLED
OF/OI	OWNER FURNISHED / OWNER INSTALLED
OH DR	OVERHEAD (COILING) DOOR
ORD	OVERFLOW ROOF DRAIN
PCC	PRE-CAST CONCRETE
PERIM	PERIMETER
PLAM	PLASTIC LAMINATE
PNL	PANEL
PR	PAIR
PT	PAINT / PRESSURE TREATED
PWR	POWER
PEMB	PRE-ENGINEERED METAL BUILDING
QTY	QUANTITY
QTR	QUARTER
R	RADIUS
RB	RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RDG INS	RIGID INSULATION, SOLID
REBAR	REINFORCING STEEL BARS
REC	RECESSED
REF	REFERENCE
REINF	REINFORCE
REQD	REQUIRED
REV	REVISION
RH	RIGHT HAND
RLG	RAILING
RM	ROOM
RO	ROUGH OPENING
S	SOUTH
SAN	SANITARY
SCHED	SCHEDULE
SCMU	SOLID CONCRETE MASONRY UNIT
SCWD	SOLID CORE WOOD DOOR
SD	SHOP DRAWINGS
SCP	SCUPPER
SGD	SLIDING GLASS DOOR
SH	SHINGLES
SHR	SHOWER
SHRD	SHOWER DRAIN
SHR HD	SHOWER HEAD
SHT	SHEET
SHV	SHELVING
SIM	SIMILAR
SKLT	SKYLIGHT
SF	SQUARE FOOT (FEET)
SLNT	SEALANT
SM	SHEET METAL
SMLS	SEAMLESS
SQ	SQUARE
SQ YD	SQUARE YARD
SS	STANDING SEAM (ROOF)
SST	STAINLESS STEEL
ST	STREET
STC	SOUND TRANSMISSION CLASS
STL	STEEL
STL JST	STEEL JOIST
STL RF DK	STEEL ROOF DECK
TEMP	TEMPORARY
THK	THICKNESS
TMPD GL	TEMPERED GLASS
TN	TRUE NORTH
TO	TOP OF _____
TOB	TOP OF BEAM
TOS	TOP OF STEEL
TYP	TYPICAL
UCD	UNDERCUT DOOR
UR	URINAL
VAP PRF	VAPOR PROOF
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VFAT	VINYL FACED ACOUSTICAL TILE
VIF	VERIFY IN FIELD
VR	VAPOR RETARDER
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDF	WOOD DOOR AND FRAME
WGL	WIRED GLASS
WH	WATER HEATER
WP	WEATHERPROOF
WPM	WEATHERPROOF MEMBRANE
WWF	WELDED WIRE FABRIC

B4 .

SCALE: NTS

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

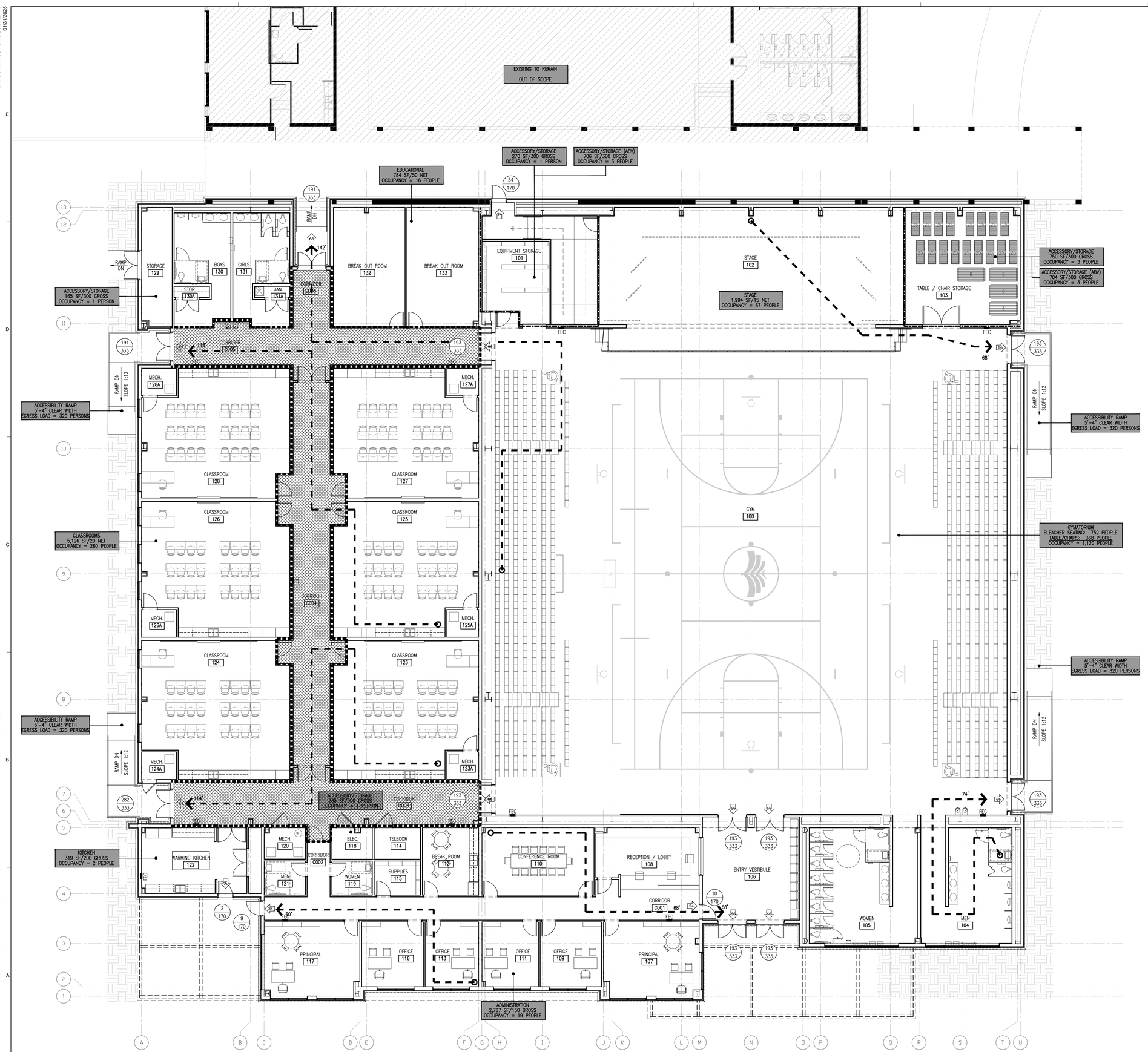
No.	Description	Date

ABBREVIATIONS, SYMBOLS, & LEGEND

PROJECT NUMBER 22019
DATED 01/31/2025

A010

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



LIFE SAFETY LEGEND

- PRIMARY EGRESS WITH UNITS IN INCHES
- EGRESS DISTANCE AND DIRECTION
- FIRE EXTINGUISHER TRAVEL DISTANCE
- EXIT OCCUPANT LOAD / EXIT OCCUPANT CAPACITY
- F.E.C. — FIRE EXTINGUISHER CABINET
- F.E. — FIRE EXTINGUISHER (BRACKET MOUNTED)
- 1-HOUR RATED PARTITION
- EXIT SIGNAGE
- SMOKE PARTITION
- EXTENTS OF SMOKE ENCLOSURE TUNNEL — SEE PARTITION TYPES FOR MORE INFORMATION

LIFE SAFETY NOTES

1. TYPE IIB Construction (2023 FBC)
2. Building Square Footage: 31,285 Gross
3. Minimum corridor width 72" (Educational Occupancy)
4. Minimum clear opening of exit doors - 34"
5. Maximum Travel Distance
   - Common Path = 75 feet or less
   - Dead End Corridor = 20 feet or less
   - Exit Access Travel Distance with sprinkler system = 250 feet or less

CHAPTER 5 GENERAL BUILDING HEIGHT AND AREA

Occupancy - Chapter 3, Section 305 - Educational Group E. Also refer to Section 468 - Schools, Colleges and Universities.
Type IIB Construction - Sprinklered
504.3 - Height in Feet (Table 504.3)
Allowed: 75'
Designed: 42'-6"
504.4 - Number of Stories (Table 504.4)
Allowed: 3 stories
Designed: 1 story
506.2 - Allowable Area (Table 506.2)
Allowed: 58,000 sf
Designed: 31,285 sf

NS = 14,500 sf
S1 = 58,000
Single occ, one story
Aa=At+(NSxIf)
Aa=58,000+(14,500x0.75)
Aa=68,675

CHAPTER 10 MEANS OF EGRESS

Seating Capacity: 752 Seats = 752 Regular Bleacher (Includes 8 Handicap Seats)
Minimum of 8 Handicap Seats - 2023 Florida Accessibility Code, Table 221.2.1.1 Seating Capacity
Occupancy - Chapter 3, Section 305 - Educational Group E with Assembly Group A-4

Occupant Load: Section 453.18.1.2- Gymnasium:
Bleacher (Fixed) Seating: 752 people
Main Court/15 net: 4,200 square feet/15 = 280 people
(or) Table/Chair Layout: 368 Seats
Gymnasium Occupancy: 1,120 people
Stage: 1,694 SF / 15 net = 67 people
Educational-Classrooms: 5,196 SF / 20 net = 260 people
Educational-Other Areas: 794 SF / 50 net = 16 people
Administration: 2,787 SF / 150 gross = 19 people
Kitchen: 319 SF / 200 gross = 2 people
Accessory/Storage: 2,801 square feet/300 = 10 people

Total Number of Occupants : 1,495 people

Egress Width (1005.3.2)
Egress = 0.2" per occupant

Total Egress Required: 1,495 occupants x 0.2 = 299" min.
Total Egress Provided: 786" provided.

See structural drawings for minimum superimposed design load requirement per Florida Building Code

Provide product approvals for the exterior envelope including but not limited to:
Windows
Exterior Doors
Roofing Systems
Metal Wall Panels
Structural Components
Roof Vent Hatch

CHAPTER 29 PLUMBING FIXTURES

Plumbing Fixture Counts (Table 2902.1) 2023 FBC
Assembly - 1,197 persons
Educational - 298 persons
Total - 1,495 persons

Water Closets		
Assembly - 1/125 men 1/65 women	(2 men, 9 women) (3 urinals)
Educational - 1/50 persons	(2 men, 4 women) (2 urinals)
Lavatories		
Assembly - 1/200 persons	(4 men, 4 women)
Educational - 1/50 persons	(3 men, 3 women)
Bathtubs & Showers		
Assembly - Not required	(not provided)
Educational - Not required	(not provided)
Drinking Fountains		
Assembly - 1/500 persons	(2 provided)
Education - 1/100 persons	(2 provided)
Service Sink		
Assembly - 1 required	(1 provided)
Educational - 1 required	(1 provided)

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIFE SAFETY PLAN

PROJECT NUMBER 22019
DATED 01/31/2025

LS101

A1 LIFE SAFETY PLAN
SCALE: 1/8" = 1'-0"

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Florida Building Code:

ADMINISTRATION
A. Applicable Building Codes

Florida Building Code (FBC), Eighth Edition (2023)
Florida Accessibility Code, Eighth Edition (2023)
Florida Plumbing Code, Eighth Edition (2023)
Florida Mechanical Code, Eighth Edition (2023)
Florida Fuel Gas Code, Eighth Edition (2023)
Florida Energy Code (FEC), Eighth Edition (2023)
National Electrical Code, NFPA 70, 2020 Edition
Florida Fire Prevention Code, Eighth Edition (2023)
NFPA 101 (2020)

DEFINITIONS - Not Listed

USE AND OCCUPANCY CLASSIFICATION

a. Group E - Educational (Section 305)
1. Public education occupancies shall comply with 453
b. Group A-4 - Assembly with spectator seating for viewing sporting events.

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

A. State Requirements for Educational Facilities (Section 453)
a. Definitions (453.5)
Assembly: gathering of 50 or more. Includes adjacent and related spaces to the main seating area (stages, lobbies, dressing rooms, etc.)
Auxiliary Facility:
b. Life Safety (453.7) support spaces at educational facilities which do not contain student stations but are used by students.
1. Separate exits: in assembly occupancies, each required exit must exit into a separate atmosphere or to the exterior to be considered as a separate exit.
c. Construction Type (453.8.3) minimum shall be noncombustible type I, II or IV or better.
d. Natural Light and Ventilation (453.13.8.1) windows and operable glazing in new construction to provide net free open area = 5% of the floor area in all classrooms on the perimeter of building. Auxiliary spaces...need not have operable window for the purpose of providing natural light and ventilation.
e. Pluming (453.16)
1. Educational and ancillary facilities shall have fixtures for all occupants, in ratios and accessible as required by the FBC
a. Unisex toilets shall not be provided in addition to group toilets in assembly occupancies.
2. Toilet facilities for assembly occupancies are NOT required to be in addition to the overall required plumbing fixture count.
3. Student toilets shall be distributed throughout the facility., the path of travel to the nearest toilet facility shall not exceed 200'
4. all group toilet rooms shall be provided with at least one floor drain and one easily accessible hose bibb. the floor shall be sloped down to

e. Assembly Occupancies in Public Educational Facilities (453.18)
1. Occupant capacity for egress per table 1004.1.1
a. Dressing rooms:
f. Storage (453.20) 20 Net per person
1. Sinks located in general storage rooms shall not be used for custodial services.
2. Custodial closets shall be provided with storage shelving and a service sink supplied with hot and cold water...and shall be located to serve other areas such as...stages, auditoriums.
f. Enclosed Courtyard (453.5.5.2)

CHAPTER 3 RESERVED

CHAPTER 4 RESERVED

A. Classification
a. Type II B (Section 602.2)
1. Fire Resistant Rating Requirements (hours) For Building Elements (Table 601)
a. Structural Frame - columns, girders, trusses = 0 hours
b. Bearing Walls - Exterior = 0 hours
c. Bearing Walls - Interior = 0 hours
d. Non-bearing walls and partitions - Exterior = See Table 602
1. <5 = 1
2. >=5 to <10 = 1
3. >=10 to <30 = 0
4. >=30 = 0
e. Non-bearing walls and partitions - Interior = 0 hours
f. Floor Construction - beams, joist = 0 (d,i) hours
1. (d) = not applicable
2. (i) = not applicable
g. Roof Construction - beams, joist = 0 hours

CHAPTER 5 GENERAL HEIGHTS & AREAS
A. Building Data
a. Floor Area Educational: **16,063 gsf**

b. Story(s):1 Story
c. Height: ±36'-0"
B. Allowable Heights and Building Areas (Table 503)
a. Type II
b. Fire Resistant Rating - "B"
c. Building Height Limit = 55'
d. Maximum Stories = 2
e. Maximum Area per Floor = 14,500 s.f.
C. Height Modifications (Section 504)
a. Not Used
D. F. Section 508 Mixed Use and Occupancy
a. per 303.1.3 Assembly associated with Group E is not considered a separate occupancy.
b. Accessory occupancy (S-1) ancillary to main occupancy
1. <=10% of the building area (373sf = <10% of 14,192)
2. Individually classified and code shall apply to each portion
3. no separation required.

Egress Breakdown
Area of courtyard = 8,044 sq ft net
Combined size of classrooms exiting to courtyard = 7,872 sq ft net

8,044 sq ft / 15 persons per sq ft net (Assembly occupant load) = 536 people
7,872 sq ft / 20 persons per sq ft net (Classroom occupant load) = 394 people
536 > 394 therefore 536 people will be used for egress sizing
2.

536 X 0.2" = 112.6" (9'-4 5/8"±) required egress
44'-0" provided egress from courtyard

SECTION 410 STAGES, PLATFORMS, AND TECHNICAL PRODUCTION AREAS

410.1 Applicability - The provisions of Sections 410.1 through 410.8 shall apply to all parts of buildings and structures that contain stages or platforms and similar appurtenances as herein defined.

410.3 Stages - Stage construction shall comply with Sections 410.3.1 through 410.3.7.

410.3.1 Stage construction - Stages shall be constructed of materials as required for floors for the type of construction of the building in which such stages are located.
the drain.
Exception: Stages need not be constructed of the same materials as required for the type of construction provided the construction complies with one of the following:

1.Stages of Type IIB or IV construction with a nominal 2-inch (51 mm) wood deck, provided that the stage is separated from other areas in accordance with Section 410.3.4.

2.In buildings of Type IIA, IIIA and VA construction, a fire-resistance-rated floor is not required, provided the space below the stage is equipped with an automatic sprinkler system or fire-extinguishing system in accordance with Section 903 or 904.

3.In all types of construction, the finished floor shall be constructed of wood or approved noncombustible materials. Openings through stage floors shall be equipped with tight-fitting, solid wood trap doors with approved safety locks.

410.3.1.1 Stage height and area - Stage areas shall be measured to include the entire performance area and adjacent backstage and support areas not separated from the performance area by fire-resistance-rated construction. Stage height shall be measured from the lowest point on the stage floor to the highest point of the roof or floor deck above the stage.

410.3.7 Stage ventilation - Emergency ventilation shall be provided for stages larger than 1,000 square feet (93 m2) in floor area, or with a stage height greater than 50 feet (15 240 mm). Such ventilation shall comply with Section 410.3.7.1 or 410.3.7.2.

410.3.7.1 Roof vents - Two or more vents constructed to open automatically by approved heat-activated devices and with an aggregate clear opening area of not less than 5 percent of the area of the stage shall be located near the center and above the highest part of the stage area. Supplemental means shall be provided for manual operation of the ventilator. Curbs shall be provided as required for skylights in Section 2610.2. Vents shall be labeled.

410.3.7.2 Smoke control - Smoke control in accordance with Section 909 shall be provided to maintain the smoke layer interface not less than 6 feet (1829 mm) above the highest level of the assembly seating or above the top of the proscenium opening where a proscenium wall is provided in compliance with Section 410.3.4.

410.4 Platform construction - Permanent platforms shall be constructed of materials as required for the type of construction of the building in which the permanent platform is located. Permanent platforms are permitted to be constructed of fire-retardant-treated wood for Types I, II and IV construction where the platforms are not more than 30 inches (762 mm) above the main floor, and not more than one-third of the room floor area and not more than 3,000 square feet (279 m2) in area. Where the space beneath the permanent platform is used for storage or any purpose other than equipment, wiring or plumbing, the floor assembly shall be not less than 1-hour fire-resistance-rated construction. Where the space beneath the permanent platform is used only for equipment, wiring or plumbing, the underside of the permanent platform need not be protected.

SECTION 505 MEZZANINES AND EQUIPMENT PLATFORMS
505.1 General
Mezzanines shall comply with Section 505.2. Equipment platforms shall comply with Section 505.3.

505.2 Mezzanines - A mezzanine or mezzanines in compliance with Section 505.2 shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1. The area of the mezzanine shall be included in determining the fire area. The clear height above and below the mezzanine floor construction shall be not less than 7 feet (2134 mm).

505.2.1 Area limitation - The aggregate area of a mezzanine or mezzanines within a room shall be not greater than one-third of the floor area of that room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the mezzanine is located. In determining the allowable mezzanine area, the area of the mezzanine shall not be included in the floor area of the room.

Where a room contains both a mezzanine and an equipment platform, the aggregate area of the two raised floor levels shall be not greater than two-thirds of the floor area of that room or space in which they are located.

Exceptions:

1. The aggregate area of mezzanines in buildings and structures of Type I or II construction for special industrial occupancies in accordance with Section 503.1.1 shall be not greater than two-thirds of the floor area of the room.

2. The aggregate area of mezzanines in buildings and structures of Type I or II construction shall be not greater than one-half of the floor area of the room in buildings and structures equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 and an approved emergency voice/alarm communication system in accordance with Section 907.5.2.2.

3. In sprinklered Group S2 occupancies of Type III construction, the enclosed and unenclosed areas under mezzanines shall be allowed to be included when calculating the permissible size of mezzanines.

505.2.2 Means of egress - The means of egress for mezzanines shall comply with the applicable provisions of Chapter 10.

505.2.3 Openness - A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) in height, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space is not greater than 10.

2. A mezzanine having two or more exits or access to exits is not required to be open to the room in which the mezzanine is located.

3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the mezzanine area.

4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.

5. In occupancies other than Groups H and I, that are no more than two stories above grade plane and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a mezzanine having two or more means of egress shall not be required to be open to the room in which the mezzanine is located.

505.3 Equipment platforms - Equipment platforms in buildings shall not be considered as a portion of the floor below. Such equipment platforms shall not contribute to either the building area or the number of stories as regulated by Section 503.1. The area of the equipment platform shall not be included in determining the fire area in accordance with Section 903. Equipment platforms shall not be a part of any mezzanine and such platforms and the walkways, stairways, alternating tread devices and ladders providing access to an equipment platform shall not serve as a part of the means of egress from the building.

505.3.1 Area limitation - The aggregate area of all equipment platforms within a room shall be not greater than two-thirds of the area of the room in which they are located. Where an equipment platform is located in the same room as a mezzanine, the area of the mezzanine shall be determined by Section 505.2.1 and the combined aggregate area of the equipment platforms and mezzanines shall be not greater than two-thirds of the room in which they are located.

505.3.2 Automatic sprinkler system - Where located in a building that is required to be protected by an automatic sprinkler system, equipment platforms shall be fully protected by sprinklers above and below the platform, where required by the standards referenced in Section 903.3.

505.3.3 Guards - Equipment platforms shall have guards where required by Section 1015.2.

CHAPTER 6 TYPES OF CONSTRUCTION
A. Construction Classification
a. Type II B (Section 602.2)
1. Fire Resistant Rating Requirements (hours) For Building Elements (Table 601)
a. Structural Frame - columns, girders, trusses = 0 hours
b. Bearing Walls - Exterior = 0 hours
c. Bearing Walls - Interior = 0 hours
d. Non-bearing walls and partitions - Exterior = See Table 602
1. <5 = 1
2. >=5 to <10 = 1
3. >=10 to <30 = 0
4. >=30 = 0
e. Non-bearing walls and partitions - Interior = 0 hours
f. Floor Construction - beams, joist = 0 (d,i) hours
1. (d) = not applicable
2. (i) = not applicable
g. Roof Construction - beams, joist = 0 hours

CHAPTER 7 FIRE-RESISTANT RATED CONSTRUCTION
A. 705: Exterior Walls
a. 705.3 Buildings on the Same Lot
1. for determining required wall and opening protection and roof-covering requirements, buildings on the same lot shall have an imaginary line between them.
2. When a new building is on the same lot as an existing building, the imaginary line with relation to the existing building shall be such that the exterior wall and opening protection of the existing building meet 705.5 and 705.8.
b. 705.5 Fire-resistance rating
1. Exterior wall shall be rated per 601 and 602
2. exterior walls with >10' fire separation distance shall be rated for exposure from inside
c. 705.8 Openings: Maximum are of exterior wall openings based on separation distance
0-<3': NOT PERMITTED
3-<5': 15% (sprinklered or protected)
5-<10': 25% (sprinklered or protected)
10-<15': 45% (sprinklered or protected)
15'<20': 75% (sprinklered or protected)
20' or >: No Limit
1. the Max area of unprotected and protected openings permitted in an exterior wall in any story of a building shall not exceed percentages per 705.8.
a. EXCEPT: #2 Buildings whose exterior bearing walls..etc are not required to be fire-rated shall be permitted to have unlimited unprotected openings.
d. 705.11 Parapets: parapets shall be provided on exterior walls EXCEPT where any of the following conditions exist...#1 the wall is not required to be fire-resistant rated per table 602 because of fire separation distance & #6 Where the wall is permitted to have at least 25% of the exterior wall areas of unprotected openings based on fire separation distance per 705.8
B. 707 Fire Barriers: fire resistance rating shall be:
a. Interior Exit stairway and Ramp construction: comply with 1022.1 = **1HR**
b. Exit passageway: separating building areas from exit passageway comply with 1023.3 = **1HR**
b. Horizontal Exit: separating building areas from horizontal exit comply with 1025.1 = 2HR
C. 708 Fire Partitions: corridor walls as required by 1018.1 shall comply
a. a fire resistance rating not less than 1 hour Except in group E when sprinklered.
D. 709 Smoke Barriers: a 1 hour fire-resistance rating is required for smoke barriers and must be continuous from wall to wall and floor to roof deck.
E. 710 Smoke Partitions: Not required to be fire rated and must be continuous from wall to wall and floor to roof deck OR a ceiling membrane constructed to limit the transfer of smoke

CHAPTER 8 INTERIOR FINISHES
A. Interior Wall and Ceiling Finish Requirements (Table 803.9 SPRINKLERED)
a. Group A-4
1. Exit enclosures and exit passageways = B
2. Corridors = B
3. Rooms and enclosed spaces = C
a. Group E
1. Exit enclosures and exit passageways = B
2. Corridors = C
3. Rooms and enclosed spaces = C

CHAPTER 9 FIRE PROTECTION SYSTEMS
A. Automatic Sprinkler System (Section 903)
a. Group E required where
1. Fire area exceeds 12,000 s.f.
2. REQUIRED
b. Group A-4 required where
1. Fire area exceeds 12,000 s.f.
2. Fire area has occupant load of 300 or more
3. REQUIRED
B. Standpipe Systems (Section 905)
a. Stages (905.3.4) > 1,000 sf. & sprinklered = Class III wet standpipe system with 1 ½" hose connections on each side of stage.
1. 1 ½" hose connection equipped with sufficient lengths of hose to provide fire protection for the stage area. Shall be equipped with approved adjustable fog nozzle and be mounted in a cabinet or on a track.
C. Fire Alarm and Detection Systems (Section 907)
a. Required

CHAPTER 10 MEANS OF EGRESS
A. Occupant Load (Table 1004.1.1) = **791 TOTAL CALCULATION**
a. Educational Areas:
1. Dressing rooms 662 @20nsf = 33 persons
2. Stage 2,253 @15nsf = 150 persons
b. Assembly Areas:
1. Assembly with fixed seats (theater @ 608) = 608 persons
c. Storage & Mechanical Areas = 1/300 gross = 1422 gsf = 5 persons **(does not count)**
d. See Life Safety plans for identified areas
e. Every Assembly room shall have the occupant load or the room posted near the main exit.
B. Egress Width (1005.1)
a. Other Egress = 0.2" per occupant (796 person load = 159.2" Total Egress Width Required)
b. Where multiple exits, they shall be sized such that the loss of one shall not reduce capacity to less than 50% of required capacity.
c. Door encroachment - doors when fully open,shall not reduce the required width by more than 7".
1. Doors in any position shall not reduce the required width by more than 1/2.
C. Panic and fire exit Hardware (1008.1.10)
a. Doors serving rooms or spaces with an occupant load of 50 or more in group A or E shall not be provided with a lock or latch unless it is panic hardware or fire exit hardware.
D. Egress through intervening spaces (1014.2)
a. an exit access shall not pass through a room that can be locked.
D. Common Path of Egress Travel (Section 1014.3)
a. That portion of exit access which the occupants are required to traverse before two separate and distinct paths of egress travel to two exits are available. Paths that merge are common paths of travel. Common paths of egress travel shall be included within the permitted travel distance.
1. Group A within E = see 1028.8 =
2. Group E= 75' maximum
E. Exit and Exit Access Doorways (1015)
a. (1015.1) Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:
1. Occupant load of the space exceeds values in Table 1015.1 (E >49 persons)
2. The common path of egress travel exceeds the limitations of Section 1014.3
b. (1015.1.1) Three exits for occupancy of 501-1000; **FOUR exits** or exit access doorways shall be provided from any space with an occupant load >1,000.
F. Exit Access Travel Distance (Table 1016.1) per floor
a. Occupancy Group E w/sprinkler = **250 feet**
b. Occupancy Group A w/sprinkler = **250 feet**
G. Aisles (1017): when serving as portion of exit access shall be provided from all occupied portions of the exit access which contain seats and shall comply with Section 1028.
H. Corridor Fire Resistant Rating (Table 1018.1); walls shall comply with 709-fire partitions
a. No Corridor Rating Required in Group E when:
1. Instructional rooms have door opening directly to exterior
2. Assembly rooms have at least ½ of required means of egress doors opening directly to exterior at ground level.
b. Occupancy Group E,A corridor serving >30 = 0 HR when sprinklered
1. when protected with supervised automatic sprinkler, corridor wall not rated BUT form SMOKE PARTITIONS per Florida Fire Prevention Code.
I. Corridor Width: per 1005, but not less than 44"
a. **72"** in Group E with corridor capacity >100.
J. Dead Ends (Section 1018.4)
a. **50 Feet Group E**; 50' Group A (when sprinklered)
K. Minimum Number of Exits for Occupant load (Table 1021.1)
a. Occupant Load 1-500 persons = 2 exits
b. Occupant Load 501-1,000 persons = 3 exits
c. Occupant Load >1,000 = 4 exits
L. Assembly (1028)
a. Every assembly occupancy greater than 300 occupants shall be provided with a main entrance/exit with a min. aggregate width for Group A sufficient to accommodate 50% of the occupant load and be at the level of exit discharge.
b. Every level shall have access to main exit; and additional exits that accommodate ½ total load
c. Clear width of aisles and other means of egress when not smoke protected shall provide capacity in accordance with:
1. Ramped; where slopes are steeper than 1 vertical in 12 horizontal shall have at least .22" clear width for each occupant served.
2. Level or where slopes < $\frac{1}{12}$ shall have clear width .20" per occupant served. 220(.2) = 44" min.
d. Travel Distance (1028.7): exits and aisles located so travel distance to exit door <250' along line of travel when sprinklered. Does not include travel over or on seats.
e. Common Path of egress travel (1028.8)
1. 30' from any seat to a point where there is a choice of two paths
2. 75' from any point where serving <50 persons
3. Where one path is across the aisle through a row of seats to another aisle, no more than 24 seats between aisles.
a. minimum clear width between rows = 12"+.6" for each seat above 7.
f. Assembly aisles required (1028.9): every occupied area containing seats shall have aisles leading to exits as follows:
1. Min. clear width for seating not at tables:
a. 42" at level or ramped aisles with seats both sides
b. 36" at level or ramped aisles with seats on one side
g. Clear width of aisles accessways serving seating in rows (1028.10.2.)
1. rows with <= 14 seats = 12" clear
2. dual access rows with > 14 seats = 12" + .3" for each additional seat over 14 (18 seats = 13.2" clear)

CHAPTER 11 Accessibility (from FBC-Accessibility)
A. 213.3 Plumbing Fixtures and Accessories:
a. Toilet compartments: where provided:
1. One complying with 604.8.1
2. + One min. complying with 604.8.2 where six or more compartments are provided.
b. Water Closets: One min. complying with 604
c. Urinals: One min. complying with 605
d. Lavatories: One min. complying with 606 NOT in a toilet compartment
e. Mirrors: One min. complying with 603.3

CHAPTER 12 INTERIOR ENVIRONMENT - Not Listed
CHAPTER 13 ENERGY EFFICENCY - See Mechanical
CHAPTER 16 STRUCTURAL - See Structural

CHAPTER 29 PLUMBING FIXTURES
A. Plumbing Fixture Counts (Table 2902.1) 2023 FBC
a. per 453.16 - Assembly associated with Group E - Toilet facilities for assembly occupancies are NOT required to be in addition to the overall required plumbing fixture count.

B. A-4 Assembly Occupancy - 1000 person count as calculated above (total count)
1. Water Closets - 1/125 men 1/65 women (= 4 men, 8 women)
2. Lavatories - 1/200 (= 3 men, 3 women)
3. Bathtubs & Showers (= 0 minimum)
4. Drinking Fountains - 1/500 (= 2 minimum)
5. Service Sink (= 1 minimum)

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

CODE SUMMARY

PROJECT NUMBER 22019
DATED 01/31/2025

LS102

A1 CODE ANALYSIS
SCALE: 1/8" = 1'-0"

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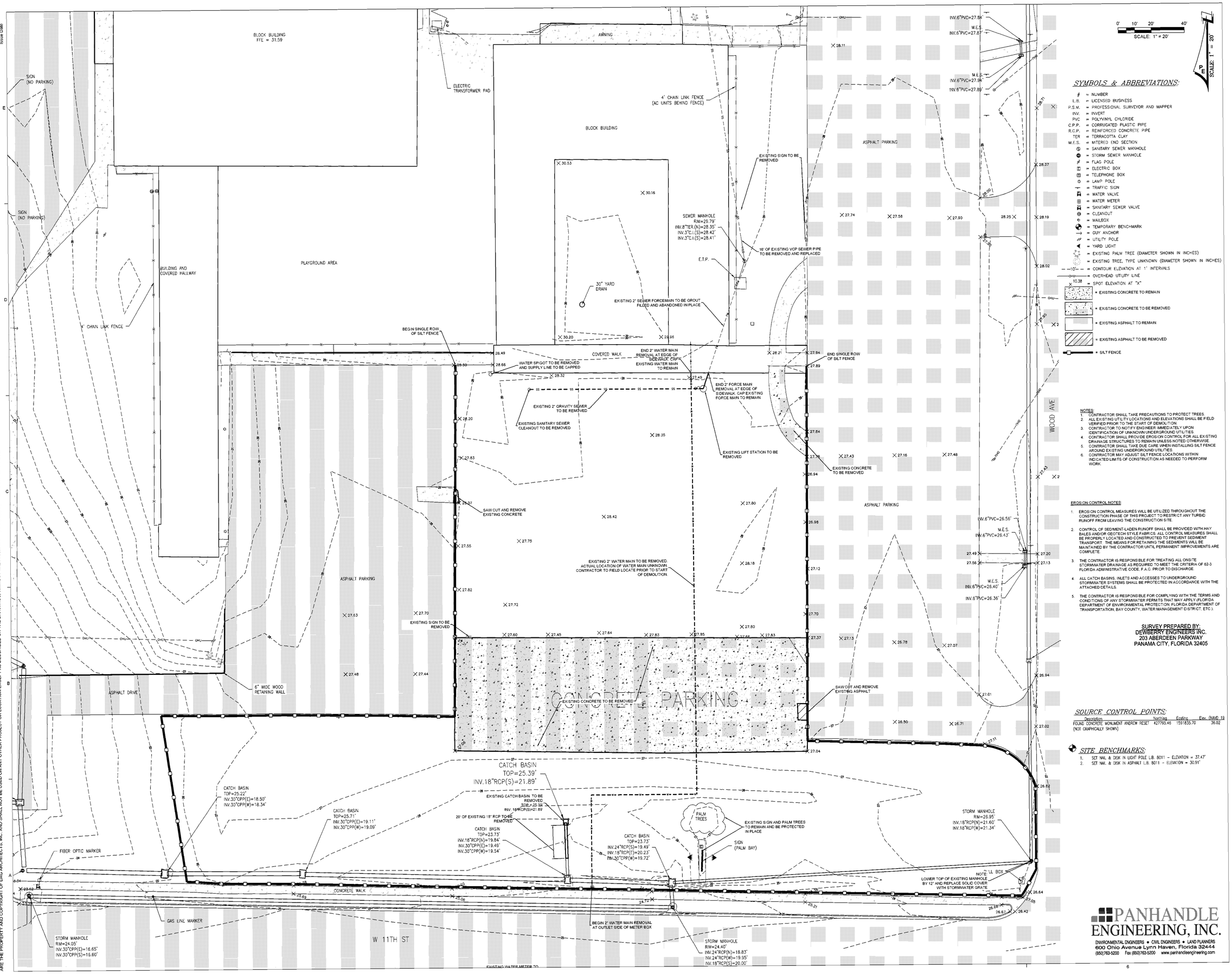
22019
PROJECT STATUS
Issue Date



SYMBOLS & ABBREVIATIONS:

- # = NUMBER
- L.B. = LICENSED BUSINESS
- P.S.M. = PROFESSIONAL SURVEYOR AND MAPPER
- INV. = INVERT
- PVC = POLYVINYL CHLORIDE
- C.P.P. = CORRUGATED PLASTIC PIPE
- R.C.P. = REINFORCED CONCRETE PIPE
- TER. = TERRACOTTA CLAY
- M.E.S. = MITERED END SECTION
- = SANITARY SEWER MANHOLE
- = STORM SEWER MANHOLE
- = FLAG POLE
- = ELECTRIC BOX
- = TELEPHONE BOX
- = LAMP POLE
- = TRAFFIC SIGN
- = WATER VALVE
- = WATER METER
- = SANITARY SEWER VALVE
- = CLEANOUT
- = MAILBOX
- = TEMPORARY BENCHMARK
- = GUY ANCHOR
- = UTILITY POLE
- = YARD LIGHT
- = EXISTING PALM TREE (DIAMETER SHOWN IN INCHES)
- = EXISTING TREE, TYPE UNKNOWN (DIAMETER SHOWN IN INCHES)
- –10'– = CONTOUR ELEVATION AT 1' INTERVALS
- OHU = OVERHEAD UTILITY LINE
- 10.38 = SPOT ELEVATION AT "X"
- = EXISTING CONCRETE TO REMAIN
- = EXISTING CONCRETE TO BE REMOVED
- = EXISTING ASPHALT TO REMAIN
- = EXISTING ASPHALT TO BE REMOVED
- = SILT FENCE

NOTES:
1. CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT TREES.
2. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF DEMOLITION.
3. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF UNKNOWN UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL PROVIDE EROSION CONTROL FOR ALL EXISTING DRAINAGE STRUCTURES TO REMAIN UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL TAKE DUE CARE WHEN INSTALLING SILT FENCE AROUND EXISTING UNDERGROUND UTILITIES.
6. CONTRACTOR MAY ADJUST SILT FENCE LOCATIONS WITHIN INDICATED LIMITS OF CONSTRUCTION AS NEEDED TO PERFORM WORK.

EROSION CONTROL NOTES:
1. EROSION CONTROL MEASURES WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT TO RESTRICT ANY TURBID RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
2. CONTROL OF SEDIMENT-LADEN RUNOFF SHALL BE PROVIDED WITH HAY BALES AND/OR GEOTECH STYLE FABRICS. ALL CONTROL MEASURES SHALL BE PROPERLY LOCATED AND CONSTRUCTED TO PREVENT SEDIMENT TRANSPORT. THE MEANS FOR RETAINING THE SEDIMENTS WILL BE MAINTAINED BY THE CONTRACTOR UNTIL PERMANENT IMPROVEMENTS ARE COMPLETE.
3. THE CONTRACTOR IS RESPONSIBLE FOR TREATING ALL ONSITE STORMWATER DRAINAGE AS REQUIRED TO MEET THE CRITERIA OF 62-3 FLORIDA ADMINISTRATIVE CODE, F.A.C. PRIOR TO DISCHARGE.
4. ALL CATCH BASINS, INLET'S AND ACCESSES TO UNDERGROUND STORMWATER SYSTEMS SHALL BE PROTECTED IN ACCORDANCE WITH THE ATTACHED DETAILS.
5. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF ANY STORMWATER PERMITS THAT MAY APPLY (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA DEPARTMENT OF TRANSPORTATION, BAY COUNTY, WATER MANAGEMENT DISTRICT, ETC.).

SURVEY PREPARED BY:
DEWBERRY ENGINEERS INC.
203 ABERDEEN PARKWAY
PANAMA CITY, FLORIDA 32405

SOURCE CONTROL POINTS:

Description	Northing	Easting	Elev. (NAVD 19
FOUND CONCRETE MONUMENT ANDREW RESET (NOT GRAPHICALLY SHOWN)	427795.46	1591835.70	36.02

SITE BENCHMARKS:

1. SET NAIL & DISK IN LIGHT POLE L.B. 8011 – ELEVATION = 37.47'
2. SET NAIL & DISK IN ASPHALT L.B. 8011 – ELEVATION = 30.91'

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

J. Doug Crook
2025.01.23
14:17:45-06'00'

This item has been digitally signed and sealed by J. Doug Crook, PE on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

REVISIONS:

No.	Description	Date

EROSION CONTROL & DEMOLITION PLAN

Project Number	133407
Dated	01/31/2025
Drawn By	JNF
Approved By	JDC
PM	JDC

C1

22019
PROJECT STATUS
Issue Date

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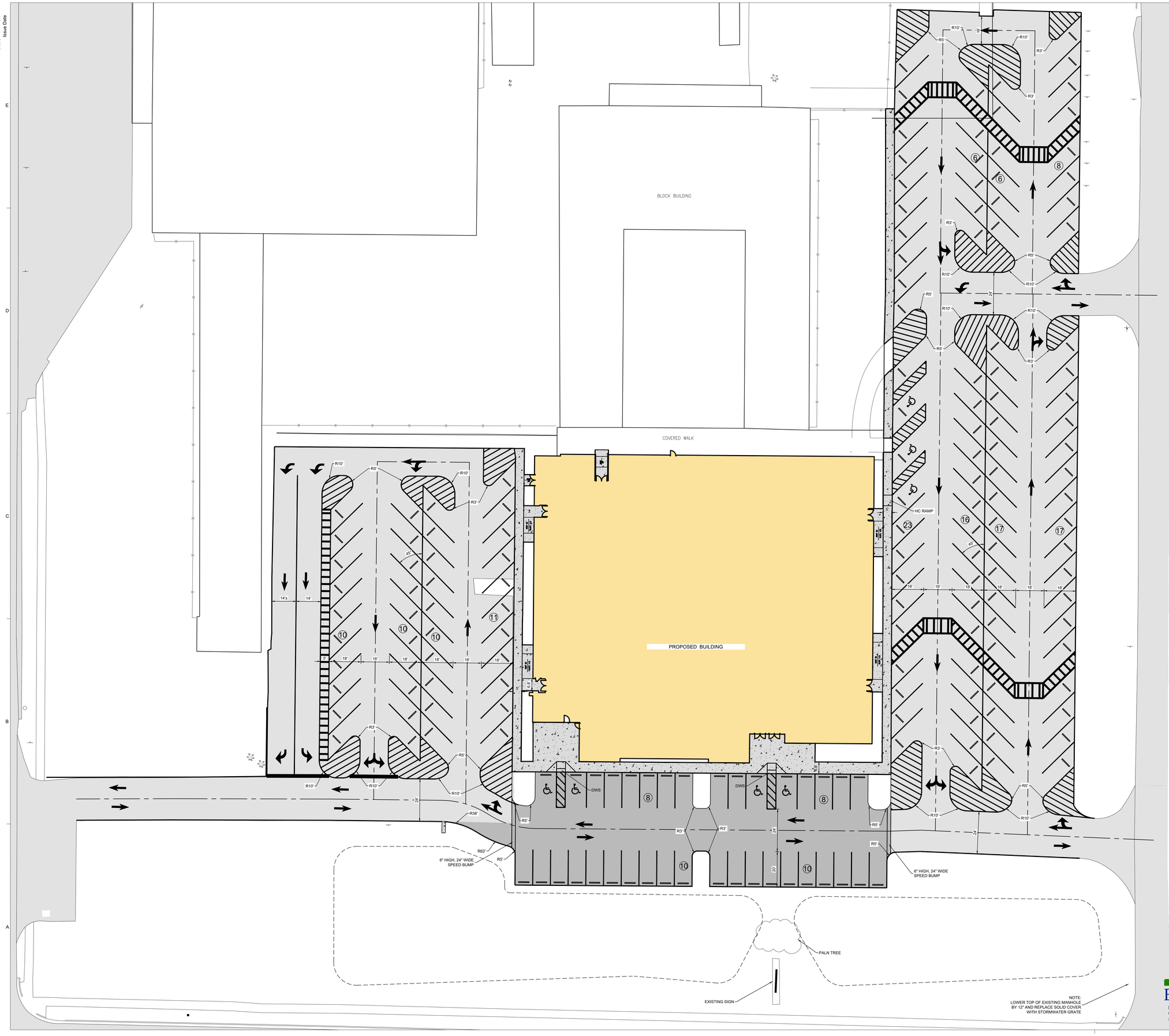

SITE NOTES:

1. ABOVE GROUND STRUCTURES ARE SHOWN ON THIS SHEET.
2. ALL TRAFFIC STRIPING TO BE PAINT PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
3. CONTRACTOR TO FIELD VERIFY ALL UTILITIES AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
4. ALL DEMOLISHED MATERIALS (i.e. SIGNS, CONCRETE, ASPHALT, ETC.) TO BE REMOVED AND DISPOSED OF IN LEGAL MANNER.
5. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
6. SEED AND MULCH ALL DISTURBED AREAS, EXCEPT WHERE SOD IS SPECIFIED.
7. SOD ALL AREAS AS SHOWN OR AS REQUIRED FOR EROSION CONTROL.
8. SOD AND SEED SHALL BE BERMUDA.
9. ALL REGULATORY SIGNS SHALL BE INSTALLED PER FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LEGEND

- PROPOSED CONSTRUCTION
- EXISTING TO REMAIN
- SIGN
- HANDICAP PARKING
- PROPOSED ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING CONCRETE
- DETECTABLE WARNING SURFACE (DWS)
- (10) PARKING COUNT IN ROW

NOTES:
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2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SITE PLAN

Project Number	133407
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

C2

22019
PROJECT STATUS
ISSUE DATE

BLOCK BUILDING

COVERED WALK

PROPOSED BUILDING

WOOD AVE

WOOD AVE

SIDEALK GRADE SAME AS ADJACENT PARKING LOT GRADE

SIDEALK GRADE SAME AS ADJACENT PARKING LOT GRADE

HC RAMP (RAMP DOWN TO EXISTING PARKING LOT GRADE)

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

12" CLEANOUT INV= 25.00'

12" CLEANOUT INV= 25.00'

15" CLEANOUT INV= 24.00'

15" CLEANOUT INV= 24.00'

12" PVC ROOF DRAIN HEADER PIPE

12" PVC ROOF DRAIN HEADER PIPE

4" ROOF DOWNSPOUT CONNECTION (TYP)

WYE CONNECTION TO HEADER PIPE (TYP)

8" PVC ROOF DRAIN HEADER PIPE

15" PVC ROOF DRAIN HEADER PIPE

6" PVC ROOF DRAIN HEADER PIPE

15" PVC ROOF DRAIN HEADER PIPE

12" WIDE TRAFFIC RATED TRENCH DRAIN TO BE INSTALLED ALONG EDGE OF EXISTING ASPHALT TO REMAIN

28.50 TOC
28.00 EOP

28.50 TOC
28.00 EOP

28.50 TOC
28.00 EOP

29.10 TOC
28.60 EOP

28.60 TOC
28.10 EOP

28.60 TOC
28.10 EOP

29.10 TOC
28.60 EOP

27.87 TOC
27.37 EOP

MATCH EXISTING GRADE

MATCH EXISTING GRADE

CONTRACTOR TO INSTALL 2' WIDE CONCRETE FLUME AT OPEN END OF TRENCH DRAIN. FLUME TO EXTEND TO BOTTOM OF BYPASS SWALE.

SWALE TO CONVEY BYPASS FLOW

PROPOSED STORMWATER FACILITY (SEE DETAILS ON SHEET C8)

DS-01
FDOT TYPE C INLET CONTROL STRUCTURE GRATE EL= 29.20 S-INV= 21.46 (18"RCP)

DP-01
35.0' OF 18" ADS HP @ 0.00%

DS-07
INV=21.50

DS-07
INV=21.50

DP-02
36.9' OF 18" ADS HP @ 0.00%

DP-11
EXTEND 18" RCP TO STRUCTURE DS-12

DS-01
4' DIA. STORM MANHOLE
RIM EL = 26.75
NE INV = 23.90 (15" PVC)
NW INV = 23.00' (15" PVC)
SE INV = 21.50' (18" ADS HP)
SW INV = 21.50' (18" ADS HP)

NOTE:
LOWER TOP OF EXISTING MANHOLE BY 12" AND REPLACE SOLID COVER WITH STORMWATER GRATE.

LOCATE EXISTING 12" WATER MAIN

LEGEND

X 34.00	EXISTING GRADE
XX.XX	PROPOSED FINISH GRADE
35	PROPOSED GRADE CONTOUR
35	EXISTING GRADE CONTOUR
	STORMWATER FLOW ARROW
	PROPOSED MANHOLE (SANITARY OR STORM)
	PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
	PROPOSED STORM PIPE
OHU	EXISTING OVERHEAD UTILITIES
DS-1	STORM DRAIN STRUCTURE I.e. #1
DP-1	STORM DRAIN PIPE I.e. #1
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED ASPHALT PAVEMENT
	EXISTING ASPHALT PAVEMENT
	PROPOSED CONCRETE
	EXISTING CONCRETE
	DETECTABLE WARNING SURFACE (DWS)
DS⊕	DOWNSPOUT
TOC	TOP OF CONCRETE
EOP	EDGE OF PAVEMENT

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

DRAINAGE STRUCTURE NOTES:
1. "C" and "E" INLETS PER FDOT STD. PLANS INDEX 425-052
2. ALL STORM STRUCTURES TO HAVE 1ft. SUMPS.
3. CONTRACTOR MAY UTILIZE ADS HP STORM PIPE WHERE COVER EXCEEDS MANUFACTURER'S MINIMUM CRITERIA FOR COVER AND FLOTATION RESISTANCE.

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

SCALE: 1" = 20'

0' 10' 20' 40'
SCALE: 1" = 20'

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

GRADING AND DRAINAGE PLAN

Project Number	133407
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

C3

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22019
PROJECT STATUS
Issue Date

BLOCK BUILDING
FFE = 31.59

AWNING

ELECTRIC TRANSFORMER PAD

4' CHAIN LINK FENCE
(AC UNITS BEHIND FENCE)

BLOCK BUILDING

SIGN
(NO PARKING)

SIGN
(NO PARKING)

BUILDING AND
COVERED HALLWAY

PLAYGROUND AREA

4' CHAIN LINK FENCE

30" YARD
DRAIN

SEWER MANHOLE
RIM=29.79'
INV.8"TER.(N)=28.35'
INV.3"C.I.(S)=28.42'
INV.3"C.I.(S)=28.41'

REPLACE 16' OF EXISTING
VCP WITH PVC (SDR-26). WYE
CONNECTIONTO BE MADE IF
FROM EXISTING MANHOLE

E.T.P.

COVERED WALK

PROPOSED BUILDING

8"X4" WYE
4"X2" REDUCER

2" PVC FORCE
MAIN (SDR-21)

DUPLEX GRINDER LIFT
STATION WITH VALVE
BOX AND CONTROL
PANEL SEE DETAILS ON
SHEET C10.

4" PVC SERVICE
LATERAL AT MIN.1.0%
SLOPE (SDR-26)
CONTRACTO TO SAW
CUT AND REMOVE
CONCRETE SIDEWALK
AS NEEDED FOR
SERVICE LATERAL
INSTALLATION.
CONCRETE TO BE
REPLACED TO MATCH
EXISTING CONDITIONS

4" WASTEWATER SERVICE
POINT OF CONNETION.
INV.=24.75(SEE PLUMBING
PLANS FOR CONTINUATION

INV.6"PVC=27.91'
M.E.P.
INV.6"PVC=27.96'
INV.6"PVC=27.85'

2.5" PVC WATER
MAIN(SDR-21)

2.5" METER AND 2.5"
RPZ BACKFLOW
PREVENTER ASSEMBLY

6" WIDE WOOD
RETAINING WALL

FIRE HYDRANT
ASSEMBLY

4" PVC WATER
MAIN(DR 18)

2.5" X 2" TEE

2" METER AND BACKFLOW
PREVENTER ASSEMBLY
(IRRIGATION POINT OF
CONNECTION)

6" TEE
6"X4" REDUCER

4" X2.5" TEE

4" DOUBLE
DETECTOR CHECK
ASSEMBLY WITH FDC

6" PVC WATER
MAIN (DR 18)

PALM
TREES

SIGN
(PALM BAY)

PULL BOX

FIBER OPTIC MARKER

CONCRETE WALK

GAS LINE MARKER

SAW CUT SIDEWALK AT NEAREST JOINTS
AND REMOVE FOR WATER MAIN
INSTALLATION. REPLACE SIDEWALK TO
MATCH EXISTING CONDITION

LOCATE EXISITNG 12" WATER MAIN
AND CONNECT WITH 12"x6"
TAPPING SADDLE AND VALVE

CUT AND CAP EXISTING 2" WATER MAIN
UPSTREAM OF EXISTING METER AND
REMOVE METER

STORM MANHOLE
RIM=24.05'
INV.30"CPP(E)=16.65'
INV.30"CPP(S)=16.60'

STORM MANHOLE
RIM=24.40'
INV.24"RCP(N)=18.83'
INV.24"RCP(W)=19.95'
INV.18"RCP(S)=20.00'

W 11TH ST

LEGEND

- SS — EXISTING SANITARY SEWER LINE
- 4"SS — PROPOSED SANITARY SEWER LINE (SIZE AS NOTED)
- WM — EXISTING WATER LINE
- 2"WM — PROPOSED WATER LINE (SIZE AS NOTED)
- 2"FM — PROPOSED FORCE MAIN (SIZE AS NOTED)
- PROPOSED STORM PIPE
- OHW — EXISTING OVERHEAD UTILITIES
- PROPOSED ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING CONCRETE

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

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Sunshine811.com

SCALE: 1" = 20'

0' 10' 20' 40'

SCALE: 1" = 20'

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

UTILITY PLAN

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 Fax (850)763-5200 www.panhandleengineering.com

Project Number	133407
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

C4

22019
PROJECT STATUS
Issue Date

GENERAL NOTES

EXISTING SITE RELATED ITEMS:

1. THE LOCATION OF UTILITIES SHOWN ON THE PLANS MAY NOT BE ACCURATE AND ALL UTILITIES MAY NOT BE SHOWN. THE LOCATIONS OF UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED BY THEIR OWNER OR PANHANDLE ENGINEERING, INC.
2. THE EXACT LOCATION AND ELEVATION OF EXISTING STRUCTURES, UTILITIES, AND PIPING SHALL BE PHYSICALLY VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE CONSTRUCTION BEGINS. THESE DRAWINGS DO NOT INTEND TO SHOW IN COMPLETE DETAIL ALL EXISTING STRUCTURES, UTILITIES, OR PIPING. THE CONTRACTOR SHALL EXAMINE ALL AVAILABLE RECORDS AND MAKE ALL EXPLORATIONS AND EXCAVATIONS AS REQUIRED TO DETERMINE THE LOCATION OF EXISTING STRUCTURES, UTILITIES, AND PIPING, WHENEVER NECESSARY. THE OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF LINES TO AVOID CONFLICT WITH EXISTING STRUCTURES, UTILITIES, OR PIPING.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING. THE SURVEY MAY NOT SHOW ALL OBJECTS WITHIN THE PATH OF THE NEW UTILITIES. IF OBJECTS ARE NOT SHOWN ON THE SURVEY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SEVEN DAYS PRIOR TO THE BID DATE. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ALL OBJECTS NOT SHOWN ON THE SURVEY.
4. STATIONING ON THE PLANS RELATES TO THE "2D PLAN VIEW" CENTERLINE OF ALL ROADWAYS/ RIGHT-OF-WAYS AND SHALL BE USED FOR LOCATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE STATIONING WHEN CALCULATING PIPE OR ROADWAY LENGTHS. ACTUAL LENGTH MAY DIFFER DUE TO VERTICAL ELEVATION CHANGES AND HORIZONTAL OFFSETS.
5. THE CONTRACTOR SHALL PHYSICALLY EXAMINE THE ENTIRE PROJECT SITE AND INFORM HIMSELF FULLY IN REGARD TO ALL CONDITIONS PERTAINING TO THE PLACE WHERE THE WORK IS TO BE PERFORMED FOR PURPOSE OF DETERMINING HIS COST TO PERFORM THE WORK. THE CONTRACTOR SHOULD PAY SPECIAL ATTENTION TO AREAS INVOLVING CLEARING AND GRUBBING, EXISTING FACILITIES REMOVAL AND REPLACEMENT, SUPPORT ON RELOCATION, AND WORK INVOLVED IN WETLAND AREAS.
6. THE CONTRACTOR SHALL CHECK PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNER'S ENGINEER OF ANY CONFLICT BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
7. THE CONTRACTOR SHALL VIDEO THE ENTIRE ROUTE PRIOR TO CONSTRUCTION AND PROVIDE A COPY TO THE ENGINEER PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES ABOVE OR BELOW GROUND THAT MAY OCCUR AS A RESULT OF WORK CALLED FOR IN THESE CONTRACT DOCUMENTS.
10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

CONSTRUCTION REGULATIONS AND PERMITS RELATED ITEMS:

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LEARN, KNOW, AND COMPLY WITH THE REGULATIONS, ORDINANCES, PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION. THE CONTRACTOR SHALL SCHEDULE THE REQUIRED INSPECTIONS AND APPROVALS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE NECESSARY AGENCIES OF CONSTRUCTION COMMENCEMENT.
12. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST ISSUE AND SHALL BE CONSIDERED A PART OF THESE DOCUMENTS AS THOUGH INCLUDED.
13. CONTRACTOR SHALL HAVE COPIES OF ALL PERMITS IN POSSESSION AT ALL TIMES DURING CONSTRUCTION. ANY INDIVIDUAL CREW OR INDIVIDUAL PERSON WORKING ON THE INSTALLATION OF ANY PART OF THIS PROJECT SHALL HAVE A SET OF PLANS AND SPECIFICATIONS WITH THEM AT ALL TIMES.
14. THE CONTRACTOR SHALL FOLLOW ALL CONDITIONS OF THE PERMIT REQUIREMENTS. SEE SPECIFICATIONS FOR COPY OF PERMITS.
15. CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR CONSTRUCTION.
16. CONTRACTOR SHALL FOLLOW ALL OSHA REQUIREMENTS FOR CONSTRUCTION.

CONSTRUCTION & SITE RESTORATION RELATED ITEMS:

17. WHERE IT BECOMES NECESSARY TO TEMPORARILY REMOVE, REPOSITION, OR SUPPORT EXISTING FACILITIES, UTILITY POLES, ETC. THIS WORK SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH REQUIREMENTS OF THE OWNER OF THE EXISTING FACILITY, UTILITY POLE, ETC. THE CONTRACTOR SHALL GIVE PROPER NOTICE TO THE UTILITIES.
18. THE CONTRACTOR SHALL REMOVE AND REPLACE, TO THEIR ORIGINAL NATURE, ALL DISTURBED MATERIALS OR OBJECTS WITHIN THE PATH OF THE NEW UTILITIES AS NECESSARY. ALL REPLACED MATERIALS SHALL BE EQUAL OR BETTER AND SHALL BE APPROVED BY THE ENGINEER. THIS INCLUDES ALL LANDSCAPING WITHIN THE RIGHT OF WAY IN THE PATH OF THE NEW UTILITIES.
19. ALL DISTURBED OBJECTS SUCH AS DRIVEWAYS, CULVERTS, RETAINING WALLS, FENCING, SIGNS, MAILBOXES, LANDSCAPING, ETC. SHALL BE REINSTALLED TO EXISTING OR ACCEPTABLE CONDITION BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
20. ALL PAVEMENT SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH ENGINEERING PLANS AND SPECIFICATIONS. FOR THE REPLACEMENT OF ASPHALT ROADS AND PAVEMENT DRIVES, THE CONTRACTOR SHALL REMOVE THE EXISTING ASPHALT AND REPLACE AS SHOWN IN DETAILS.
21. CONTRACTOR SHALL TRIM, TACK AND MATCH EXISTING PAVEMENT AT LOCATIONS WHERE PROPOSED PAVEMENT ABUTS.
22. ALL CONCRETE DRIVEWAYS SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH ENGINEERING PLANS AND SPECIFICATIONS. FOR REPLACEMENT OF CONCRETE CROSSINGS, THE CONTRACTOR SHALL SAW CUT BACK TO THE CLOSEST JOINT AND REPLACE AS SHOWN IN DETAILS.
23. ALL DISTURBED DRIVES SHALL BE CONNECTED TO THE EXISTING PAVEMENT IN A CONDITION EQUAL TO OR BETTER THAN ITS PREVIOUS CONDITION USING THE SAME MATERIALS THAT WERE REMOVED.
24. THE CONTRACTOR SHALL MAINTAIN A REASONABLE ACCESS TO ALL RESIDENCES AND BUSINESSES DURING CONSTRUCTION.
25. THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS NECESSARY TO AVOID TRESPASSING AND DAMAGING PRIVATE PROPERTY.
26. ALL SPOIL MATERIAL FROM EXCAVATION SHALL BE PLACED ON THE UPLAND SIDE OF ANY SLOPED CONSTRUCTION AREA.
27. ALL EXISTING CONCRETE, ASPHALT, TREES, STUMPS, AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FLORIDA LAWS.
28. A ONE FOOT STRIP OF SOD SHALL BE INSTALLED ON THE EDGE OF ALL ASPHALT OVERLAY AREAS AND AROUND ALL ABOVE GROUND CONCRETE STRUCTURES INCLUDING BUT NOT LIMITED TO VALVE PADS, BLOW OFF VAULTS, AND AIR RELEASE VAULTS.
29. ALL CONSTRUCTION STAKING SHALL BE DONE AT CONTRACTORS EXPENSE. CONTRACTOR IS TO FURNISH "AS BUILT PLANS" INDICATING LOCATIONS OF ALL MANHOLES, FITTINGS, VALVES, AND DEAD END RUNS WITH THREE (3) PHYSICAL FEATURES (LOT CORNERS, TREES, ETC.). THIS IS MANDATORY, NO EXCEPTIONS.

MAINTENANCE OF TRAFFIC AND ROADWAY RELATED ITEMS:

30. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN ADEQUATE TRAFFIC CONTROL AND TO PROVIDE DETOURS AROUND CONSTRUCTION ACTIVITIES. NO STREET SHALL REMAIN CLOSED TO TRAFFIC OVERNIGHT. IN ADDITION, THE CONTRACTOR SHALL COOPERATE WITH LOCAL RESIDENTS IN GAINING ACCESS TO THEIR HOMES AND BUSINESSES DURING WORKING HOURS AND SHALL ASSIST AT ALL TIMES WHEN VEHICLES EXPERIENCE TROUBLE DUE TO CONSTRUCTION ACTIVITIES.
31. THE CONTRACTOR SHALL INSTALL ALL TRAFFIC CONTROL DEVICES REQUIRED FOR THE PROJECT IN ACCORDANCE WITH THE LATEST EDITION OF THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL.
32. ALL DRIVEWAYS SHALL BE COMPACTED AND MAINTAINED DURING CONSTRUCTION TO ALLOW ACCESS TO FACILITIES AT ALL TIMES. ALL TEMPORARY STABILIZATION SHALL BE SMOOTH AND LEVEL.

EROSION CONTROL AND DEWATERING ITEMS:

33. PRIOR TO STARTING ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
34. THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENT CONTROL PER THE GUIDELINES OF THE FLORIDA DEVELOPMENT MANUAL. ALL REQUIRED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE SHALL BE INCLUDED IN COST OF OTHER ITEMS OF WORK.
35. CONTRACTOR SHALL INSTALL ANY REQUIRED SLOPE STABILIZATION, SILT FENCING, BALED HAY BARRIERS, OR TURBIDITY CURTAINS PER CURRENT FDOT DESIGN STANDARDS FOR EROSION CONTROL AND WATER QUALITY. LOCATION SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED IN THE FIELD.
36. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL CONSTRUCTION AND PREVENT SEDIMENTS FROM DISCHARGING TO ADJACENT PROPERTIES, WETLANDS, STORM DRAINAGE SYSTEMS, AND/OR OFF-SITE AREAS, WHETHER SUCH EROSION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT AT NO ADDITIONAL COST TO OWNER. ADDITIONAL EROSION CONTROLS SHALL BE UTILIZED AS NECESSARY AND AS DIRECTED BY THE ENGINEER TO LIMIT SEDIMENTS FROM DISCHARGING TO ADJACENT PROPERTIES, WETLAND OR STORM DRAINAGE SYSTEMS. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK.
37. ALL CONSTRUCTION AREAS SHALL BE STABILIZED AT THE CLOSE OF EACH CONSTRUCTION DAY. EROSION CONTROLS SHALL BE CHECKED AT THIS TIME AND MAINTAINED OR REINFORCED IF NECESSARY.
38. EROSION CONTROLS SHALL REMAIN IN PLACE AND BE MAINTAINED FOR THE DURATION OF THE PROJECT TO LIMIT THE MOVEMENT OF SILTATION AND SEDIMENTS FROM ENTERING EXISTING DRAINAGE SYSTEMS OR FROM LEAVING THE CONSTRUCTION SITE. ANY ACCUMULATED SEDIMENTS ARE TO BE REMOVED FROM THE EROSION CONTROLS AND DISPOSED TO PROPERLY. ADDITIONALLY, ALL EROSION CONTROLS ARE TO BE INSPECTED AFTER A STORM EVENT AND THE CONTROLS REPLACED OR ARMORED AS NECESSARY AND ACCUMULATED SEDIMENTS REMOVED.
39. TEMPORARY STOCKPILING OF MATERIALS RELATED TO THE CONSTRUCTION ACTIVITIES ARE TO BE PROPERLY STABILIZED, PROTECTED AND DEMARCATED TO LIMIT MATERIAL MOVEMENT AND EROSION FROM DEPOSITING INTO ADJACENT PROPERTIES, WETLAND OR STORM DRAINAGE SYSTEMS.
40. THE INSTALLATION OF ALL CONCRETE STRUCTURES, GRAVITY SEWER, FORCE MAINS, WATER MAINS, ETC. SHALL BE INSTALLED IN DRY CONDITIONS. DEWATERING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER. COMPREHENSIVE PLANS FOR DEWATERING OPERATIONS, IF USED, SHALL BE SUBMITTED BY THE CONTRACTOR TO ENGINEER PRIOR TO INSTALLATION.
41. THE CONTRACTOR SHALL UTILIZE APPROPRIATE DEWATERING SYSTEMS AND TECHNIQUES TO MAINTAIN THE EXCAVATED AREA SUFFICIENTLY DRY FROM GROUNDWATER AND/OR SURFACE RUNOFF SO AS NOT TO ADVERSELY AFFECT CONSTRUCTION PROCEDURES OR CAUSE EXCESSIVE DISTURBANCE OF UNDERLYING NATURAL GROUND.
42. WATER FROM TRENCHES AND EXCAVATIONS SHALL NOT BE DISCHARGED INTO ANY SANITARY SEWER SYSTEM.
43. WATER FROM TRENCHES AND EXCAVATIONS SHALL NOT BE DISCHARGED DIRECTLY TO STORM DRAIN SYSTEMS. PROPER TREATMENT TO A SEDIMENTATION AREA IS TO TAKE PLACE PRIOR TO DISCHARGE TO ANY DRAINAGE SYSTEMS.
44. WATER FROM THE TRENCHES AND EXCAVATIONS SHALL BE DISPOSED OF IN SUCH A MANNER AS TO AVOID PUBLIC NUISANCE, INJURY TO PUBLIC HEALTH OR THE ENVIRONMENT, DAMAGE OR PUBLIC OR PRIVATE PROPERTY, OR DAMAGE TO PUBLIC OR PRIVATE PROPERTY, OR DAMAGE TO THE WORK COMPLETED OR IN PROGRESS. SILTATION BARRIERS SHALL BE UTILIZED AS NECESSARY.
45. THE CONTRACTOR SHALL REPAIR ANY DAMAGE RESULTING FROM THE FAILURE OF THE DEWATERING OPERATIONS OR FROM FAILURE TO MAINTAIN ALL THE AREAS OF WORK IN SUITABLE DRY CONDITION.
46. PRECAUTIONS SHALL BE TAKEN TO PROTECT NEW WORK FROM FLOODING DURING STORMS OR FROM OTHER CAUSES. GRADING IN THE AREAS SURROUNDING ALL EXCAVATIONS SHALL BE PROPERLY SLOPED TO PREVENT WATER FROM RUNNING INTO THE EXCAVATED AREA OR TO ADJACENT PROPERTIES. WHERE REQUIRED, TEMPORARY DITCHES SHALL BE PROVIDED FOR DRAINAGE. UPON COMPLETION OF THE WORK AND WHEN DIRECTED, ALL AREAS SHALL BE RESTORED IN A SATISFACTORY MANNER AND AS DIRECTED.

SPECIAL NOTES

1. CONTRACTOR SHALL CUT AND REMOVE ASPHALT ROADWAYS AS NECESSARY TO INSTALL NEW SEWER MAINS, SEWER LATERALS, WATER MAINS, WATER SERVICE LINES AND OTHER REQUIRED UTILITY IMPROVEMENTS.
2. ALL ROADWAYS AND DRIVEWAYS SHALL BE COMPACTED AND MAINTAINED DURING CONSTRUCTION SO RESIDENTS AND BUSINESSES CAN HAVE ACCESS AT ALL TIMES. ALL TEMPORARY STABILIZATION SHALL BE SMOOTH AND LEVEL.
3. PIPE TESTING SHALL BE PERFORMED WITHIN IN ONE WEEK OF COMPLETING UTILITY IMPROVEMENTS IN ANY SECTION. SEE TEST SCHEDULE FOR MORE REQUIREMENTS.
4. ALL ROADWAY, DRIVEWAY AND SIDEWALK RESTORATION SHALL BE COMPLETED WITHIN ONE WEEK OF SUCCESSFUL PIPE TESTING IN ANY SECTION.
5. ALL DISTURBED YARD AND GRASSED AREAS SHALL BE SODDED WITH CENTIPEDE.
6. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING DAMAGED SECTIONS OF CONCRETE CURB.
7. COST FOR ALL NECESSARY REMOVAL AND REPLACEMENT OF DRIVEWAYS, SIDEWALKS, AND CURBS SPECIFIED ON CONSTRUCTION DRAWINGS SHALL BE INCLUDED IN LUMP SUM BID PRICE FOR EACH SECTION.
8. CONTRACTOR SHALL REMOVE AND REPLACE ALL TREES, SHRUBS AND IRRIGATION DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT A WORK CHANGE DIRECTIVE PRIOR TO CONSTRUCTION FOR ANY ADDITIONAL COST FOR WORK REQUIRED IN LANDSCAPED AREAS.
9. CONTRACTOR SHALL EXCAVATE AND VERIFY THE EXISTING WATER MAIN, FORCE MAIN, AND GRAVITY SEWER LOCATIONS AND SIZE PRIOR TO SCHEDULING WATER OUTAGE FOR CONNECTION.
10. CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY TO MAINTAIN WATER MAIN SEPARATION REQUIREMENTS. CONTRACTOR SHALL RESTRAIN ALL WATER MAINS JOINTS WHERE 6' HORIZONTAL SEPARATIONS CANNOT BE MAINTAINED BETWEEN EXITING SEWER AND STORMWATER UTILITIES.
11. CONTRACTOR SHALL COMPLETE WATER SERVICE CONNECTIONS TO EXISTING METERS AFTER NEW WATER MAINS HAVE BEEN CERTIFIED AND PLACED INTO SERVICE.
12. CONTRACTOR SHALL PRESSURE TEST ALL NEW GRAVITY SEWER AND SEWER LATERALS UP TO THE CLEANOUT.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR BYPASS PUMPING FOR ALL GRAVITY SEWER AND MANHOLE INSTALLATIONS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY OWNER TO STABILIZE POWER POLES AS THEY ARE ENCOUNTERED THROUGHOUT THE ENTIRE PROJECT.
15. REMOVAL AND REPLACEMENT OF EXISTING DRIVEWAYS AND DRIVEWAY CULVERTS SHALL BE INCLUDED IN THE BID PRICE. NEW DRIVEWAYS SHALL MATCH EXISTING MATERIALS.
16. REMOVAL AND REPLACEMENT OF EXISTING SIGNS, MAILBOXES, SODDING, IRRIGATION, LANDSCAPING, STRUCTURES, ETC. SHALL BE INCLUDED IN THE BID PRICE.
17. COMPACTION TESTING SHALL BE PERFORMED AT EACH ROADWAY CUT FOR SERVICE LATERALS AND PER FDOT SPECIFICATIONS FOR ROAD RECONSTRUCTION AND SHALL BE INCLUDED IN THE BID PRICE.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING UTILITIES INCLUDING RECONNECTING ALL WATER AND SEWER SERVICES DAMAGED/BROKEN DURING THE INSTALLATION ON ALL PROPOSED UTILITIES AND OTHER IMPROVEMENTS, WITH NO ADDITIONAL COST TO THE OWNER.
19. THE CONTRACTOR SHALL AVOID OR MINIMIZE THE DISTURBANCE OF EXISTING TREES DURING THE INSTALLATION OF ALL GRAVITY SEWER, WATER MAINS AND OTHER PROPOSED IMPROVEMENTS WITHIN THE RIGHT OF WAYS AND EASEMENTS. IF TREES ARE DAMAGED OR REQUIRED TO BE MOVED, THEY SHALL BE REPLACED WITH TREES OF SIMILAR SIZE AND SPECIES WITH NO ADDITIONAL COST TO THE OWNER. IF APPLICABLE, THE CONTRACTOR MAY USE THE DIRECTIONAL BORE (FOR PRESSURE PIPE) OR JACK AND BORE (FOR GRAVITY PIPE) METHODS IN LIEU OF OPEN CUTTING TO AVOID IMPACTS AT CONTRACTORS EXPENSE.
20. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING SEWER MAINS AND LATERALS EXCAVATED DURING THE INSTALLATION OF THE PROPOSED GRAVITY SEWER IMPROVEMENTS. ALL ABANDONED SECTIONS OF NON-EXCAVATED EXISTING GRAVITY SEWER SHALL BE FLOWABLE FILLED. ALL DEMOLITION AND FLOWABLE FILL WORK SHALL BE INCLUDED IN THE BID PRICE.
21. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MAINTENANCE OF TRAFFIC PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. SIGNAGE SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE INCLUDED IN THE BID PRICE.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BY-PASS PUMPING AND SHALL BE INCLUDED IN THE BID PRICE.
23. CONTRACTOR SHALL PROVIDE DE-WATERING AS NECESSARY FOR THE INSTALLATION OF ALL PROPOSED IMPROVEMENTS. ALL DE-WATERING SHALL BE INCLUDED IN THE BID PRICE.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NPDES PERMIT AND MAINTAINING THE SILT FENCE, INLET PROTECTION, AND ANY OTHER EROSION CONTROL NECESSARY IN THE NPDES PERMIT GUIDELINES.
25. THE GRAVITY SEWER LINES SHALL BE VIDEO TAPED UPON COMPLETION OF THE INSTALLATION AND PROVIDED TO THE CITY ENGINEER IN DVD FORMAT FOR REVIEW.

TESTING NOTES AND SCHEDULE

1. COPIES OF TEST REPORTS FOR ASPHALT, SUBGRADE, FILL, AND BACKFILL UNDER ROADWAYS AND STRUCTURES, AND UTILITY TRENCHES SHALL BE PROVIDED DIRECTLY TO THE ENGINEER FOR APPROVAL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE TESTING AND INSURE THAT ALL APPLICABLE TESTS HAVE BEEN PERFORMED. FAILURE TO OBTAIN TEST RESULTS AT ANY POINT OF CONSTRUCTION WILL REQUIRE THE REMOVAL OF THE IMPROVEMENT AND REPLACEMENT BY THE CONTRACTOR. IT SHOULD BE NOTED THAT THE ENGINEER WILL REQUIRE COMPACTION TESTING IN ACCORDANCE WITH THE TESTING SCHEDULE FOR UTILITY TRENCH FILL AND BACKFILL.
2. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE TESTING SCHEDULE CONTAINED WITHIN THESE PLANS. SELECTION AND CONTRACTING WITH THE TESTING FIRMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
3. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER 15 CALENDAR DAYS PRIOR TO PRESSURE TESTING AND BACTERIOLOGICAL TESTING SO A TESTING PLAN CAN BE ESTABLISHED.

62-555.314 (5)

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE.

1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERIAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY - OR VACUUM - TYPE PIPELINE;
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:

1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND
2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

F.A.C. 62-555.314 EXCEPTIONS

CITY OF PANAMA CITY FLORIDA	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	UTILITY SEPARATION REQUIREMENTS (2)	FIGURE : PW-22

PANAMA CITY UTILITY CONSTRUCTION NOTES

FORCE MAIN INSTALLATION RELATED ITEMS:

1. PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM DD2241, SDR-21.
2. PVC PIPE 4"-6" SHALL BE AWWA C900 (DR25).
3. PVC PIPE 8"-12" SHALL BE AWWA C900 (DR25).
4. PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 (DR18).
5. FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
6. MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED. (EBBA OR APPROVED EQUAL).
7. ALL FORCE MAINS SHALL BE COLOR GREEN OR BROWN.
8. ALL SANITARY FORCE MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 100 PSIG (MINIMUM) FOR TWO HOURS
9. ALL FLUSHING REQUIREMENTS PER AWWA STANDARDS (3 FPS MINIMUM, 6 X PIPE VOLUME MINIMUM.)

GRAVITY SEWER INSTALLATION RELATED ITEMS:

10. ALL GRAVITY SEWER PIPE, MANHOLES, SERVICE LATERALS AND PIPE BEDDING SHALL BE INSTALLED ACCORDING TO ENGINEERING DRAWINGS AND SPECIFICATIONS.
11. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWER MAINS AND SEWER LATERALS TO BE CONNECTED TO PRIOR TO CONSTRUCTION.
12. ALL GRAVITY SEWER PIPE SIZES 4" TO 15" AND DEPTHS UP TO 15 FEET SHALL BE PVC AND IN ACCORDANCE WITH ASTM D-3034-SDR26, UNLESS SPECIFIED TO 15" AND DEPTHS UP TO 15 FEET SHALL BE PVC AND IN ACCORDANCE WITH ASTM D-3034-SDR26, UNLESS SPECIFIED AND DEPTHS UP TO 15 FEET SHALL BE PVC AND IN ACCORDANCE WITH ASTM D-3034-SDR26, UNLESS SPECIFIED OTHERWISE.
13. ALL SEWER SERVICE LATERAL CONNECTIONS SHALL BE INSTALLED A MINIMUM OF 5 FEET FROM THE NEAREST MANHOLE AND HAVE A 2 FEET MINIMUM SEPARATION BETWEEN MANHOLE. ALL SEWER SERVICE LATERALS CONNECTIONS TO NEW PVC SEWER PIPE SHALL BE MADE WITH GASKETED PVC TEE OR WYE FITTINGS. SADDLE CONNECTIONS SHALL NOT BE ALLOWED.
14. ALL SEWER SERVICE LATERALS SHALL BE 4 INCHES UNLESS NOTED OTHER WISE. THE MINIMUM SEWER SERVICE LATERAL PIPE SLOPE SHALL BE; 4 INCHES=2%; 6 INCHES= 1%; 8 INCHES=0.5%.
15. LOCATOR TAPE SHALL BE INSTALLED 12" TO 18" ABOVE ALL GRAVITY SEWER MAINS AND SERVICE LATERALS. LOCATER TAPE SHALL BE MARKED "SANITARY SEWER BELOW".
16. ALL CONNECTIONS TO EXISTING SEWER MAINS AND LATERALS OF DISSIMILAR MATERIALS SHALL BE MADE WITH STRONG BACK FLEXIBLE REPAIR COUPLINGS.
17. MANHOLES SHALL BE A MINIMUM FOUR (4) FOOT DIAMETER AND CONSTRUCTED PER THE STANDARDS AND SPECIFICATIONS.
18. ALL MANHOLE BENCHES SHALL BE REPAIRED OR REPLACED AS NECESSARY TO HAVE SMOOTH TRANSITIONS THROUGH MANHOLE.
19. ALL GRAVITY SEWER PIPE (MAINS AND LATERALS) SHALL HAVE AIR TEST AND COLOR CCTV INSPECTION COMPLETED AND APPROVED BY THE ENGINEER PRIOR TO ROADWAY RESURFACING.
20. CCTV INSPECTIONS SHALL BE COMPLETED IMMEDIATELY AFTER FLUSHING WITH CLEAN WATER. ANY DEBRIS ENCOUNTERED WILL RESULT IN A FAILED INSPECTION AND PRESSURE TEST.
21. GRAVITY SEWER PIPE SAGS SHALL NOT EXCEED MORE THAN 10% OF THE PIPE DIAMETER.

POTABLE AND REUSE WATER MAINS POTABLE AND REUSE WATER MAINS

22. PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM DD2241, SDR-21.
23. PVC PIPE 4"-6" SHALL BE AWWA C900 DR18 (PC 235).
24. PVC PIPE 8"-12" SHALL BE AWWA C900 DR25 (PC 165).
25. PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 DR25 (PC 160).
26. FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
27. MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED.
28. ALL POTABLE WATER MAINS SHALL BE PVC COLOR BLUE. ALL RECLAIMED WATER MAINS SHALL BE PVC COLOR PURPLE.
29. ALL FLUSHING REQUIREMENTS PER AWWA STANDARDS (3.0 fps MINIMUM., 6 X PIPE VOLUME MINIMUM.)
30. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 150 PSIG (MINIMUM) FOR TWO HOURS.
31. ALL WATER MAINS REQUIRE DISINFECTION PER AWWA STANDARD C651.

WATER AND REUSE VALVES WATER AND REUSE VALVES

32. 12" AND LESS SHALL BE EPOXY COATED RESILIENT SEAT GATE VALVES.
33. 16" AND ABOVE SHALL BE EPOXY COATED RESILIENT BUTTERFLY VALVES.

FORCE MAIN

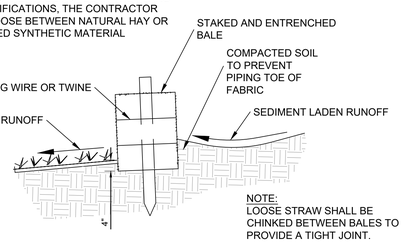
34. PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM DD2241, SDR-21.
35. PVC PIPE 4"-6" SHALL BE AWWA C900 DR18 (PC 235).
36. PVC PIPE 8"-12" SHALL BE AWWA C900 DR25 (PC 165).
37. PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 DR25(PC 160).
38. FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
39. MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED (GBBA MEGALUG OR MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED (GBBA MEGALUG OR APPROVED EQUAL).
40. ALL FORCE MAINS SHALL BE COLOR GREEN OR BROWN.
41. ALL SANITARY FORCE MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 100 PSIG (MINIMUM) FOR TWO HOURS.
42. ALL FLUSHING REQUIREMENTS PER AWWA STANDARDS (3.0 fps MINIMUM., 6 X PIPE VOLUME MINIMUM.)

GRAVITY SEWER

43. PVC PIPE 4"-15" DIAMETER SHALL BE ASTM D3034, (SDR-35.)
44. PVC PIPE 18"-27" DIAMETER SHALL BE F679 (SDR-35.)
45. PVC PIPE DEEPER THAN 14 FEET SHALL BE SDR 26.
46. ALL SEWER LINES SHALL BE COLOR GREEN OR BROWN.
47. ALL GRAVITY SEWER PIPING SHALL BE TESTED IN ACCORDANC

22019
PROJECT STATUS
Issue Date

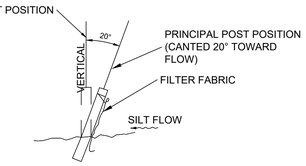
NOTE:
UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR MAY CHOOSE BETWEEN NATURAL HAY OR APPROVED SYNTHETIC MATERIAL



NOTE:
LOOSE STRAW SHALL BE CHINKED BETWEEN BALES TO PROVIDE A TIGHT JOINT.

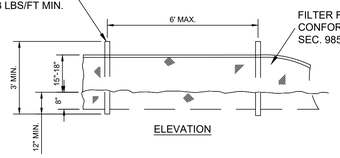
STAKED BALE
N.T.S

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	STAKED HAY BALE	FIGURE : G-1



SECTION

POST OPTIONS:
SOFTWOOD 2½" MIN. DIA.
SOFTWOOD 2" X 4"
HARDWORD 1½ " X 1½ "
STEEL 1.33 LBS/FT MIN.



ELEVATION

TYPE III SILT FENCE
N.T.S

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	TYPE III SILT FENCE	FIGURE : G-2

ENVIRONMENTAL SEQUENCE

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS, DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

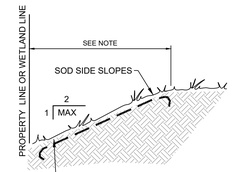
SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCES AND HAY BALES, AS REQUIRED.
3. CONSTRUCT SEDIMENTATION BASIN.
4. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN AT PERMANENT POND LOCATION.
5. CONTINUE CLEARING AND GRUBBING.
6. STOCKPILE TOP SOIL IF REQUIRED.
7. PERFORM PRELIMINARY GRADING ONSITE, AS REQUIRED.
8. STABILIZE DENUDED AREA AND STOCKPILES AS SOON AS PRACTICABLE.
9. INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTER.
10. APPLY BASE TO PROJECT.
11. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
12. COMPLETE FINAL PAVING.
13. REMOVE ACCUMULATED SEDIMENT FROM BASINS.
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/ SOD, AS REQUIRED.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND TURBIDITY CONTROL PLAN.



EROSION CONTROL BLANKET #2010-01 BY EROSION CONTROL SYSTEMS. (1-800-641-3277) UNDER SOD ANCHORED WITH 6" SOD STAPLES.

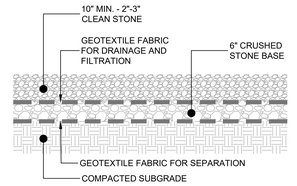
NOTE: PROVIDE EROSION CONTROL BLANKET FROM PROPERTY LINE OR WETLAND LINE WHERE APPLICABLE TO BACK OF CURB, BUILDING OR TO TOP OF BASIN AS REQUIRED.

SLOPE STABILIZATION DETAIL
NOT TO SCALE

SLOPE STABILIZATION NOTES

FLAT TO 1:3 - SEED AND MULCH, HYDRO-SEED OR SOD.
1:3 TO 1:2 - SOD LAPPED AND PINNED.
1:2 TO 1:1 - EROSION CONTROL BLANKET AND SOD.
1:1 OR GREATER - RETAINING WALL OR ARMOR FORM.

NOTE:
AREAS NOT SODDED TO BE STABILIZED WITH HYDROSEEDING. SEE SLOPE STABILIZATION DETAIL THIS SHEET

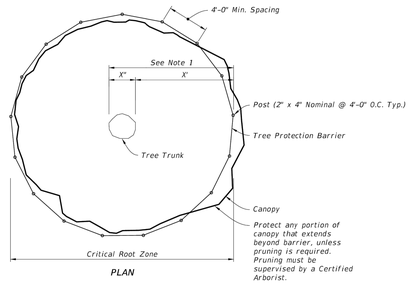


CONSTRUCTION ENTRANCE NOTES:

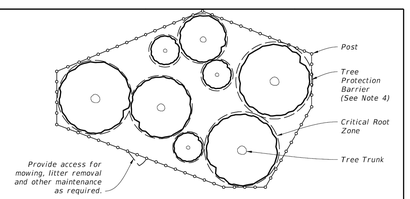
1. GRADE SLOPE TO SITE.
2. PROVIDE CULVERT AS REQUIRED TO CARRY PRE-EXISTING DITCH FLOW. (SEE EXISTING PLAN VIEW FOR LOCATION)
3. CONTRACTOR TO LOCATE TEMPORARY CONSTRUCTION FENCING, JERSEY BARRIERS, OR BOTH ALONG THE SIDES OF THE CONSTRUCTION EXIT TO PREVENT CONSTRUCTION TRAFFIC FROM SHORT CIRCUITING/BYPASSING THE EXIT.
4. ALL MATERIALS SPILLED, DROPPED OR TRACKED ONTO PUBLIC ROADS (INCLUDING AGGREGATE STONE AND CONSTRUCTION MUD) SHALL BE REMOVED DAILY.

CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE

NOTES:
1. Critical Root Zone: Extends in all directions from trunk of tree to a distance equal to one foot per inch of trunk diameter at breast height.
2. Staging, storage, dumping, washing and operation of equipment is not permitted within the limits of the tree protection barrier, including during barrier installation.
3. Install all tree protection prior to commencement of construction and remove when directed by the Engineer. Maintain protection at all times.
4. For closely spaced groups of trees, place the tree protection barrier around the entire group.
5. Inspect trunk protection and tree quarterly to prevent girdling. Adjust bands to allow tree growth as needed.
6. See plans for any additional requirements or modifications within the tree protection area.
7. Place weather resistant sign every 50' along the barrier, with 6" minimum text height and provide text in English and Spanish. Sign should read " Keep Out Tree Protection Area".
8. Alternate tree protection systems approved by the Engineer may be used in lieu of the tree protection barrier detailed on this Index as long as the critical root zone is protected.
9. The Critical Root Zone may be reduced, in the field, by a certified Arborist or Landscape Architect.

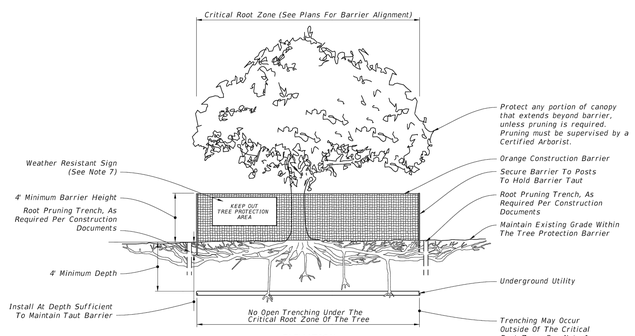


PLAN



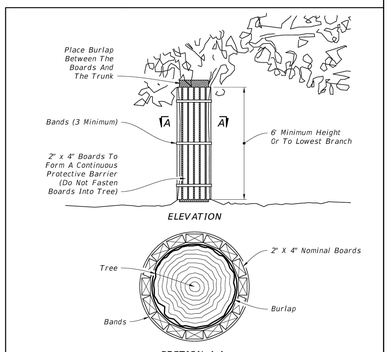
PLAN

PROTECTION BARRIER FOR TREE GROUPINGS



ELEVATION

TREE PROTECTION BARRIER



ELEVATION

SECTION A-A

NOTES:
1. Trunk protection may be used when Tree Protection Barrier can not be reasonably erected, when approved by Engineer.
2. See Selective Clearing and Grubbing Plan for location of trunk protection, when applicable.
3. Adjust bands to allow tree growth (inspect quarterly to prevent girdling).

TRUNK PROTECTION

LAST REVISION 11/01/18	REVISION DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	TREE PROTECTION AND PRESERVATION	INDEX 110-100	SHEET 1 of 1

10/29/2019 8:14:39 AM

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

CONSTRUCTION DETAILS

Project Number	133407
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

C6

PANHANDLE ENGINEERING, INC.
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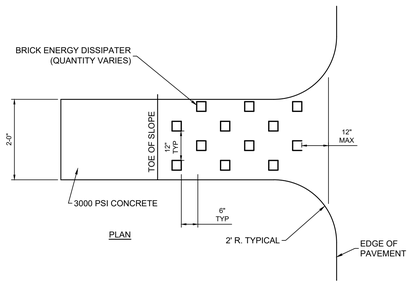
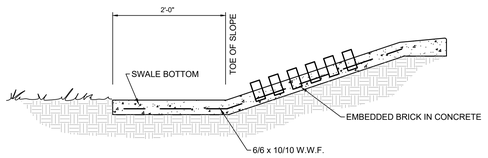
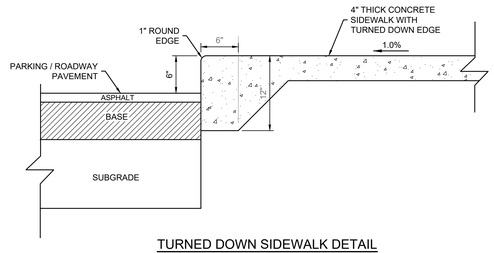


PLAN

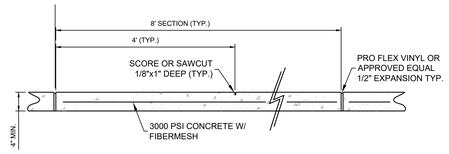


SECTION

FLUME AND ENERGY DISSIPATER DETAIL
NOT TO SCALE

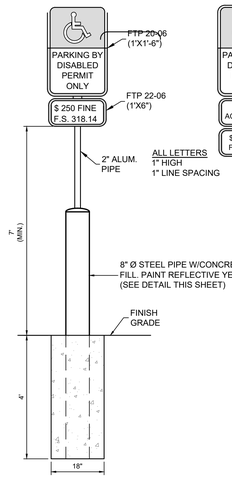


TURNED DOWN SIDEWALK DETAIL
NOT TO SCALE

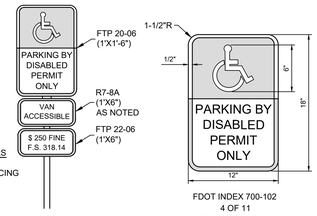


NOTE:
SIDEWALKS CROSS SLOPE NOT TO EXCEED 2.0% (50:1)

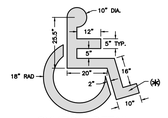
CONCRETE SIDEWALK DETAIL
NOT TO SCALE



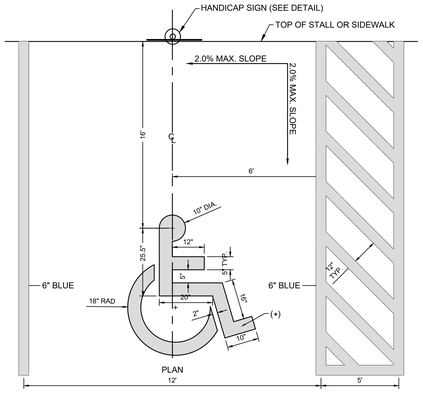
HANDICAP SIGN DETAIL
NOT TO SCALE



FDOT INDEX 700-102
4 OF 11
REV. DATE:11/01/17

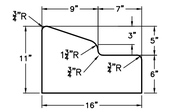


SYMBOL DETAIL
(*) INTERNATIONAL SYMBOL OF ACCESSIBILITY DISPLAY CONDITIONS. THE SYMBOL CONTRAST SHALL BE LIGHT ON DARK, OR DARK ON LIGHT.

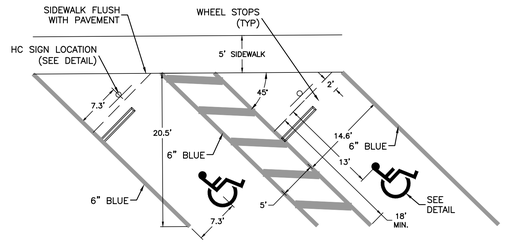


(*) INTERNATIONAL SYMBOL OF ACCESSIBILITY DISPLAY CONDITION:
THE SYMBOL CONTRAST SHALL BE LIGHT ON DARK, OR DARK ON LIGHT.

HANDICAP STRIPING DETAIL
NOT TO SCALE

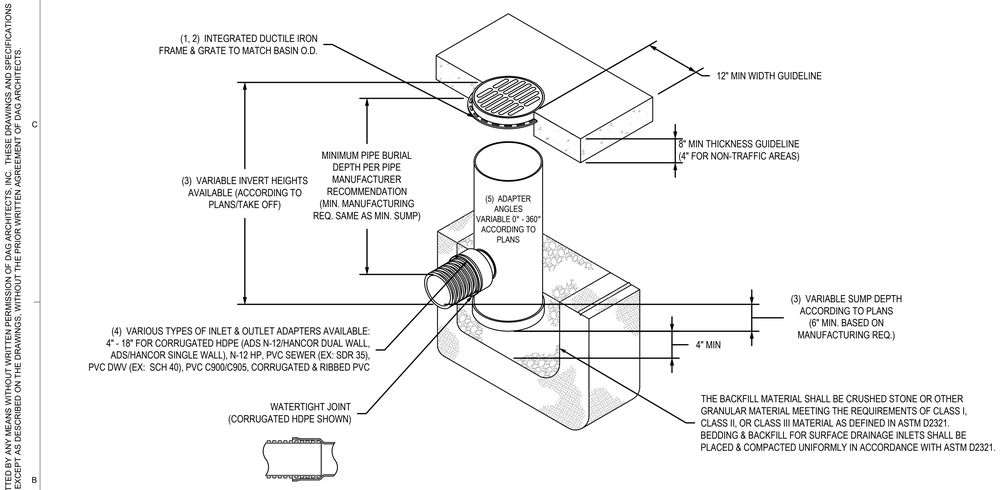


TYPE A CURB DETAIL
NOT TO SCALE

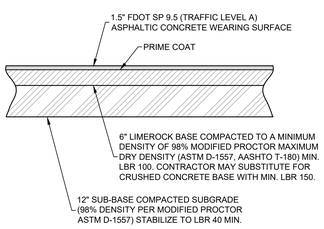


NOTE: ALL STRIPING TO BE PER ADA STANDARDS

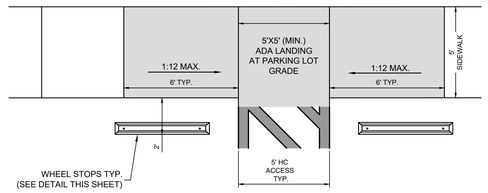
45° HANDICAP STRIPING DETAIL RAMP
NOT TO SCALE



NYLOPLAST DRAIN BASIN DETAIL
NOT TO SCALE

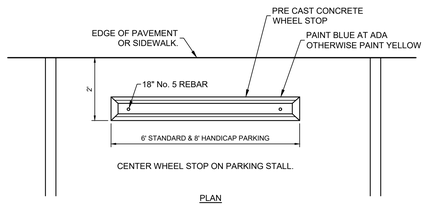


ASPHALTIC PAVEMENT DETAIL
NOT TO SCALE



NOTE: CONTRACTOR RESPONSIBLE TO CONSTRUCT
HC RAMPS TO MEET ADA SPECIFICATIONS

TYPICAL ADA SIDEWALK RAMP
NOT TO SCALE



PLAN

WHEEL STOP DETAIL
NOT TO SCALE

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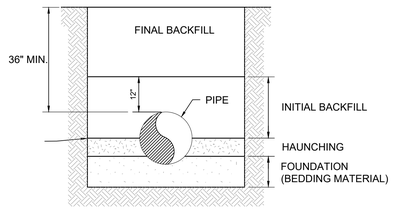
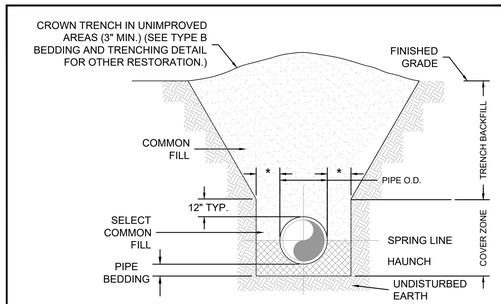
NOTE:
SEE SPECIFICATIONS FOR BACKFILL AND COMPACTION REQUIREMENTS



TRENCH TERMINOLOGY
N.T.S

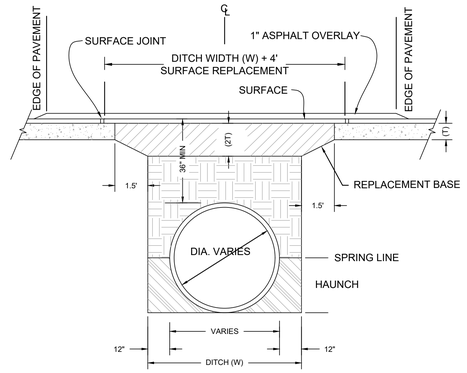
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	TRENCH TERMINIOLOGY	FIGURE : G-4



NOTES:
1. SHEETING AND BRACING IN EXCAVATED TRENCHES TO COMPLY WITH THE MANUFACTURER SPECIFICATIONS, AND MUST MEET THE STATE "TRENCH SAFETY ACT".
2. ALL PIPE TO BE INSTALLED AS PER THE LINES, GRADES, AND SLOPES CALLED FOR IN THE PLANS, AND AT A MINIMUM OF 36 INCHES BELOW THE TOP OF THE FINISH GRADE.
3. (*)THE WIDTH OF THE TRENCH IS TO BE 24 INCHES WIDER THAN THE OUTSIDE DIAMETER OF PIPE.
4. IF THE TRENCH IS UNDERCUT OR UNSUITABLE MATERIAL IS ENCOUNTERED, BEDDING MATERIAL (SELECT COMMON FILL OR BEDDING ROCK) IS TO BE UTILIZED AND LEFT IN A LOOSE CONDITION BELOW THE MIDDLE THIRD OF THE OUTSIDE DIAMETER OF THE PIPE. THE REMAINDER OF THE TRENCH BOTTOM IS TO BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
5. WHEN BEDDING MATERIAL IS TO BE UTILIZED, IT IS TO BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES BELOW THE BOTTOM OF THE PIPE.
6. IF THE TRENCH IS NOT UNDERCUT, EXCAVATE FOR THE PIPE BELLS BEFORE LAYING THE PIPE.
7. THE PIPES ARE TO BE INSTALLED SO THAT THE BELL OF THE PIPE IS FACING UPSTREAM TO THE DIRECTION OF FLOW.
8. HAND TAMP THE FILL MATERIAL IN THE HAUNCH AREA THAT CANNOT BE REACHED BY MECHANICAL TAMPERS.
9. FOR CONCRETE PIPE, COMPACT THE BACKFILL IN 6 INCH LAYERS (UP TO A MAXIMUM OF 12 INCHES ABOVE THE TOP OF THE PIPE) TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557. FOR METAL AND PLASTIC PIPE, COMPACT THE BACKFILL IN 6 INCH LAYERS (UP TO A MAXIMUM OF 12 INCHES ABOVE THE TOP OF THE PIPE) TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
10. COMPACT AND STABILIZE THE REMAINING BACKFILL, IN LAYERS OF APPROVED THICKNESS, TO THE DENSITIES SPECIFIED IN THE PLANS AND SPECIFICATIONS
11. CONTRACTOR TO PLACE A WOVEN OR NON-WOVEN FILTER FABRIC (TYPE D-3) AROUND THE HUBBED JOINT OF ALL CONCRETE PIPE TO PREVENT POTENTIAL SOIL INFILTRATION.
12. WATER WILL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION. DEWATER AS NECESSARY DURING PLACEMENT.

TRENCH TYPE "A"
N.T.S.

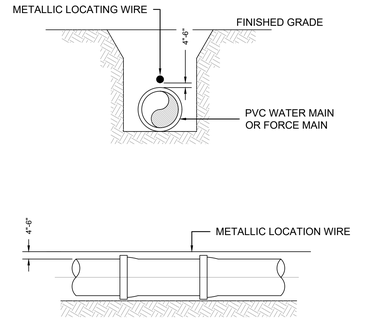
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	TRENCH TYPE "A"	FIGURE : G-5



NOTES:
1. SHEETING AND BRACING IN EXCAVATED TRENCHES TO COMPLY WITH THE MANUFACTURER SPECIFICATIONS, AND MUST MEET THE STATE "TRENCH SAFETY ACT".
2. ALL PIPE TO BE INSTALLED AS PER THE LINES, GRADES, AND SLOPES CALLED FOR IN THE PLANS, AND AT A MINIMUM OF 36 INCHES BELOW THE TOP OF PAVEMENT.
3. HAND TAMP THE FILL MATERIAL IN THE HAUNCH AREA THAT CANNOT BE REACHED BY MECHANICAL TAMPERS.
4. FOR CONCRETE PIPE, COMPACT THE BACKFILL IN 6 INCH LAYERS (UP TO A MAXIMUM OF 12 INCHES ABOVE THE TOP OF THE PIPE) TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557. FOR METAL AND PLASTIC PIPE, COMPACT THE BACKFILL IN 6 INCH LAYERS (UP TO A MAXIMUM OF 12 INCHES ABOVE THE TOP OF THE PIPE) TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
5. COMPACT AND STABILIZE THE REMAINING BACKFILL IN LAYERS OF AN APPROVED THICKNESS, TO A DENSITY AS SPECIFIED BY THE PLANS AND SPECIFICATIONS.
6. THE EXISTING ASPHALT IS TO BE SAWED MECHANICALLY AND REMOVED TO LEAVE NEAT LINES A MINIMUM OF 1.5 FEET WIDER ON EACH SIDE OF THE TRENCH CUT.
7. IF THE EXISTING BASE IS NOT AN ASPHALTIC BASE, IT IS TO BE REPLACED WITH THE SAME MATERIAL AT TWICE THE THICKNESS OF THE EXISTING BASE, IN 6 INCH LAYERS, AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
8. IF THE EXISTING BASE IS AN APSHALTIC BASE, IT IS TO BE REPLACED WITH A MINIMUM OF 5 INCHES OF AN APPROVED ASPHALT BASE COURSE AND MEET THE REQUIREMENTS OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
9. THE SURFACE COURSE IS TO BE REPLACED CONSISTENT WITH THE EXISTING SURFACE COURSE. THE LENGTH OF THE TRENCH CUT IS TO BE OVERLAYED WITH 1 INCH TYPE S-3 ASPHALT (OR AN APPROPRIATE, APPROVED SUPERPAVE MIX) THE WIDTH OF THE EXISTING PAVEMENT AND FEATHERED AT THE SIDES AND THE ENDS.
10. CONTRACTOR SHALL PLACE A WOVEN OR NON-WOVEN FILTER FABRIC (TYPE D-3) AROUND THE HUBBED JOINT OF ALL CONCRETE PIPE TO PREVENT POTENTIAL SOIL INFILTRATION.
11. WATER WILL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION. DEWATER AS NECESSARY DURING PLACEMENT.

TRENCH TYPE "B"
N.T.S.

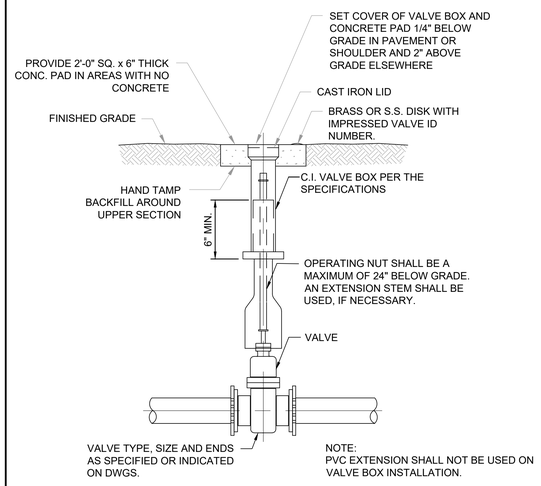
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	TRENCH TYPE "B"	FIGURE : G-6



NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 24" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. ALL SPLICES SHALL BE MADE USING A WATER-TIGHT SEALING METHOD APPROVED BY THE CITY.

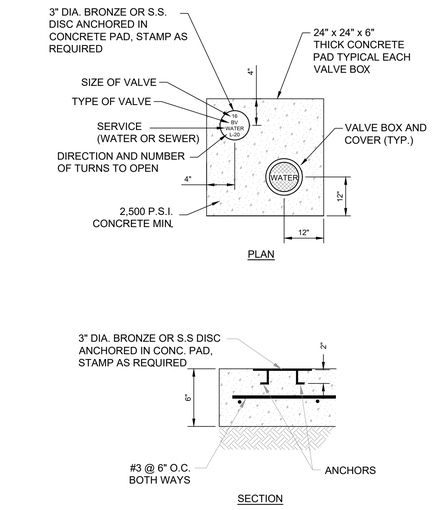
LOCATING WIRE

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	LOCATING WIRE DETAILS	FIGURE : G-13



WATER VALVE AND BOX
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	WATER VALVE AND BOX DETAIL	FIGURE : PW-1



WATER VALVE COLLAR
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	WATER VALVE COLLAR DETAIL	FIGURE : PW-2

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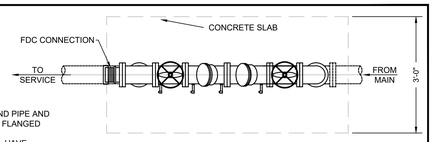
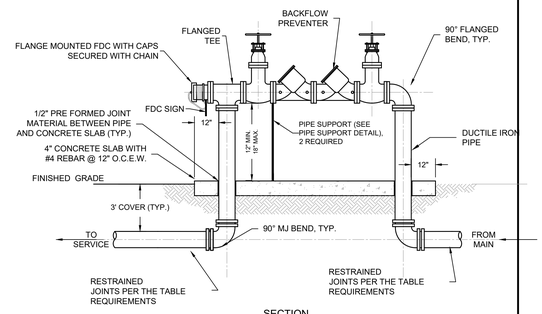


PLAN VIEW

NOTES:
1. ALL ABOVE GROUND PIPE AND FITTINGS SHALL BE FLANGED DUCTILE IRON.
2. ALL VALVES SHALL HAVE HANDWHEELS.
3. BACKFLOW DEVICE SHALL BE RPZ OR DC TYPE AS APPROVED BY CITY.
4. VALVE(S) SHALL BE CHAINED AND PADLOCKED IN OPENED POSITION.
5. BACKFLOW DEVICE SHALL BE TESTED AND CERTIFIED BY A LICENSED PROFESSIONAL ANNUALLY. THE REPORT SHALL BE DELIVERED TO THE CITY.
6. DUCTILE IRON PIPE SHALL BE PRESSURE CLASS 350.
7. ABOVE GROUND PIPE SHALL BE INSULATED PER THE SPECIFICATIONS.
8. A 3/4" METER SHALL BE PROVIDED ON THIS LINE, PER THE CITY'S REQUEST, AT NO COST TO THE CITY

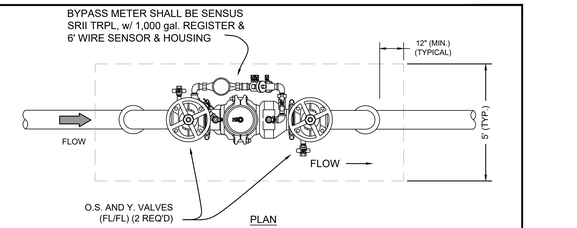


SECTION

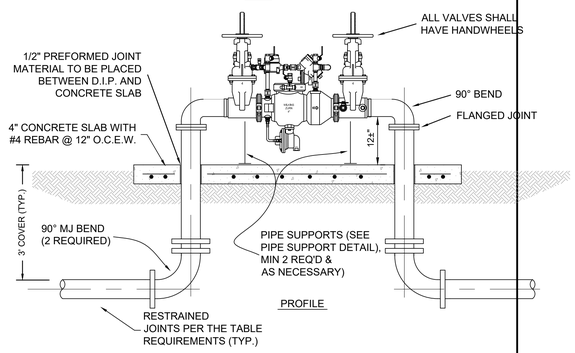
FIRE LINE BACKFLOW PREVENTER

N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	FIRE LINE BACKFLOW PREVENTER	FIGURE : PW-15



PLAN



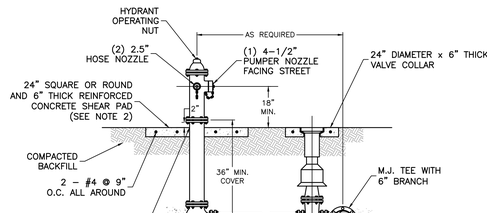
PROFILE

NOTES:
1. ALL ABOVE GROUND PIPE SHALL BE DUCTILE IRON w/ FLANGED JOINTS.
2. DUCTILE IRON PIPE SHALL BE PRESSURE CLASS 350.
3. ABOVE GROUND PIPE SHALL BE INSULATED PER THE SPECIFICATIONS

DOUBLE DETECTOR CHECK VALVE ASSEMBLY

N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	DOUBLE DETECTION CHECK VALVE ASSEMBLY	FIGURE : PW-23



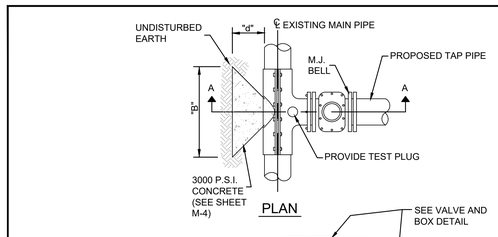
NOTES:
1. THE SHEAR PAD MAY BE RECESSED UP TO 6 INCHES BELOW FINISHED GRADE.
2. CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE 2" MINIMUM.

HYDRANTS SHALL:
1. BE ABLE TO DELIVER 600 GPM WITH A FRICTION LOSS OF NOT MORE THAN 5 PSI IN THE HYDRANT AND A TOTAL LOSS OF NOT MORE THAN 5 PSI BETWEEN STREET MAIN AND OUTLET.
2. HAVE AT LEAST TWO 2 1/2" OUTLETS AND ONE 4 1/2" OUTLET, WITH NATIONAL STANDARD TYPE THREADS.
3. BE OF SUCH A DESIGN THAT WHEN THE BARREL IS BROKEN OFF THE HYDRANT WILL REMAIN CLOSED.
4. HAVE CONNECTION TO THE STREET MAIN OF NOT LESS THAN 6 INCHES IN DIA.
5. HAVE ALL FITTINGS WITH MEG-A-LUG GLANDS.
6. HAVE ALL D.I.P. PIPING.
7. HAVE A GATE VALVE BETWEEN HYDRANT AND THE STREET MAIN.
8. HAVE A 5 1/4" MAIN VALVE SEAT.
9. APPROVED MODELS ARE AMERICAN DARLING B84B, MUELLER CENTURION, AVK 2790, M&H 129 OR CLOW MEDALLION. NO SUBSTITUTIONS ARE ALLOWED.

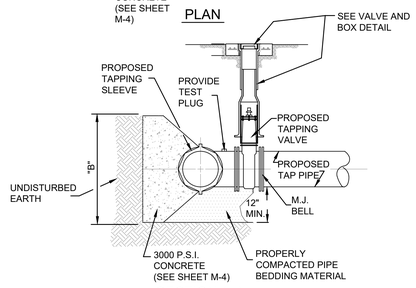
FIRE HYDRANT ASSEMBLY

N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	FIRE HYDRANT ASSEMBLY DETAIL	FIGURE : PW-25



PLAN



SECTION A-A

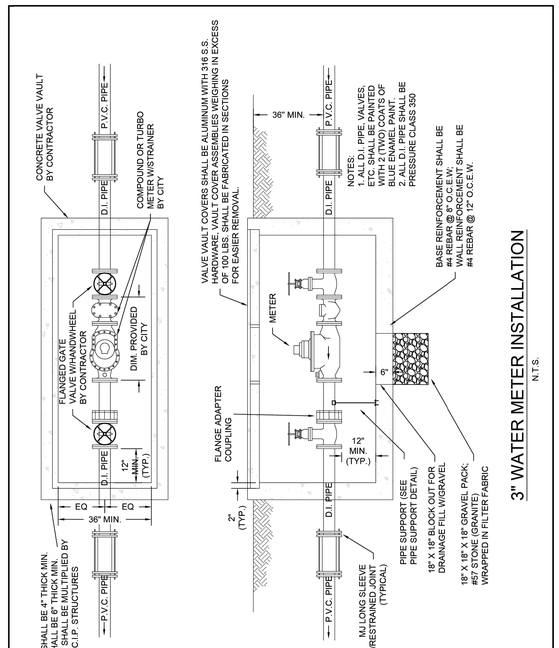
FOR DIMENSIONS "B" AND "d" SEE THRUST BLOCK REQUIREMENTS

NOTES:
1.) NO CUTS SHALL BE MADE BEFORE:
(A) A TEST ON THE SLEEVE AT 150 P.S.I. FOR 30 MINUTES IS MADE.
(B) ALL FITTINGS TO BE WRAPPED WITH 24 MIL POLYETHYLENE AT THE THRUST BLOCK
(C) ALL TAPS ARE TO BE MADE BY THE CITY OF PANAMA CITY UTILITIES DEPT. UNLESS OTHER ARRANGEMENTS ARE MADE. THE MATERIAL IS TO BE FURNISHED BY THE INFRASTRUCTURE CONTRACTOR.
2.) ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO ONE (1) MAIN PIPE DIAMETER PLUS TWO (2) TAP PIPE DIAMETERS (WHICHEVER IS LARGER) FROM A JOINT OR FITTING.
3.) CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK AND A BACK-HOE TO LOWER MACHINE INTO HOLE.

TAPPING SLEEVE AND VALVE BLOCKING

N.T.S.

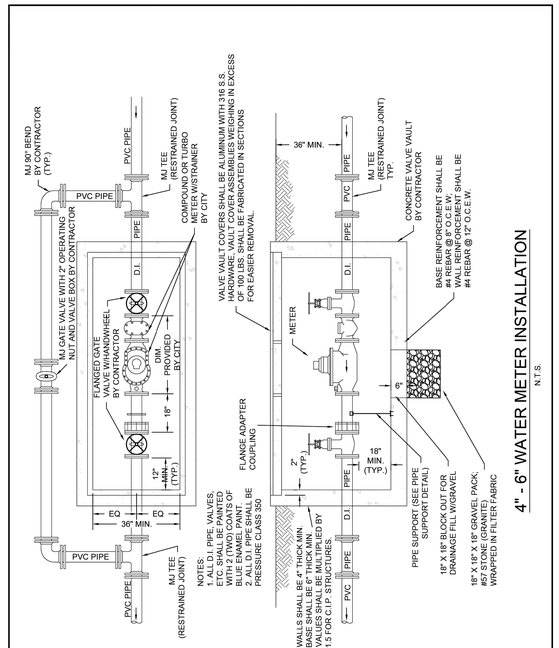
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2018 SCALE : NTS
	TAPPING SLEEVE AND VALVE BLOCKING	FIGURE : G-24



3" WATER METER INSTALLATION

N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	3" WATER METER INSTALLATION	FIGURE : PW-10



4" - 6" WATER METER INSTALLATION

N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	4" - 6" WATER METER INSTALLATION	FIGURE : PW-11

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:

PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

CONSTRUCTION DETAILS

Project Number	133407
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

C9

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
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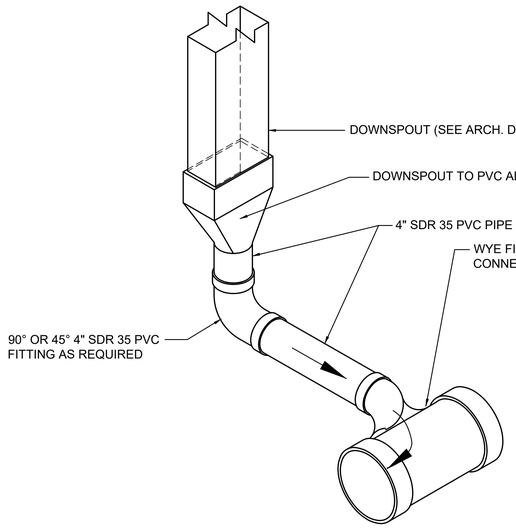
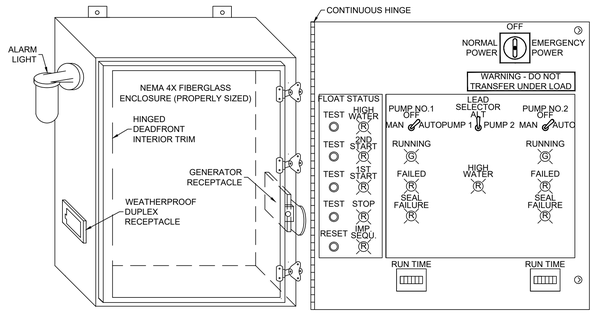
PROJECT STATUS
Issue Date
22019



DOWNSPOUT CONNECTION DETAIL

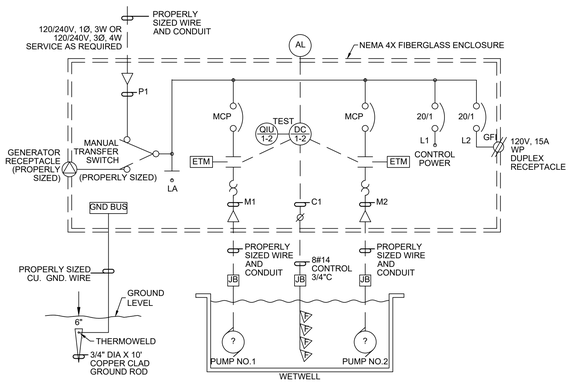
NOT TO SCALE



PHYSICAL LAYOUT

DUPLEX GRINDER LIFT STATION CONTROL PANEL DEADFRONT DETAIL

- CONTROL PANEL SHALL BE EQUIPPED WITH A FLASHING RED LIGHT WITH LONG LIFE BULB IN GUARDED ENCLOSURE AND 6" DIA. HORN.
- HORN SHALL EMIT 120 DB AT 10'.
- ALARM HORN AND LIGHT SHALL BE POWERED FROM 12V DC POWER SUPPLY WITH BATTERY BACK-UP.
- PROVIDE A RECHARGEABLE BATTERY RATED TO POWER BOTH THE HORN AND LIGHT FOR A MINIMUM OF TWO HOURS UPON LOSS OF MAIN POWER.
- PROVIDE CIRCUITRY TO AUTOMATICALLY RECHARGE THE BATTERY AFTER MAIN POWER IS RESTORED.
- FULL CHARGE OF THE BATTERY SHALL TAKE NO MORE THAN TWENTY HOURS.
- PANEL SHALL HAVE POWER ON LIGHT, PUSH TO TEST BUTTON FOR HORN AND LIGHT AND PUSH TO SILENCE BUTTONS FOR HORN AND LIGHT WITH AUTOMATIC RESET FOR NEXT ALARM.
- ALARM SHALL ACTIVATE UNDER THE FOLLOWING CONDITIONS:
  A. HIGH LIQUID LEVEL AS SENSED BY FLOAT SWITCH
  B. LOSS OF MAIN POWER

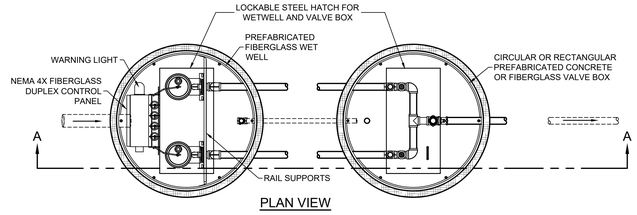


240 VOLT DUPLEX GRINDER LIFT STATION CONTROL PANEL ONE LINE POWER DIAGRAM AND PROCESS AND INSTRUMENTATION DIAGRAM (P&ID)

LEGEND

	LIGHTNING ARRESTOR -	SEE COMPONENT SPECIFICATIONS
DC	DUPLEX CONTROLLER -	SEE COMPONENT SPECIFICATIONS
QIU	FLOAT TEST/IMPROPER SEQUENCE MODULE -	SEE COMPONENT SPECIFICATIONS
ETM	ELAPSED TIME METER -	SEE COMPONENT SPECIFICATIONS
AL	OUTSIDE ALARM LIGHT -	SEE COMPONENT SPECIFICATIONS
	FLOAT SWITCH -	SEE COMPONENT SPECIFICATIONS

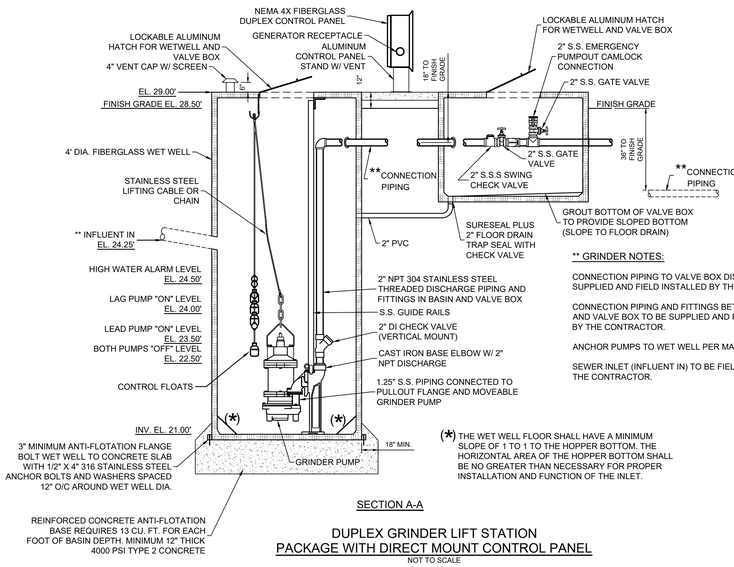
DIRECT MOUNT CONTROL PANEL
NOT TO SCALE



PLAN VIEW

PUMP INFORMATION	
TYPE:	DUPLEX GRINDER
VOLTAGE:	208
PHASE:	3
HP :	2.0 HP
GPM:	50.0 GPM
THD:	9.2 TDH

NOTE:
ELECTRICAL SERVICE (VOLTAGE AND PHASE) MUST BE VERIFIED PRIOR TO ORDERING EQUIPMENT.
PUMP TO BE LIBERTY LSG203M OR APPROVED ALTERNATIVE



** GRINDER NOTES:

CONNECTION PIPING TO VALVE BOX DISCHARGE TO BE SUPPLIED AND FIELD INSTALLED BY THE CONTRACTOR.

CONNECTION PIPING AND FITTINGS BETWEEN THE BASIN AND VALVE BOX TO BE SUPPLIED AND FIELD INSTALLED BY THE CONTRACTOR.

ANCHOR PUMPS TO WET WELL PER MANUFACTURES REQ.

SEWER INLET (INFLUENT IN) TO BE FIELD INSTALLED BY THE CONTRACTOR.

(*) THE WET WELL FLOOR SHALL HAVE A MINIMUM SLOPE OF 1 TO 1 TO THE HOPPER BOTTOM. THE HORIZONTAL AREA OF THE HOPPER BOTTOM SHALL BE NO GREATER THAN NECESSARY FOR PROPER INSTALLATION AND FUNCTION OF THE INLET.

SECTION A-A

DUPLEX GRINDER LIFT STATION
PACKAGE WITH DIRECT MOUNT CONTROL PANEL
NOT TO SCALE

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100% CONSTRUCTION DOCUMENTS

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

CONSTRUCTION DETAILS

Project Number	133407
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

C10

22019
PROJECT STATUS
Issue Date

20040
DESIGN DEVELOPMENT
Issue Date

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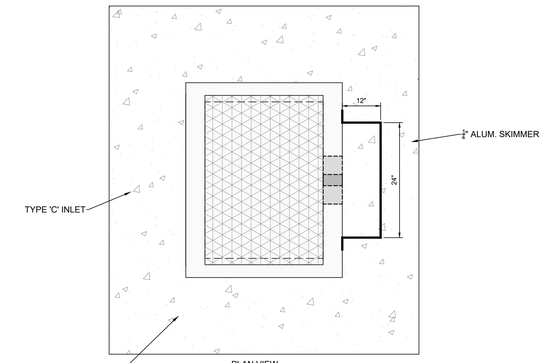
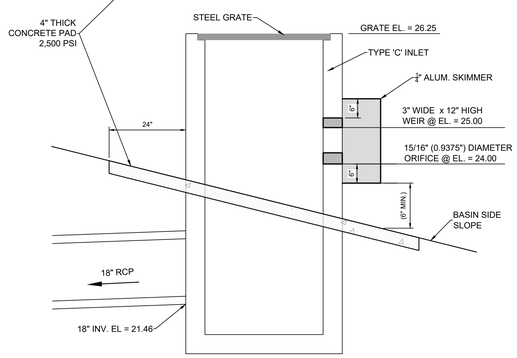
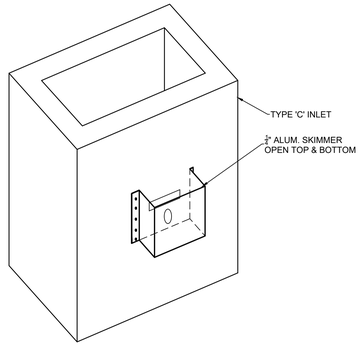


PLAN VIEW

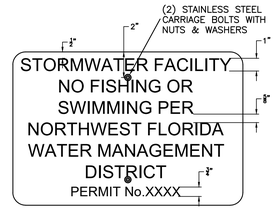


SECTION VIEW

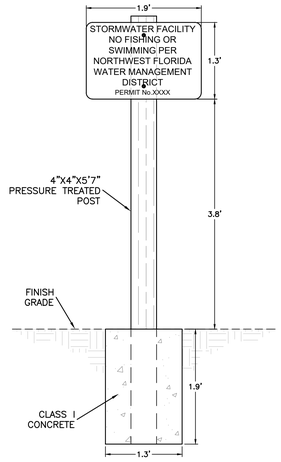


ISO VIEW

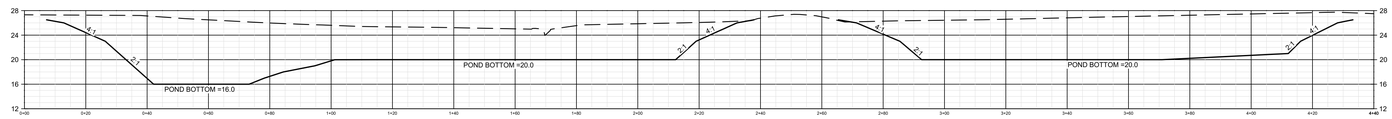
OUTFALL STRUCTURE DETAIL
NOT TO SCALE



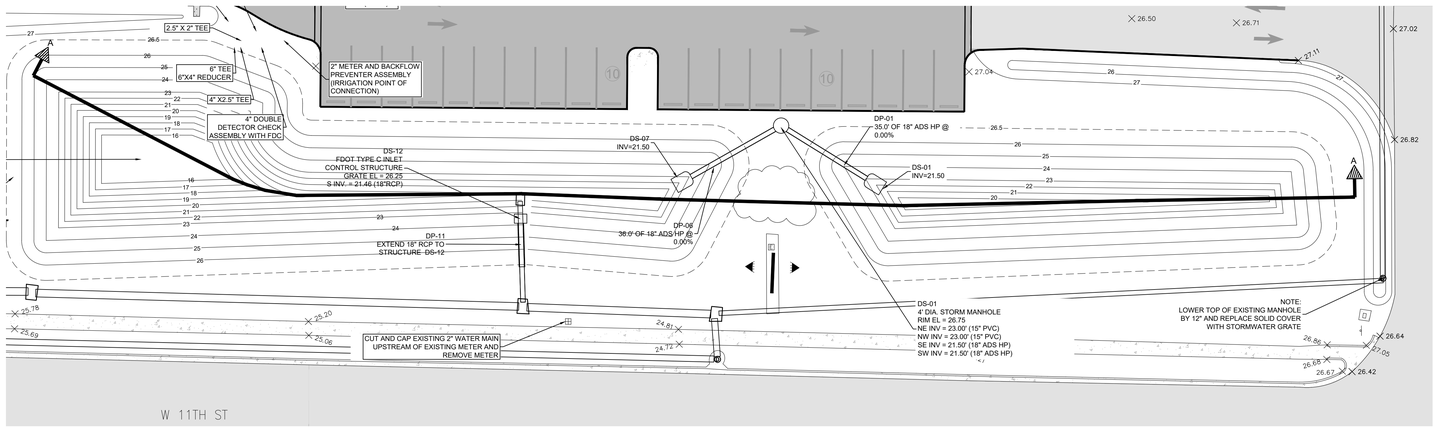
INSTALL WET DETENTION SIGNS
IN LOCATIONS AS INDICATED
IN PLAN VIEW



WET DETENTION SIGN DETAIL
NOT TO SCALE



DETENTION BASIN SECTION A-A
SCALES: 1" = 20' HORIZ., 1" = 10' VERT.



DETENTION BASIN PLAN VIEW
SCALE: 1" = 20'

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ARCHITECTS
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100% CONSTRUCTION DOCUMENTS

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

STORMWATER FACILITY DETAILS

Project Number	**133407**
Dated	12/15/2024
Drawn By	JNF
Approved By	JDC
PM	JDC

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 Fax (850)763-5200 www.panhandleengineering.com

C11

PROJECT STATUS
22019
Issue Date

E
D
C
B
A

1 2 3 4 5 6

SITE DESCRIPTION

PROJECT NAME AND LOCATION: PALM BAY CHARTER ACADEMY GYMATORIUM
1104 BALBOA AVENUE
PANAMA CITY, FLORIDA 32401
LAT 30°10'12" +- LON 85°10'12"
SECTION TOWNSHIP RANGE +- 5-4S-14W

DEVELOPER NAME AND ADDRESS: PALM BAY EDUCATION GROUP, INC.
1104 BALBOA AVENUE
PANAMA CITY, FLORIDA 32401

DESCRIPTION: PALM BAY CHARTER ACADEMY GYMATORIUM

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING, EARTHWORK, PAVEMENT AND GRADING, STORM WATER AND UTILITIES.

RUNOFF COEFFICIENTS:

1.	PRE-CONSTRUCTION	C= 0.53
2.	DURING CONSTRUCTION	C= 0.60
3.	POST-CONSTRUCTION	C= 0.67

SOILS:
SEE SOIL BORING REPORT FOR SOILS DATA

SITE MAPS:
* SEE ATTACHED GRADING FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORMWATER DISCHARGE POINTS.

* SEE ATTACHED EROSION AND TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES AND TURBIDITY BARRIERS.

* SEE GRADING NOTES FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA:
1.) TOTAL AREA OF SITE = 17.4± ACRES
2.) TOTAL AREA TO BE DISTURBED = APPROX. 1.8± ACRES

NAME OF RECEIVING WATERS: 11TH STREET DRAINAGE SYSTEM

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN-OFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THAT PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.

STORM WATER MANAGEMENT
STORM WATER DRAINAGE WILL BE PROVIDED BY: ONSITE COLLECTION & ATTENUATION

ONSITE IMPROVEMENTS
SEE SITE, GRADING & DRAINAGE AND UTILITY PLANS.

TIMING OF CONTROLS/MEASURES

REFER TO "CONTRACTORS RESPONSIBILITY" FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

CONTROL/MEASURES.
IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.

NWFWMD ENVIRONMENTAL RESOURCE PERMIT PENDING

POLLUTION PREVENTION PLAN CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: _____
NAME (OPERATOR AND/OR RESPONSIBLE AUTHORITY)

DATED: _____

GENERAL

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS, DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCES AND HAY BALES, AS REQUIRED.
3. CONSTRUCT SEDIMENTATION BASIN.
4. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN AT PERMANENT POND LOCATION.
5. CONTINUE CLEARING AND GRUBBING.
6. STOCKPILE TOP SOIL IF REQUIRED.
7. PERFORM PRELIMINARY GRADING ONSITE, AS REQUIRED.
8. STABILIZE DENUDED AREA AND STOCKPILES AS SOON AS PRACTICABLE.
9. INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTER.
10. APPLY BASE TO PROJECT.
11. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
12. COMPLETE FINAL PAVING.
13. REMOVE ACCUMULATED SEDIMENT FROM BASINS.
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/ SOD, AS REQUIRED.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL. IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND TURBIDITY CONTROL PLAN.

ENDANGERED SPECIES AND CRITICAL HABITAT

1. ARE THERE ENDANGERED SPECIES ON SITE?
2. ARE THERE CRITICAL HABITAT ON SITE?

IF YES TO EITHER QUESTION, PLEASE EXPLAIN:

-

CONTROLS

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS STABILIZATION PRACTICES

1. HAY BALE BARRIER: HAY BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:

   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
   D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO ENSURE AGAINST WASHOUT.

REFER TO EROSION CONTROL DETAILS FOR CONSTRUCTING THE HAY BALE BARRIER. ALSO REFER TO THE EROSION CONTROL PLAN FOR PROPER LOCATION.

2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:

   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OF DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.

REFER TO THE EROSION CONTROL DETAILS FOR PROPER CONSTRUCTION OF THE FILTER FABRIC BARRIER.

3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.

4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.

5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHOULD BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.

6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE MINIMIZED.

7. INLET PROTECTION: INLETS AND CATCH-BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FORM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.

8. DUST CONTROL: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL TREATMENT WITHIN 30 DAYS SHALL BE STABILIZED.

9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.

10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX AND AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.

11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.

12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.

13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.

14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY.

2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN A DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.

THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:

   A. BLOCK AND GRAVEL SEDIMENT FILTER - THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

   B. GRAVEL SEDIMENT TRAP - THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

   C. DROP INLET SEDIMENT TRAP - THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (S<0.50%) AND WHERE SHEET OR OVERLAND FLOWS (Q<0.50CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS.

3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION AND SEDIMENT PROBLEMS TO THE RECEIVING WATER BODY. SILT FENCES AND HAY BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARGING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.

4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 67 CUBIC YARDS OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE VOLUME OF THE BASIN AT CLEAN OUT SHALL BE 22 CUBIC YARDS PER ACRE.

THE 67 CUBIC YARDS OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL
WASTE MATERIALS
ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE
ALL SANITARY WASTE WILL BE COLLECTED FROM THAT PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING
A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH THE TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

☐ Concrete	☐ Fertilizers	☐ Wood
☐ Asphalt	☐ Petroleum Based Products	☐ Masonry Blocks
☐	☐ Cleaning Solvents	☐ Roofing Materials
☐ Detergents	☐ Paints	☐ Metal Studs
☐	☐	☐

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
* ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS
THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

* PRODUCTS WILL BE KEPT IS ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS
ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS
FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS
ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS
CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e.:KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WILL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL REVIEW SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

* NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
* ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OF SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
* BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
* THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.
* DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED. * TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
* A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
* THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
* PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON-STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

* WATER FROM WATER LINE FLUSHING.
* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

FOR NON-STORM WATER DISCHARGES REFER TO THE DEP GENERIC PERMIT FOR DISCHARGE OF NON-CONTAMINATED PRODUCED GROUND WATER.
(http://www.dep.state.fl.us/legal/rules/shared/62-621(2).doc)

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER.

NAME	TITLE	COMPANY ADDRESS AND PHONE NUMBER	DATE

NOTE TO CONTRACTOR:

THIS IS THE CONTRACTORS CERTIFICATION REQUIRED BY THE STATE OF FLORIDA NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), GENERIC PERMIT FOR STORMWATER DISCHARGE FOR CONSTRUCTION SITES OVER 1 ACRES. THIS CERTIFICATION MUST BE COMPLETED WEEKLY AND AFTER EVERY RAINFALL EVENT OVER 0.25 INCHES. IT IS SUGGESTED THAT THIS SHEET BE REMOVED FROM THE PLAN SET AND DUPLICATED AS NEEDED BY THE CONTRACTOR. MORE INFORMATION MAY BE OBTAINED AT WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.25 INCHES OR MORE

INSPECTOR: _____ DATE: _____

INSPECTOR'S QUALIFICATIONS: _____

DAYS SINCE LAST RAINFALL: _____ AMOUNT OF LAST RAINFALL _____ INCHES

STABILIZATION MEASURES

INSPECTION AREA (DESCRIPTION OF LOCATION)	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED ? (YES/NO)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED: _____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

PAGE 1 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
SEDIMENT BASIN

| DEPTH OF SEDIMENT

22019
50% CONSTRUCTION DOCUMENTS
10/26/2022

LANDSCAPE NOTES:
1. ALL UTILITIES TO BE LOCATED PRIOR TO LANDSCAPE INSTALLATION.
2. ALL PLANT MATERIAL TO BE FLORIDA #1 OR BETTER.
3. ALL BED AREAS TO RECEIVE A 2" MINIMUM THICKNESS PINE STRAW MULCH APPLICATION.
4. ALL TREES, SHRUBS, AND GROUNDCOVERS TO RECEIVE A SLOW RELEASE FERTILIZER UPON INITIAL INSTALLATION.
5. QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY AND SHOULD BE VERIFIED BY THE CONTRACTOR.

NORTH

LANDSCAPE REQUIREMENT CHART
PER CITY OF PANAMA CITY CODE

FRONT SETBACK BUFFER
10' WIDE BUFFER WITH 2.5 CANOPY, 2 UNDERSTORY, 20 SHRUBS PER 100'

BOUNDARY	LENGTH	PROVIDED
NORTHERN	-	-
SOUTHERN	504'	13 CANOPY, 10 UNDERSTORY, 101 SHRUB
EASTERN	92'	2 CANOPY, 2 UNDERSTORY, 18 SHRUB
WESTERN	-	-

INTERIOR LANDSCAPE AREAS
1 TREE PER PARKING ISLAND/TERMINATION

PARKING ISLANDS & TERMINATIONS	PROVIDED
6	6

MISCELLANEOUS BUFFERS

DESCRIPTION
-
-
-
-

15 - SUPER BLUE LIRIOPE
1 GAL. 2' O.C.

6 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

70 - SUPER BLUE LIRIOPE
1 GAL. 2' O.C.

2 - OAKLEAF HOLLY
15 GAL.

9 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

6 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

10 - LITTLE JOHN BOTTLEBRUSH
3 GAL. 4' O.C.

21 - FLAX LILY
3 GAL. 2' O.C.

69 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

56 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

56 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

16 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

46 - SUPER BLUE LIRIOPE
1 GAL. 2' O.C.

72 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

6 - WINGED ELM
30 GAL.

1 - RED MAPLE
30 GAL.

1 - OAKLEAF HOLLY
15 GAL.

18 - CERISE CHARM LOROPETALUM
3 GAL. 4' O.C.

1 - SWEETBAY MAGNOLIA
30 GAL.

1 - RED MAPLE
30 GAL.

TIFTUF BERMUDA SOD
35,700 S.F. (FOR ENTIRE SITE)

136 - FLAX LILY
1 GAL. 2' O.C.

9 - RED MAPLE
30 GAL.

10 - MUHLY GRASS
3 GAL. 4' O.C.

9 - MUHLY GRASS
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

9 - MUHLY GRASS
3 GAL. 4' O.C.

9 - MUHLY GRASS
3 GAL. 4' O.C.

60 - FLAX LILY
1 GAL. 2' O.C.

7 - OAKLEAF HOLLY
15 GAL.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

88 - CHAPEL HILL LANTANA
1 GAL. 2' O.C.

4 - RED MAPLE
30 GAL.

48 - FLAX LILY
1 GAL. 2' O.C.

3 - OAKLEAF HOLLY
15 GAL.

9 - MUHLY GRASS
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

10 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

OHU

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

01/09/23

REVISIONS:

No.	Description	Date
1	100% CD's	01/09/23

L1

LANDSCAPE PLAN

PROJECT NUMBER	22019
DATED	1/09/2023

22019
50% CONSTRUCTION DOCUMENTS
10/26/2022

NORTH

GENERAL IRRIGATION NOTES:

1. ALL UTILITIES TO BE LOCATED BEFORE COMMENCEMENT OF CONSTRUCTION. APPLY NECESSARY PROTECTIVE MEASURES TO REDUCE POSSIBILITY OF DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.
2. ALL CONTROL WIRE TO BE 14 GAUGE. INSTALL ONE (1) RED WIRE TO EACH CONTROL VALVE, ONE (1) COMMON WHITE TO LOOP CONTINUOUSLY THROUGHOUT THE WIRE PATH, AND ONE (1) EXTRA BLUE WIRE TO RUN PARALLEL WITH COMMON.
3. ALL LATERAL LINES TO MAINTAIN A 8" MINIMUM DEPTH. ALL MAINLINE TO MAINTAIN A MINIMUM 12" DEPTH.
4. ALL SPRAYS AND ROTORS TO BE MOUNTED FLUSH WITH FINAL GRADE.
5. ALL WATERING ARCS TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO ADJACENT BUILDINGS OR HARDSCAPE.

SYSTEM DESIGN NOTES:

WATER SOURCE: 2" IRRIGATION METER
DESIGN VOLUME: 50 GPM
DESIGN PRESSURE: 65 PSI

DRIP IRRIGATION NOTES:

REFERENCE THE FOLLOWING TABLE FOR DRIP EMITTER INSTALLATION PER PLANT:

PLANT SIZE	EMITTER QTY/FLOW
1 GAL. OR LESS	1 @ 0.5 GPH
3 GAL.	1 @ 2.0 GPH
7 GAL.	1 @ 5.0 GPH
15 GAL.	2 @ 5.0 GPH
30 GAL.	3 @ 5.0 GPH
45 GAL.	3 @ 10.0 GPH
65 GAL.	3 @ 10.0 GPH
100 GAL.	4 @ 10.0 GPH
PALMS	3 @ 10.0 GPH

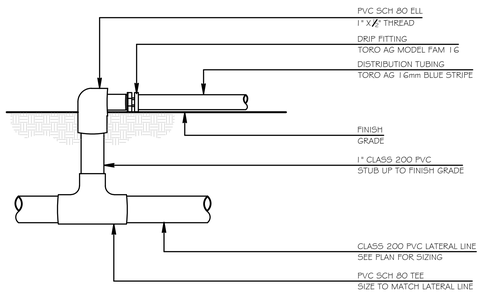
*XERI-SPRAYS MAY BE USED TO IRRIGATE ANNUAL PLANTING AREAS

PIPING LEGEND

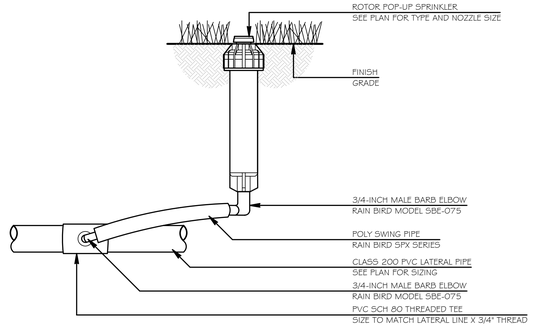
- 2" - CLASS 200 MAINLINE
- 1" - CLASS 200 LATERAL
- 1-1/4" - CLASS 200 LATERAL
- 1-1/2" - CLASS 200 LATERAL
- 2" - CLASS 200 LATERAL
- 4" SCH. 40 SLEEVE
- ZONE # / SIZE — CONTROL VALVE IDENTIFICATION TAG

IRRIGATION SCHEDULE

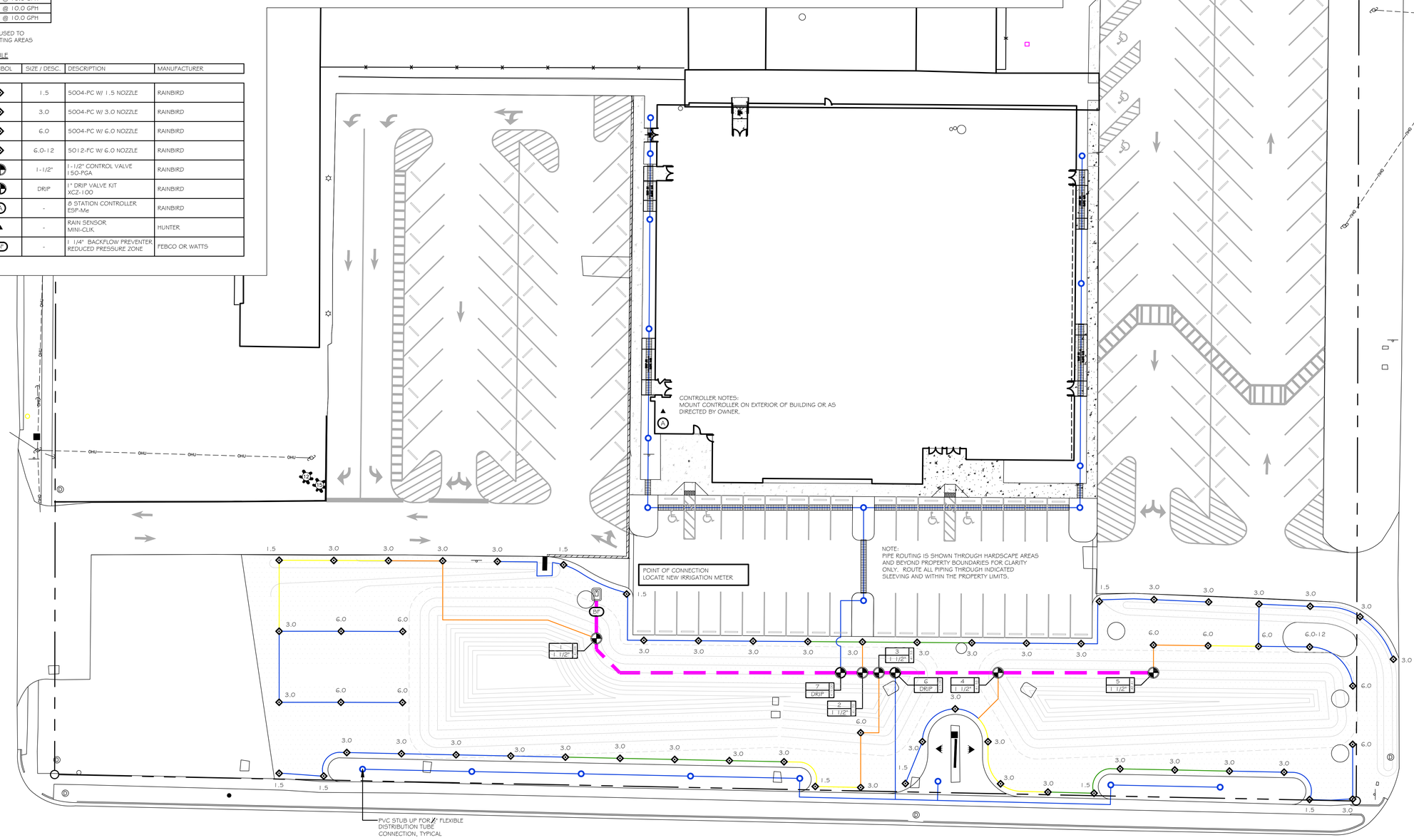
QUANTITY	SYMBOL	SIZE / DESC.	DESCRIPTION	MANUFACTURER
10	◆	1.5	5004-PC W/ 1.5 NOZZLE	RAINBIRD
41	◆	3.0	5004-PC W/ 3.0 NOZZLE	RAINBIRD
10	◆	6.0	5004-PC W/ 6.0 NOZZLE	RAINBIRD
1	◆	6.0-12	5012-PC W/ 6.0 NOZZLE	RAINBIRD
5	◔	1-1/2"	1-1/2" CONTROL VALVE 150-PGA	RAINBIRD
2	◔	DRIP	1" DRIP VALVE KIT XCZ-100	RAINBIRD
1	(A)	-	8 STATION CONTROLLER ESP-Me	RAINBIRD
1	▲	-	RAIN SENSOR MINI-CLIK	HUNTER
1	BF	-	1 1/4" BACKFLOW PREVENTER REDUCED PRESSURE ZONE	FEBCO OR WATTS



1 / L2 DRIP DISTRIBUTION LINE CONNECTION
NOT TO SCALE



2 / L2 POP-UP ROTOR INSTALLATION
NOT TO SCALE



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IRRIGATION PLAN

PROJECT NUMBER	22019
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STRUCTURAL GENERAL NOTES

ABBREVIATIONS

AB	ANCHOR BOLT
ADDL	ADDITIONAL
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECTURAL or ARCHITECT
B/	BOTTOM OF
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOS	BOTTOM OF STEEL
BRG	BEARING
B/S	BOTTOM SIDE
BTM or (B)	BOTTOM, "BOT" SIM
BTW	BETWEEN
CB	CARRIAGE BOLT
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CJ.	CONTROL JOINT
CL or (€)	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
C.O.	CASED OPENING
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE or CONTINUOUS
CSJ	CONSTRUCTION JOINT
CTR	CENTERED, "CNTR'd" SIM
DET	DETAIL
DBL	DOUBLE
DIA or (ø)	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIR	DIRECTION
D.L.	DEAD LOAD
DN	DOWN
DWG	DRAWING
DWL	DOWEL
EA	EACH
E.E.	EACH END
E.F.	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMBED	EMBEDDED or EMBEDMENT
EOS	EDGE OF SLAB
E.G.	EXISTING GRADE
E.S.	EACH SIDE
EQ	EQUAL
E.W.	EACH WAY
EX	EXISTING
EXPB	EXPANSION BOLT
EXT	EXTERIOR
F.F.	FAR FACE
FFE	FINISHED FLOOR ELEVATION
F.G.	FINISHED GRADE
FIN	FINISH
FL	FLOOR
FLG	FLANGE
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FULL PENETRATION
F/S	FAR SIDE
FT	FOOT OR FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GDR	GIRDER
GP	GUSSET PLATE
HAS	HEADED ANCHOR STUD
HD	HOLDOWN
HDG	HOT DIP GALVANIZED
HDR	HEADER
HK	HOOK
HOR	HORIZONTAL
HSB	HIGH STRENGTH BOLT
H.S.S.	HEADED SHEAR or "NELSON" STUD
HSS	HOLLOW STL SECTION or TUBE
I.F.	INSIDE FACE
IN	INCH OR INCHES
INT.	INTERIOR
INV	INVERT
JST	JOIST
JT	JOINT
K	KIP (1,000 POUNDS)
LB	POUNDS
L.E.	LEFT END
L.L.	LIVE LOAD
LLD	LONG LEG DOWN
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LVL	LAMINATED VENEER LUMBER
LWC	LIGHT WEIGHT CONCRETE
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MFGR	MANUFACTURER
MID or (M)	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
M.R.D.	METAL ROOF DECK
MTL	METAL
MTRL	MATERIAL
N.F.	NEAR FACE
NOM	NOMINAL
NO.	NUMBER OR #
N/S	NEAR SIDE
NS	NON-SHRINK
N.T.S.	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
O.C.	ON CENTER, "C.C." SIM
O.D.	OVERALL DIM. "O/D" SIM
O.F.	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
PCC	PRECAST CONCRETE
PEN	PENETRATION
PERP	PERPENDICULAR
P.L.	POINT LOAD
PL	PLATE
PSL	PARALLEL STRAND LUMBER
PT	POINT
P.T.	PRESSURE TREATED or POST-TENSION
P.U.	RIGHT END
REINF	REINFORCING
REF	REFERENCE
RET	RETURN
REQ	REQUIRED
R.L.L.	ROOF LIVE LOAD
R.O.	ROUGH OPENING
SC	SLIP CRITICAL
SCHED	SCHEDULE
S.D.N.	STRUCTURAL DESIGN NOTES
SIM	SIMILAR
SOG	SLAB ON GRADE
S.E.	STUD PACK
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL, "S.S." SIM
STAG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURAL, "STRUCT" SIMILAR
S.W.	SHEAR WALL
SYM	SYMMETRICAL
T or (T)	TOP
T&B	TOP AND BOTTOM
T&S	TEMPERATURE & SHRINKAGE REINF.
T/	TOP OF
T/S	TOP SIDE
TDR	THREADED ROD
TEMP.	"T&S" FOR REINF
THK	THICK OR THICKNESS
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UWA	UNDER WALL ABOVE
VERT	VERTICAL
W/	WITH
WF	WIDE FLANGE
WP	WORKING POINT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

1. GENERAL NOTES:

1.1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

1.2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

1.3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.

1.4. DO NOT SCALE DRAWINGS.

1.5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, AND TIEDOWNS.

1.6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

1.7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.

1.8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

1.9. THE REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHOD, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

1.10. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF ATLAS ENGINEERING AND CONSULTING, LLC IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.

1.11. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFE SPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

1.12. STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED STEEL FRAMING, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

1.13. ALL CONSTRUCTION SHALL CONFORM TO THE FLORIDA BUILDING CODE 8TH EDITION (2023). REFERENCE TO OTHER CODES OR STANDARD SPECIFICATIONS REFER TO THE LATEST EDITION OF SUCH CODES OR SPECIFICATIONS, UNLESS STATED OTHERWISE.

1.14. NO PROVISIONS HAVE BEEN MADE FOR VERTICAL OR HORIZONTAL EXPANSION EXCEPT AS SHOWN ON CONTRACT DOCUMENTS.

1.15. FINISH FLOOR ELEVATION (FIRST FLOOR) OF 0'-0" IS USED AS A REFERENCE ELEVATION. SEE CIVIL DRAWINGS FOR ACTUAL ELEVATION.

1.16. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CAD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS IS PROHIBITED UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM ENGINEER OF RECORD.

1.17. IN THE EVENT THAT THE STRUCTURAL CONTRACTS DRAWINGS AND SPECIFICATIONS CONFLICT ON INFORMATION, THE STRUCTURAL CONTRACT DRAWINGS SHALL SUPERSEDE THE SPECIFICATIONS.

2. CODE DESIGN:

2.1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2023 FLORIDA BUILDING CODE.

2.2. GRAVITY LOADS

2.2.1. UNIFORM FLOOR LIVE LOADS (REDUCED AS ALLOWED BY THE BUILDING CODE):

CLASSROOMS	40 PSF
STAIRS/RAMPS	100 PSF
BLEACHERS	100 PSF
STAGE	150 PSF

2.2.2. UNIFORM ROOF LIVE LOADS (REDUCED AS ALLOWED BY THE BUILDING CODE):

ROOF	100 PSF

PONDING AND DRIFT EFFECTS HAVE BEEN INCLUDED IN DESIGN.

2.3. WIND LOADS (ASCE 7-22):

BASIC WIND SPEED = 170 MPH (INTERPOLATED VALUE)
STRUCTURAL RISK CATEGORY = III
WIND EXPOSURE CATEGORY = B
ENCLOSURE CLASSIFICATION = ENCLOSED
INTERNAL PRESSURE COEFFICIENT = 0.18 +/-

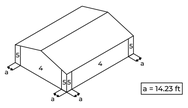
COMPONENTS AND CLADDING (PER ASD)

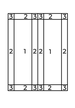
ROOF: (LOADING IN PSF)

	ZONE 1 (INTERIOR)		ZONE 2 (EDGE)		ZONE 3 (CORNER)	
TRIBUTARY AREA (SQFT)	(+)	(-)	(+)	(-)	(+)	(-)
10	21.23	59.32	21.23	78.37	21.23	102.86
20	19.34	51.00	19.34	67.67	19.34	88.12
100	14.95	31.69	14.95	42.81	14.95	53.88

WALLS: (LOADING IN PSF)

	ZONE 4 (INTERIOR)		ZONE 5 (EDGE/CORNER)	
TRIBUTARY AREA (SQFT)	(+)	(-)	(+)	(-)
10	32.11	34.83	32.11	42.99
20	30.66	33.38	30.66	40.10
100	27.30	30.03	27.30	33.38





a = 14.23 ft

2.4. FLOOD DESIGN DATA:

FLOOD ZONE = X
BFE = N/A
PANEL NO = 12005C0341J

2.5. ROOF RAIN LOAD DESIGN DATA:

RAIN LOAD = 5 PSF
RAIN INTENSITY (*i*) = 4.5 IN/HR

3. FOUNDATIONS:

3.1. THE FOUNDATIONS ARE DESIGNED FOR AN ANTICIPATED ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL IF GEOTECHNICAL INVESTIGATION HAS NOT BEEN CONDUCTED.

3.2. REGARDLESS OF WHETHER OR NOT A GEOTECHNICAL INVESTIGATION IS PERFORMED, NO WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY ATLAS ENGINEERING AND CONSULTING, LLC FOR THE PERFORMANCE OF THE FOUNDATION.

3.3. AT A MINIMUM, SITE PREPARATION WORK SHALL INCLUDE:
3.3.1. STRIPPING AND GRUBBING OF THE BUILDING FOOTPRINT PLUS A MARGIN OF 5 FEET AROUND THE BUILDING, REMOVING ALL ORGANIC MATERIALS.
3.3.2. PROOF ROLLING THE BUILDING SITE TO LOCATE ANY UNFORESEEN SOFT AREAS. ANY SOFT AREAS SHALL BE EXCAVATED AND REPLACED WITH CLEAN FILL. A DENSITY OF AT LEAST 95% FOR A DEPTH OF 2 FEET IS REQUIRED UNDER THE BUILDING FOOTPRINT.
3.3.3. ALL FILL SHALL BE CLEAN SAND AND FREE OF ORGANIC MATERIALS. COMPACT FILL IN 12 INCH (UNCOMPACTED THICKNESS) LIFTS TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE.
3.3.4. EXCAVATIONS FOR FOUNDATIONS SHALL BE COMPACTED TO 95% FOR A DEPTH OF AT LEAST 2 FEET BELOW THE BOTTOM OF THE FOUNDATION.
3.3.5. DEWATERING MAY BE REQUIRED TO ACHIEVE THE REQUIRED COMPACTION VALUES, AND IF USED, SHALL LOWER DOWN THE WATER LEVEL TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE EXCAVATION.

3.4. SLABS ON GRADE SHALL BE PLACED OVER A 15 MIL, CLASS "B" VAPOR RETARDER. VAPOR RETARDER SHALL BE LAPPED A MINIMUM OF 6", OR AS RECOMMENDED BY THE MANUFACTURER (WHICHEVER IS GREATER) AND TAPED AT ALL JOINTS. ALL PUNCTURES IN THE VAPOR RETARDER SHALL BE REPAIRED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ALL PENETRATIONS THROUGH THE VAPOR RETARDER (COLUMNS, PLUMBING, CONDUITS, ETC.) SHALL BE SEALED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. VAPOR RETARDER SHALL BE CONTINUOUS UNDER WALL FOUNDATIONS OR SEALED TO EXTERIOR WALLS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

4. CONCRETE:

4.1. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS.

4.2. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:

4.2.1. FOUNDATIONS & SLAB-ON-GRADE	3,000 PSI
4.2.2. STRUCTURAL SLABS	4,000 PSI
4.2.3. CIP BEAMS, COLUMNS & WALLS	4,000 PSI
4.2.4. EXTERIOR RETAINING WALLS	4,000 PSI

4.3. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE.

4.4. CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

4.5. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS, OR ANY READING OF A DELAY LONGER THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE.

4.6. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

4.7. CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

4.8. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318, 20.6.

4.9. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA AS PER 26.4.4 OF ACI 318.

4.10. CONCRETE SLABS ON GRADE SHALL BE REINFORCED WITH 6x6 W1.4xW1.4 STEEL MESH OR SYNTHETIC FIBERS AT A MINIMUM RATE OF 3.0 LBS/CY, OR AS RECOMMENDED BY THE FIBER MANUFACTURER FOR CONTROL OF TEMPERATURE AND SHRINKAGE/CRACKING, WHICHEVER IS GREATER. UNLESS NOTED OTHERWISE.

4.11. WHEN WATER-BASED ADHESIVE ARE BEING USED ON CONCRETE SURFACES, THE CONTRACTOR SHALL VERIFY THAT THE WATER CONTENT OF THE CONCRETE IS WITHIN THE ALLOWABLE RANGE BEFORE INSTALLATION.

4.12. CHAMFER OR ROUND ALL EXPOSED CORNERS A MINIMUM OF 3/4".

5. REINFORCING STEEL

5.1. SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.

MINIMUM LAP SPLICE LENGTH (IN.) - 3000 PSI CONCRETE

	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
FOOTINGS (HOR.)	21	23	29	37	50	-
VERT. DOWELS	22	29	36	43	63	72

MINIMUM LAP SPLICE LENGTH (IN.) - 4000 PSI CONCRETE

	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
BEAMS/SLABS	-	-	-	-	-	-
- TOP BARS	22	29	36	43	63	72
- OTHER	21	21	26	31	39	51
COLUMNS	16	18	19	22	37	45
C.I.P. WALLS	-	-	-	-	-	-
- VERT. (1 MAT)	21	21	22	25	39	51
- VERT. (2 MATS)	16	18	19	22	34	43
- HORIZONTAL	16	19	27	37	60	74

MINIMUM LAP SPLICE LENGTH (IN.) - 1500 PSI NORMAL WEIGHT CMU

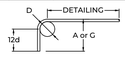
	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
6-in CMU WALL	19	25	39	81	-	-
8-in CMU WALL	19	25	31	57	79	113
12-in CMU WALL	19	25	31	53	61	75

RECOMMENDED END HOOKS ANCHORAGE LENGTH (IN.) - 3000 PSI CONCRETE

	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
D	2.25	3.00	3.75	4.50	5.25	6.00
A or G	6	8	10	12	14	16

RECOMMENDED END HOOKS ANCHORAGE LENGTH (IN.) - 4000 PSI CONCRETE

	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
D	2.25	3.00	3.75	4.50	5.25	6.00
A or G	7	10	12	15	17	19



5.2. REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER UNO (PER ACI 318-05 PAR.7.7.1)

5.2.1. CONCRETE CAST AGAINST EARTH:	3"	
5.2.2. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:	2"	(#6 BARS & LARGER)
	1-1/2"	(#5 BARS & SMALLER)
5.2.3. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	3/4"	(SLABS)
	1"	(WALLS)
	1-1/2"	(STIRRUPS & TIES)

5.3. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

5.4. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF ALL TOP BARS.

5.5. WHERE REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORTS AND TOP BARS AT CENTER OF SPAN. ALL OTHER LAP SPLICES SHALL BE IN ACCORDANCE WITH SPLICE TABLES AND DETAILS SHOWN ON DRAWINGS.

5.6. PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH CLASS B TENSION LAP SPLICES, U.N.O.

5.7. WHERE HOOKS ARE SHOWN ON THE PLANS OR DETAILS, HOOKS SHALL BE DETAILED TO EXTEND DEEP ENOUGH INTO SUPPORTING STRUCTURE TO DEVELOP THE FULL STRENGTH OF THE HOOKED BAR. PROVIDE ADDITIONAL TIES OR STIRRUPS IN SUPPORTING STRUCTURE AS REQUIRED TO SATISFY ACI 318 HOOK DEVELOPMENT, CONFINEMENT, AND ANCHORAGE CRITERIA.

5.8. ALL REINFORCEMENT SHALL BE BENT COLD, UNLESS OTHERWISE APPROVED BY THE STRUCTURAL EOR.

5.9. SHOP DRAWINGS SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING REINFORCING STEEL IN MAT SLABS, CAST-IN-PLACE WALLS, AND STRUCTURAL SLABS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

5.10. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS FOR REINFORCED CONCRETE, "ACI 318" AND THE "MANUALS OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315 (LATEST EDITION).

5.11. ALL REINFORCING STEEL AND EMBEDMENTS SHALL BE SECURELY TIED AND SUFFICIENTLY SUPPORTED TO MAINTAIN THE POSITION WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "WET STICKING" DOWELS INTO CONCRETE IS NOT PERMITTED.

5.12. CONTINUOUS REINFORCEMENT SHALL BE PROVIDED WHEREVER POSSIBLE. REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN OR NOTED IN THE STRUCTURAL CONTRACT DOCUMENTS. STAGGER SPLICES WHERE POSSIBLE; USE FULL TENSION SPLICE (CLASS "B") UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH FULL TENSION SPLICES (CLASS "B") UNLESS NOTED OTHERWISE. TERMINATE BARS WITH STANDARD HOOKS.

5.13. REINFORCING STEEL SHALL NOT BE WELDED OR TACK WELDED UNLESS APPROVED BY THE STRUCTURAL EOR.

5.14. ALL STEEL REINFORCING USED IN SLAB-ON-GRADE CONSTRUCTION IS REQUIRED TO BE SUPPORTED IN THE CENTER TO UPPER ONE THIRD OF THE SLAB.

6. WELDED WIRE FABRIC:

6.1. SHALL CONFORM TO ASTM A-185, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.

6.2. MINIMUM LAP SHALL BE ONE SPACE PLUS TWO INCHES.

6.3. ALL WELD WIRE MESH USED IN SLAB-ON-GRADE CONSTRUCTION IS REQUIRED TO BE SUPPORTED IN THE CENTER TO UPPER ONE THIRD OF THE SLAB.

7. WOOD:

7.1. STRUCTURAL GLUED LAMINATED TIMBER SHALL BE PRODUCED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC). MINIMUM ALLOWABLE BENDING STRESS SHALL BE 2,400 PSI (DRY CONDITIONS).

7.2. PROVIDE DRESSED SEASONED LUMBER, S4S, WITH A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF DRESSING AS LISTED BELOW.

7.2.1. INTERIOR AND EXTERIOR LOAD-BEARING WALLS: SOUTHERN PINE, NO. 2 GRADE.

7.2.2. LINTELS, FLOOR JOISTS AND BEAMS: SOUTHERN PINE, NO. 2 GRADE.

7.2.3. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE FOUNDATION GRADE PRESSURE-TREATED. USE GALVANIZED NAILS IN PRESSURE-TREATED WOOD. THE PROTECTIVE COATING ON LIGHT GAUGE STEEL CONNECTIONS IN CONTACT WITH PRESSURE-TREATED WOOD SHALL BE IN ACCORDANCE WITH THE CONNECTOR MANUFACTURERS RECOMMENDATIONS.

7.3. ENGINEERED LUMBER PRODUCTS

7.3.1. PARALLEL STRAND LUMBER (PSL) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 2900 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 750 PSI
COMPRESSION PARALLEL TO GRAIN	F/C|| = 2900 PSI
HORIZONTAL SHEAR	F/V = 290 PSI
MODULUS OF ELASTICITY	E = 2,000,000 PSI

7.3.2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 2600 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 750 PSI
COMPRESSION PARALLEL TO GRAIN	F/C|| = 2510 PSI
HORIZONTAL SHEAR	F/V = 285 PSI
MODULUS OF ELASTICITY	E = 2,000,000 PSI

7.3.3. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 1700 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 710 PSI
COMPRESSION PARALLEL TO GRAIN	F/C|| = 1835 PSI
HORIZONTAL SHEAR	F/V = 425 PSI
MODULUS OF ELASTICITY	E = 1,300,000 PSI

7.3.4. GLULAM BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 3000 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 805 PSI
TENSION PARALLEL TO GRAIN	F/T|| = 1350 PSI
HORIZONTAL SHEAR	F/V = 300 PSI
MODULUS OF ELASTICITY	E = 1,800,000 PS

7.3.5. PRESERVED GLULAM BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 2400 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 740 PSI
HORIZONTAL SHEAR	F/V = 300 PSI
MODULUS OF ELASTICITY	E = 1,800,000 PS

7.4. STRUCTURAL PANELS

7.4.1. FLOOR PANELS SHALL BE CONSTRUCTED WITH TONGUE AND GROOVE APA RATED, EXPOSURE 1, 23/32" PLYWOOD. FLOOR PANELS SHALL BE GLUED AND NAILED W/ 10d RING SHANK NAILS @ 4" O/C AT PANEL EDGES AND AT 6" O/C IN THE FIELD.

7.4.2. WALL PANELS SHALL BE CONSTRUCTED WITH APA RATED, EXPOSURE 1, 15/32" SHEATHING, SHEATHING SHALL BE ATTACHED WITH 10d COMMON NAILS @ 3" O/C AT PANEL EDGES AND 6" O/C IN THE FIELD. ALL PANEL EDGES SHALL BE BLO

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PLAN LEGEND

- DENOTES THICKENED SLAB @ WALL BEARING & SLAB STEP DOWN LOCATIONS.
- DENOTES FOOTER OUTLINE BELOW.
- DENOTES SLAB TURNDOWN OUTLINE.
- DENOTES LOAD BEARING WALL BELOW.

TYP. C.I.P. PIER & FOOTING CALLOUT

FOOTING NOTES

1. TOPS OF ALL FOOTINGS (EXCEPT TURNDOWNS) MUST BE COVERED WITH A MINIMUM OF 12" OF FINISH GRADE MATERIAL (U.N.O.).
2. BOTTOMS OF ALL FOOTINGS MUST BEAR ATOP UNDISTURBED SOIL OR ENGINEERED FILL COMPACTED TO 95% MAXIMUM MODIFIED PROCTOR A MINIMUM OF 12" BELOW EXISTING GRADE UNLESS PROPER PROVISIONS HAVE BEEN MADE FOR THE USE OF ENGINEERED FILL BASED ON A SITE SPECIFIC GEOTECHNICAL EVALUATION (BY OTHERS).
3. ALL CONTINUOUS FOOTINGS & PEDESTALS MUST BE CENTERED ON THE WALL/PIER UNLESS SPECIFICALLY NOTED AS ECCENTRIC FOOTING.
4. VERTICAL DOWEL HOOKS SHOULD EXTEND 9" IN TO FTG'S, BELOW & RUNNING PERPENDICULAR TO FLEXURAL REINF.
5. NO "WET STICK" SETTING OF REINFORCING WILL BE APPROVED.
6. ALL VERTICAL REINFORCING MUST BE IN PLACE & TIED TO FOOTING REINF. PRIOR TO POUR.
7. COORDINATE ALL FOOTING LOCATIONS WITH CIVIL, PLUMBING, AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL PROVIDE PIPE SLEEVES BELOW OR ABOVE CONTINUOUS WALL FOOTINGS.
8. SEE ARCH. DRAWINGS FOR DIMENSIONS NOT SHOWN. IF A CONFLICT EXISTS, THE ARCH. DIMENSIONS SHALL GOVERN. BOTH ENGINEER AND ARCHITECT OF RECORD SHALL BE NOTIFIED IN WRITING OF ALL CONFLICTS.

PEMB BID NOTIFICATION TO CONTRACTOR:

WITH THE SUBMISSION OF THEIR BID, THE GENERAL CONTRACTOR CERTIFIES AND HAS CONFIRMED THAT THE PRE-ENGINEERED METAL BUILDING COMPANY WHOSE PRICE WAS USED TO GENERATE THIS BID HAS THOROUGHLY REVIEWED THE REQUIREMENTS OF THE CURRENT ARCHITECTURAL AND STRUCTURAL PLANS. THE BID PRICING REFLECTS THEIR ABILITY TO PROVIDE A PRE-ENGINEERED METAL BUILDING PACKAGE THAT COMPLIES WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS TO THE ARCHITECT'S SATISFACTION. THE BIDDING CONTRACTOR FURTHER UNDERSTANDS AND ACKNOWLEDGES THAT THEY HAVE INCLUDED WITHIN THEIR BID PRICE ALL COSTS FOR ALL INITIAL OR SUPPLEMENTAL DESIGN ENGINEERING FROM THE PEMB PROVIDER TO ENSURE THAT THE APPROVED DESIGN TO BE RELEASED FOR FABRICATION COMPLIES WITH THE INTENT OF THE CONTRACT DRAWINGS. THIS INCLUDES COLUMN LOCATIONS AND SPACING, BEAM CLEAR HEIGHTS AND SPANS, AS WELL AS WINDOWS, DOORS, AND STOREFRONT OPENING REQUIREMENTS. THE COST OF ANY STEEL MATERIAL REQUIRED TO COMPLY WITH THESE ARCHITECTURAL REQUIREMENTS IS INCLUDED IN THIS BID. ADDITIONALLY, THE PEMB PROVIDER HAS INCLUDED SUITABLE DESIGN AND SUPPLEMENTAL STEEL BRACING WITHIN THE GYM ROOF FRAMING TO SUPPORT THE SIX RETRACTING BASKETBALL BACKSTOP ASSEMBLIES.

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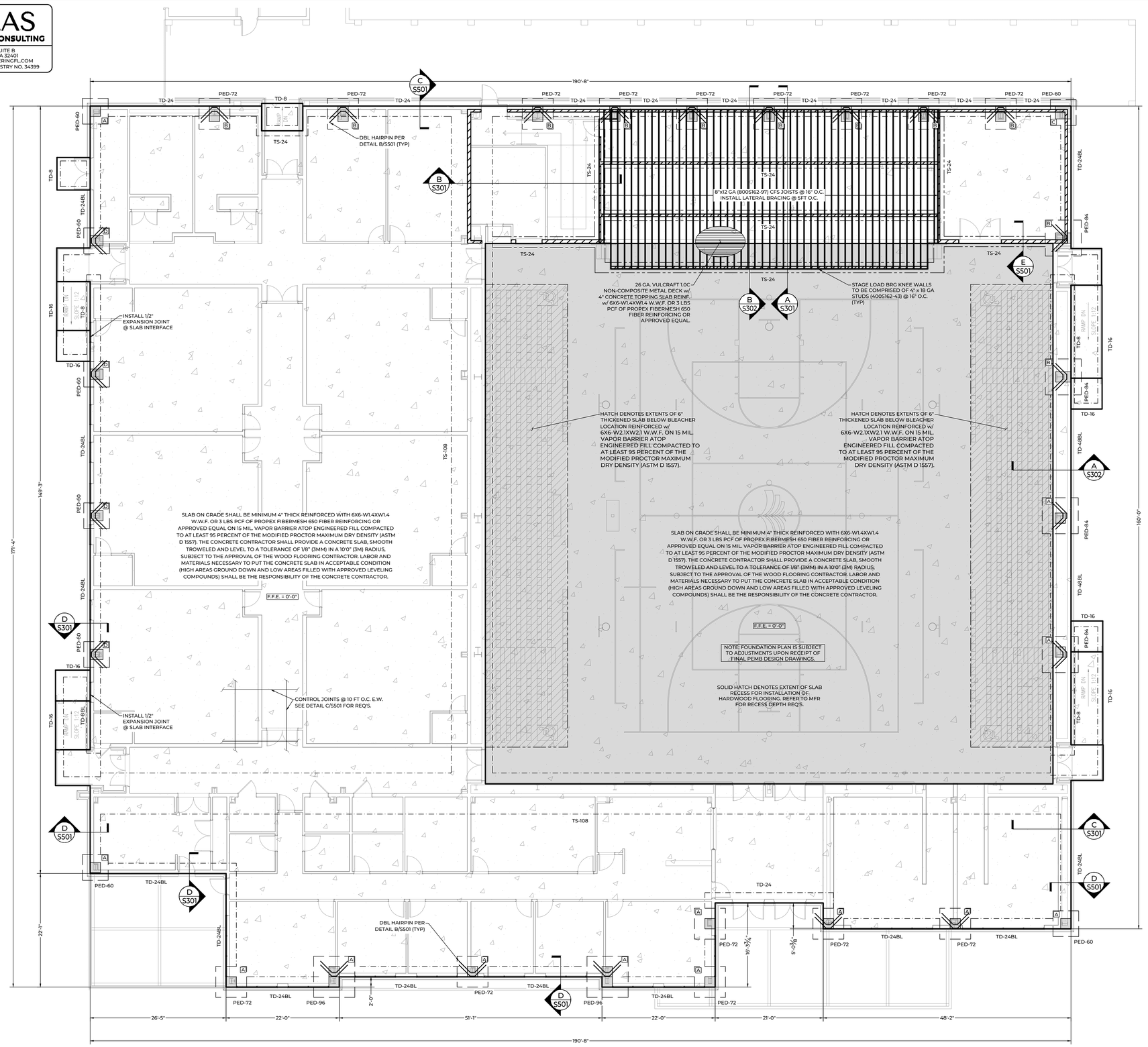

CONTINUOUS FOOTING SCHEDULE

DESIGNATION	TYPE	DIMENSIONS	CONTINUOUS REINF.	TRANSVERSE REINF.
TS-24	THICKENED SLAB	12" D x 24" W	(3) #5 BARS	#5 BARS x 18" @ 18" O.C.
TD-24	TURN DOWN	16" D x 24" W	(3) #5 BARS	#5 BARS x 1'-6" @ 24" O.C.
TD-24BL	TURN DOWN	16" D x 32" W	(4) #5 BARS	#5 BARS x 2'-0" @ 26" O.C.
TD-48BL	TURN DOWN	16" D x 56" W	(6) #5 BARS	#5 BARS x 2'-0" @ 50" O.C.

PEDESTAL FOOTING SCHEDULE

DESIGNATION	TYPE	DIMENSIONS	LONGITUDINAL REINF.	TRANSVERSE REINF.
PED-60	PEDESTAL FTG.	16" D x 60" SQR.	(7) #5 BARS EQ. SPACED	(7) #5 BARS EQ. SPACED
PED-72	PEDESTAL FTG.	20" D x 72" SQR.	(8) #5 BARS EQ. SPACED	(8) #5 BARS EQ. SPACED
PED-84	PEDESTAL FTG.	20" D x 84" SQR.	(9) #5 BARS EQ. SPACED	(9) #5 BARS EQ. SPACED
PED-96	PEDESTAL FTG.	20" D x 96" SQR.	(10) #5 BARS EQ. SPACED	(10) #5 BARS EQ. SPACED
PED-108	PEDESTAL FTG.	20" D x 108" SQR.	(12) #5 BARS EQ. SPACED	(12) #5 BARS EQ. SPACED
PED-84108	PEDESTAL FTG.	20" D x 84" x 108"	(9) #5 BARS EQ. SPACED	(12) #5 BARS EQ. SPACED

A FOUNDATION PLAN

SCALE: 1/8"=1'-0"

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CODY L. HARDEN LICENSE No. 89388 STATE OF FLORIDA PROFESSIONAL ENGINEER

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

FOUNDATION PLAN

PROJECT NUMBER 22019
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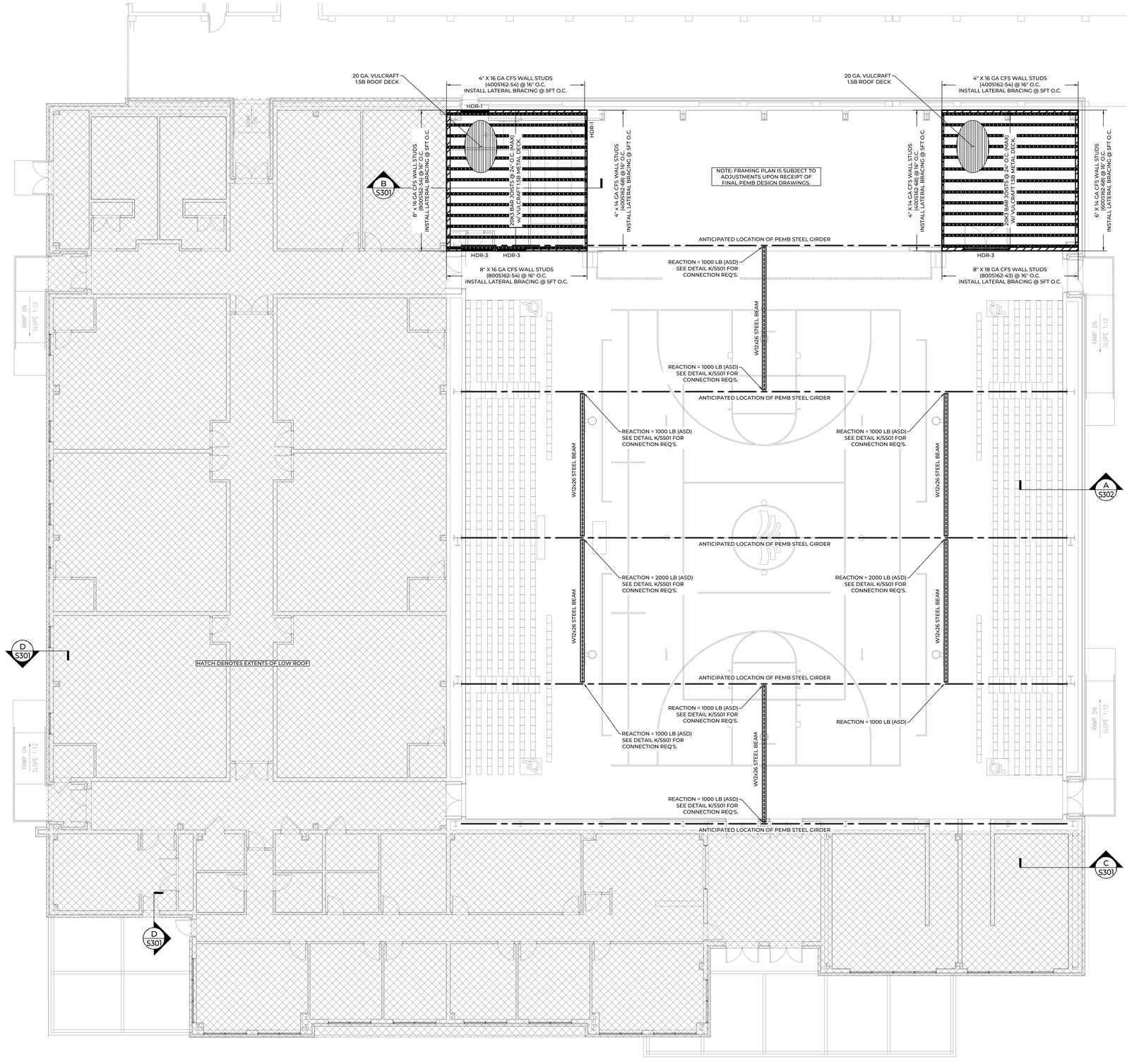
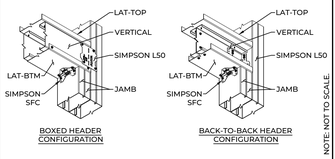


COLD FORMED STEEL HEADER SCHEDULE



CONCRETE BEAM SCHEDULE

DESIG.	VERTICAL	LAT-TOP	LAT-BTM	JAMB	HEADER SHAPE
HDR-1	800S162-54	400S162-33	400S162-33	(2) 400S162-54	BACK-TO-BACK
HDR-2	800S162-97	400S162-33	400S162-33	(2) 400S162-54	BACK-TO-BACK
HDR-3	800S162-54	800S162-33	800S162-33	(2) 800S162-54	BACK-TO-BACK

A MEZZANINE FRAMING PLAN
SCALE: 1/8"=1'-0"

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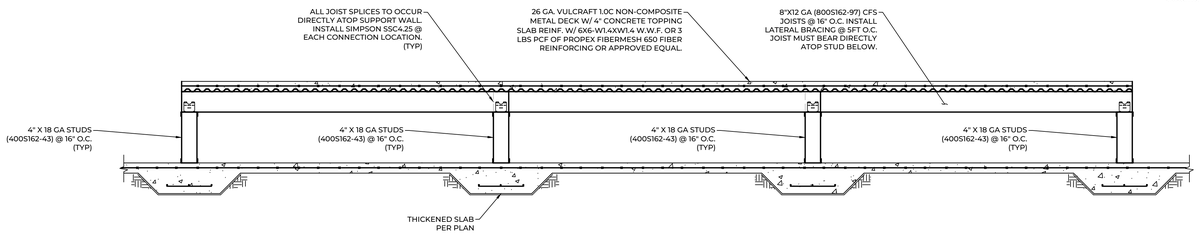

A SECTION @ STAGE
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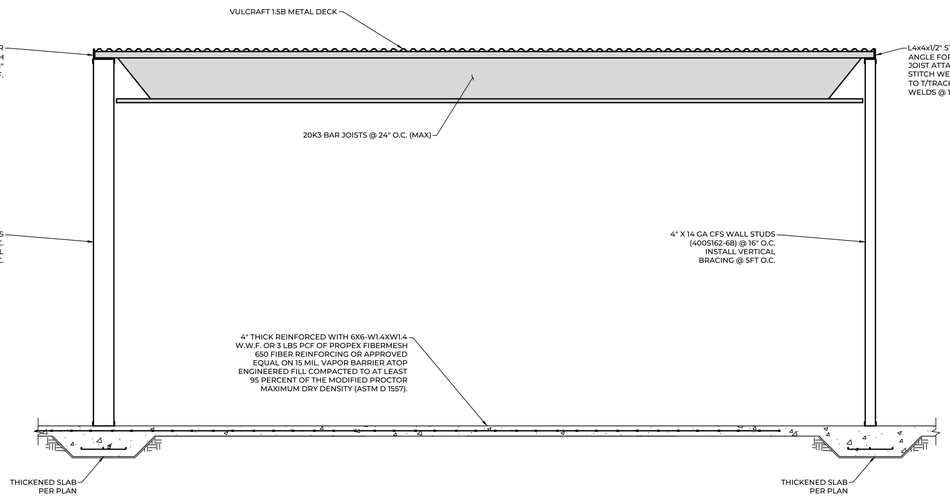

B SECTION @ MEZZANINE
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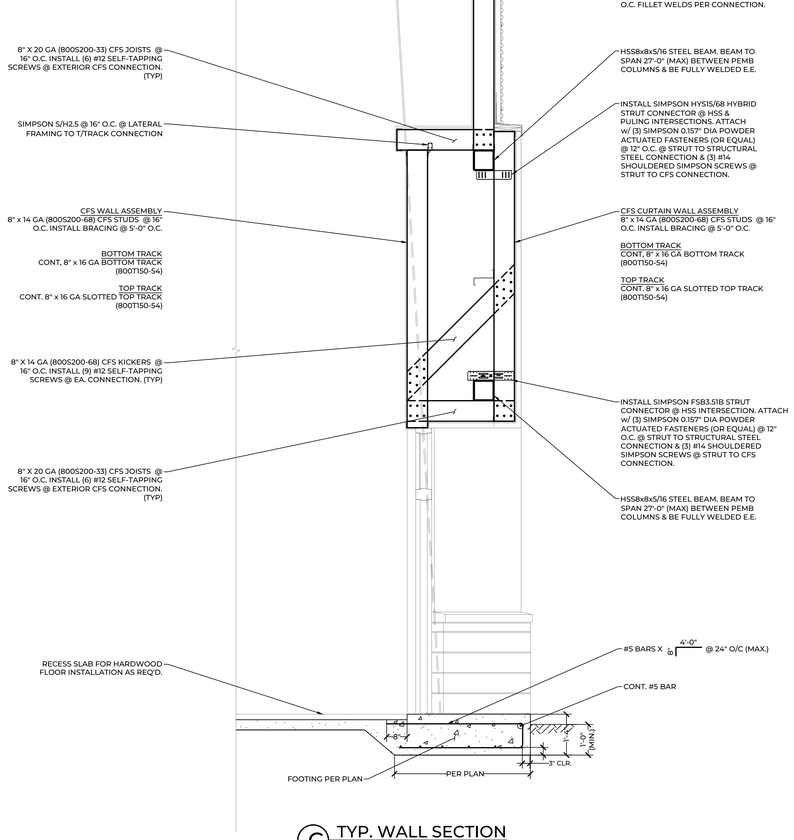

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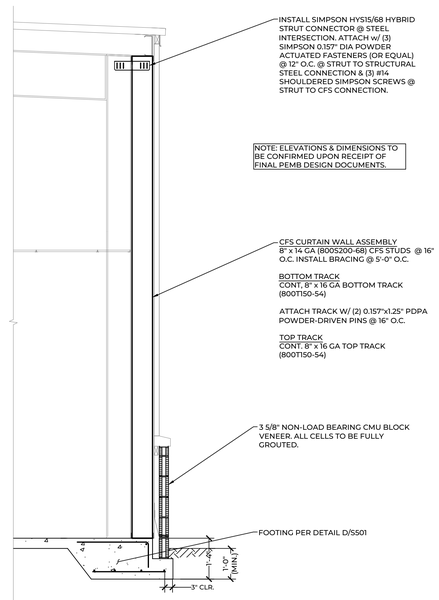

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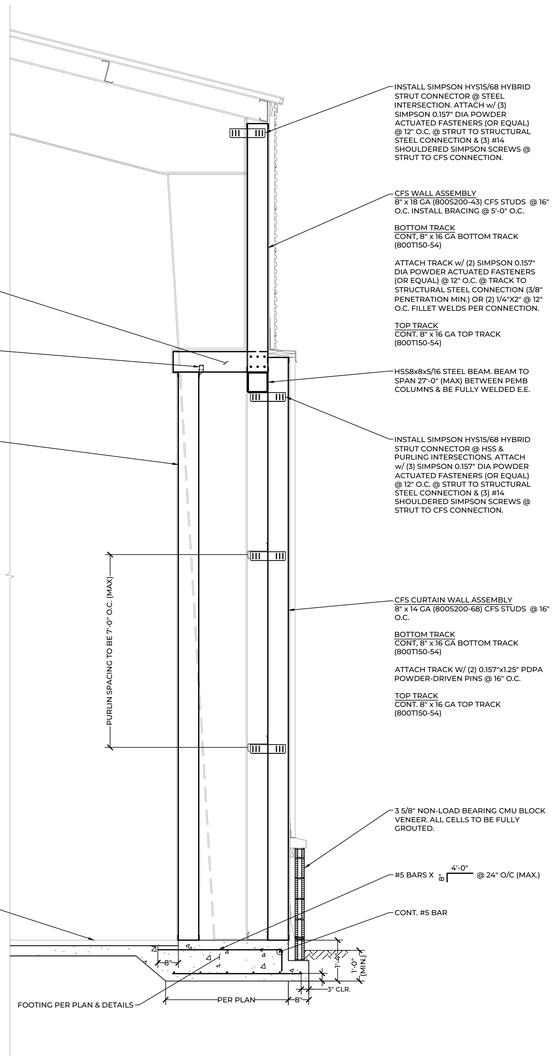

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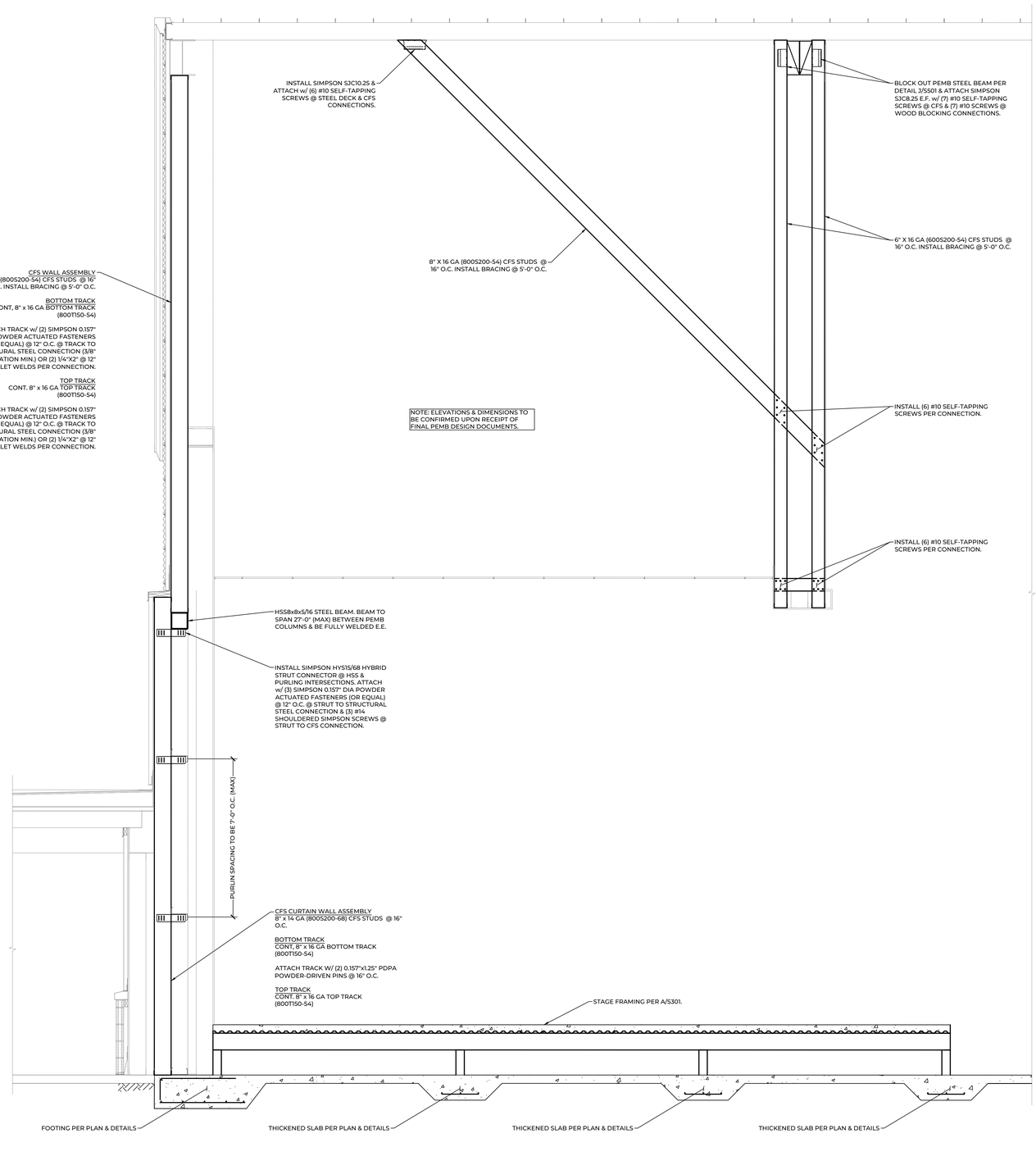

B TYP. WALL SECTION
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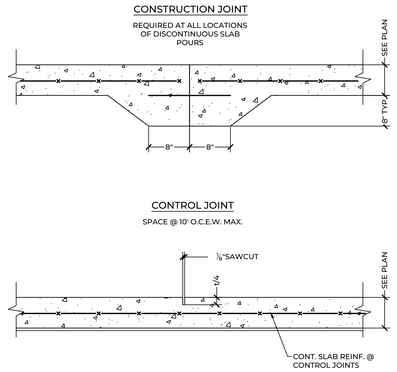
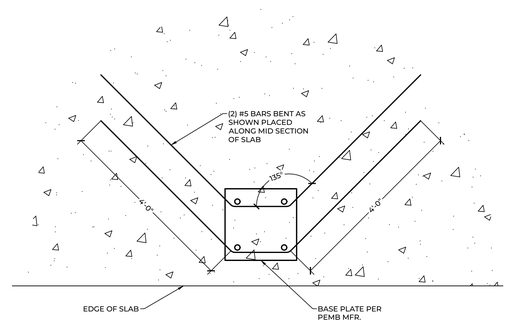
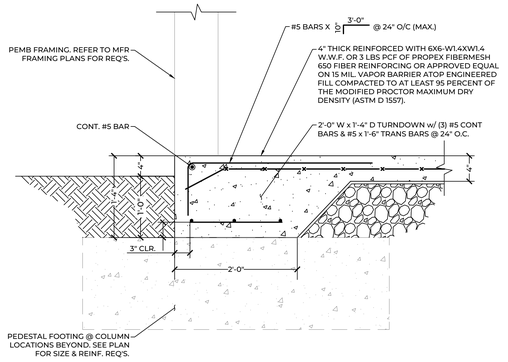


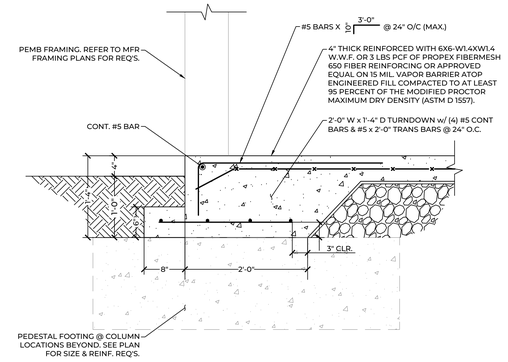
A TYP. SLAB FINISHING DETAIL
SCALE : 1" = 1'-0"



B TYP. HAIRPIN DETAIL
SCALE : 1" = 1'-0"



C TYP. TURNDOWN DETAIL
SCALE : 1" = 1'-0"

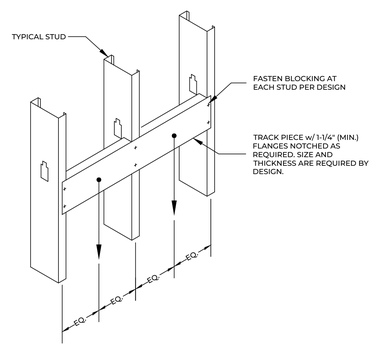


D TYP. TURNDOWN w/ BRICK LEDGE DETAIL
SCALE : 1" = 1'-0"

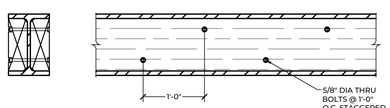
E TYP. THICKENED SLAB DETAIL
SCALE : 1" = 1'-0"

F TYP. CONCRETE PIER DETAIL
SCALE : 1" = 1'-0"

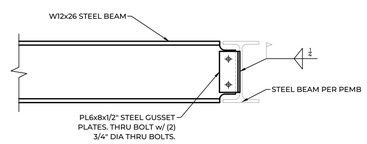
G TYP. BLOCK & STRAP BRIDGING DETAIL
SCALE : 1" = 1'-0"



H TYP. BACKING PLATE DETAIL
SCALE : 1" = 1'-0"



J TYP. STEEL BEAM WEB BLOCKING DETAIL
SCALE : 1" = 1'-0"



K TYP. STEEL BEAM TO BEAM CONNECTION
SCALE : 1" = 1'-0"

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CODY L. HARDEN LICENSE No. 89388 STATE OF FLORIDA PROFESSIONAL ENGINEER

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

STRUCTURAL
CONSTRUCTION DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

S501

ATLAS
ENGINEERING AND CONSULTING
455 HARRISON AVE, SUITE B
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PHONE: (850) 257-5316 REGISTRY NO. 34399

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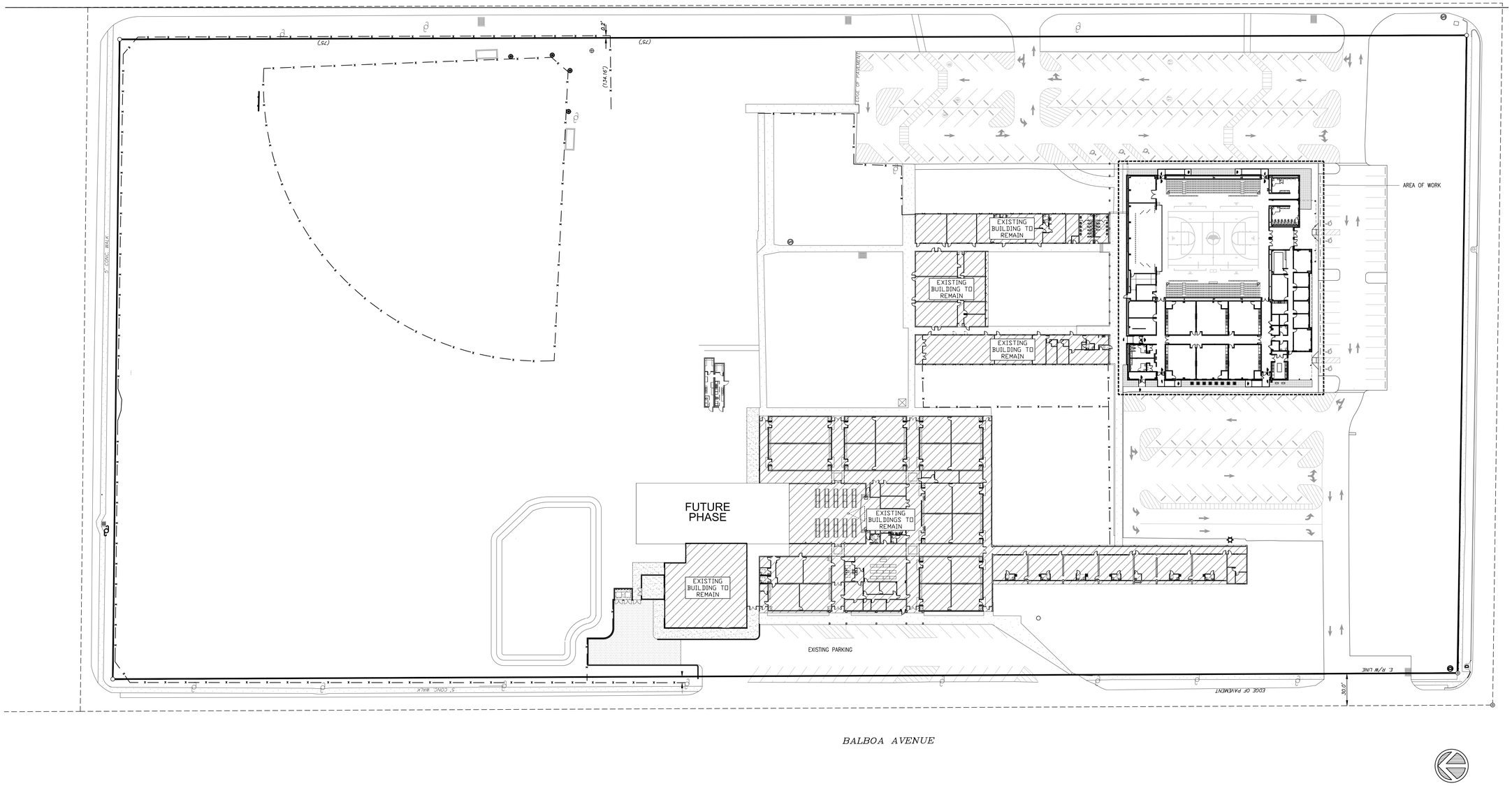

A1	SITE PLAN
SCALE: 1" = 40'-0"	

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SITE PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A100

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A4 A100.2
B2 A100.2
A1 A100.2
B1 A100.2
A2 A100.2
A3 A100.2

RAMP DN
RAMP DN SLOPE 1:12

FEC

A1 ENLARGED SITE PLAN
SCALE: 1" = 10'-0"

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PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

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ENLARGED SITE PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A100.1

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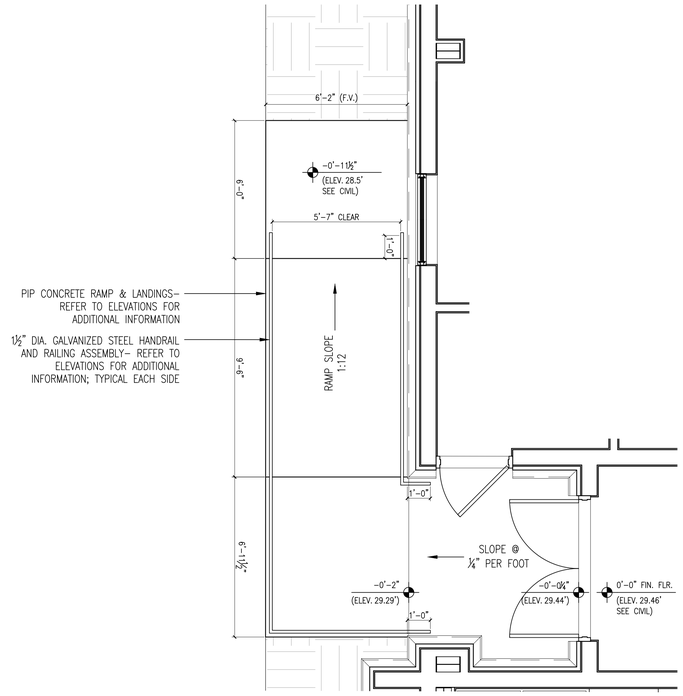
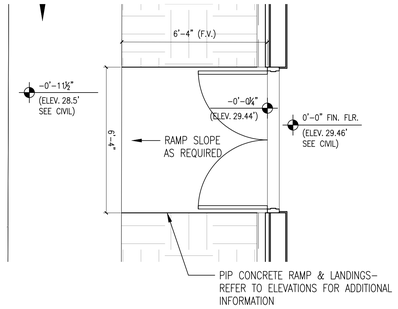
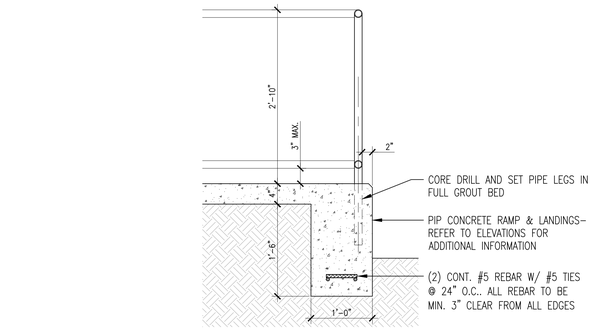


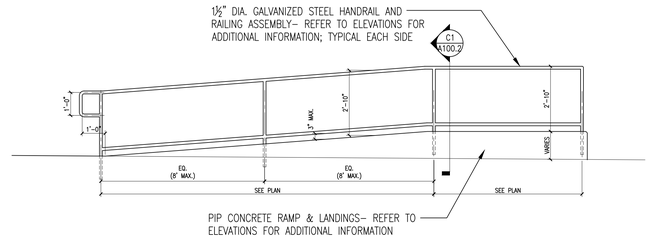
B1	RAMP PLAN
SCALE: 3/8" = 1'-0"	SOUTHWEST ENTRANCE



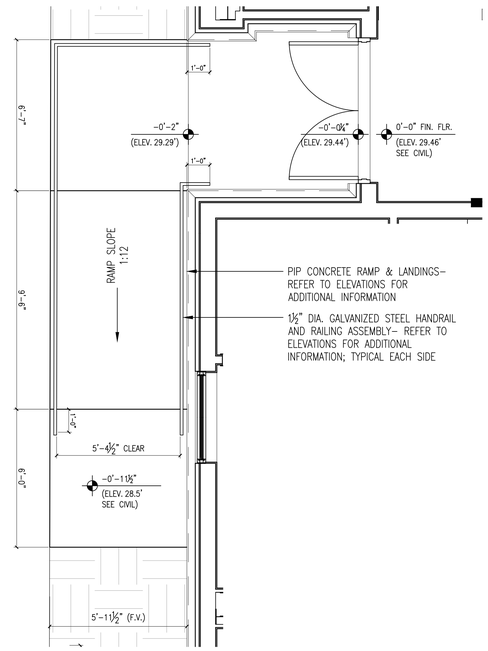
B2	RAMP PLAN
SCALE: 3/8" = 1'-0"	STORAGE ROOM #129



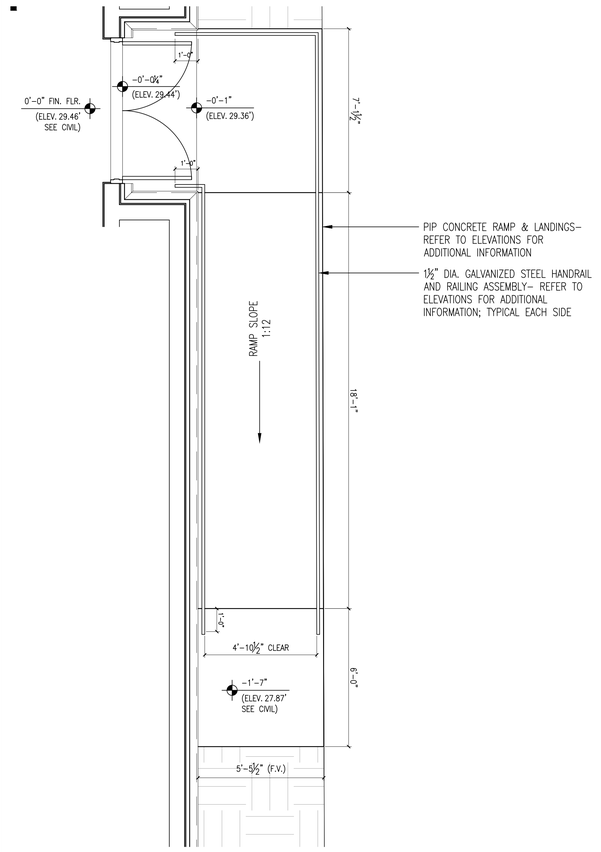
C1	TYPICAL HANDRAIL SECTION
SCALE: 1" = 1'-0"	



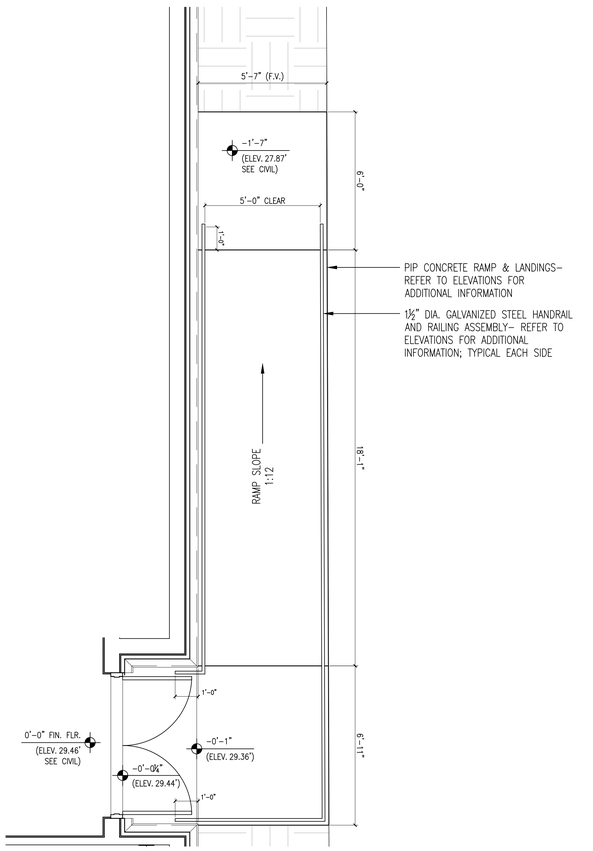
B3	TYPICAL RAMP ELEVATION
SCALE: 3/8" = 1'-0"	



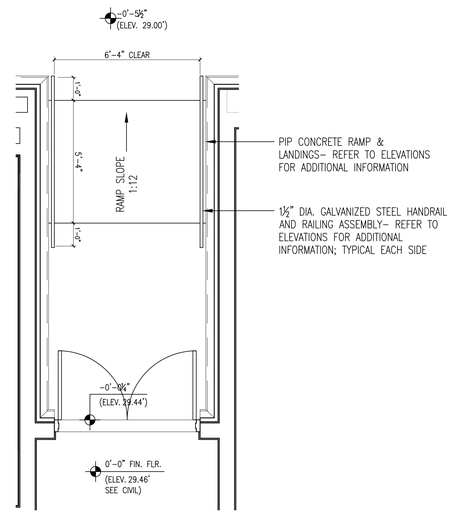
A1	RAMP PLAN
SCALE: 3/8" = 1'-0"	NORTHWEST ENTRANCE



A2	RAMP PLAN
SCALE: 3/8" = 1'-0"	NORTHEAST ENTRANCE



A3	RAMP PLAN
SCALE: 3/8" = 1'-0"	SOUTHEAST ENTRANCE



A4	RAMP PLAN
SCALE: 3/8" = 1'-0"	NORTH ENTRANCE

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SITE PLAN DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

A100.2

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REPRESENTS AREA OF SLAB TO BE LEFT VOID TO ALLOW FOR RAMP INSTALLATION

FOOTING BELOW

THE CONCRETE CONTRACTOR SHALL PROVIDE A CONCRETE SLAB, SMOOTH TROWELED AND LEVEL TO A TOLERANCE OF 1/8" (3MM) IN A 10'0" (3M) RADIUS, SUBJECT TO THE APPROVAL OF THE WOOD FLOORING CONTRACTOR. LABOR AND MATERIALS NECESSARY TO PUT THE CONCRETE SLAB IN ACCEPTABLE CONDITION (HIGH AREAS GROUND DOWN AND LOW AREAS FILLED WITH APPROVED LEVELING COMPOUNDS) SHALL BE THE RESPONSIBILITY OF THE CONCRETE CONTRACTOR.

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EDGE OF SLAB PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

EOS

A1	EDGE OF SLAB PLAN
SCALE: 1/8" = 1'-0"	

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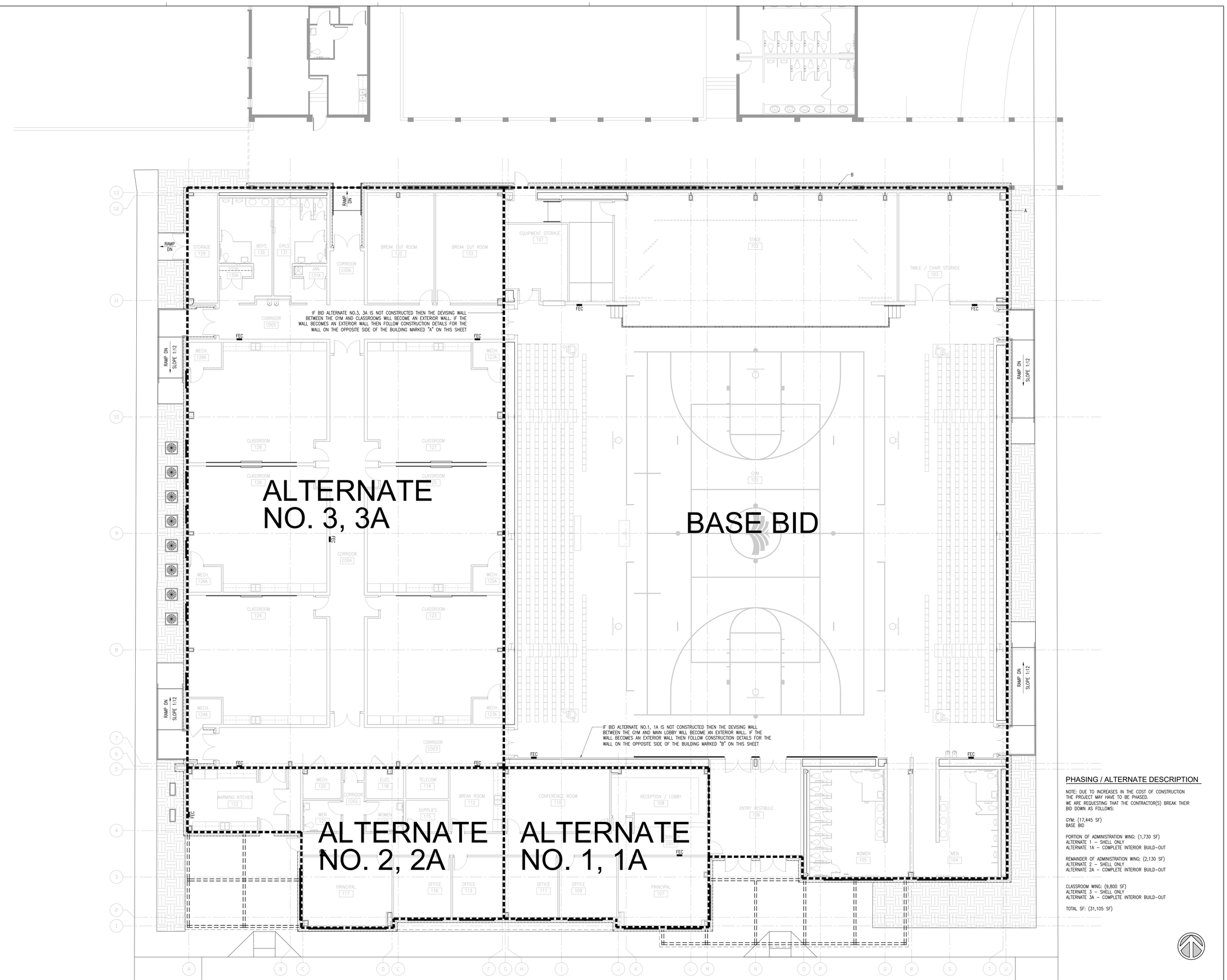

PHASING / ALTERNATE DESCRIPTION

NOTE: DUE TO INCREASES IN THE COST OF CONSTRUCTION THE PROJECT MAY HAVE TO BE PHASED.
WE ARE REQUESTING THAT THE CONTRACTOR(S) BREAK THEIR BID DOWN AS FOLLOWS:

GYM: (17,445 SF)
BASE BID

PORTION OF ADMINISTRATION WING: (1,730 SF)
ALTERNATE 1 – SHELL ONLY
ALTERNATE 1A – COMPLETE INTERIOR BUILD-OUT

REMAINDER OF ADMINISTRATION WING: (2,130 SF)
ALTERNATE 2 – SHELL ONLY
ALTERNATE 2A – COMPLETE INTERIOR BUILD-OUT

CLASSROOM WING: (9,800 SF)
ALTERNATE 3 – SHELL ONLY
ALTERNATE 3A – COMPLETE INTERIOR BUILD-OUT

TOTAL SF: (31,105 SF)

A1	PHASING PLAN
SCALE: 1/8" = 1'-0"	

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PHASING PLAN

PROJECT NUMBER	22019
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PHASING

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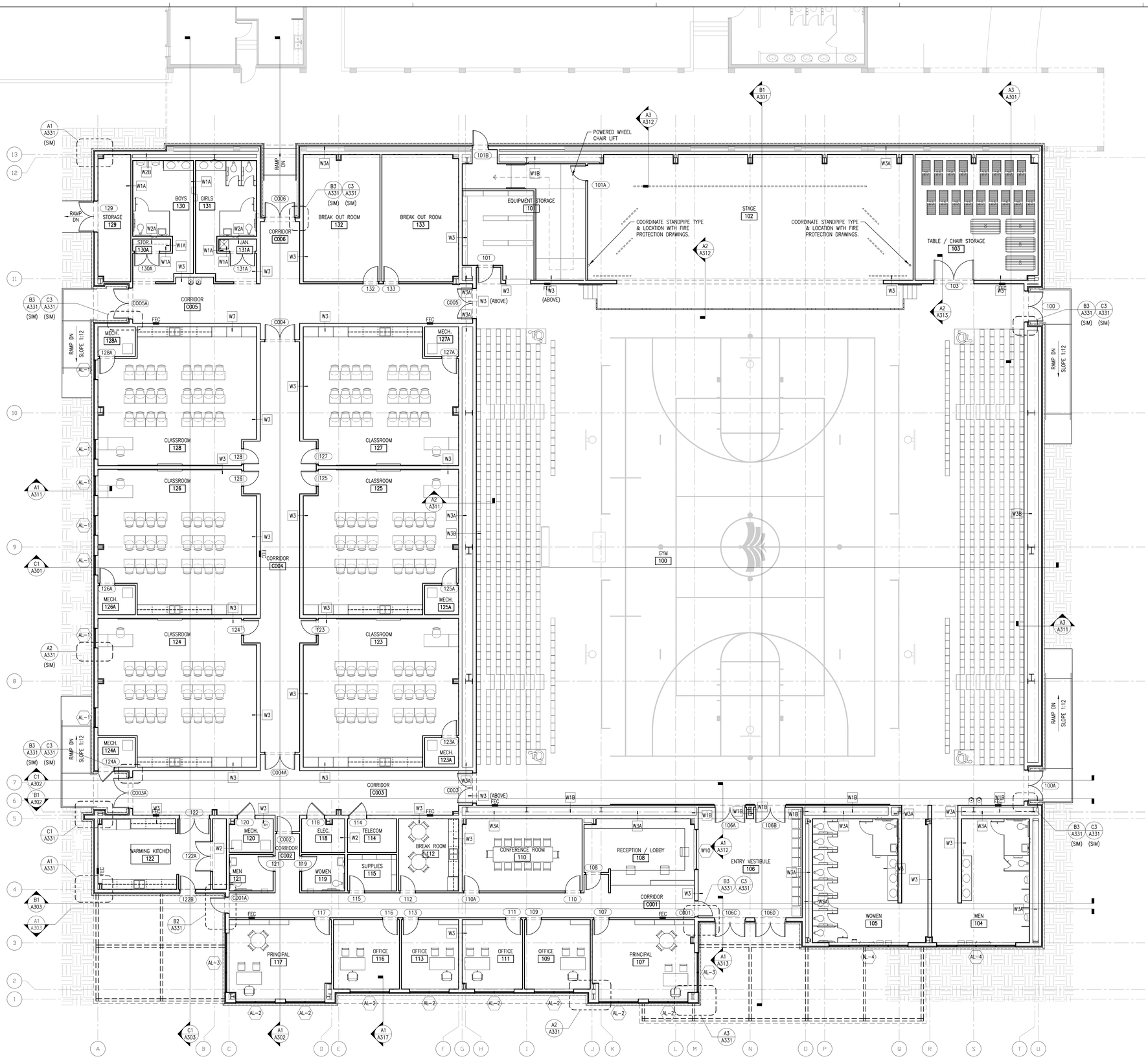

GENERAL NOTES

1. ALL CONTRACTORS MUST FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PERFORMING NEW WORK.
2. THE CONTRACTOR SHALL PROVIDE REINFORCING WITH MATERIALS CONSISTENT WITH CONSTRUCTION MATERIALS BEHIND WALL MOUNTED AND CEILING MOUNTED EQUIPMENT. COORDINATE WITH A/V, DATA, CASEWORK, FURNITURE, ELECTRICAL, AND INTERIOR ELEVATION DRAWINGS.
3. CONTRACTOR SHALL COORDINATE WORK WITH MECHANICAL, ELECTRICAL, PLUMBING, AND ALL OTHER DISCIPLINES.
4. INTERIOR DOORS TO BE LOCATED MIN 4" FROM ADJACENT STUD PARTITIONS AND 8" FROM ADJACENT MASONRY PARTITIONS, UNLESS DIMENSIONED OR NOTED OTHERWISE.
5. REFER TO FINISH SCHEDULE(S) IN A500 SERIES SHEETS FOR FINISHES.
6. REFER TO A600 SERIES SHEETS FOR ADDITIONAL INFORMATION, INCLUDING TOILET ROOM DIMENSIONS.
7. REFER TO LS-SERIES LIFE SAFETY SHEETS FOR FIRE RATED AND SMOKE PARTITION LOCATIONS.
8. REFER TO STRUCTURAL FOR BRACING TYPE AND LOCATIONS.
9. REFER TO PLUMBING FOR FIXTURE SCHEDULES.
10. CONTRACTOR SHALL PROVIDE ISOLATION BETWEEN DISSIMILAR METALS.
11. PROVIDE CONCRETE SPLASH BLOCKS / METAL SPLASH PANS AT ALL DOWNSPOUTS THAT DRAIN TO ROOFS OR GRADE, AND AT ALL CANOPY COLUMNS THAT DRAIN TO GRADE.

PEMB BID WARNING TO CONTRACTOR:

WITH THE SUBMISSION OF THEIR BID, THE GENERAL CONTRACTOR CERTIFIES AND HAS CONFIRMED THAT THE PRE-ENGINEERED METAL BUILDING COMPANY WHOSE PRICE WAS USED TO GENERATE THIS BID HAS THOROUGHLY REVIEWED THE REQUIREMENTS OF THE CURRENT ARCHITECTURAL AND STRUCTURAL PLANS. THE BID PRICING REFLECTS THEIR ABILITY TO PROVIDE A PRE-ENGINEERED METAL BUILDING PACKAGE THAT COMPLIES WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS TO THE ARCHITECT'S SATISFACTION. THE BIDDING CONTRACTOR FURTHER UNDERSTANDS AND ACKNOWLEDGES THAT THEY HAVE INCLUDED WITHIN THEIR BID PRICE ALL COSTS FOR ALL INITIAL OR SUPPLEMENTAL DESIGN ENGINEERING FROM THE PEMB PROVIDER TO ENSURE THAT THE APPROVED DESIGN TO BE RELEASED FOR FABRICATION COMPLIES WITH THE INTENT OF THE CONTRACT DRAWINGS. THIS INCLUDES COLUMN LOCATIONS AND SPACING, BEAM CLEAR HEIGHTS AND SPANS, AS WELL AS WINDOWS, DOORS, AND STOREFRONT OPENING REQUIREMENTS. THE COST OF ANY STEEL MATERIAL REQUIRED TO COMPLY WITH THESE ARCHITECTURAL REQUIREMENTS IS INCLUDED IN THIS BID. ADDITIONALLY, THE PEMB PROVIDER HAS INCLUDED SUITABLE DESIGN AND SUPPLEMENTAL STEEL BRACING WITHIN THE GYM ROOF FRAMING TO SUPPORT THE SIX RETRACTING BASKETBALL BACKSTOP ASSEMBLIES.

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A New Gymatorium for:
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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

FLOOR PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A101

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A1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

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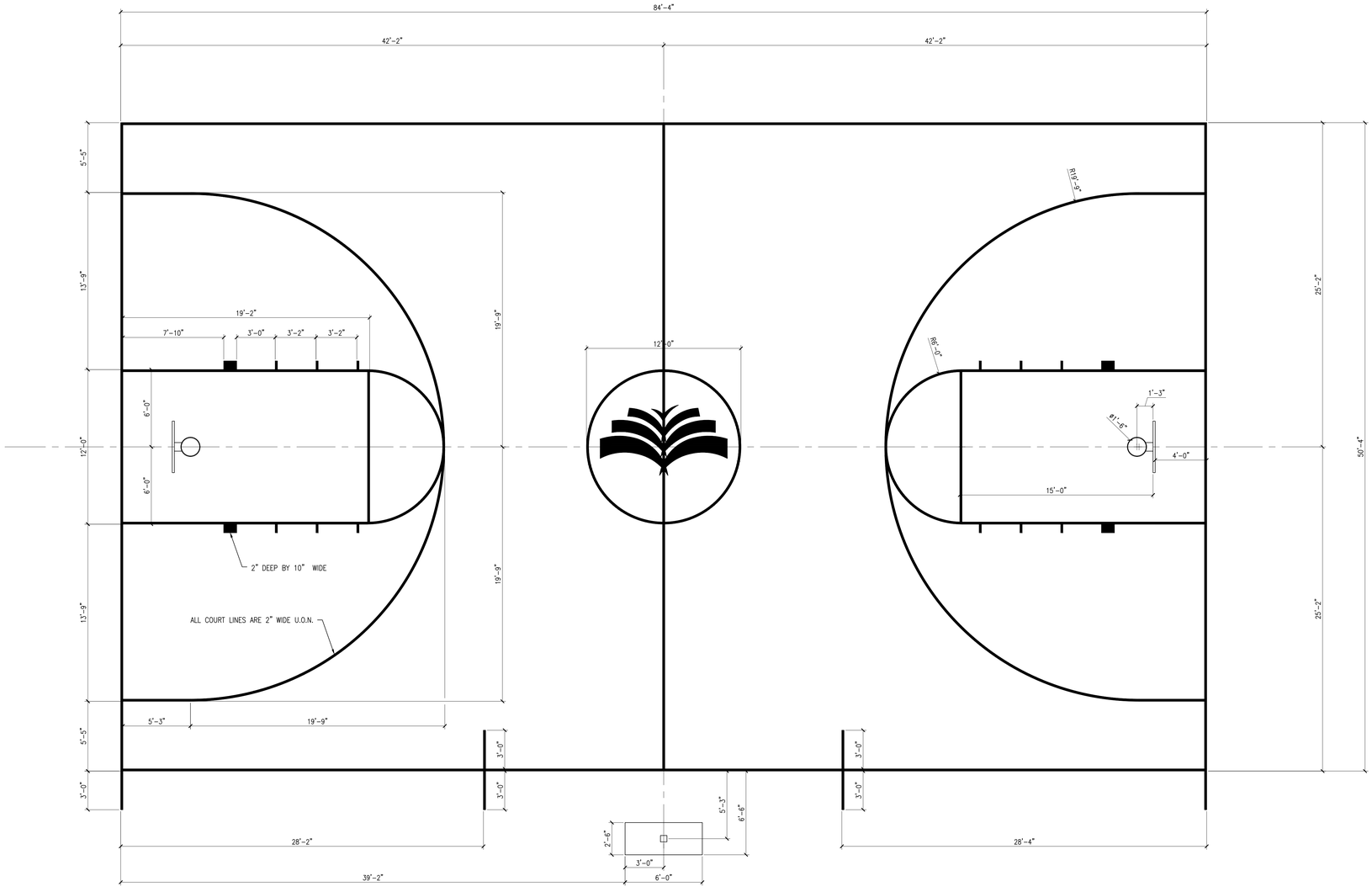

A1	STRIPING PLAN - PRIMARY COURT
SCALE: 1/4" = 1'-0"	MAIN COURT

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STRIPING PLAN

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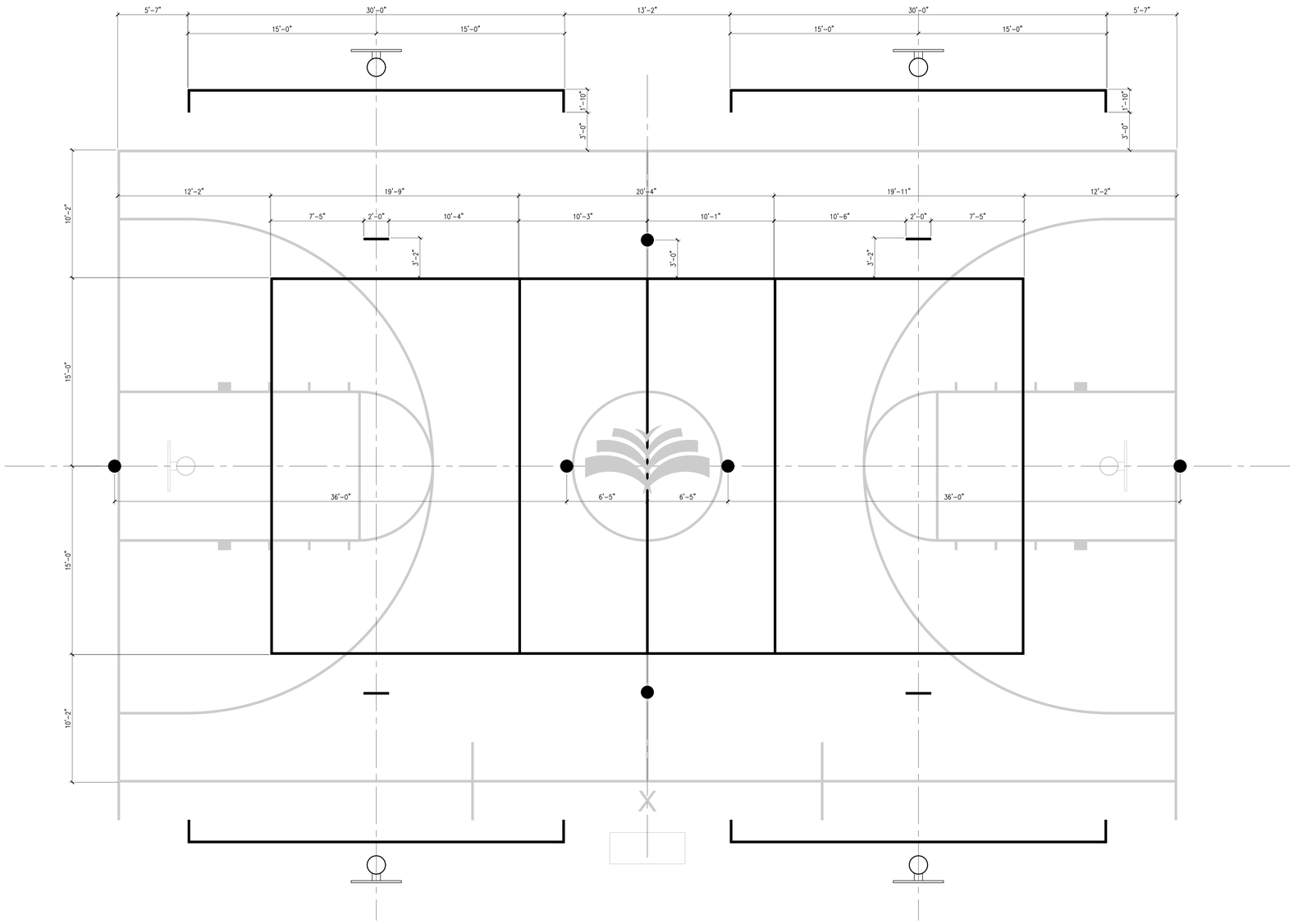
A101.01



A1	STRIPING PLAN - SECONDARY COURT
SCALE: 1/4" = 1'-0"	VOLLEYBALL AND PRACTICE COURTS

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STRIPING PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A101.02

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GENERAL NOTES

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6. REFER TO A850 SERIES SHEETS FOR ADDITIONAL INFORMATION, INCLUDING TOILET ROOM DIMENSIONS.
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FIRST FLOOR
DIMENSION PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A101.1

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A1 DIMENSION PLAN
SCALE: 1/8" = 1'-0"

22019
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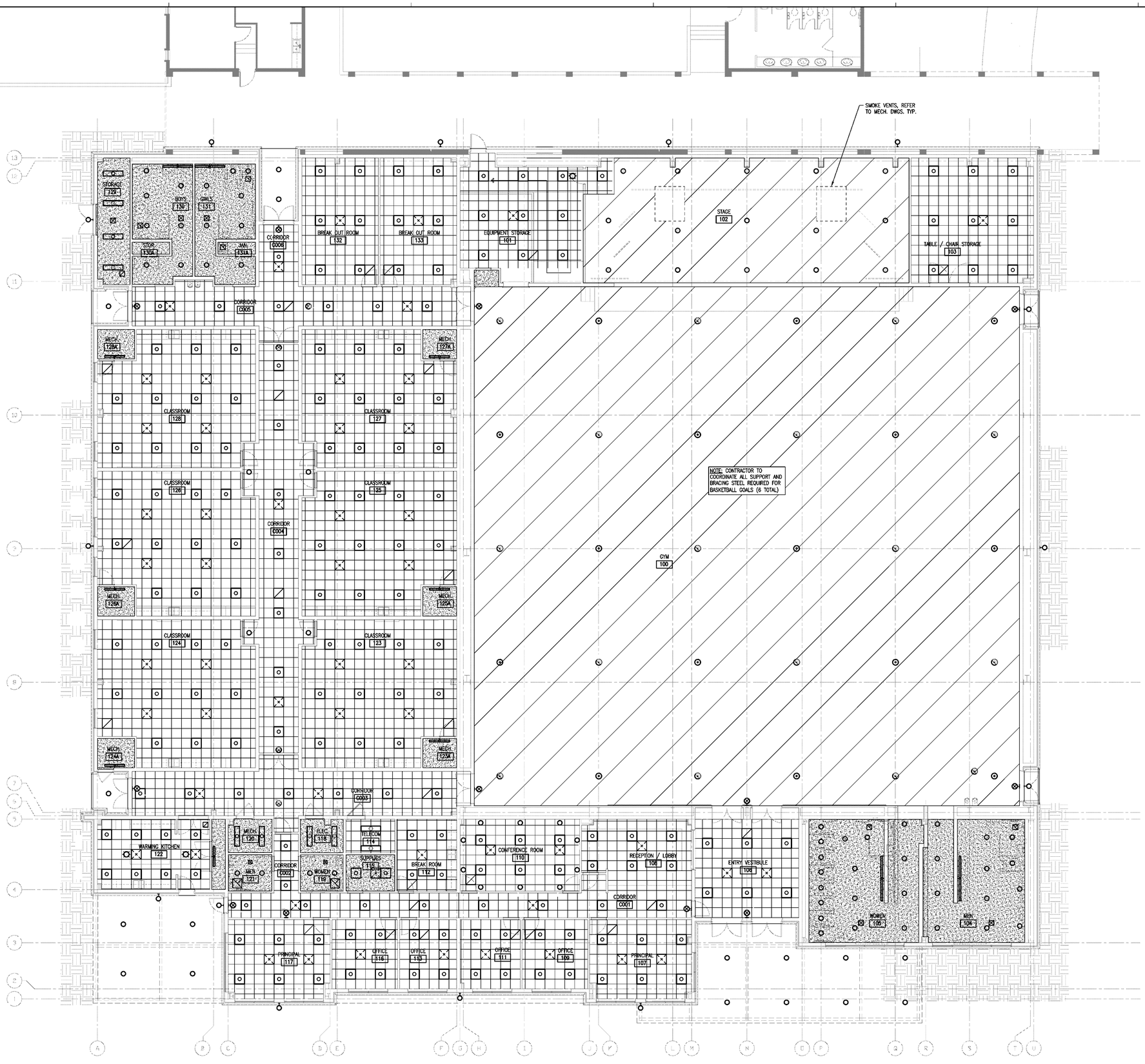
01/31/2025



GENERAL NOTES

1. CONTRACTORS SHALL COORDINATE ALL WORK, SHOWN OR UN-SHOWN, WITH ALL OTHER DISCIPLINES.
2. CONTRACTOR SHALL PROVIDE REINFORCING [TYPE TBD] BEHIND ALL CEILING MOUNTED EQUIPMENT.
3. REFER TO FINISH SCHEDULE(S) IN A-600 SERIES SHEETS FOR FINISHES AND ADDITIONAL INFORMATION.
4. ALL ACCESS PANEL SIZES AND LOCATIONS TO BE COORDINATED WITH MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE SPRINKLER WORK.
5. CENTER ACT GRID AND LIGHTS WITHIN EACH ROOM, UNO.
6. REFER TO ELECTRICAL FOR LIGHTING FIXTURE SCHEDULE(S).
7. ALL FIRE SPRINKLER HEADS AND ELECTRICAL FIXTURES SHALL BE CENTERED WITHIN CEILING TILES, UNO.
8. CEILING HEIGHTS NOTED REFERENCE ELEVATION ABOVE FINISH FLOOR OF ASSOCIATED BUILDING LEVEL.

ACOUSTICAL TILE CEILING

5/8" GYP. BOARD CEILING

EXPOSED STRUCTURE W/ DRY FOG PAINT

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

REFLECTED CEILING PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A101.2

A1 REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

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GYM WOOD FLOOR SYSTEM, MANUF. TBD

SEALED CONCRETE

TANDUS CENTIVA (CPT) WALK-OFF MAT ASSERTIVE RIB 04838 CHROMIUM 26201

TANDUS CENTIVA (LVT) URBAN STONE- GATEHOUSE

TANDUS CENTIVA (LVT) URBAN STONE- CEMENT

TANDUS CENTIVA (CPT) LINEWEAVE 04864 SUBMERGE 21307

TANDUS CENTIVA (CPT) ANGULATE 04655 REVVED 22104

TANDUS CENTIVA (CPT) ANGULATE 04655 CASTING SHADOW 22107

TANDUS CENTIVA (CPT) ANGULATE 04655 LUMINARIE 22105

TANDUS CENTIVA (CPT) CACHE TWEED A0002 SATURATED GREY 42703

TANDUS CENTIVA (CPT) CACHE TWEED A0002 OCEAN ISLE 42718

TANDUS CENTIVA (LVT) COLOR BEAM CUSTOM BLUE STRIKE OFF 248-1419

TANDUS CENTIVA (LVT) COLOR BEAM- FLANNEL

DUR-A-FLEX MACRO-CHIP COLOR PEWTER

DUR-A-FLEX HYBRI-FLEX EQ Q28-21 #4 GROUT COAT ARMOR TOP GLOSS WITH GRIT

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A1 | FINISH PLAN

SCALE: 1/8" = 1'-0"

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REVISIONS:

No.	Description	Date

FINISH PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

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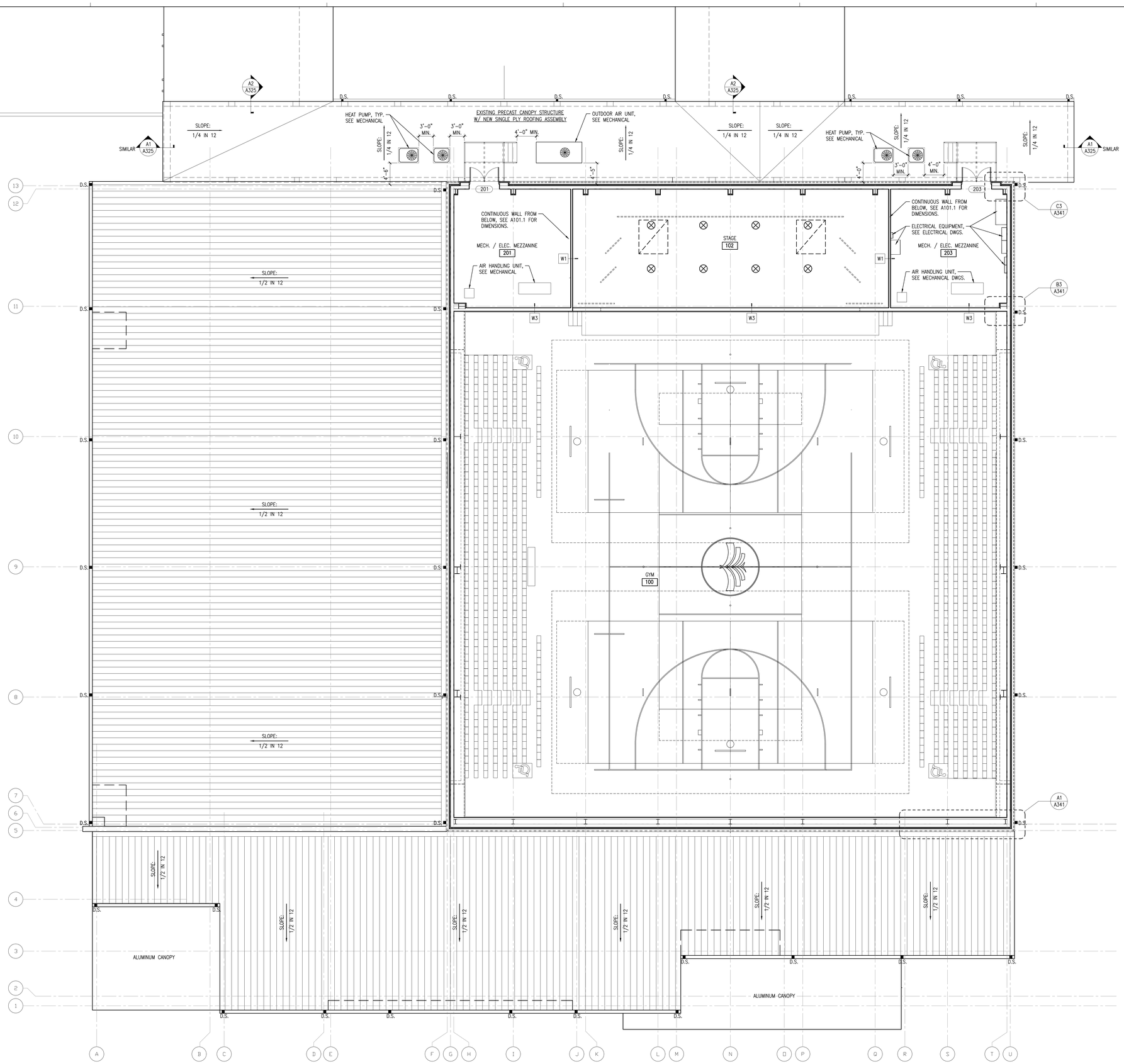
01/31/2025



A1 MEZZANINE / ROOF PLAN

SCALE: 1/8" = 1'-0"

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No.	Description	Date

MEZZANINE / ROOF PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A102

22019
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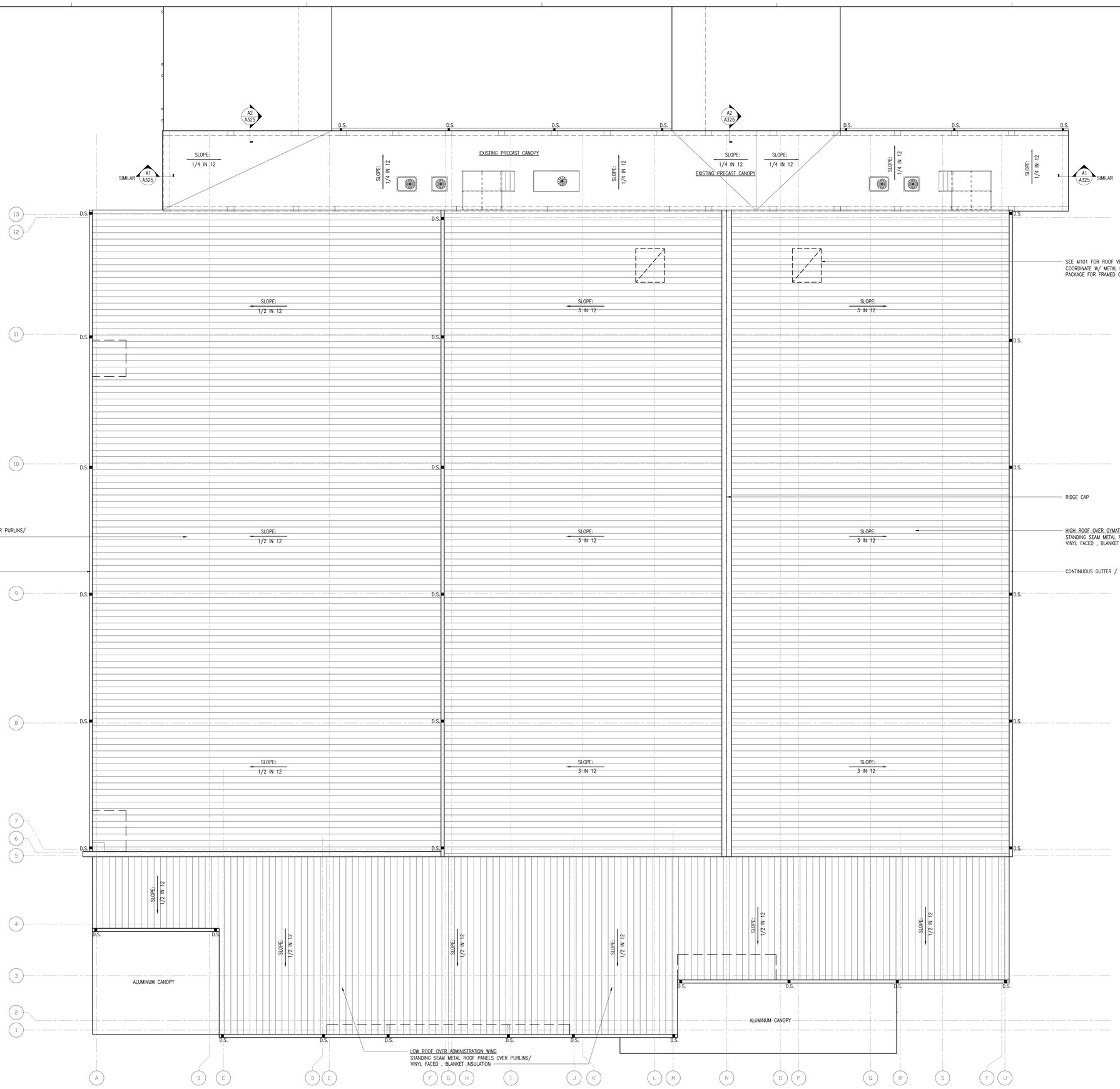
01/31/2025



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A1 ROOF PLAN
SCALE: 1/8" = 1'-0"

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ROOF PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A103

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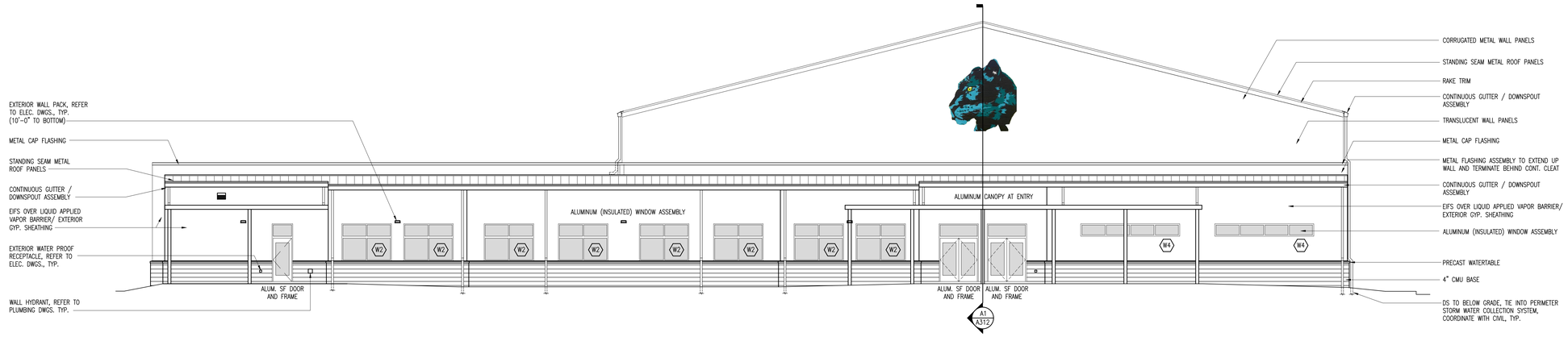
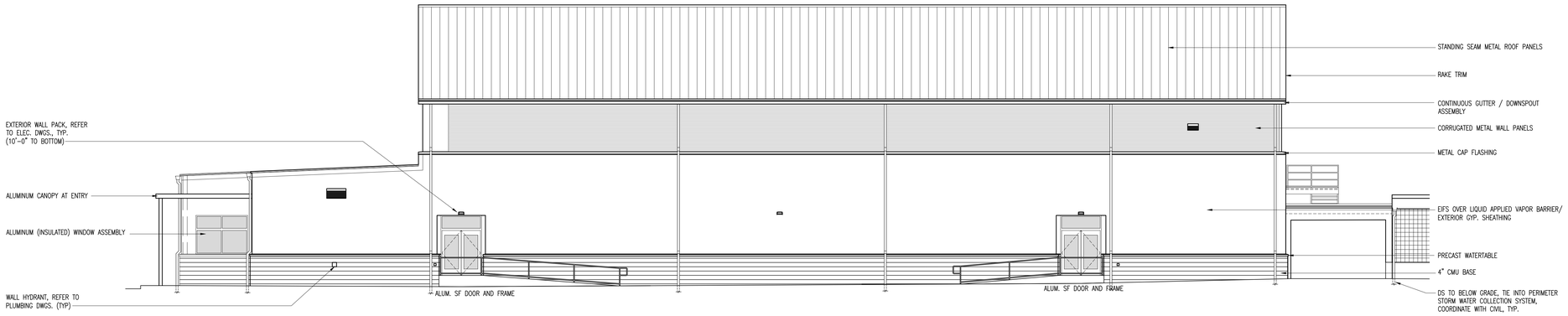
01/31/2025



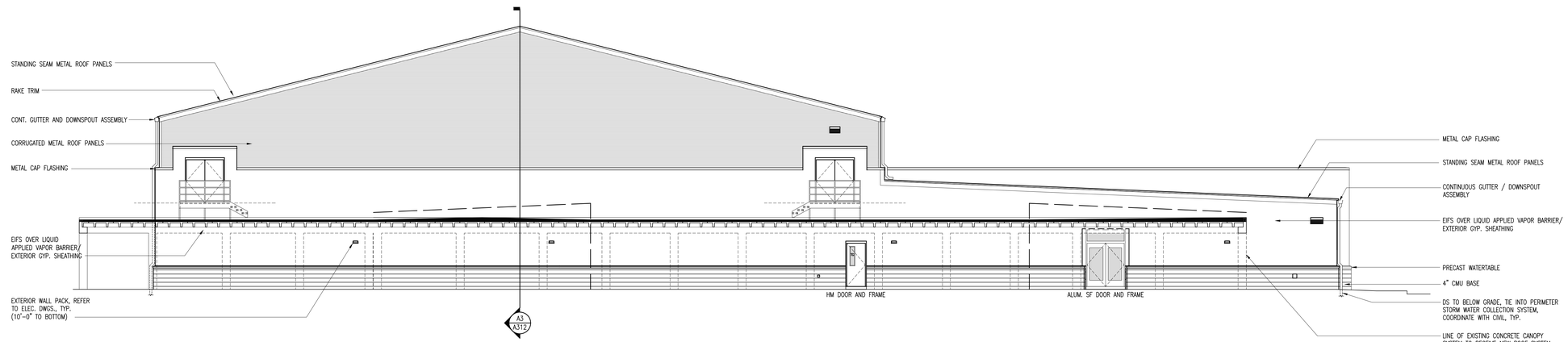
C1 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



B1 EAST ELEVATION

SCALE: 1/8" = 1'-0"



A1 NORTH ELEVATION

SCALE: 1/8" = 1'-0"

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No.	Description	Date

EXTERIOR ELEVATIONS

PROJECT NUMBER	22019
DATED	01/31/2025

A201

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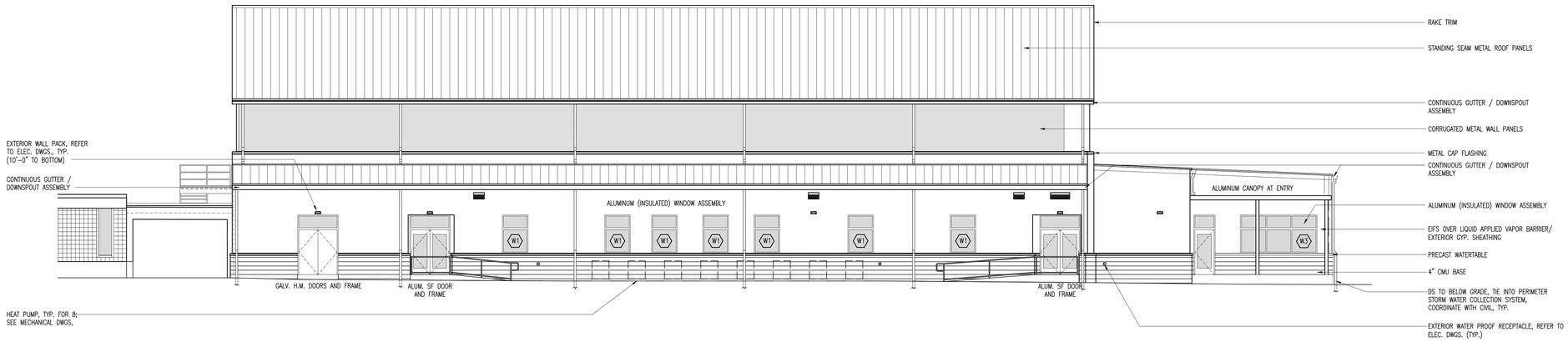
01/31/2025



C1 — WEST ELEVATION

SCALE: 1/8" = 1'-0"

B1

SCALE:

A1

SCALE:

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EXTERIOR ELEVATIONS

PROJECT NUMBER 22019
DATED 01/31/2025

A202

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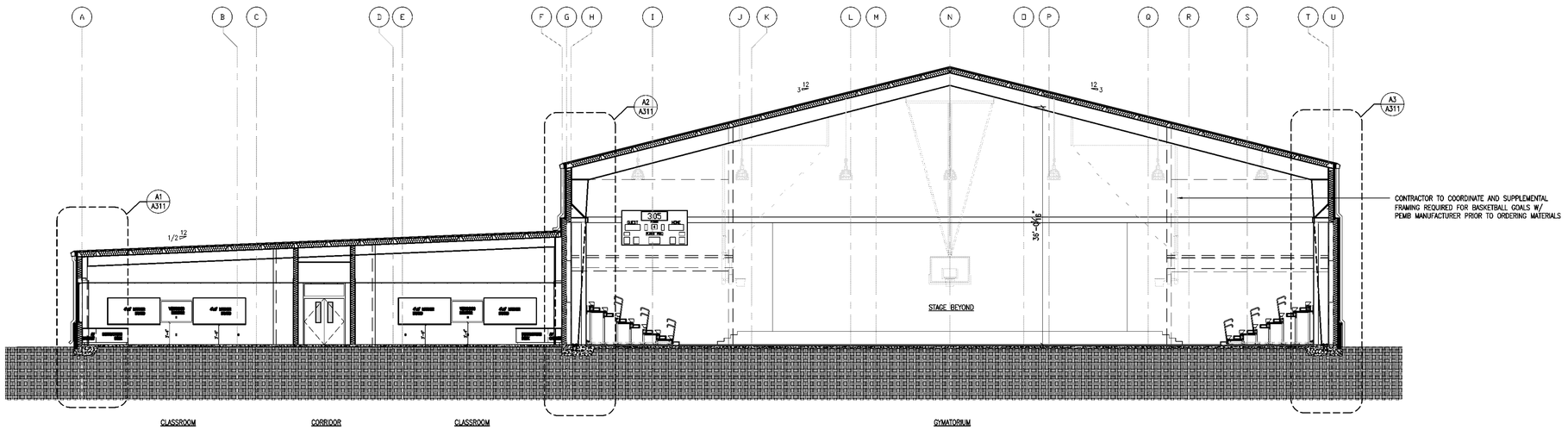
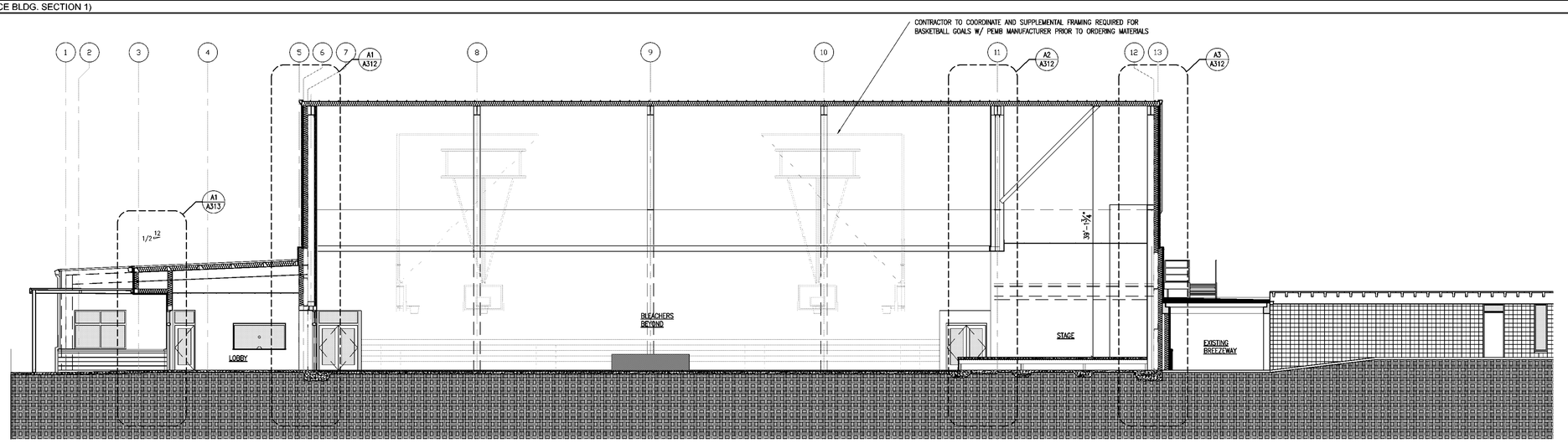
01/31/2025



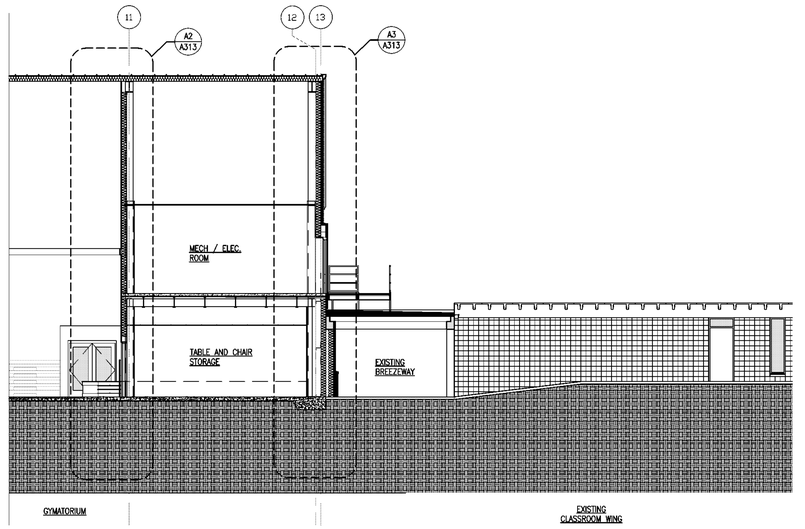
C1 BUILDING SECTION

SCALE: 1/8" = 1'-0" (REFERENCE BLDG. SECTION 1)



B1 BUILDING SECTION

SCALE: 1/8" = 1'-0" (REFERENCE BLDG. SECTION 2)



A1

SCALE: .

A3 BUILDING SECTION

SCALE: 1/8" = 1'-0" (REFERENCE BLDG. SECTION 2)

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REVISIONS:

No.	Description	Date

BUILDING SECTIONS

PROJECT NUMBER	22019
DATED	01/31/2025

A301

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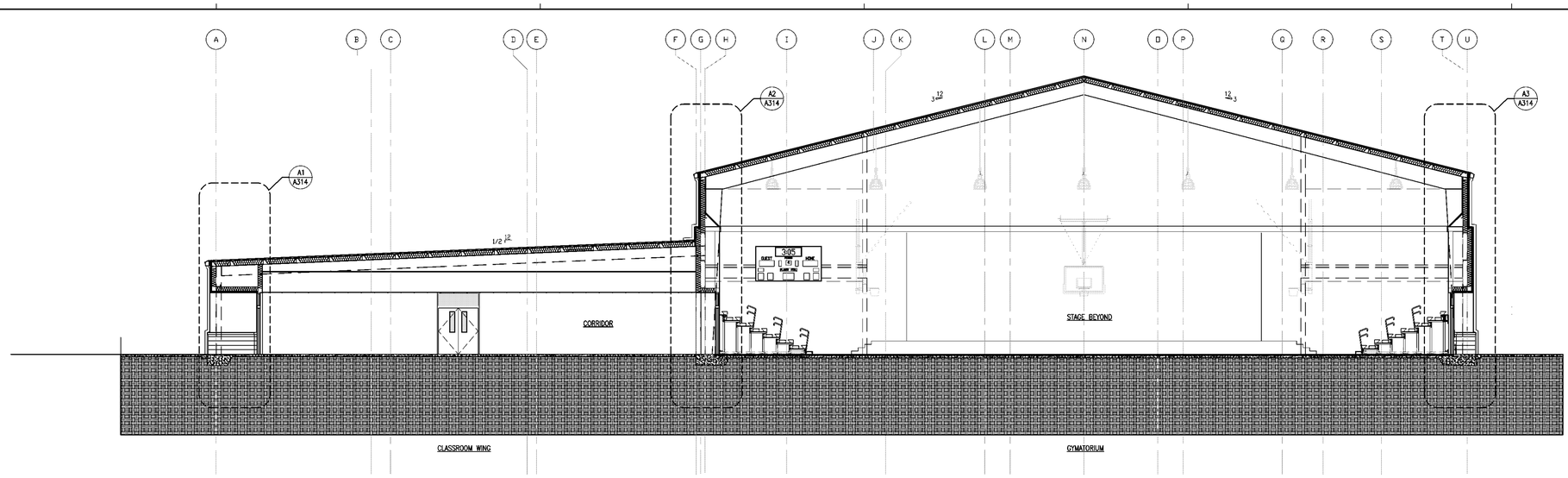
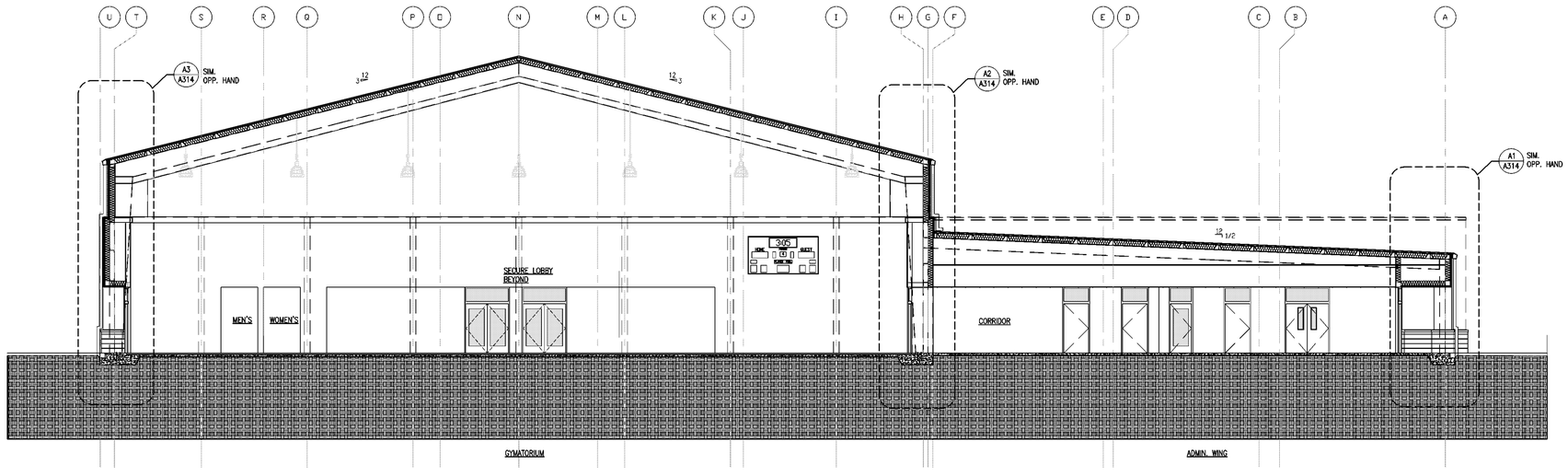
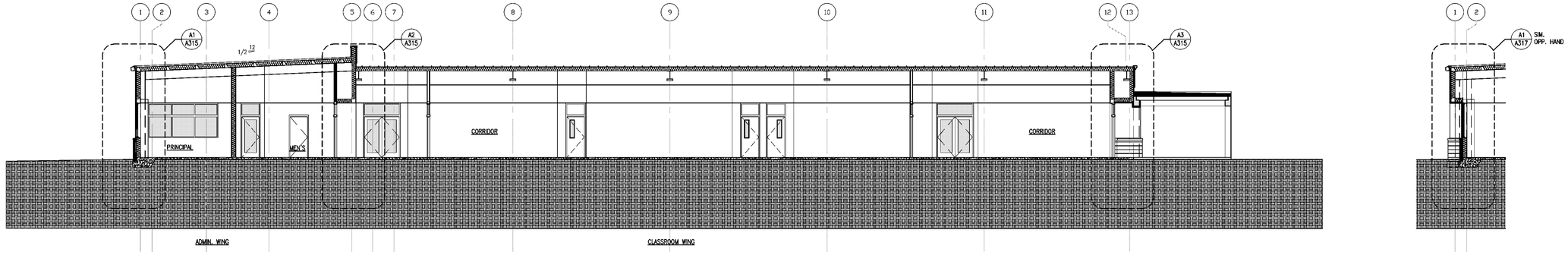
01/31/2025



C1	BUILDING SECTION
SCALE: 1/8" = 1'-0"	(REFERENCE BLDG. SECTION 3)



B1	BUILDING SECTION
SCALE: 1/8"=1'-0"	(REFERENCE BUILDING SECTION 4)



A1	BUILDING SECTION
SCALE: 1/8"=1'-0"	(REFERENCE BUILDING SECTION 5)

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REVISIONS:

No.	Description	Date

BUILDING SECTIONS

PROJECT NUMBER	22019
DATED	01/31/2025

A302

22019
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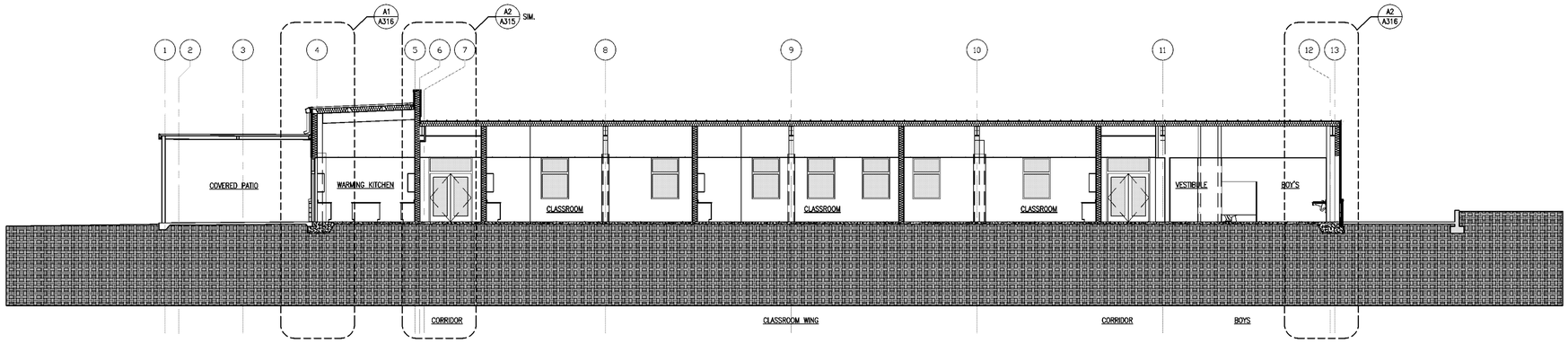
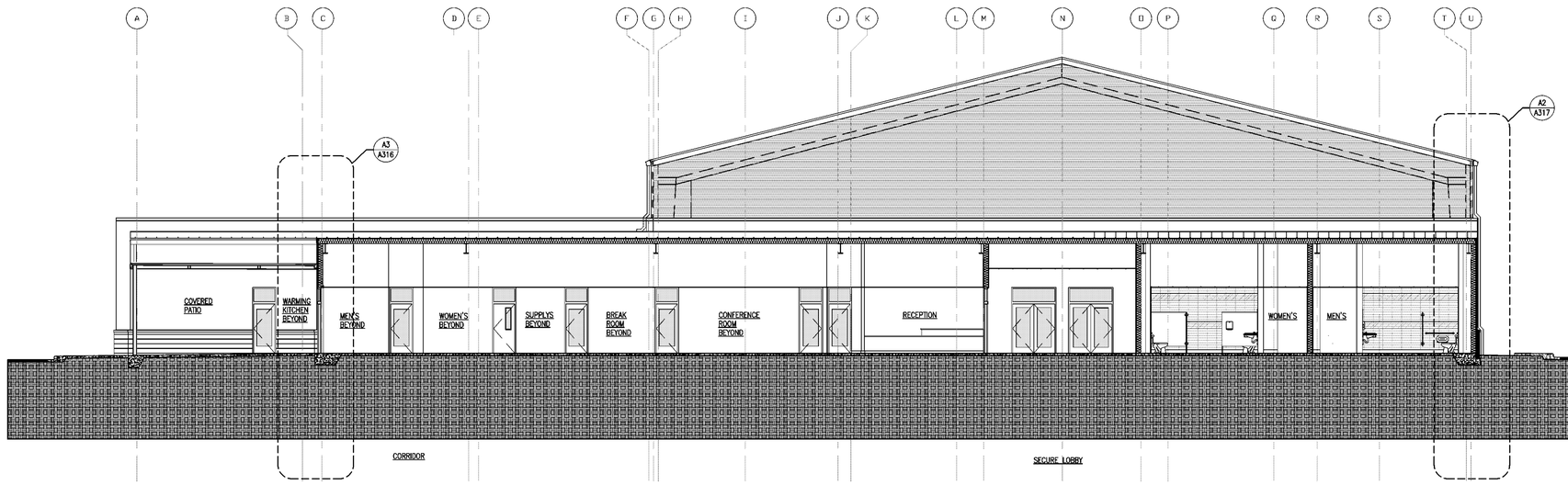
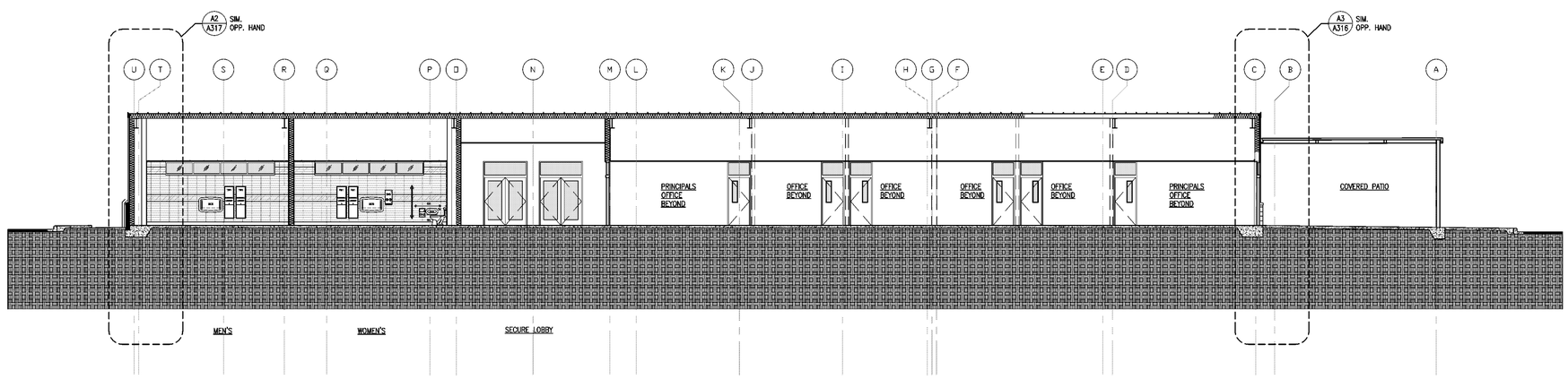
01/31/2025



C1	BUILDING SECTION
SCALE: 1/8" = 1'-0"	(REFERENCE BLDG. SECTION 6)



B1	BUILDING SECTION
SCALE: 1/8" = 1'-0"	(REFERENCE BLDG. SECTION 7)



A1	BUILDING SECTION
SCALE: 1/8" = 1'-0"	(REFERENCE BLDG. SECTION 8)

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REVISIONS:

No.	Description	Date

BUILDING SECTIONS

PROJECT NUMBER	22019
DATED	01/31/2025

A303

22019
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01/31/2025

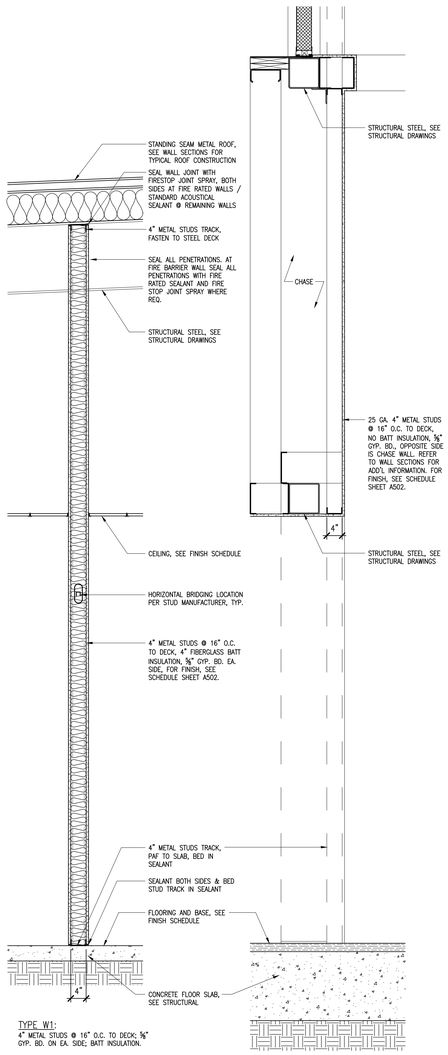
WALL/PARTITION NOTES:

1. SEAL WALL JOINTS AND AT THE ROOF DECK TO ENSURE ACOUSTICAL INTEGRITY (WHERE APPLICABLE) AND FIRE RATING (WHERE REQUIRED).
2. BRACE ALL WALLS THAT TERMINATE AT 6" ABOVE CEILINGS.
3. STENCIL ABOVE CEILING ON BOTH SIDES OF ALL FIRE RATED WALLS 3" HIGH LETTERING TO READ "FIRE BARRIER–PROTECT ALL OPENINGS".
4. ALL ROOMS WITHOUT CEILING HAVE FINISHED, PAINTED GYPSUM BOARD FROM TOP OF SLAB TO BOTTOM OF DECK.
5. PROVIDE TILE BACKERBOARD BEHIND TILE
6. PROVIDE MOISTURE RESISTANT BACKERBOARD ABOVE TILE, IN JANITOR'S CLOSET AND DAMP LOCATIONS.
7. SEE BID PLAN SHEET FOR NOTES REGARDING PROCEDURE FOR WALL CONSTRUCTION IN THE EVENT THAT ONE OR MORE BID ALTERNATES ARE NOT TAKEN.

E1 NOTES

SCALE: NTS

FIRE BARRIER AT WALL TYPE W1:
CONSTRUCT WALL IN ACCORDANCE WITH UL U905 AND U419. STENCIL ABOVE CEILING AS NOTED ON A101. SEE A101 FLOOR PLAN FOR LOCATIONS.



TYPE W1:
4" METAL STUDS @ 16" O.C. TO DECK; ⅝" GYP. BD. ON EA. SIDE; BATT INSULATION.

TYPE W1A:
4" METAL STUDS @ 16" O.C. TO DECK; ⅝" GYP. BD. ON EA. SIDE; NO BATT INSULATION.

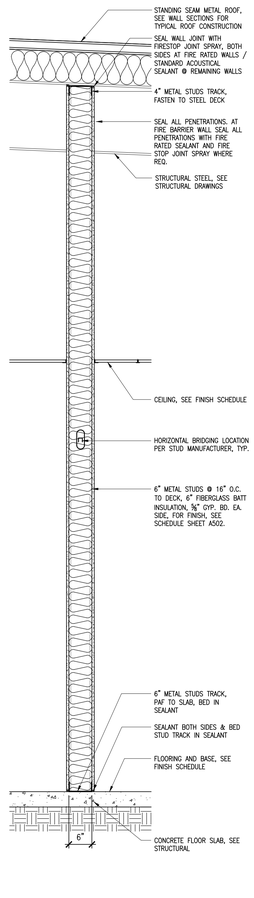
TYPE W1B:
4" METAL STUDS @ 16" O.C. TO DECK; ⅝" GYP. BD.; OPPOSITE SIDE IS CHASE WALL, NO BATT INSULATION.

TYPE 'W1' & 'W1A'

TYPE 'W1B'

A1 PARTITION TYPE W1

SCALE: 3/4" = 1'-0"

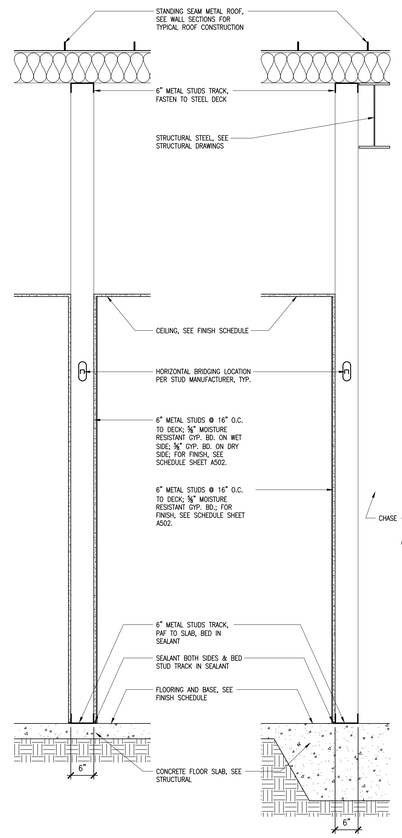


TYPE W2:
6" METAL STUDS @ 16" O.C. TO DECK; ⅝" GYP. BD. ON EA. SIDE; BATT INSULATION.

TYPE 'W2'

A2 PARTITION TYPE W2

SCALE: 3/4" = 1'-0"



TYPE W2A:
SAME AS TYPE W–2, ⅝" MOISTURE RESISTANT GYP. BD. ON WET SIDE, ⅝" GYP. BD. ON DRY SIDE, NO BATT INSULATION.

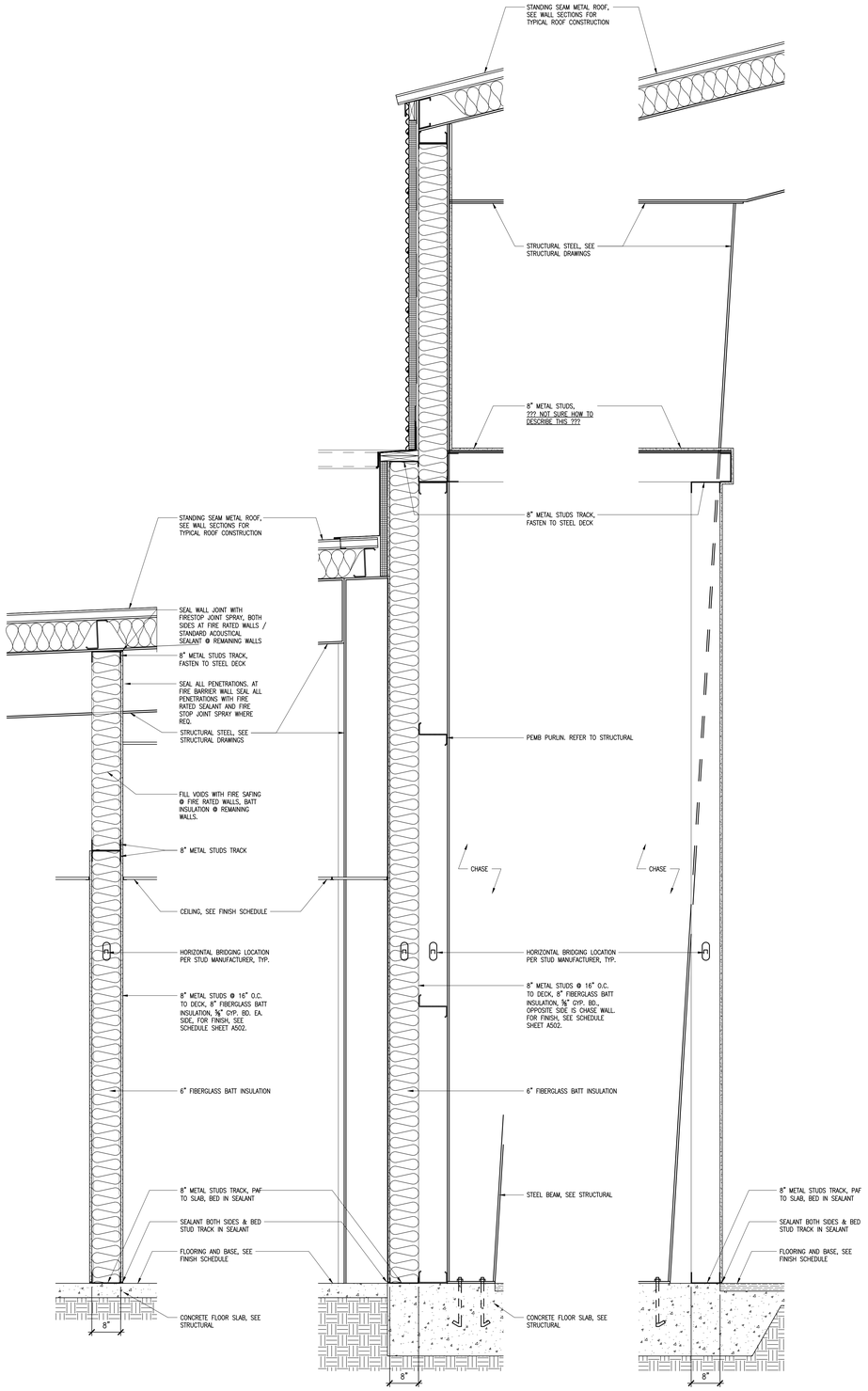
TYPE W2B:
SAME AS TYPE W–2, ⅝" MOISTURE RESISTANT GYP. BD. ON WET SIDE, OPPOSITE SIDE IS CHASE WALL, NO BATT INSULATION.

TYPE 'W2A'

TYPE 'W2B'

A3 PARTITION TYPE W3

SCALE: 3/4" = 1'-0"



TYPE W3:
8" METAL STUDS @ 16" O.C. TO DECK; ⅝" GYP. BD. ON EA. SIDE; BATT INSULATION.

TYPE W3A:
SIM TO TYPE W–3, ⅝" GYP. BD., OPPOSITE SIDE IS CHASE WALL, NO BATT INSULATION.

TYPE W–3B:
SIM TO TYPE W–3, ⅝" GYP. BD., OPPOSITE SIDE IS CHASE WALL, NO BATT INSULATION.

TYPE 'W3'

TYPE 'W3A'

TYPE 'W3B'

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

PARTITION TYPES

PROJECT NUMBER 22019
DATED 01/31/2025

A310

22019
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01/31/2025

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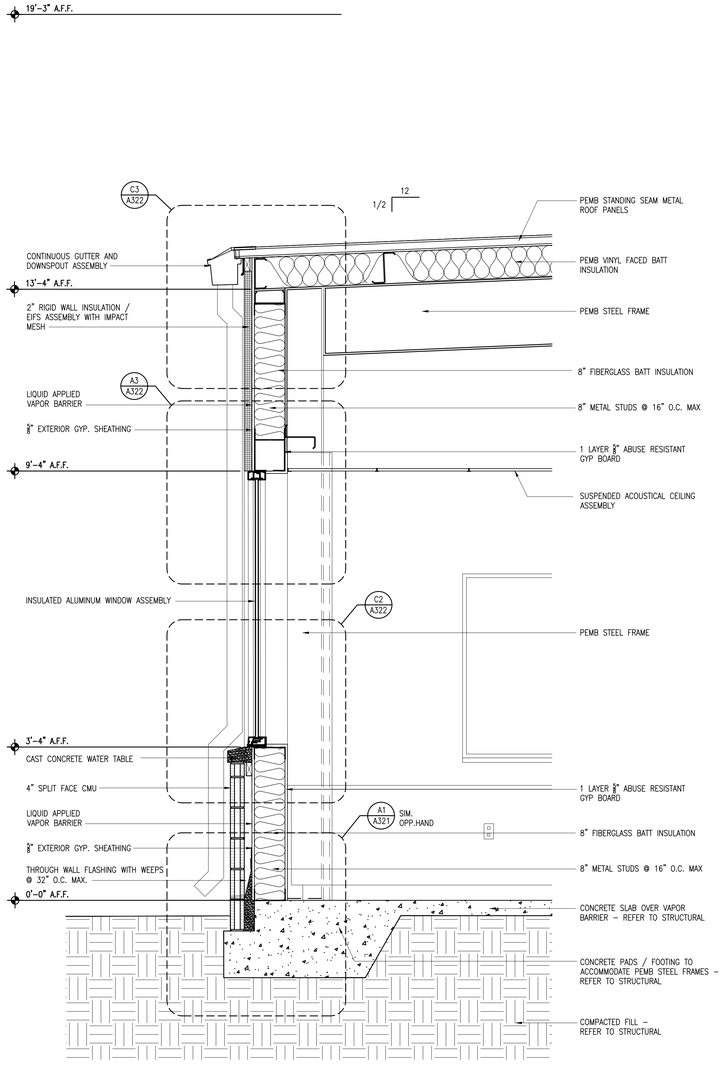

A1 WALL SECTION

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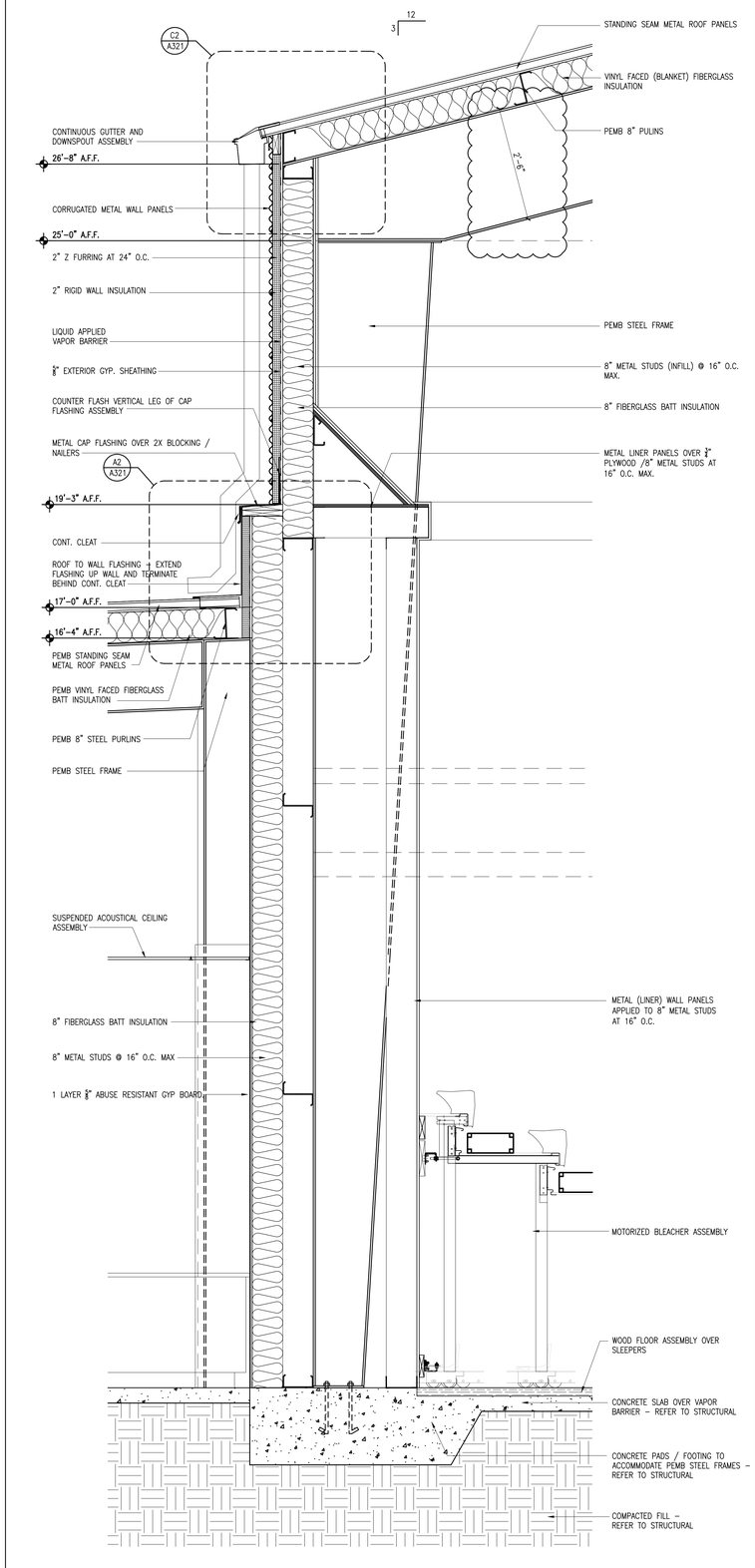

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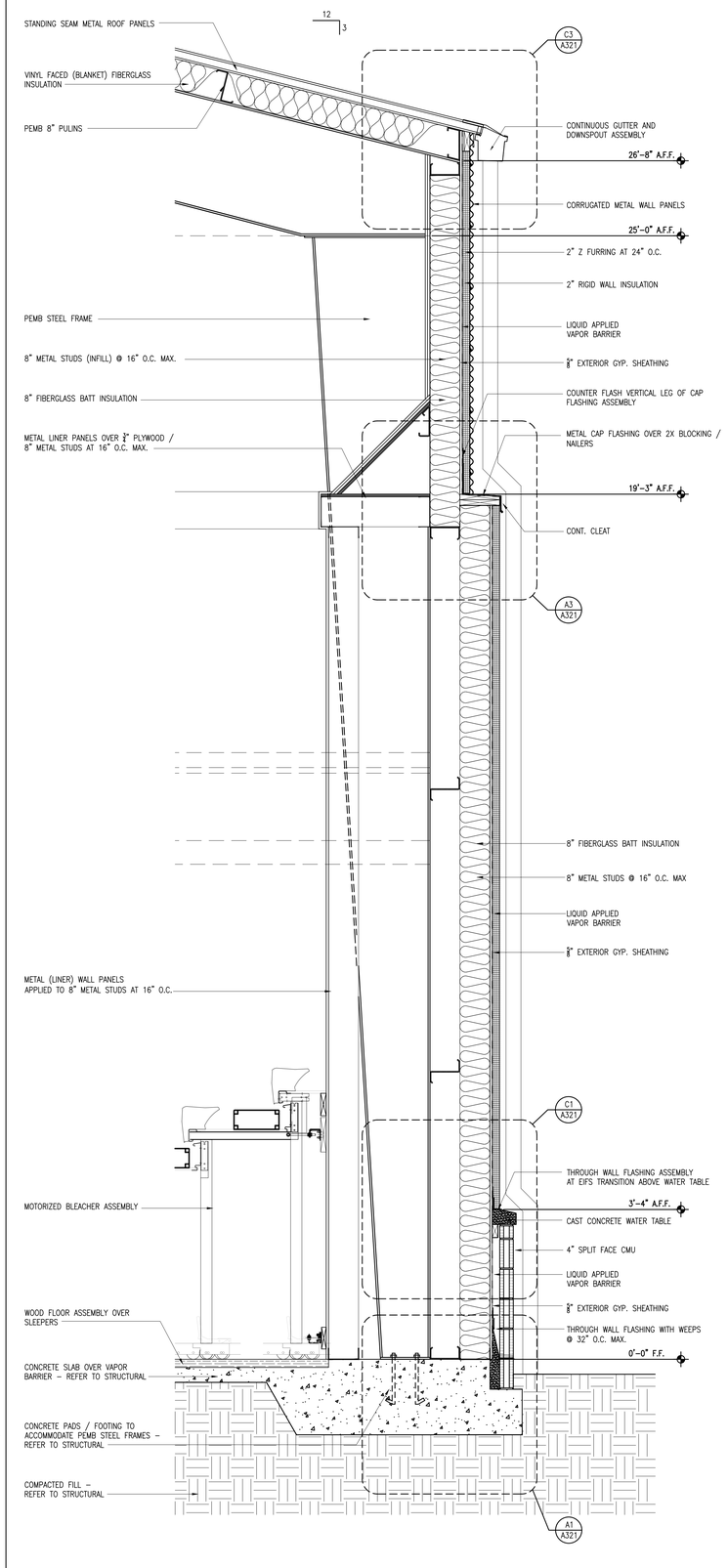

A3 WALL SECTION

SCALE: 3/4" = 1'-0" (REFERENCE BLDG. SECTION 1)

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A New Gymatorium for:
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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

WALL SECTIONS

PROJECT NUMBER	22019
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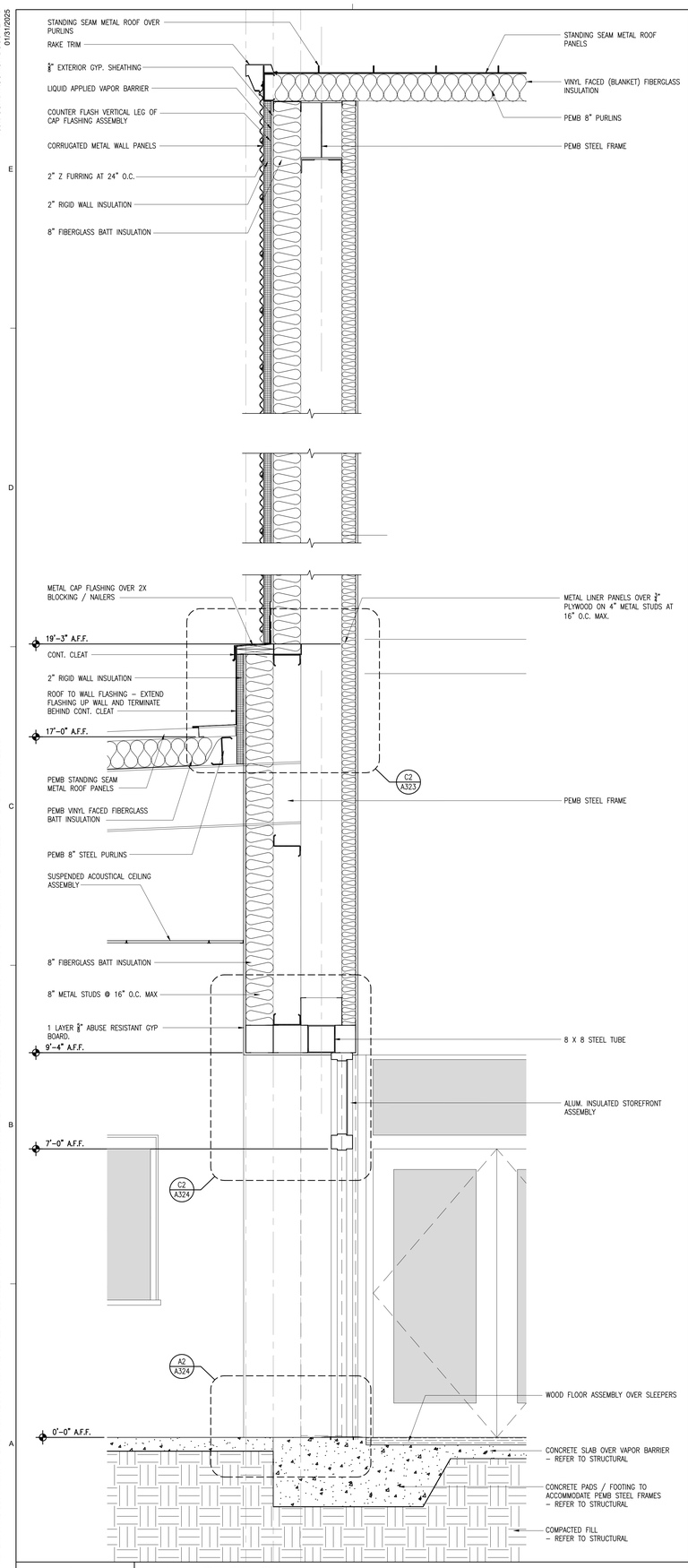

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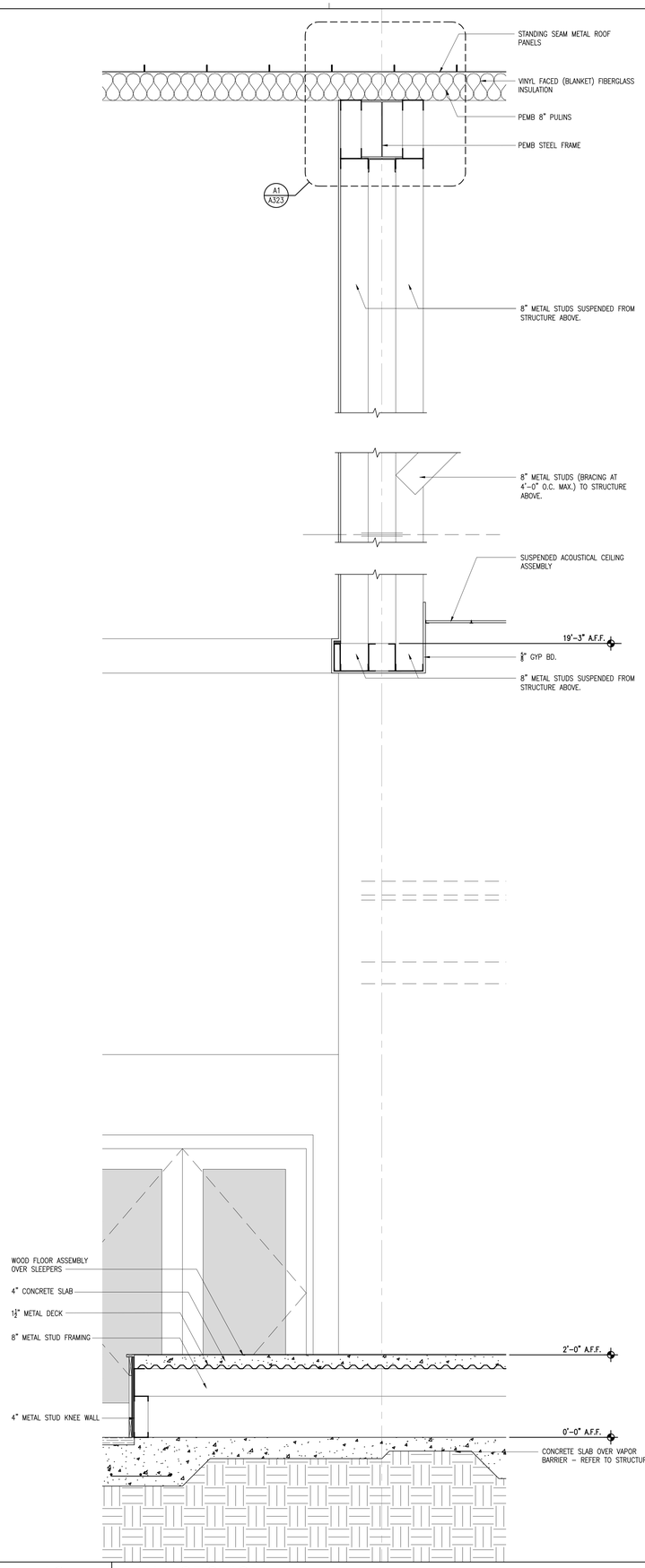

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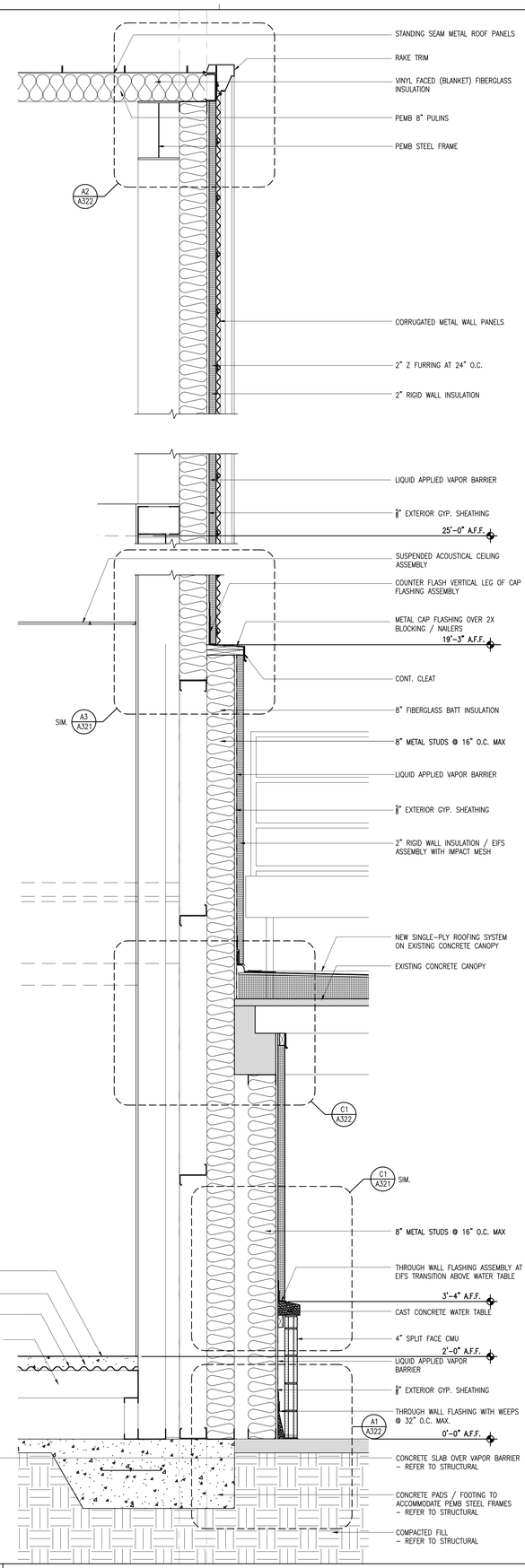

A3 WALL SECTION
SCALE: 3/4" = 1'-0"
(REFERENCE BLDG. SECTION 2)

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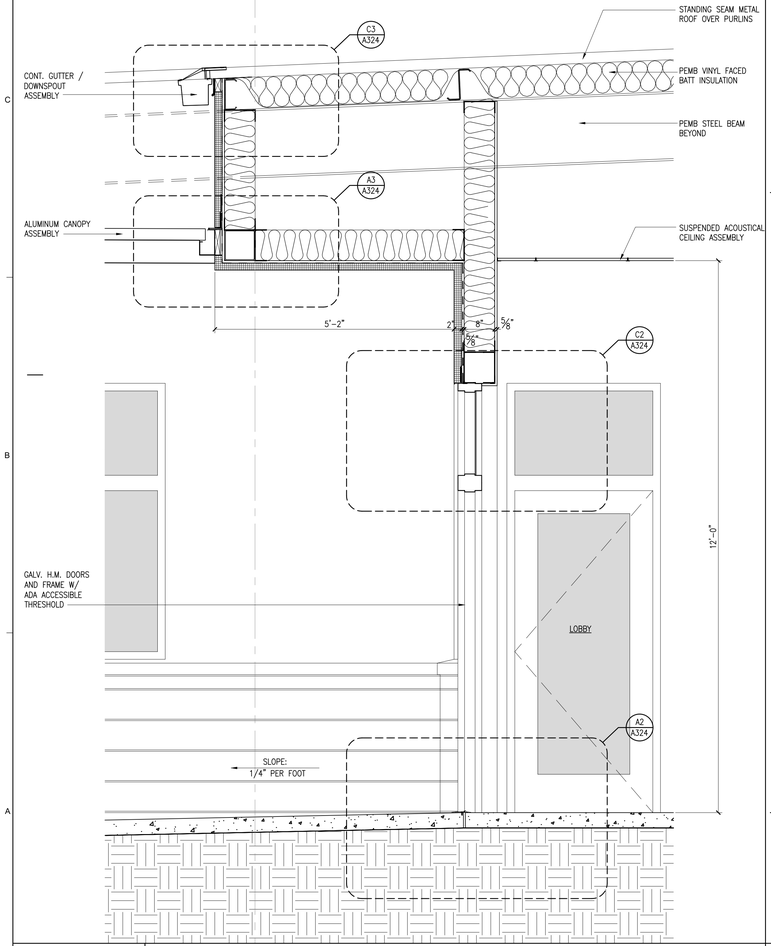

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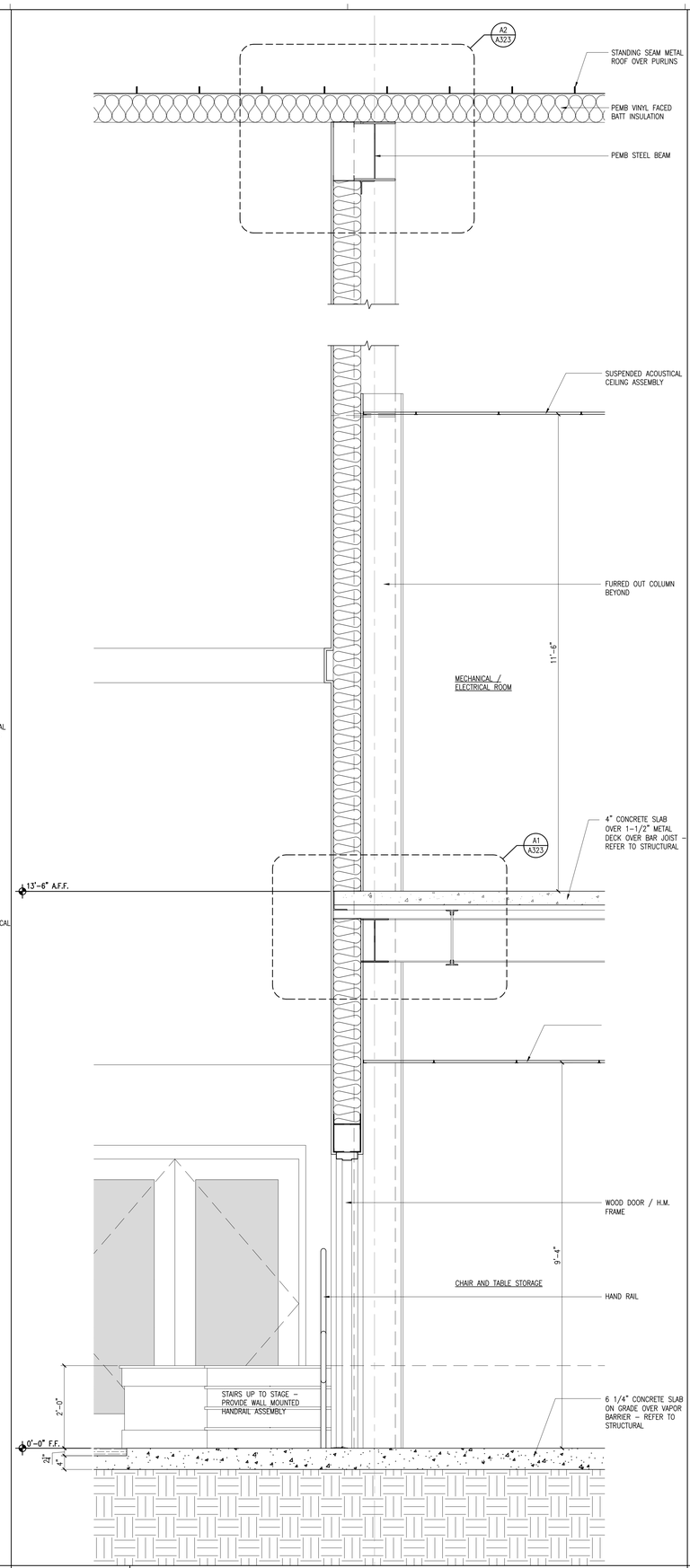

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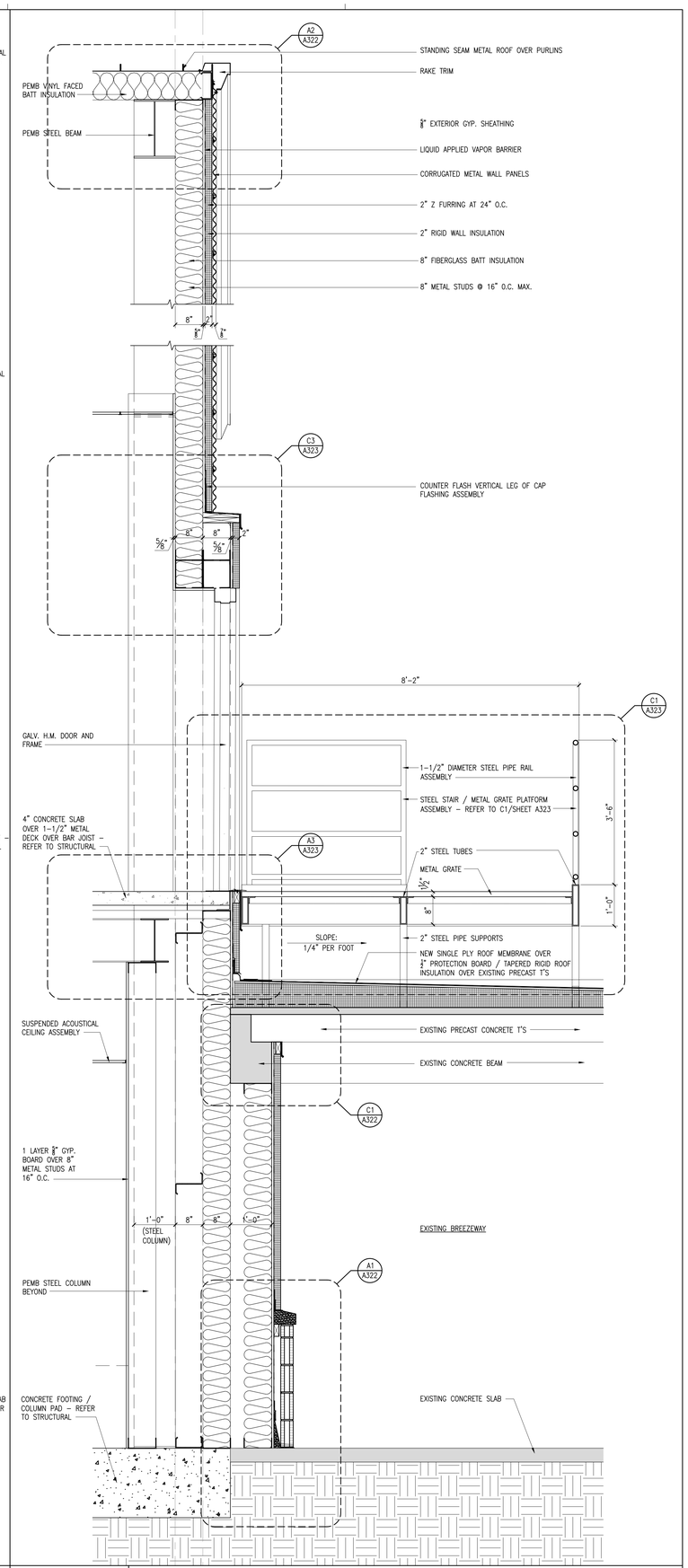

A3 WALL SECTION

SCALE: 3/4" = 1'-0"

(REFERENCE BLDG. SECTION 2)

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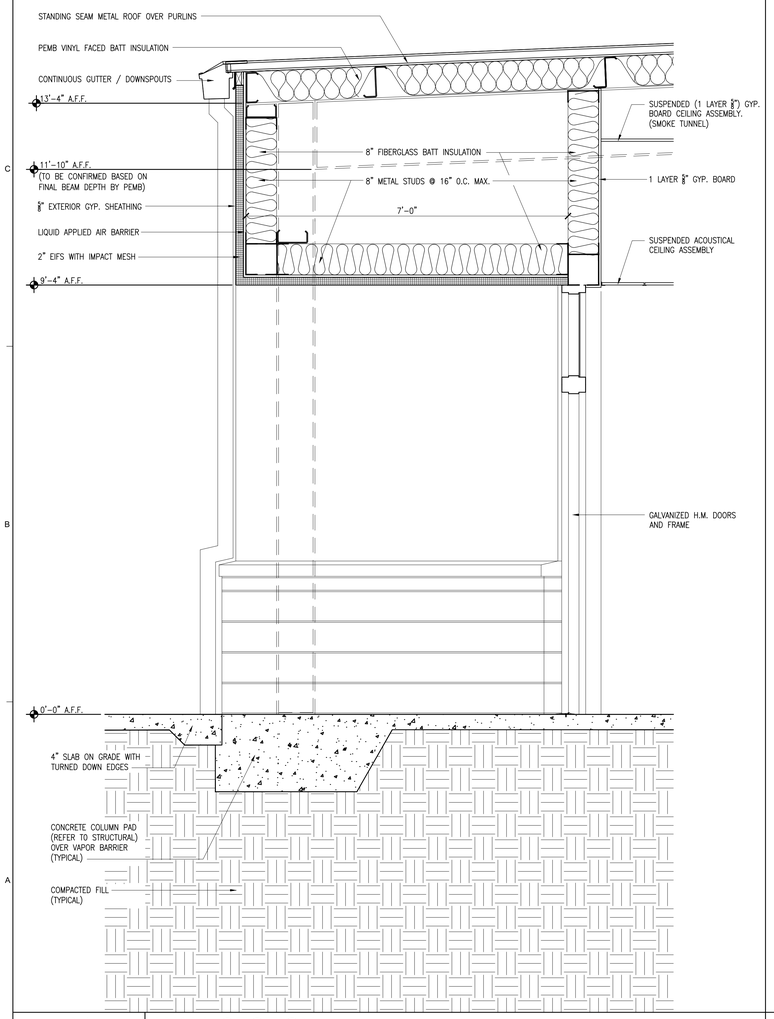

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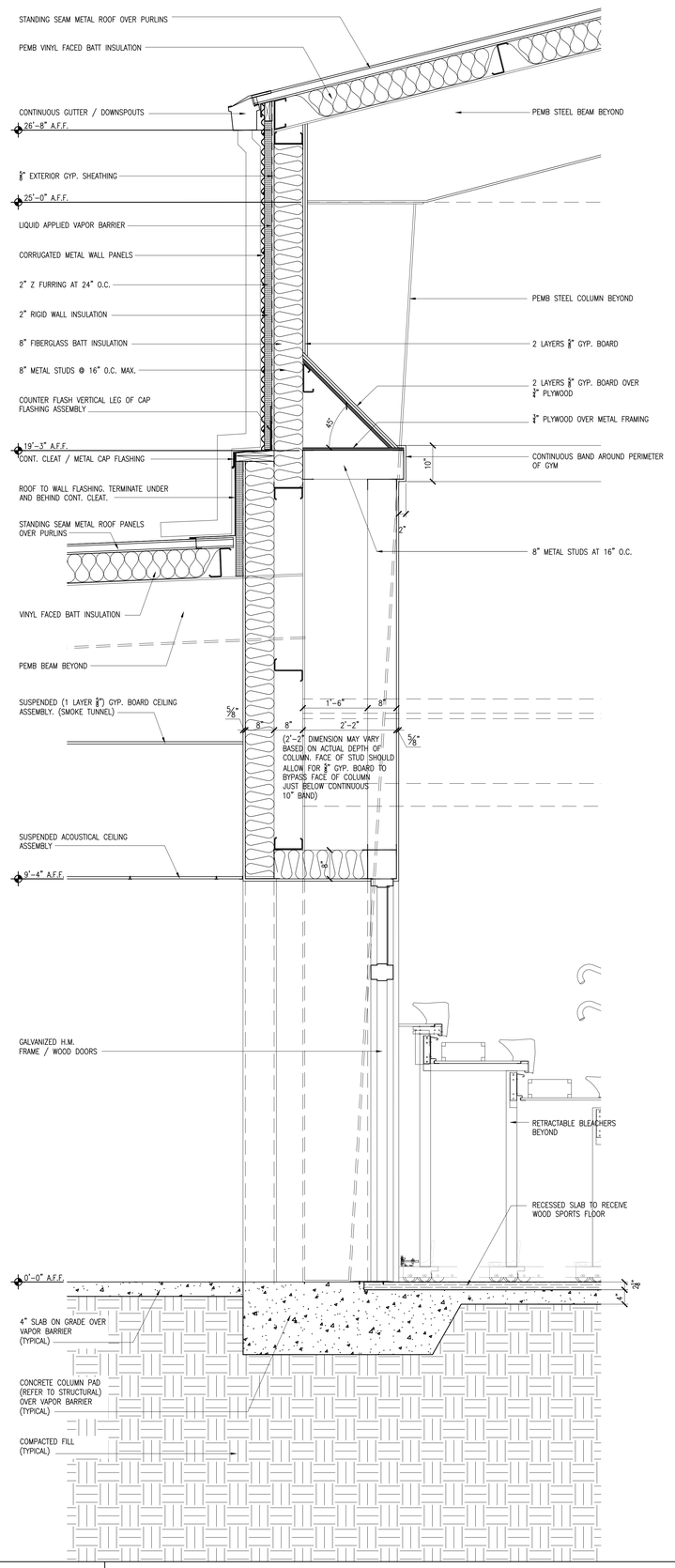

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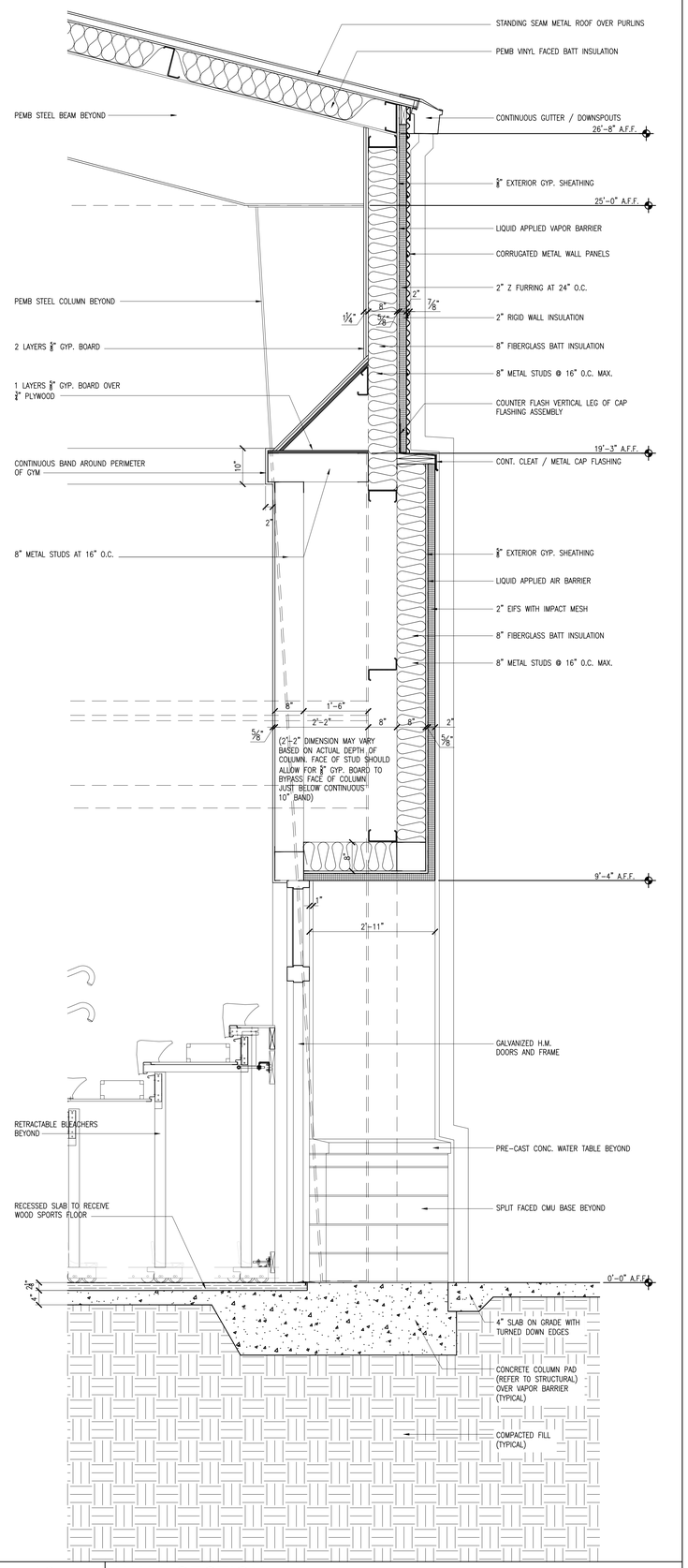

A3 WALL SECTION
SCALE: 3/4" = 1'-0" (REFERENCE BLDG. SECTION 3)

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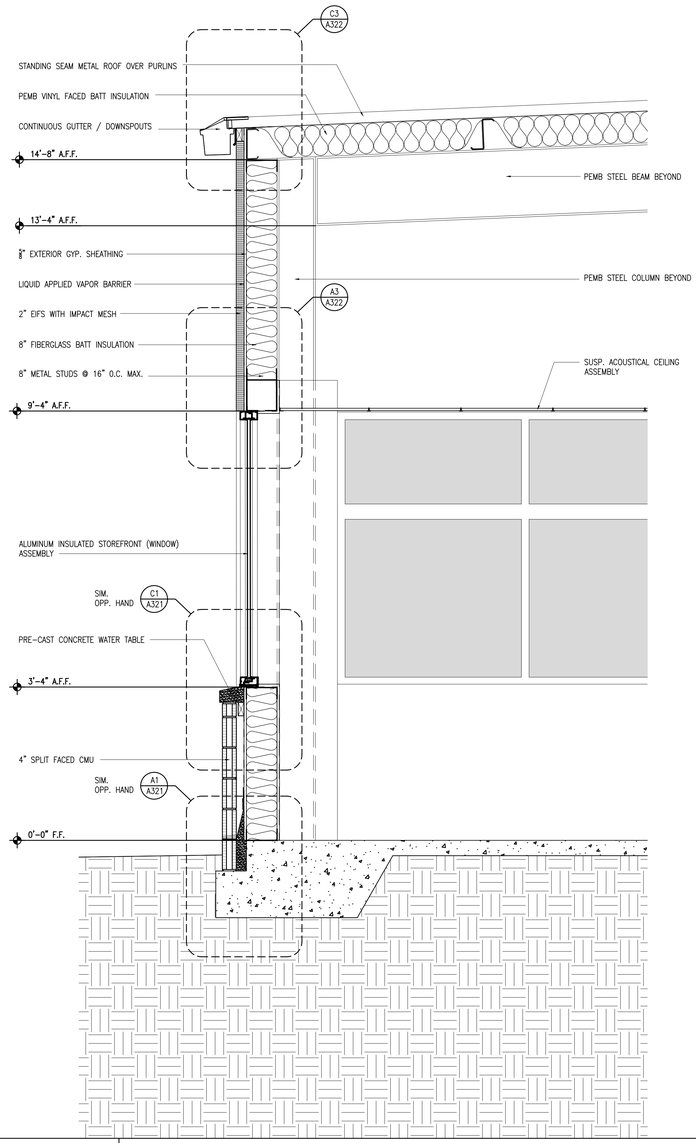

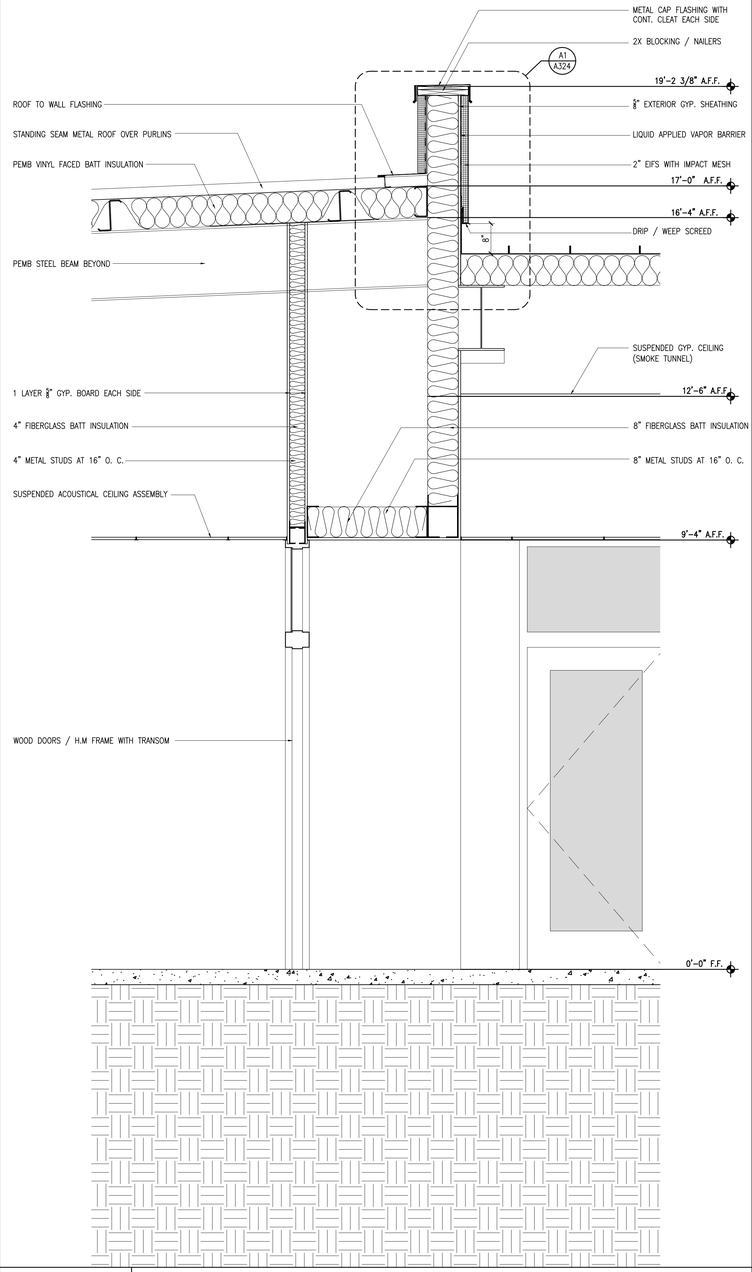

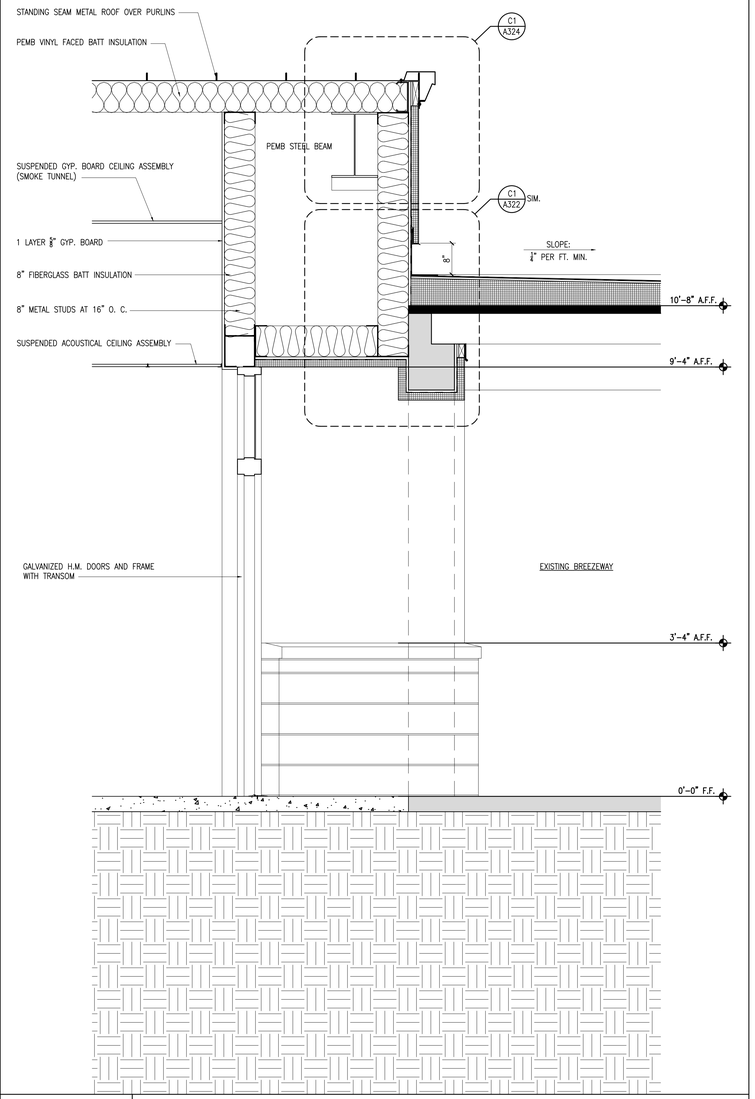

A1	WALL SECTION	A2	WALL SECTION
SCALE: 3/4" = 1'-0"	(REFERENCE BLDG. SECTION 5)	SCALE: 3/4" = 1'-0"	(REFERENCE BLDG. SECTION 5)
A3	WALL SECTION		
SCALE: 3/4" = 1'-0"	(REFERENCE BLDG. SECTION 5)		

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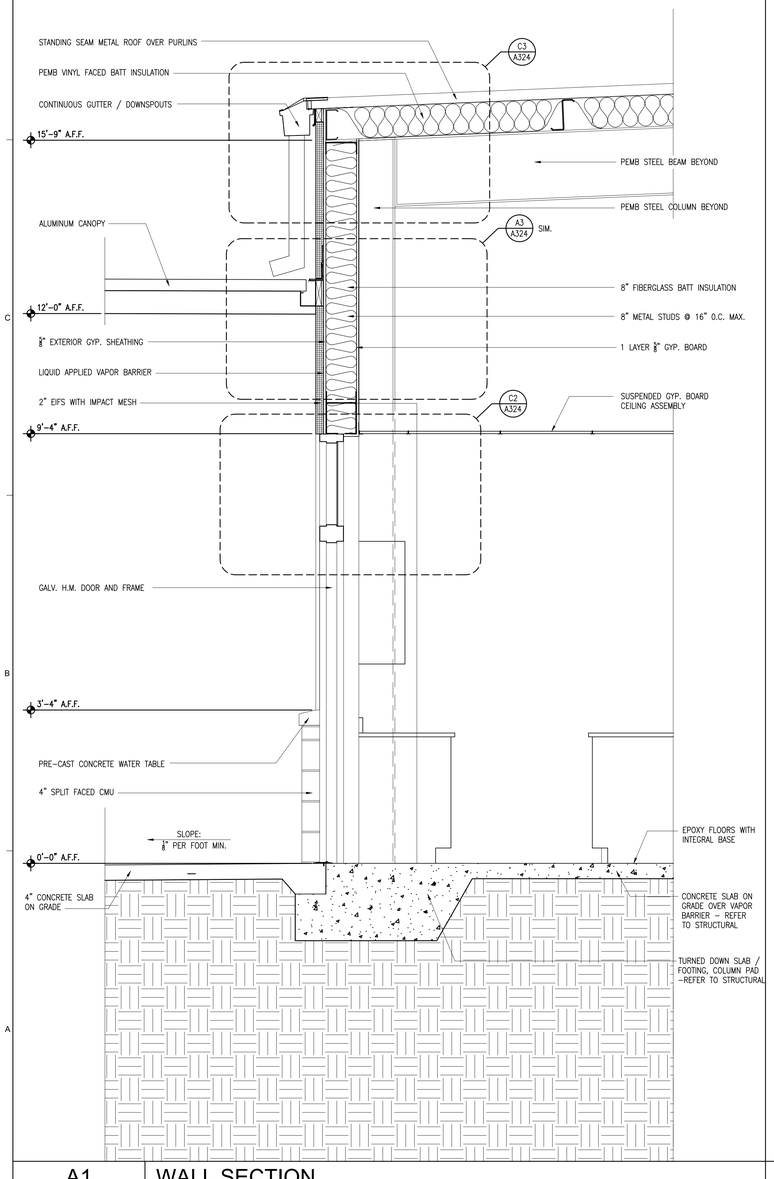

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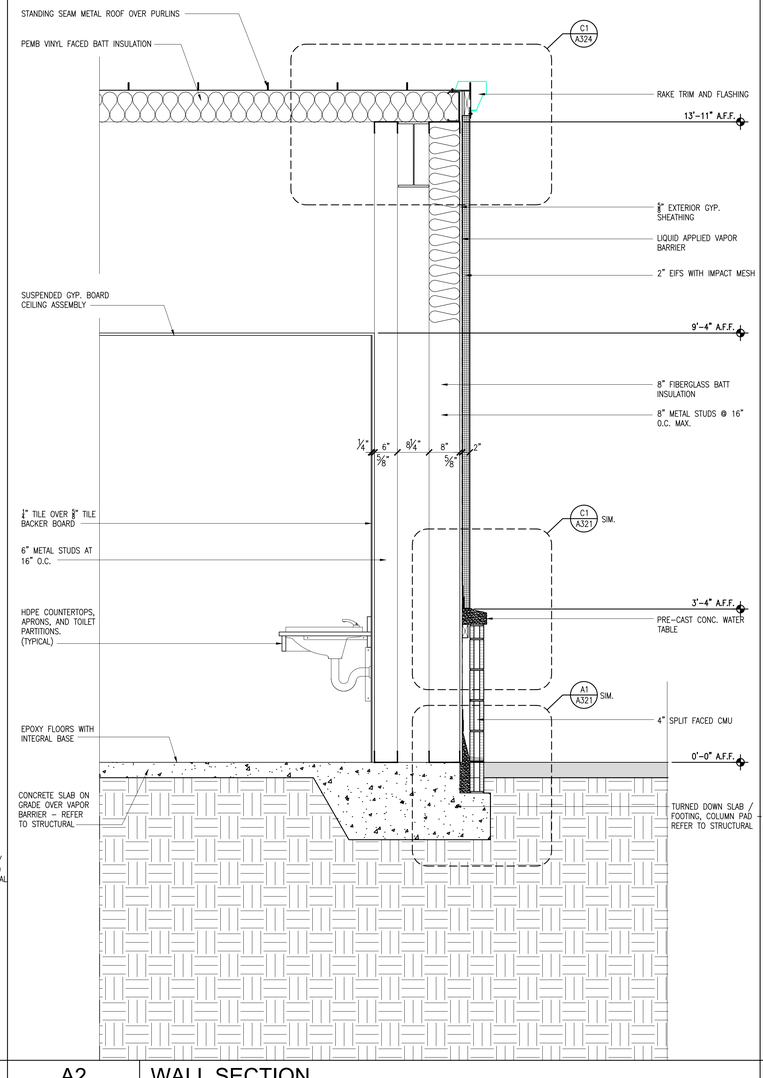

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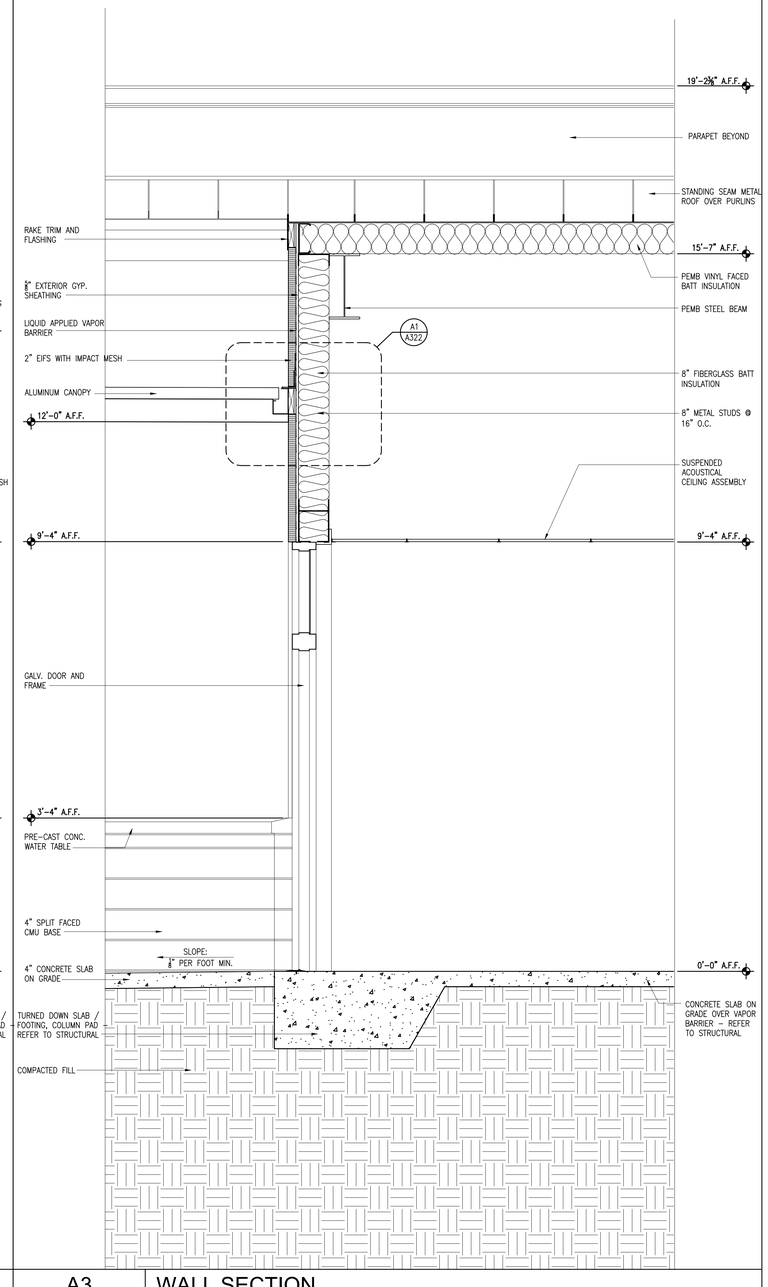

A3 WALL SECTION
SCALE: 3/4" = 1'-0" (REFERENCE BLDG. SECTION 7)

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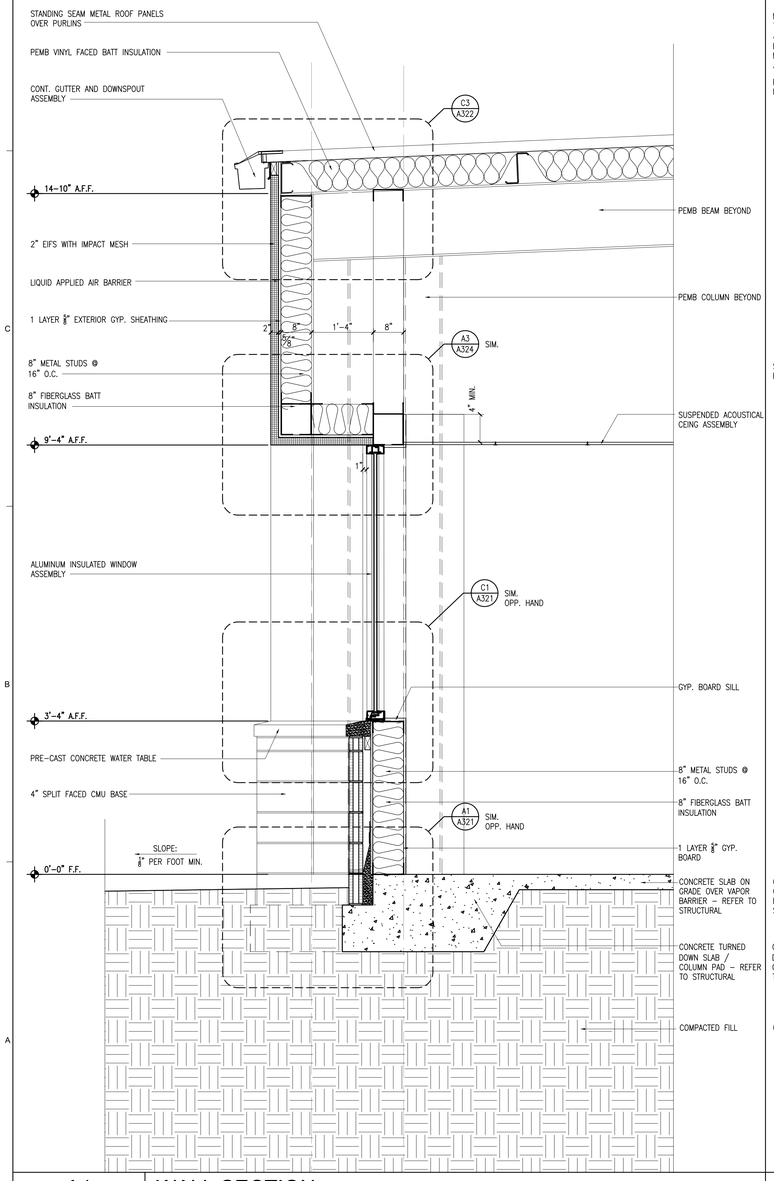

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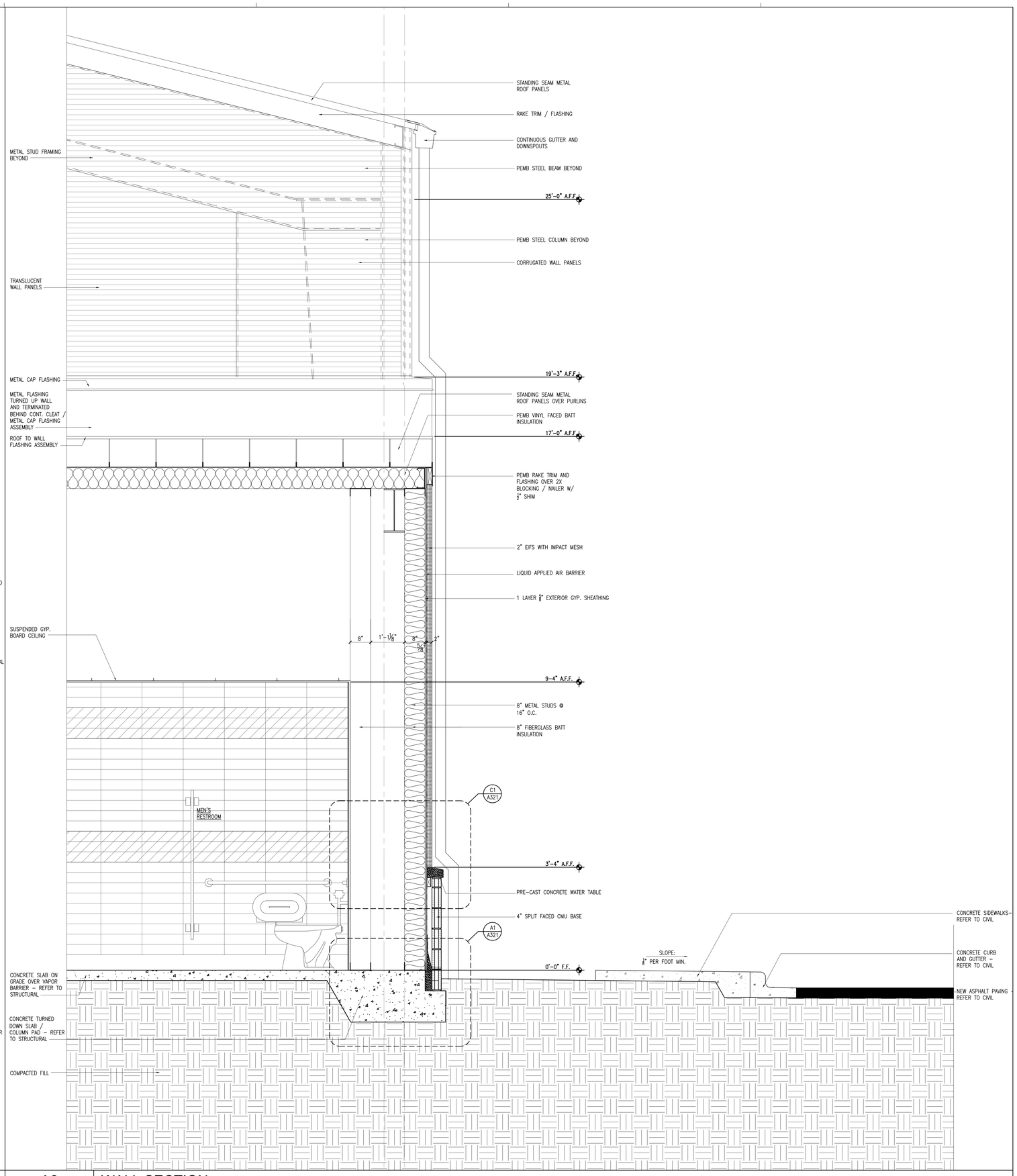
(REFERENCE BLDG. SECTION 8)



A2 WALL SECTION

SCALE: 3/4" = 1'-0"

(REFERENCE BLDG. SECTION 5)

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1104 Balboa Avenue, Panama City, FL 32401

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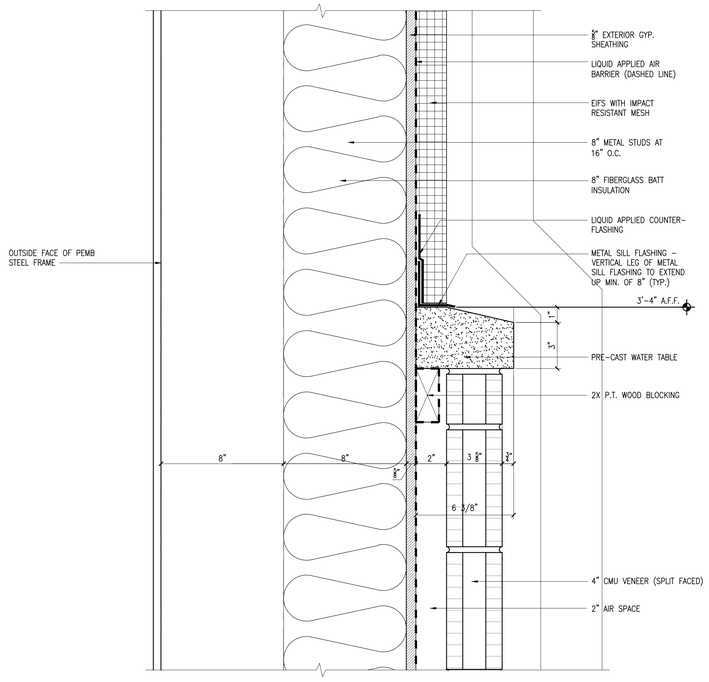

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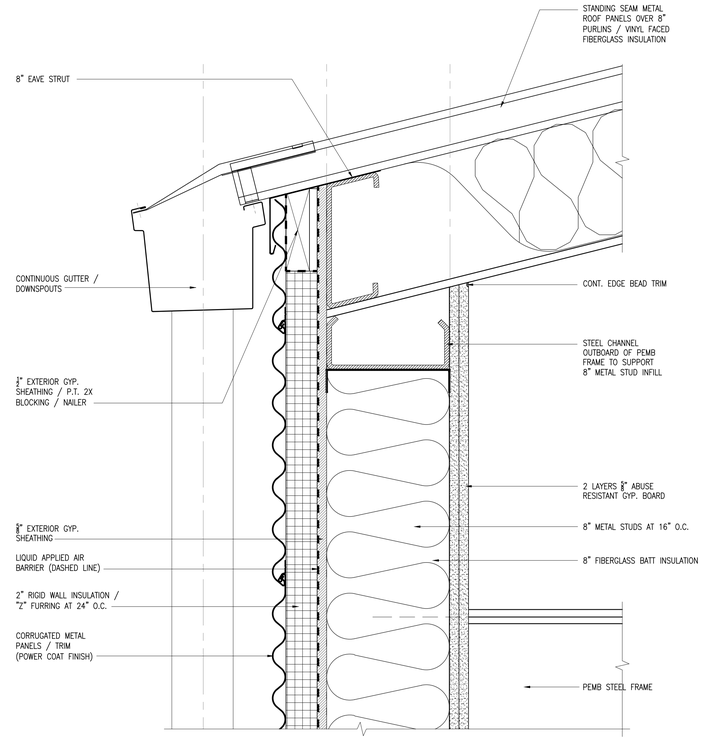

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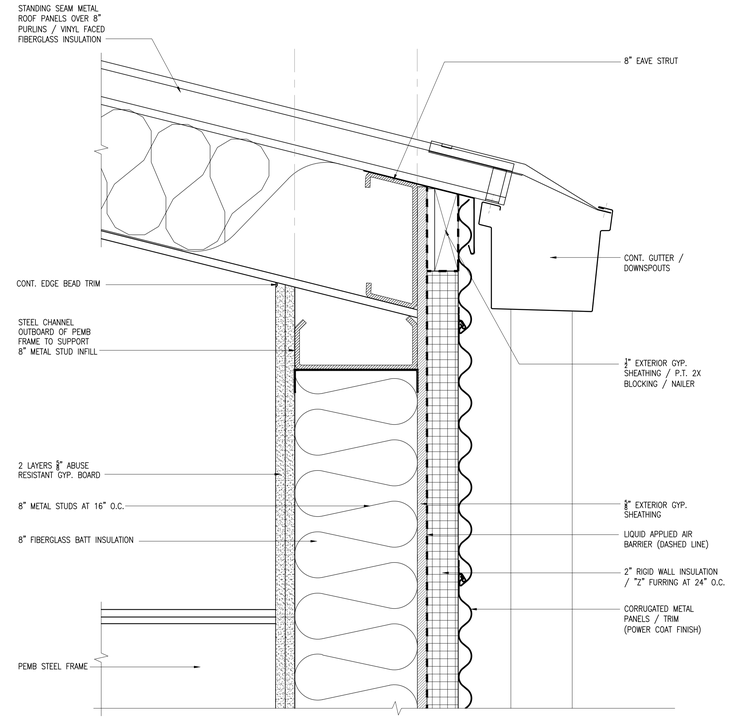

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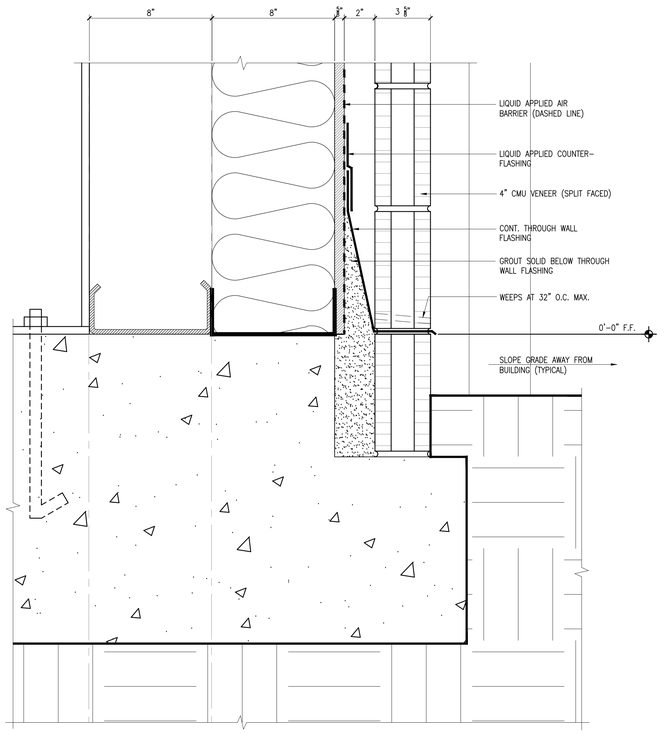

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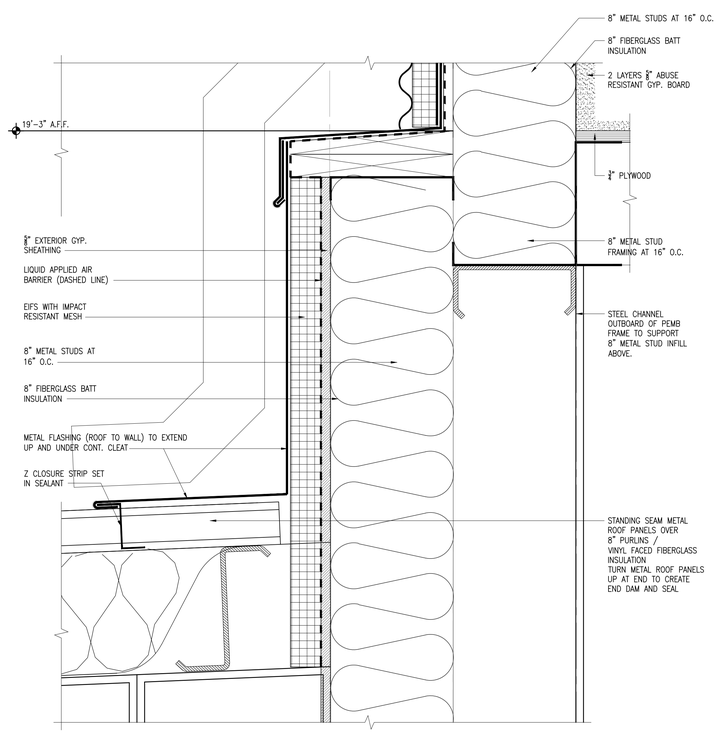

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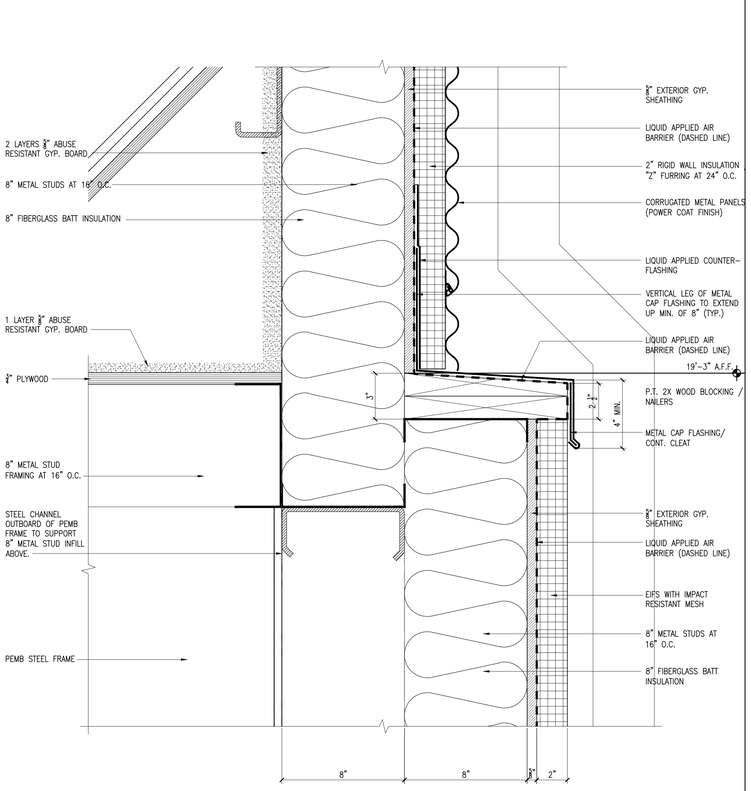

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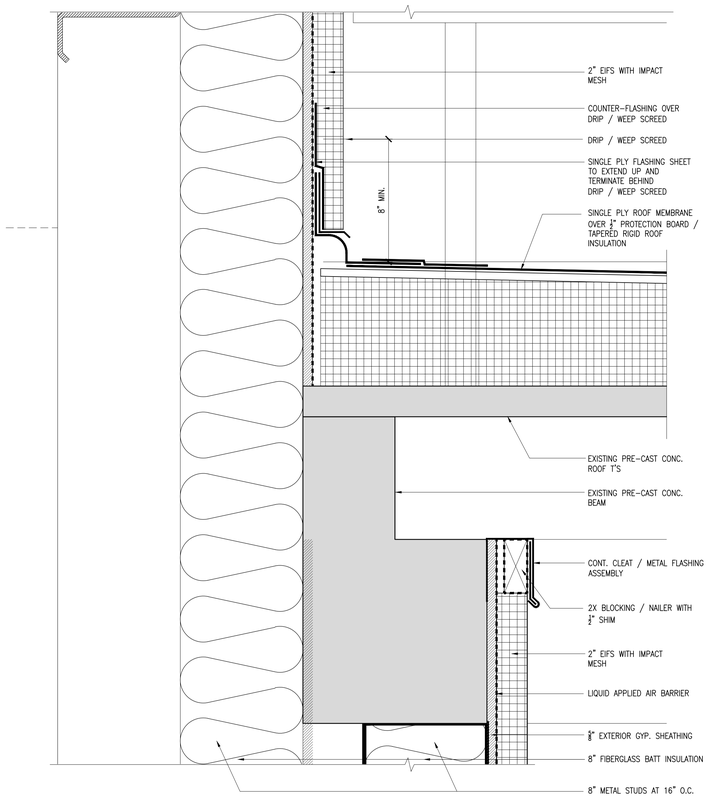

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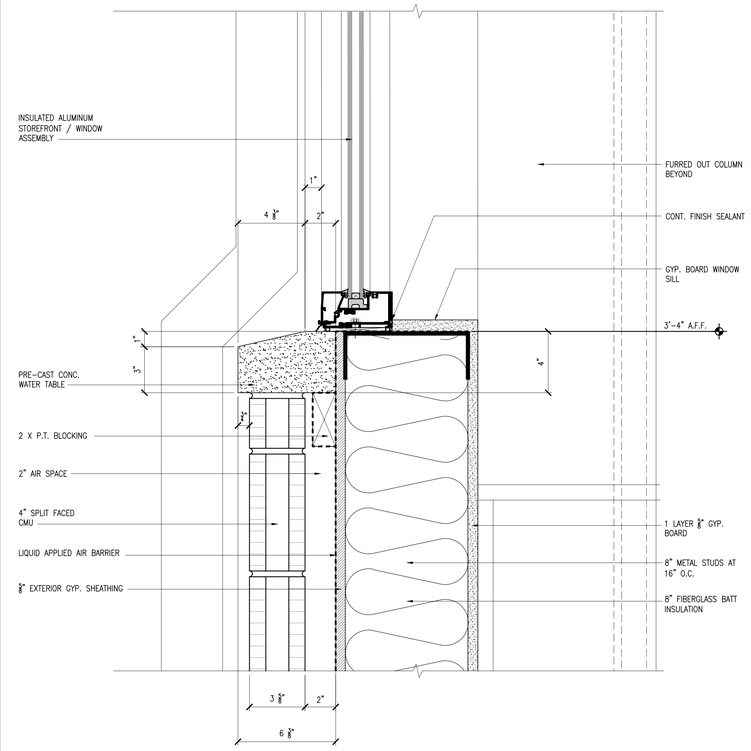

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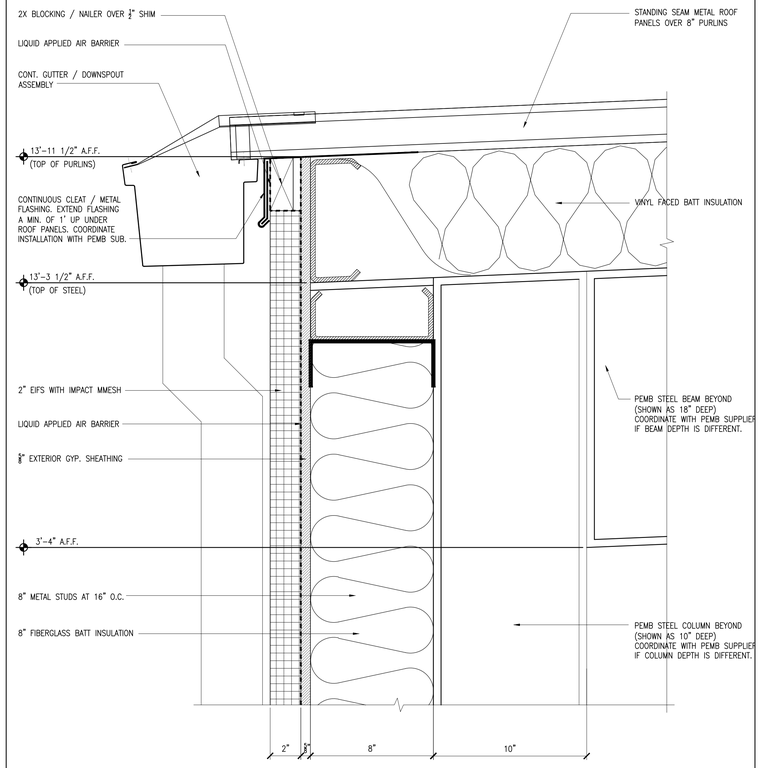

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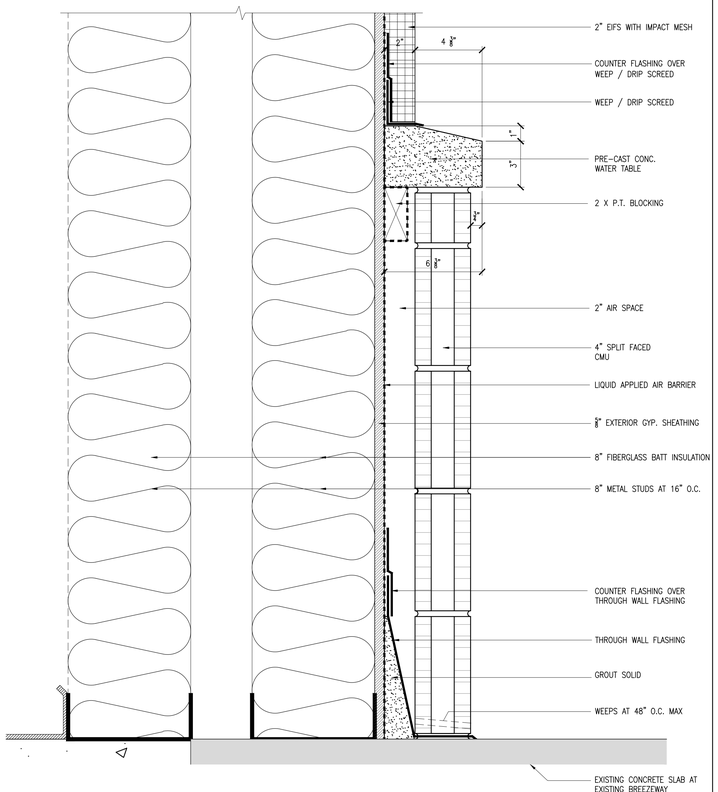

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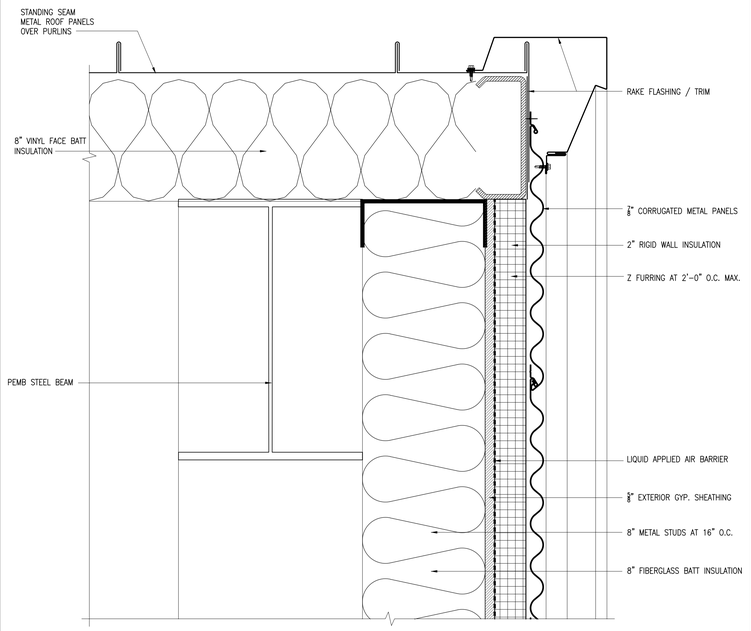

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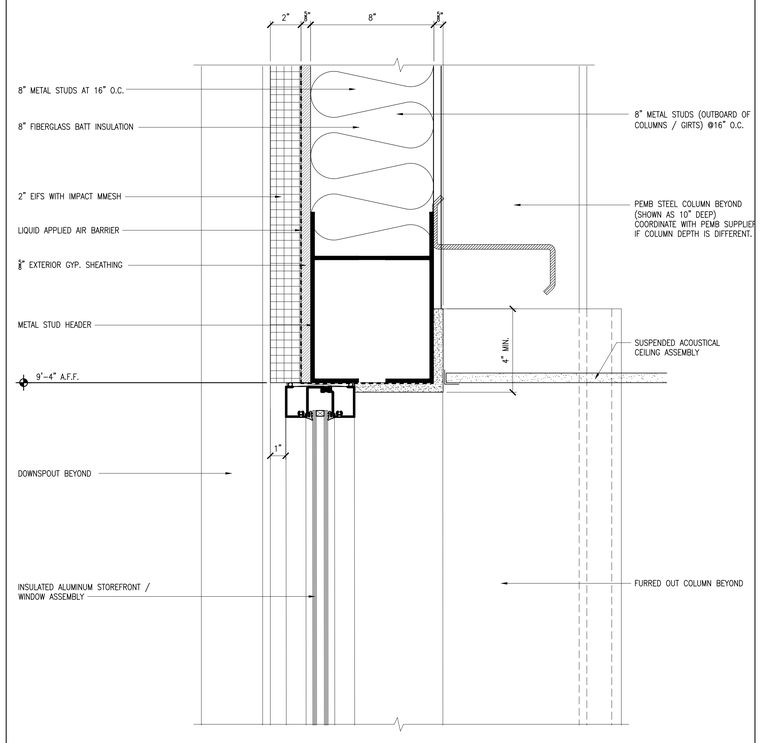

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

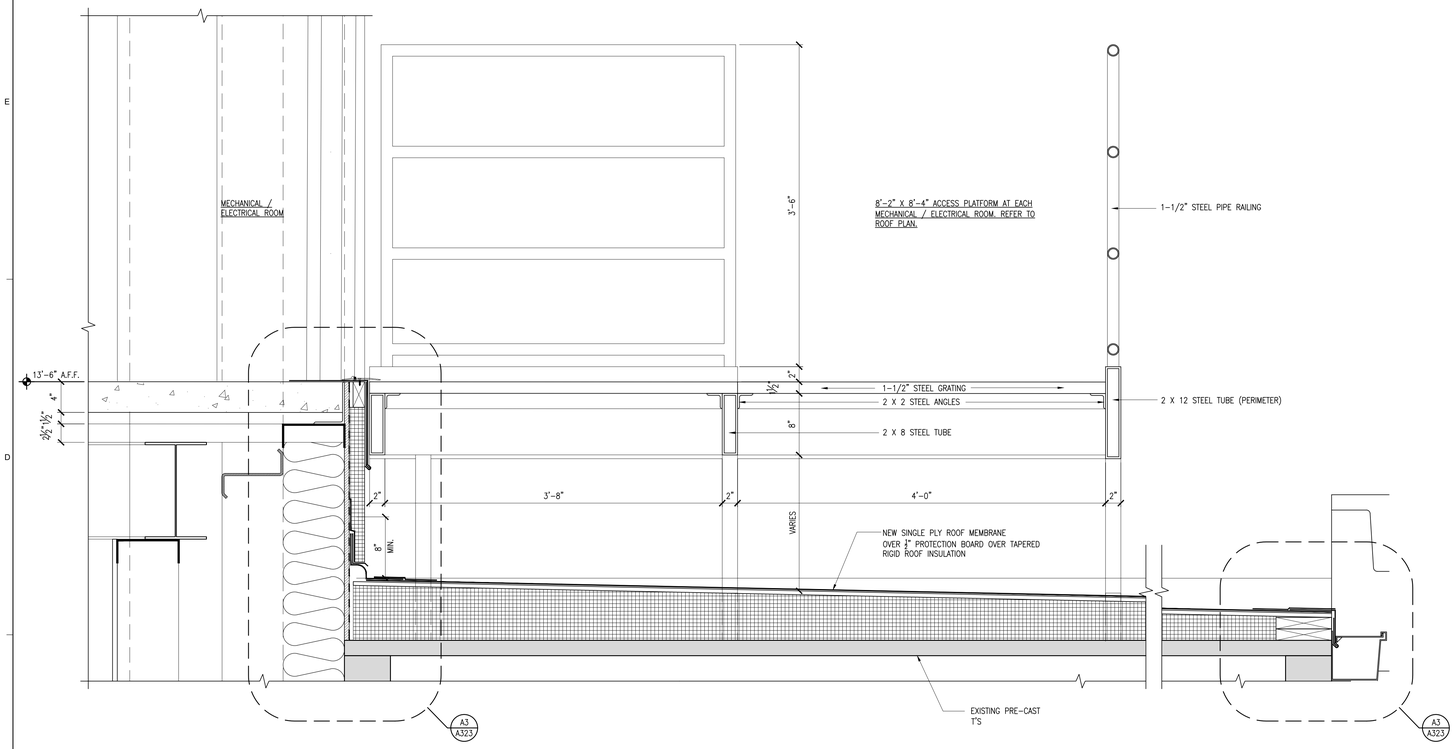
No.	Description	Date

SECTION DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

A322

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



C1 SECTION DETAIL

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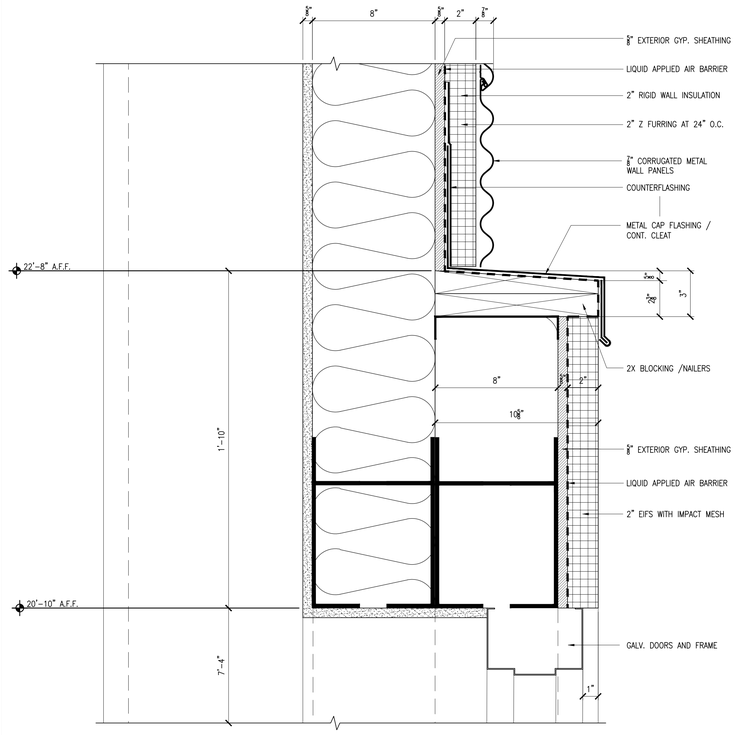

C2 SECTION DETAIL

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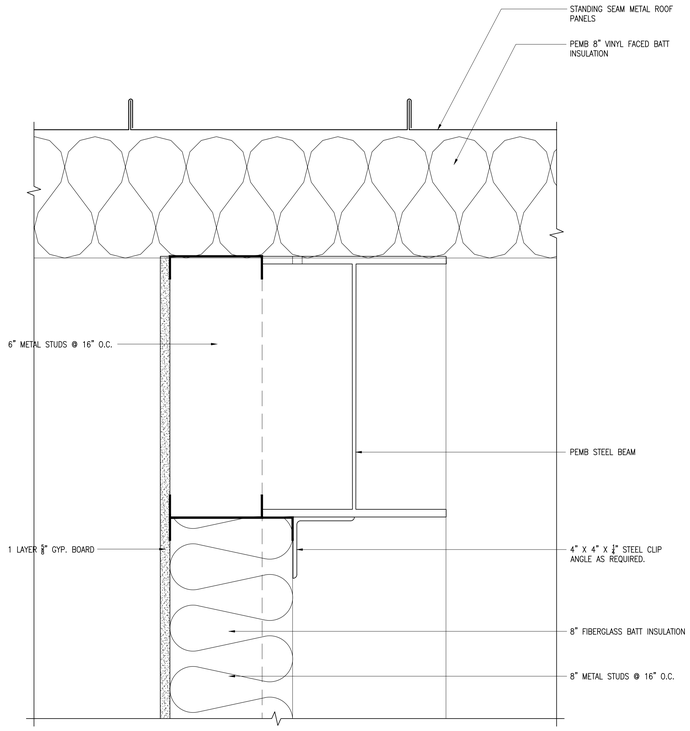

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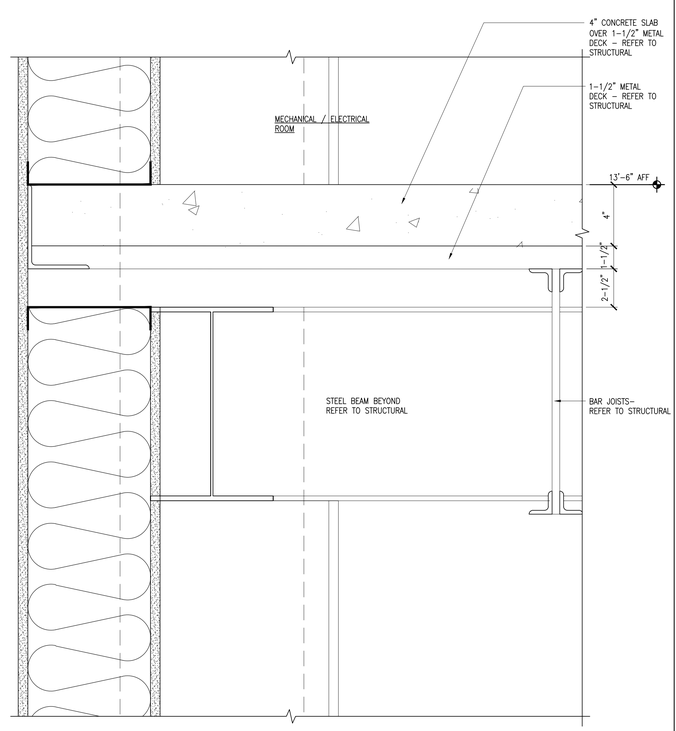

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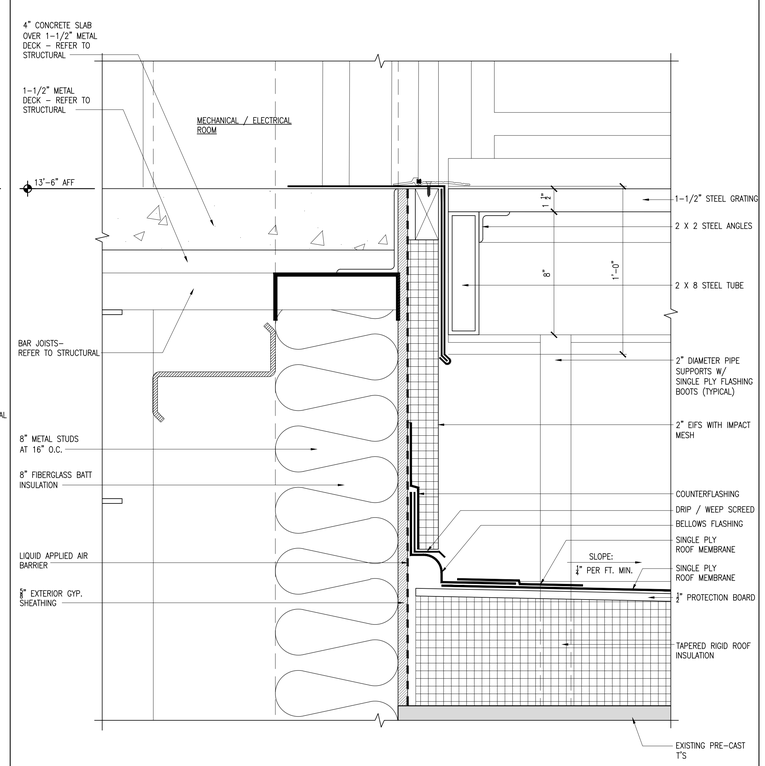

A3 SECTION DETAIL

SCALE: 3" = 1'-0" | REF. BUILDING SECTION ONE

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SECTION DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

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22019
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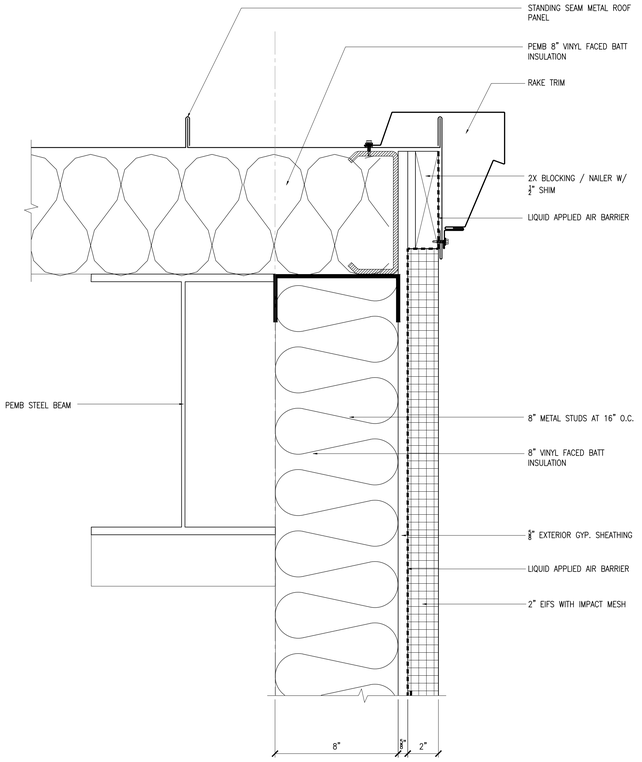
01/31/2025



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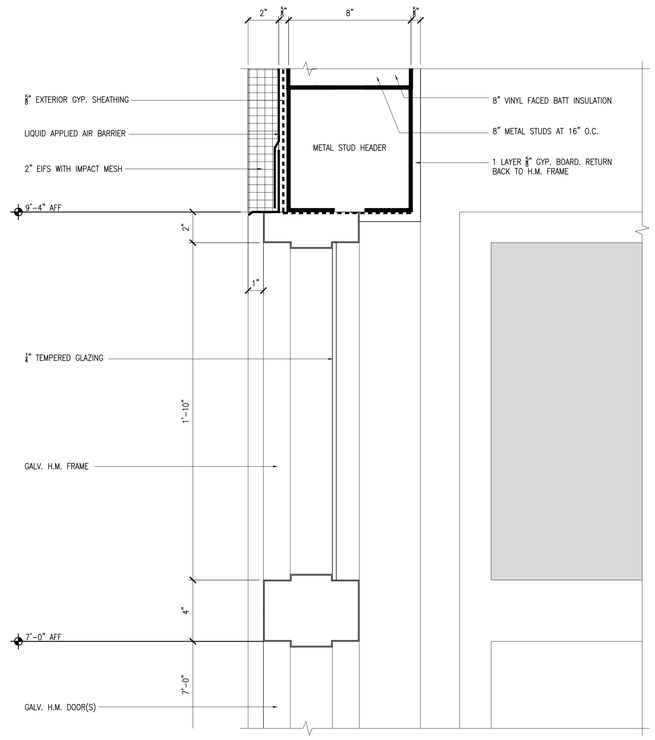

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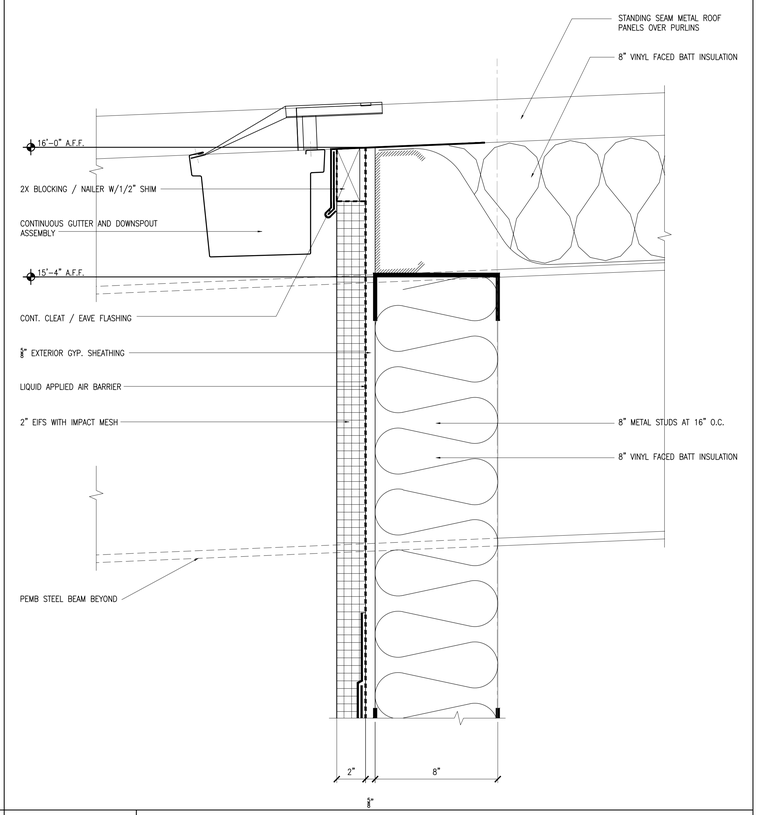

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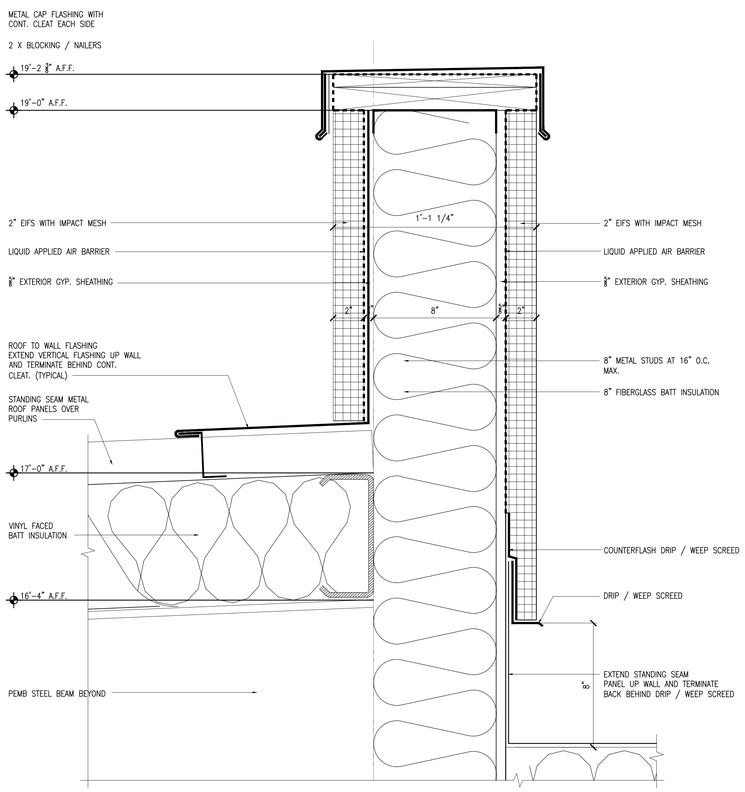

A1 | SECTION DETAIL
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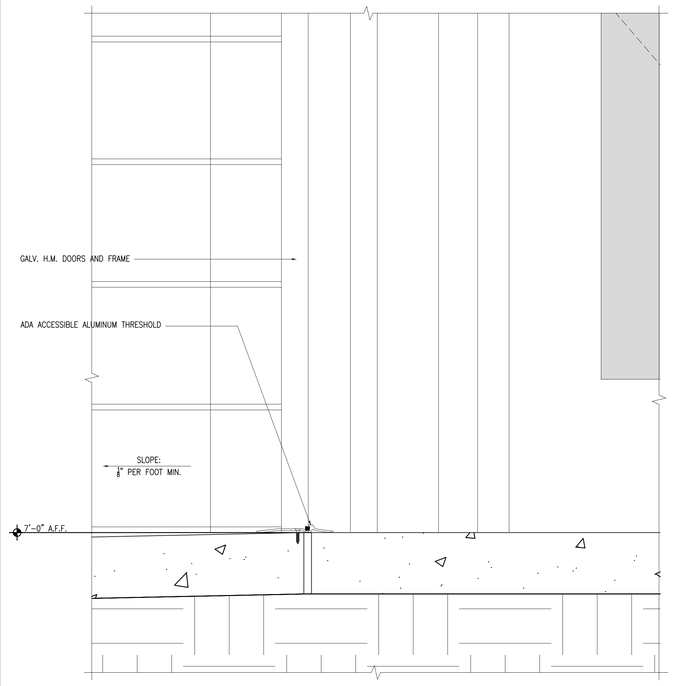

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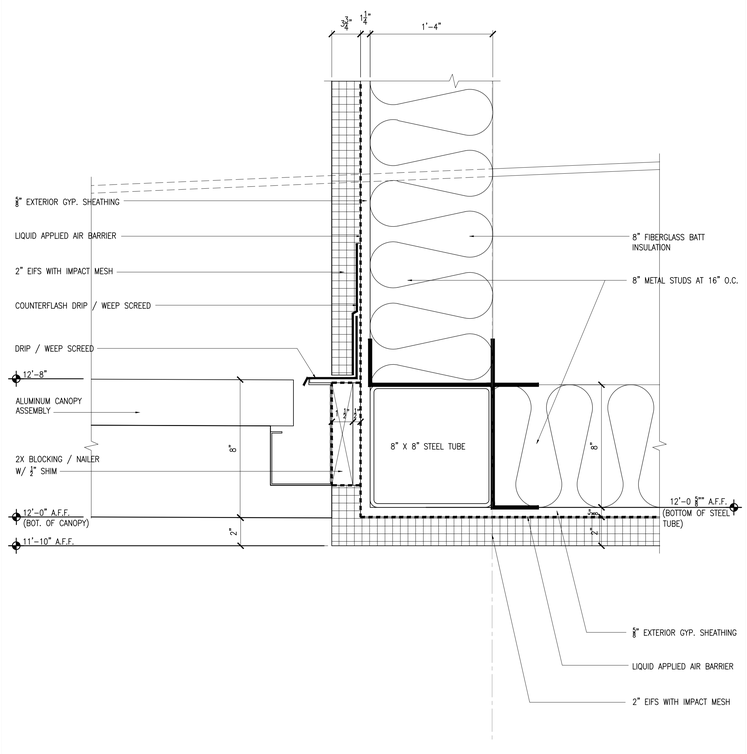

A3 | SECTION DETAIL
SCALE: 3" = 1'-0" | REF. BUILDING SECTION ONE

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SECTION DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

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22019
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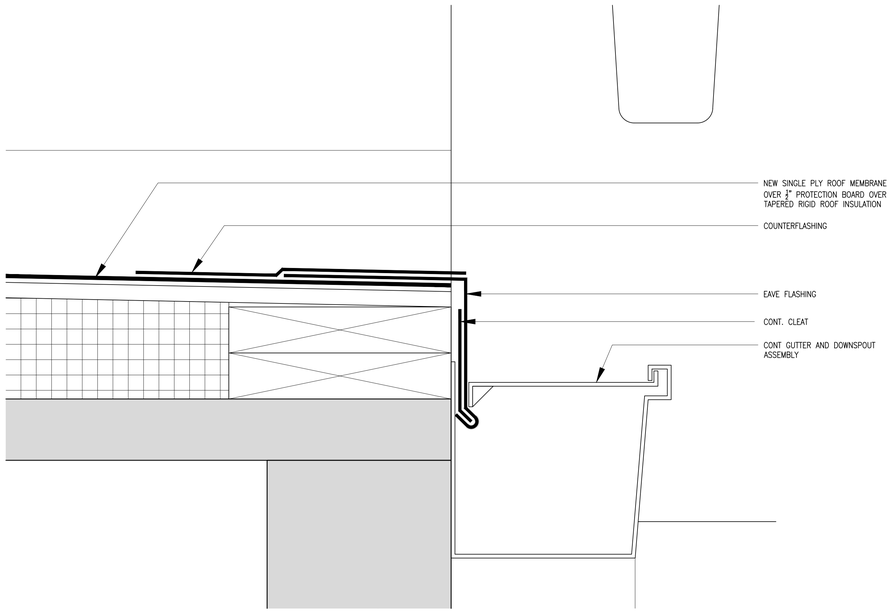
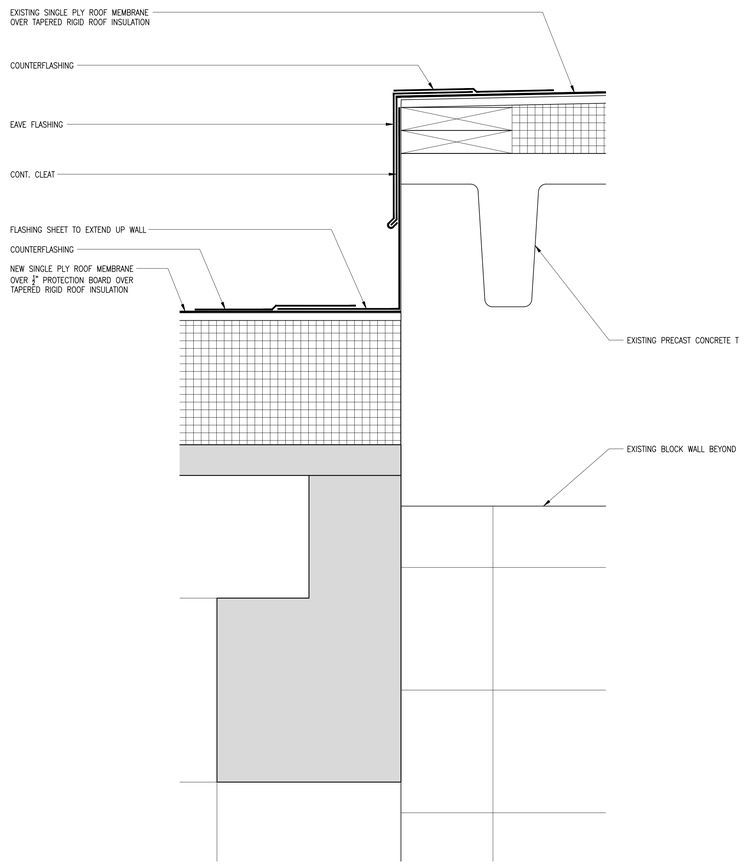
01/31/2025



A1 — SECTION DETAIL
SCALE: 6"=1'-0" — (REFERENCE BUILDING SECTION 5)



A2 — SECTION DETAIL
SCALE: 3"=1'-0" — (REFERENCE BUILDING SECTION 5)

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SECTION DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

A325

22019
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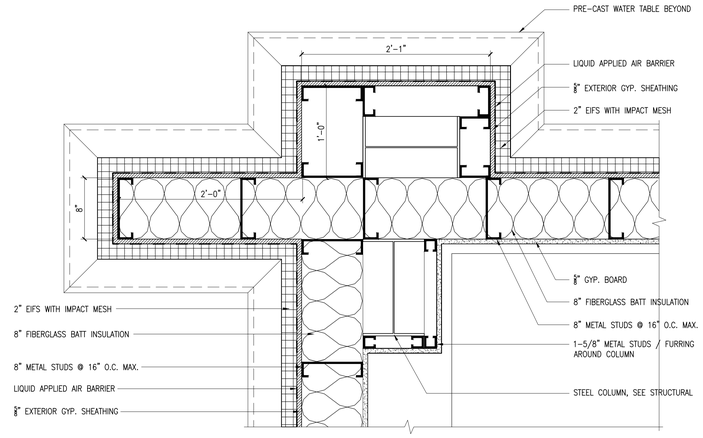
01/31/2025

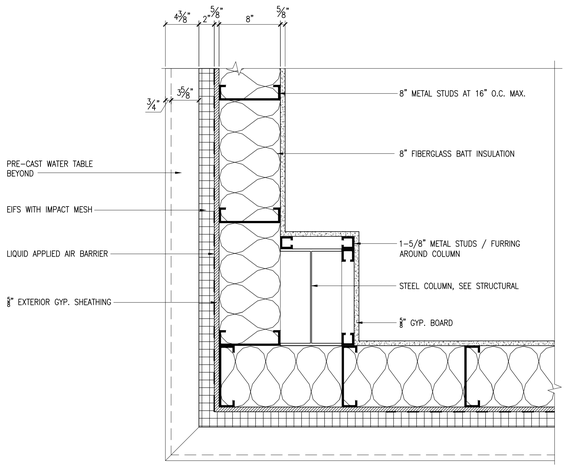


C1 PLAN DETAIL

SCALE: 3" = 1'-0"

B1 .

SCALE: N/A



A1 PLAN DETAIL

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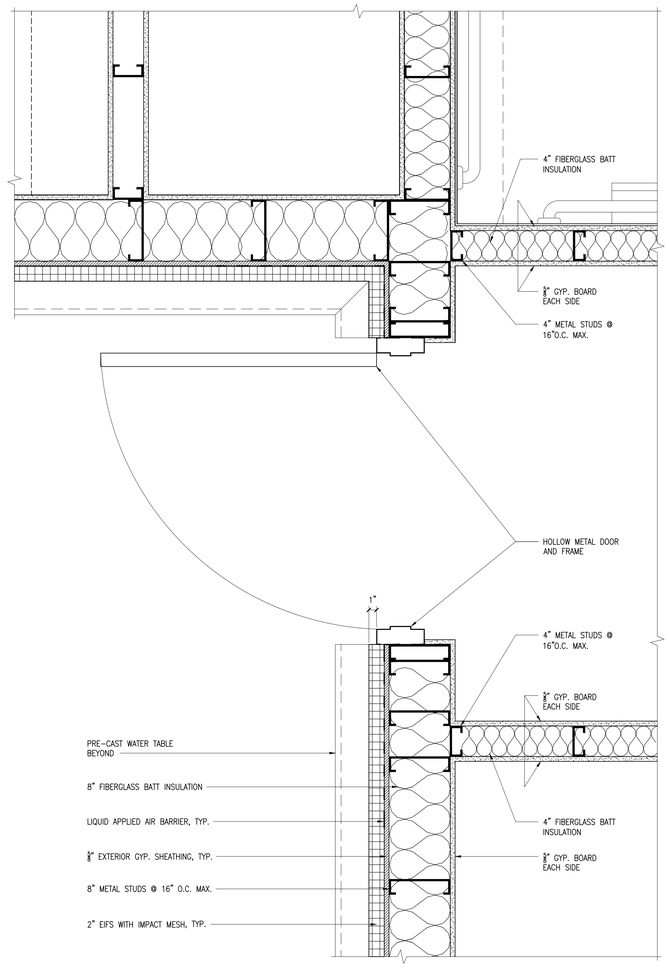

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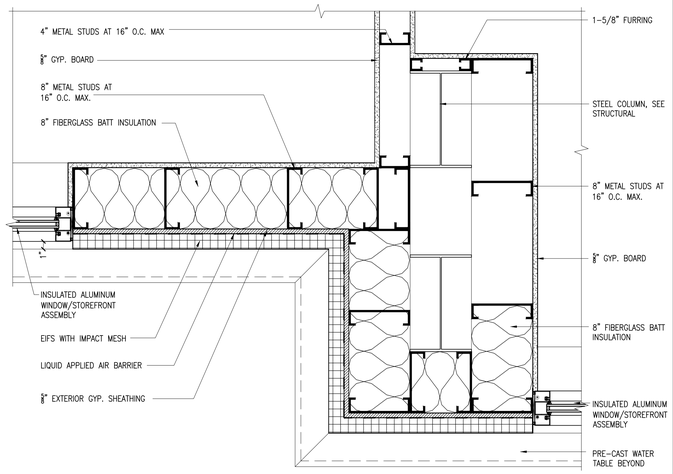

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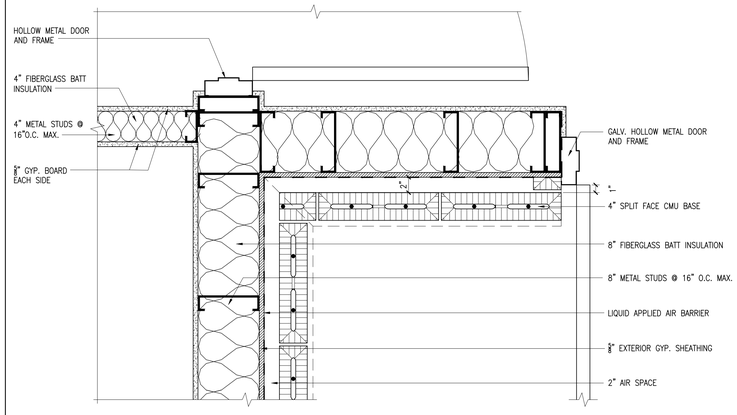

C3 PLAN DETAIL (BELOW PRE-CAST WATER TABLE)

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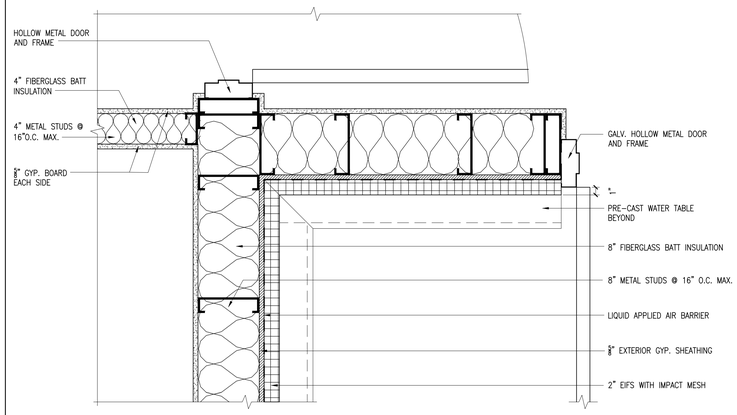

B3 PLAN DETAIL (ABOVE PRE-CAST WATER TABLE)

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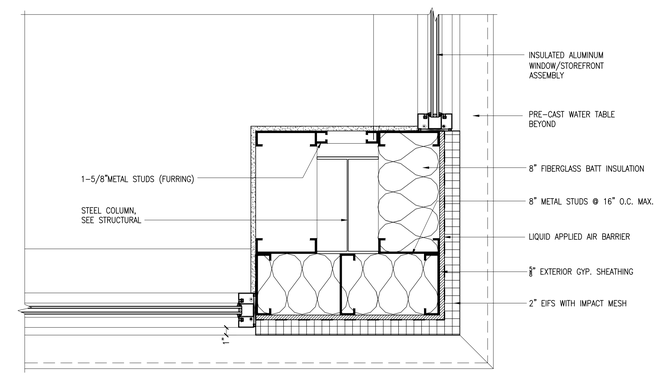

A3 PLAN DETAIL

SCALE: 1-1/2" = 1'-0"

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PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

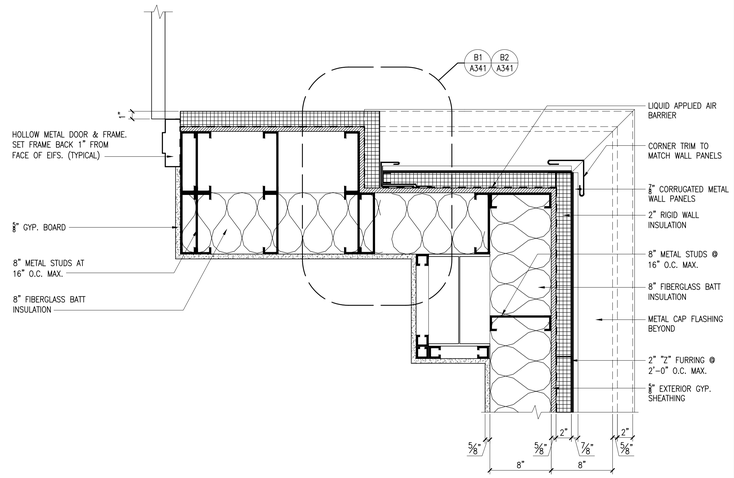
No.	Description	Date

PLAN DETAILS

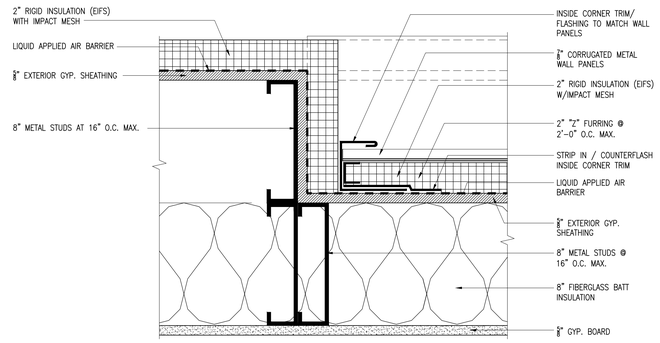
PROJECT NUMBER	22019
DATED	01/31/2025

A331

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



C3	PLAN DETAIL
SCALE: 1-1/2" = 1'-0"	



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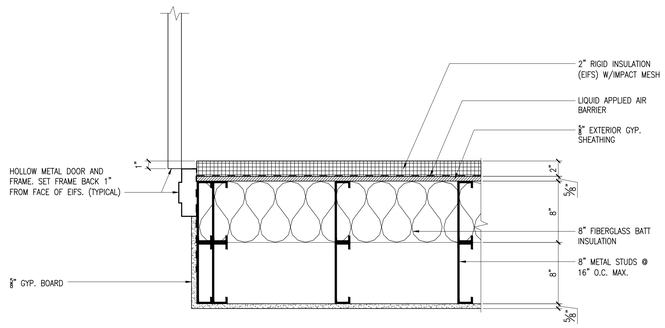
SCALE: 3" = 1'-0"	



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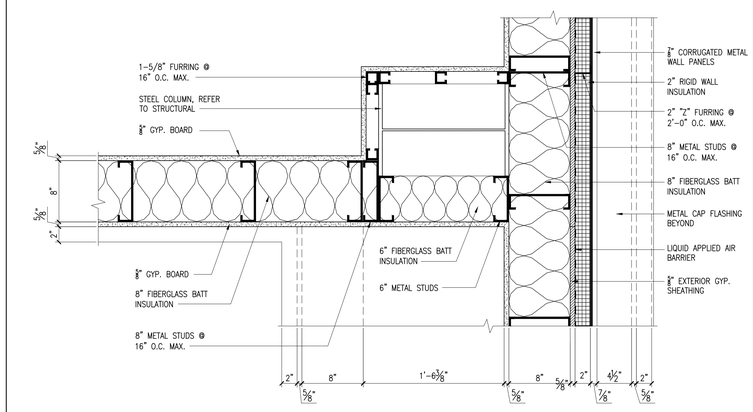

B3	PLAN DETAIL
SCALE: 1-1/2" = 1'-0"	

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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

PLAN DETAILS

PROJECT NUMBER	**22019**
DATED	01/31/2025

A341

22019
01/31/2025
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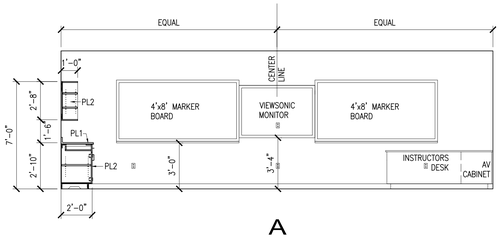
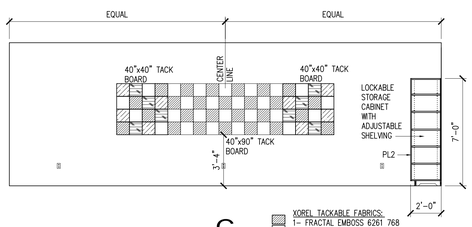


A

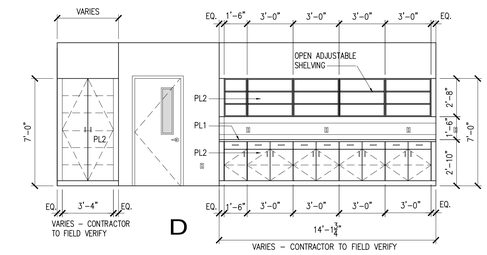
B

PLASTIC LAMINATES
PL1 (COUNTERTOPS) – WILSONART 4879-38 "STEEL MESH", FINE VELVET FINISH
PL2 (BASE CABINETS / UPPER SHELVING / STORAGE CABINET) – WILSONART D503-60 "CEMENT", MATTE FINISH



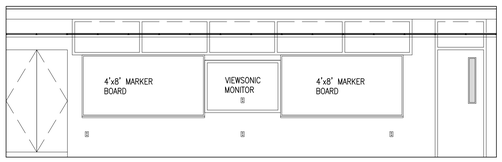
C

XOREL TACKABLE FABRICS:
1– FRACTAL EMBOSS 6261 768
2– BRAD 6211 25
3– FRACTAL EMBOSS 6261 753
4– BLUE ROOM USE METEOR 6427 730
GREEN ROOM USE ARROW 6031 5



D

E1	TYPICAL CLASSROOM - INTERIOR ELEVATIONS (BUILDING A)
SCALE: 1/4" = 1'-0"	ROOM 126



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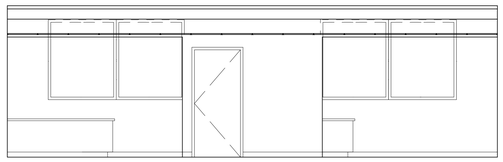

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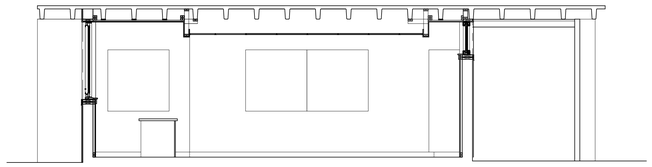
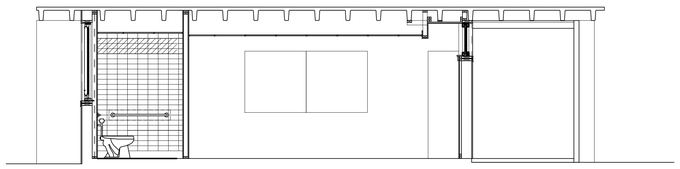


C

D1	TYPICAL CLASSROOM - INTERIOR ELEVATIONS (BUILDING K)
SCALE: 1/4" = 1'-0"	ROOM 201



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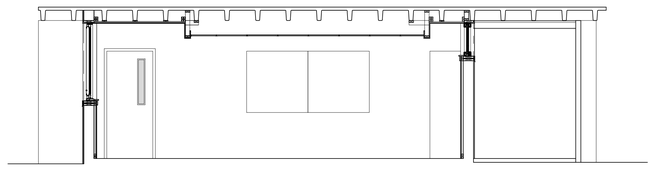
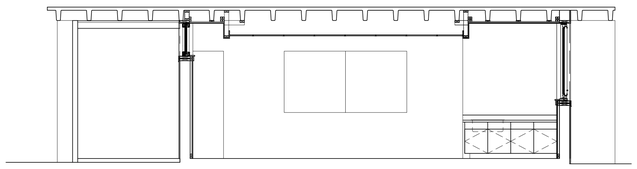
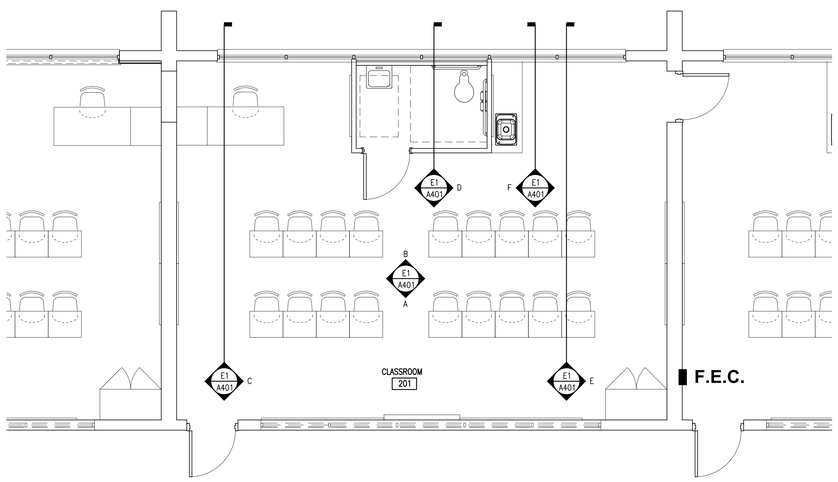


E

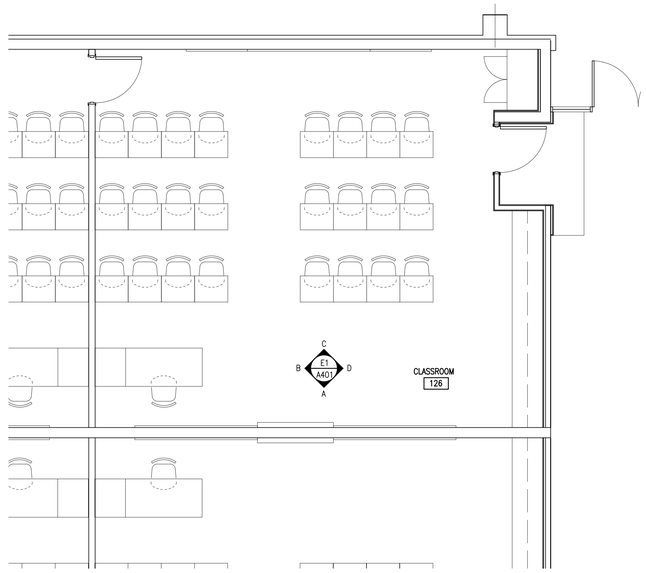


F

C1	TYPICAL CLASSROOM - INTERIOR ELEVATIONS (BUILDING K)
SCALE: 1/4" = 1'-0"	ROOM 201



A1	ENLARGED PLAN OF TYP. CLASSROOM
SCALE: 1/4" = 1'-0"	BUILDING K



A3	ENLARGED PLAN OF TYP. CLASSROOM
SCALE: 1/4" = 1'-0"	BUILDING A

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

ENLARGED CLASSROOM PLAN
- INTERIOR ELEVATIONS

PROJECT NUMBER 22019
DATED 01/31/2025

A401

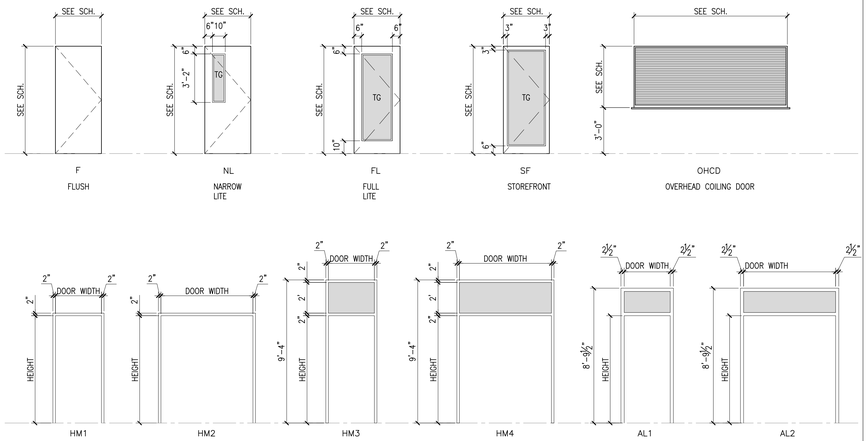
22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	DOOR MATERIAL	DOOR SIZE	FRAME TYPE	FRAME MATERIAL	FRAME: DOOR DETAILS ARE LABELED ON THE "TYPES" OF THIS SHEET — HEAD (DETAIL, LOCATED ON SHEET A501.2 & A501.3)	FRAME: JAMB	FRAME: SILL	FIRE RATING LABEL	REMARKS SEE SPECIFIC NOTES
C007	NL	GHM	3'-0"x7'-0"	HM1	GHM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100A	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100B	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100C	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100D	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
101	NL	SCWD	3'-0"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A3 / 501.2	60 MIN	
102	NL	SCWD	3'-0"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	60 MIN	
103	NL	SCWD	PR 4'-0"x7'-0"	HM2	HM	E2 / 501.2	D2 / 501.2	A3 / 501.2	60 MIN	
106A	SF	AL	PR 3'-0"x7'-0"	AL2	HM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106B	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106C	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106D	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
107	SF	AL	3'-0"x7'-0"	AL1	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
107A	SF	AL	3'-0"x7'-0"	AL1	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	DOOR ADDED ON REV. 2
108	FL	SCWD	3'-0"x7'-0"	HM1	HM	C1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
108A	OHCD SEE SPECS		10'-0"Wx4'-0"H"	O.H. ROLLING COIL DOOR		E1 / 501.3 SIM	D1 / 501.3 SIM	C1 / 501.3 SIM	N/A	BASIS OF DESIGN - MANUF.: OVERHEAD DOOR / MODEL: 650 ROLLING COUNTER DOOR, FACE MOUNT / OPERATION: MANUAL PUSH UP RH
109	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
110	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
111	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
112	F	GHM	3'-0"x7'-0"	HM1	GHM	C3 / 501.2	B2 & B3 / A501.2	A2 / 501.2	N/A	
201	F	GHM	PR 3'-0"x7'-0"	HM2	GHM	C2 / 501.2	B2 / 501.2	A2 / 501.2	N/A	
203	F	GHM	PR 3'-0"x7'-0"	HM2	GHM	C2 / 501.2	B2 / 501.2	A2 / 501.2	N/A	
DOORS LISTED BELOW WERE DELETED OR RENUMBERED ON SCOPE REDUCTION										
101A										
113										
114										
115										
116										
117										
118										
119										
120										
121										
122										
122A										
122B										
123										
123A										
124										
124A										
125										
125A										
126										
126A										
127										
127A										
128										
128A										
129										
130A										
131A										
132										
133										
C001										
C001A										
C002										
C003										
C003A										
C004										
C004A										
C005										
C005A										
C006										

C3 DOOR AND FRAME SCHEDULE

SCALE: 1/4" = 1'-0"



B3 H.M. DOOR AND FRAME TYPES

SCALE: 1/4" = 1'-0"

DOOR SCHEDULE GENERAL NOTES

1. MATERIAL ABBREVIATIONS
   HM = HOLLOW METAL
   GHM = GALVANIZED HOLLOW METAL
   SCWD = SOLID CORE WOOD DOOR
   SF = ALUMINUM STOREFRONT
   AL = ALUMINUM
   PR = PAIR
2. UNLESS NOTED OTHERWISE WHERE GLASS OCCURS IN DOORS PROVIDE TEMPERED GLASS (TG)
3. GLASS TYPE ABBREVIATIONS SEE SPECIFICATIONS
4. UNLESS NOTED OTHERWISE ALL DOORS ARE 1-3/4" THICK.
5. SEE DOOR HARDWARE SPECIFICATIONS FOR HARDWARE LOCKSET SCHEDULE.
6. ALL STOREFRONT DOOR GLASS TO BE LAMINATED GLASS (LG).
7. ALL STOREFRONT TRANSOM GLASS TO BE INSULATED, SEE SPECIFICATIONS.
8. EXTERIOR AND WET AREA HOLLOW METAL FRAMES AND DOORS TO BE GALVANIZED.
9. ALL CLASSROOM DOORS OFF OF CORRIDORS TO HAVE A CLOSER.

A3 GENERAL NOTES

SCALE: NTS

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
DOOR & WINDOW
SCHEDULES

PROJECT NUMBER	22019
DATED	01/31/2025

A501.A

PLOT DATE: 3/10/2026 12:37:11 PM
DWG. LOCATION: G:\PC Harrison\Projects\2022 Projects\22019 Palm Bay Gymatorium\B-Design\B2Schematic Design\B2Working\Docs\A501.A Door & Frame Schedule.dwg
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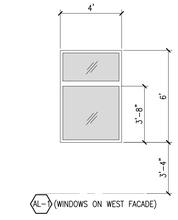
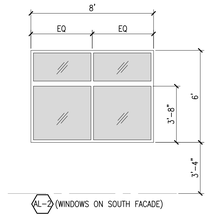


BASIS OF DESIGN: FL 550 (CORAL INDUSTRIES) – 2-1/2" X 5" WITH 1-5/16 INSULATED LAMINATED GLAZING.



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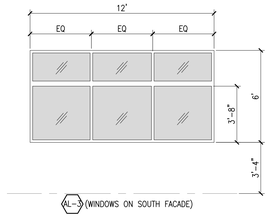

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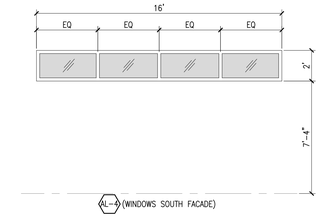
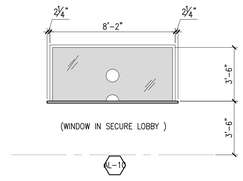


BASIS OF DESIGN: FL 550 (CORAL INDUSTRIES) – 2-1/2" X 5" WITH 1-5/16 INSULATED LAMINATED GLAZING.



BASIS OF DESIGN: FL 550 (CORAL INDUSTRIES) – 2-1/2" X 5" WITH 1-5/16 INSULATED LAMINATED GLAZING.

C3	STOREFRONT WINDOW TYPES / ELEVATIONS
SCALE: 1/4" = 1'-0"	

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

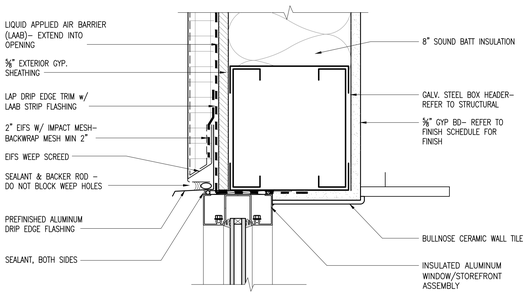
No.	Description	Date

WINDOW AND WALL PANEL TYPES / ELEVATIONS

PROJECT NUMBER	22019
DATED	01/31/2025

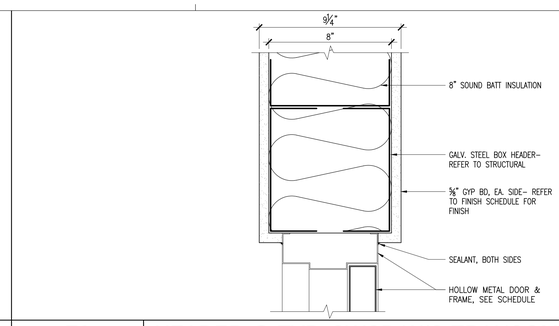
A501.1

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



E1 HEAD @ R.R. TRANSOM WINDOW

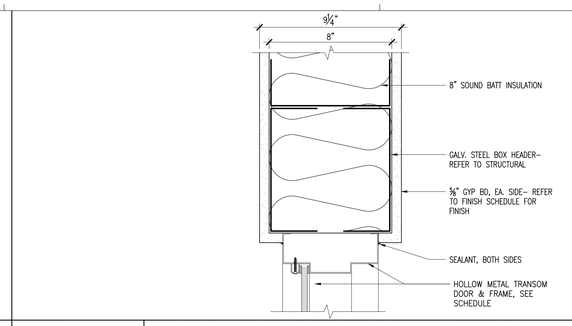
SCALE: 3"=1'-0"



E2 HEADER @ TYP. SWCD W/O TRANSOM

SCALE: 3"=1'-0"

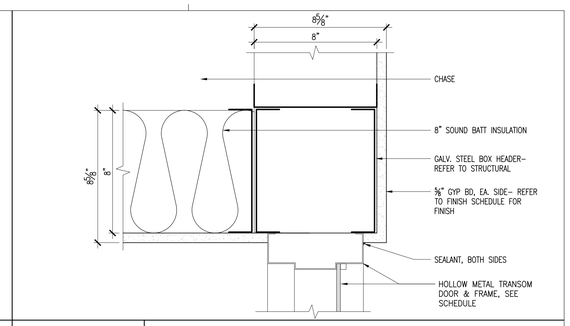
8" INTERIOR GYP. BD. WALL



E3 HEADER @ TYP. SWCD W/ TRANSOM

SCALE: 3"=1'-0"

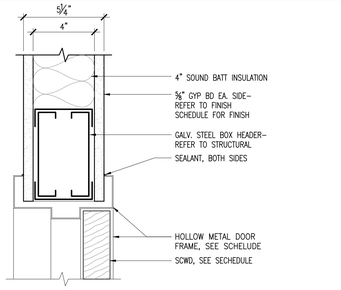
8" INTERIOR GYP. BD. WALL



E4 HEADER @ GYM SWCD W/ TRANSOM

SCALE: 3"=1'-0"

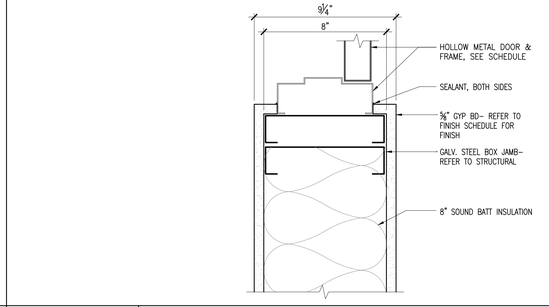
8" INTERIOR GYP. BD. CHASE WALL



D1 HEAD W/O TRANSOM @ TYP. SCWD

SCALE: 3"=1'-0"

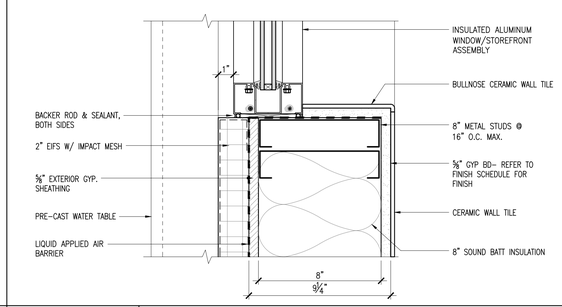
4" INTERIOR GYP. BD. WALL



D2 JAMB @ TYP. INTERIOR SCWD

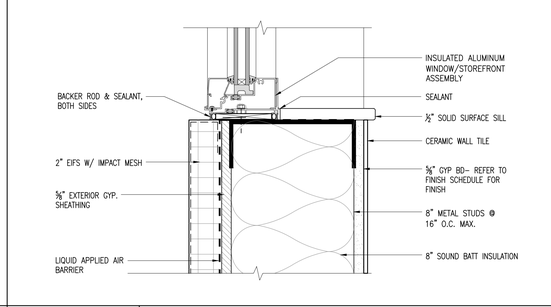
SCALE: 3"=1'-0"

8" INTERIOR GYP. BD. WALL



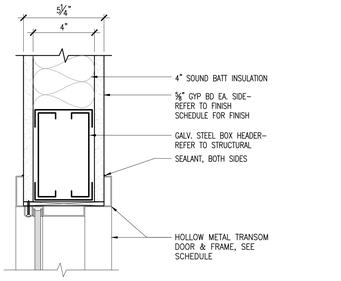
D3 JAMB @ R.R. TRANSOM WINDOW

SCALE: 3"=1'-0"



D4 SILL @ R.R. TRANSOM WINDOW

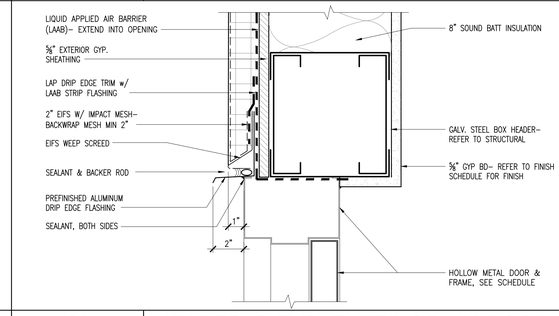
SCALE: 3"=1'-0"



C1 HEADER W/ TRANSOM @ TYP. SCWD

SCALE: 3"=1'-0"

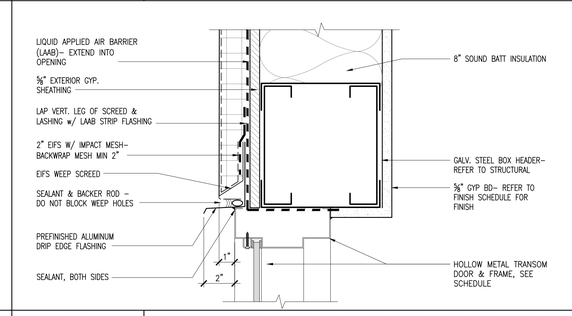
4" INTERIOR GYP. BD. WALL



C2 HEADER @ TYP. EXTERIOR HM DOOR

SCALE: 3"=1'-0"

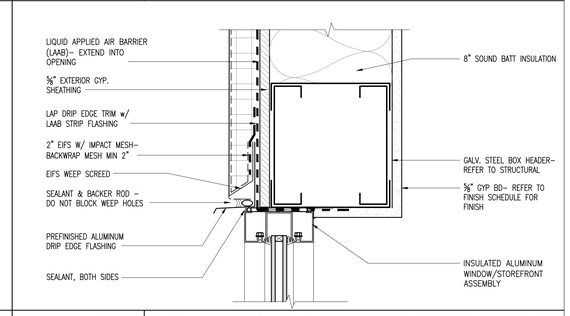
8" EXTERIOR WALL



C3 HEADER @ TYP. EXTERIOR HM TRANSOM

SCALE: 3"=1'-0"

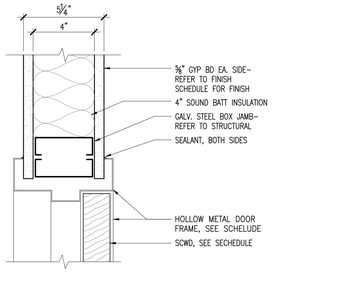
8" EXTERIOR WALL



C4 HEADER @ TYP. EXTERIOR WINDOW

SCALE: 3"=1'-0"

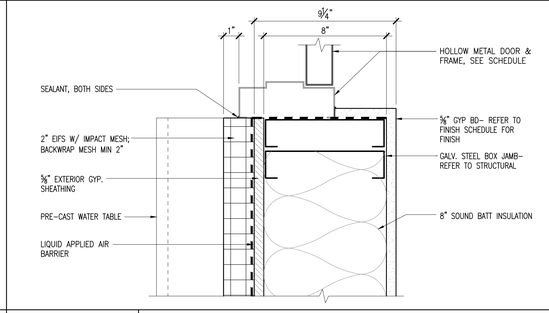
8" EXTERIOR WALL



B1 JAMB @ TYP. INTERIOR SCWD

SCALE: 3"=1'-0"

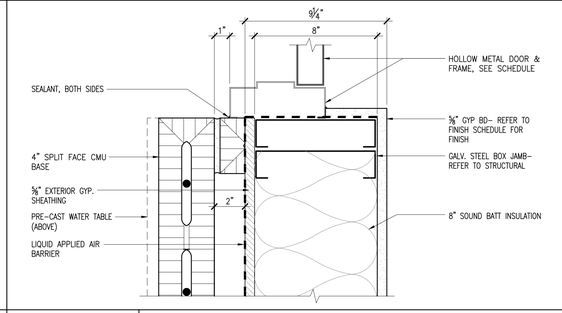
4" INTERIOR GYP. BD. WALL



B2 JAMB @ TYP. EXTERIOR HM DOOR

SCALE: 3"=1'-0"

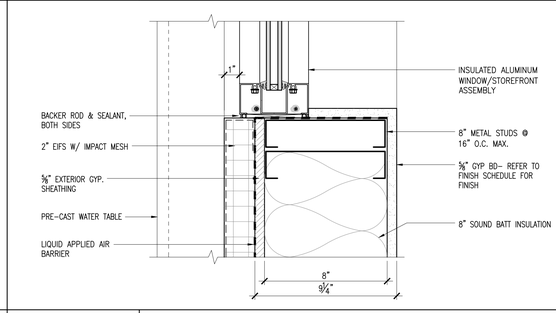
ABOVE WATER TABLE



B3 JAMB @ TYP. EXTERIOR HM DOOR

SCALE: 3"=1'-0"

BELOW WATER TABLE



B4 JAMB @ TYP. EXTERIOR WINDOW

SCALE: 3"=1'-0"

8" EXTERIOR WALL

A1 THRESHOLD @ TYP. SCWD

SCALE: 3"=1'-0"

4" OR 8" INTERIOR GYP. BD. WALL

A2 THRESHOLD @ EXTERIOR HM DOOR

SCALE: 3"=1'-0"

8" EXTERIOR WALL

A3 THRESHOLD @ GYM DOOR

SCALE: 3"=1'-0"

INTERIOR

A4 SILL @ TYP. EXTERIOR WINDOW

SCALE: 3"=1'-0"

8" EXTERIOR WALL

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

HEAD, JAMB, & SILL DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

A501.2

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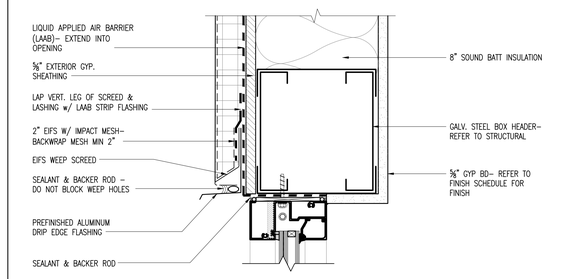
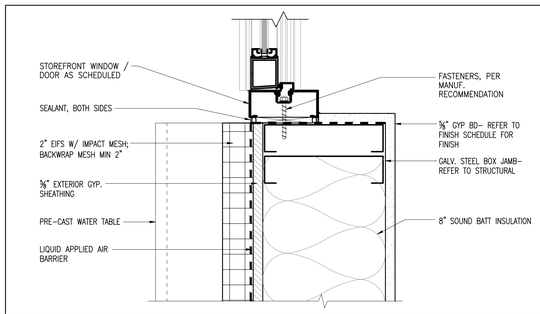
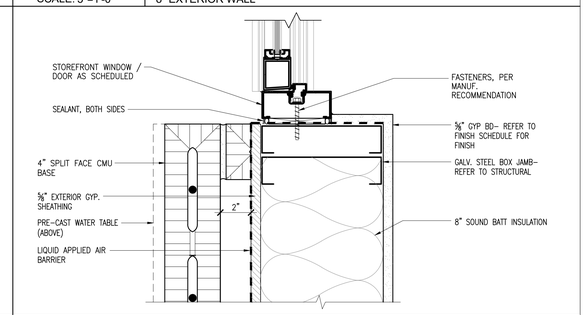
01/31/2025



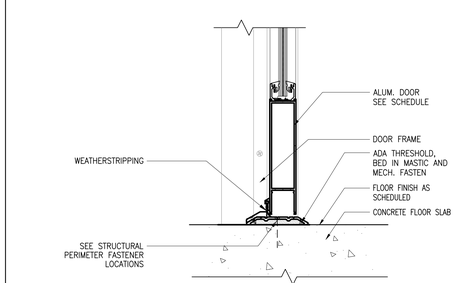
C2	HEADER @ TYP. EXTERIOR SF DOOR
SCALE: 3"=1'-0"	8" EXTERIOR WALL



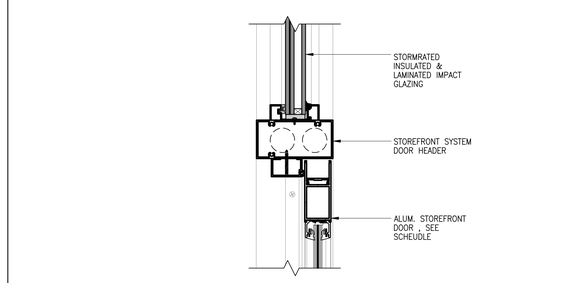
B1	JAMB @ TYP. EXTERIOR SF DOOR
SCALE: 3"=1'-0"	ABOVE WATER TABLE



B2	JAMB @ TYP. EXTERIOR SF DOOR
SCALE: 3"=1'-0"	BELOW WATER TABLE



A1	THRESHOLD @ EXTERIOR SF DOOR
SCALE: 3"=1'-0"	8" EXTERIOR WALL



A2	HEADER @ TYP. EXT TRANSOM DOOR
SCALE: 3"=1'-0"	8" EXTERIOR WALL

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

HEAD, JAMB, & SILL DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

A501.3

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

FIRST FLOOR FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	FLOOR BASE	WALLS								CEILING			REMARKS
		FINISH		NORTH		EAST		SOUTH		WEST		MATERIAL	FINISH	HEIGHT	
				MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH				
100	GYM	WD	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
101	EQ. STORAGE	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
102	STAGE	WD	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
103	TABLE/CHAIR STORAGE	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
104	MEN	EPXF	-	CWT	-	CWT	-	CWT	-	CWT	-	GB	PTD	10'-0"	
105	WOMEN	EPXF	-	CWT	-	CWT	-	CWT	-	CWT	-	GB	PTD	10'-0"	
106	ENTRY VESTIBULE	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	9'-4"	
107	PRINCIPAL	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
108	RECEPTION / LOBBY	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
109	OFFICE	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
110	CONFERENCE RM.	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
111	OFFICE	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
112	BREAK ROOM	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
113	OFFICE	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
114	TELECOM	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
115	SUPPLIES	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	10'-0"	
116	OFFICE	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
117	PRINCIPAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
118	ELECTRICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
119	WOMEN	EPXF	-	GYP.BD.	PTD	CWT	-	CWT	-	GYP.BD.	PTD	GB	PTD	9'-4"	
120	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
121	MEN	EPXF	-	GYP.BD.	PTD	GYP.BD.	PTD	CWT	-	CWT	-	GB	PTD	9'-4"	
122	WARMING KITCHEN	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	9'-4"	
122A	STORAGE	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	9'-4"	
123	CLASSROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
123A	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
124	CLASSROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
124A	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
125	CLASSROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
125A	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
126	CLASSROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
126A	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
127	CLASSROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
127A	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
128	CLASSROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
128A	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
129	STORAGE	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
130	BOYS	EPXF	-	CWT	-	CWT	-	CWT	-	CWT	-	GB	PTD	9'-4"	
131	GIRLS	EPXF	-	CWT	-	CWT	-	CWT	-	CWT	-	GB	PTD	9'-4"	
132	BREAK OUT ROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
133	BREAK OUT ROOM	CPT 2	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
C001	CORRIDOR	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
C002	CORRIDOR	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
C003	CORRIDOR	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
C004	CORRIDOR	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
C005	CORRIDOR	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	
C006	CORRIDOR	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	10'-0"	

ABBREVIATIONS

ACT	2'x2' SUSPENDED ACOUSTICAL CEILING SYSTEM
WD	WOOD FLOOR ASSEMBLY
CONC	CONCRETE – SEALED
CPT1	CARPET TILE 1
CPT2	CARPET TILE 2
CTB	CERAMIC TILE BASE
CWT	CERAMIC WALL TILE
EPXF	EPOXY TYPE FLOORING WITH INTEGRAL BASE
EQ	EQUIPMENT
EXP	EXPOSED STRUCTURE (PRIME AND PAINT)
GB	GYPSUM BOARD, CEILING/SOFFIT – TEXTURE: LEVEL 3, LIGHT TEXTURE, SEE SPECIFICATIONS
GBSC	SUSPENDED GYPSUM BOARD CEILING SYSTEM – TEXTURE: LEVEL 3, LIGHT TEXTURE, SEE SPECIFICATIONS
GYP.BD.	GYPSUM WALL BOARD – ABUSE RESISTANT – TEXTURED FINISH, SEE SPECIFICATIONS
MAT	MATERIAL
PC	CONCRETE – POLISHED
PTD	PAINT
RBR	4" RUBBER BASE
SCONC	CONCRETE – STAINED
SAF	SYNTHETIC ATHLETIC FLOORING
CTBB	CEMENTITIOUS TILE BACKER BOARD
VCT	VINYL COMPOSITION TILE
WGB	NEW WATER RESISTANT GYPSUM BOARD FOR THIN SET TILE

SEE SPECIFICATION FOR ADDITIONAL INFORMATION.

ROOM FINISH SCHEDULE GENERAL NOTES

1. FINISH COLOR SELECTIONS BY ARCHITECT
2. ALL NEW GYP. BOARD WALLS FINISH SEE SPECIFICATIONS.
3. PROVIDE AND INSTALL BLINDS AT ALL EXTERIOR WINDOWS.
4. ROOM SIGNAGE IS TO BE MOUNTED AT LATCH SIDE OF DOOR OUTSIDE OF ROOM.

ROOM FINISH SCHEDULE SPECIFIC NOTES (REMARKS COLUMN)

1. ALL VISIBLE PORTIONS OF CEILING AREA, INCLUDING STRUCTURE, DECKING AND BRACING, TO BE PRIMED AND PAINTED.
2. COMM./ELEC. ROOMS AND IT ROOM, INSTALL PAINTED FIRE RETARDED PLYWOOD FROM BASE TO CEILING, SEE SPECIFICATIONS.
3. ELEVATOR WALLS AND CEILING, SEE SPECIFICATIONS

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A1 | ROOM FINISH SCHEDULE
SCALE: NTS

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

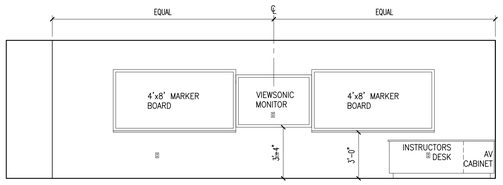
No.	Description	Date

FINISH SCHEDULE

PROJECT NUMBER 22019
DATED 01/31/2025

A502

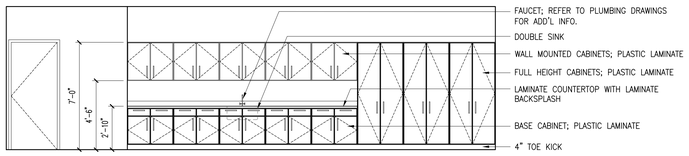
22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



E1 — CLASSROOM - NORTH / SOUTH

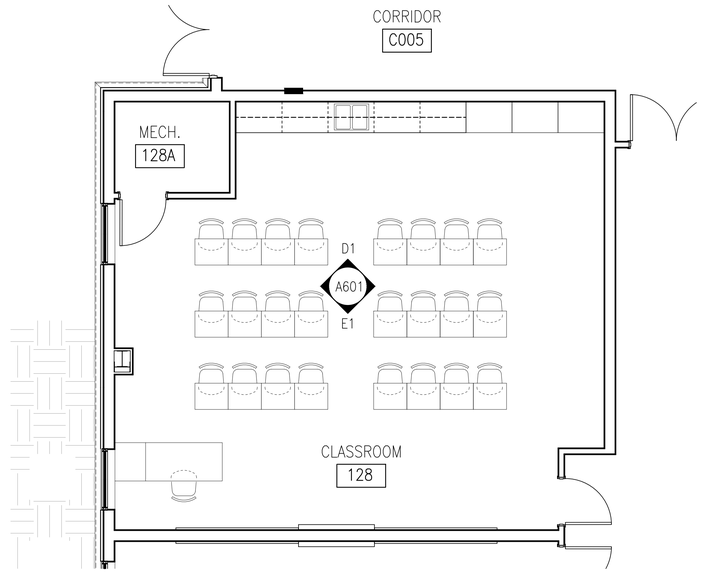
SCALE: 1/4" = 1'-0" | ROOMS 123 - 128

NOTE:
CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.



D1 — CLASSROOM - NORTH / SOUTH

SCALE: 1/4" = 1'-0" | ROOMS 123 - 128



D2 — GENERAL CLASSROOM PLAN

SCALE: 1/4" = 1'-0" | ROOMS 123 - 128

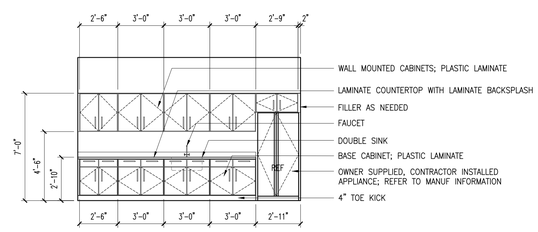
NOTES:

1. PROVIDE INSULATED COVERINGS ON ALL PIPES BENEATH ALL LAVATORIES SIMILAR TO LAVATORY GUARD. LPG – LAVATORY PIPE GUARD
2. ALL ITEMS FURNISHED AND INSTALLED BY CONTRACTOR.
3. INSTALL WOOD BLOCK IN THE WALL FOR MOUNTING ALL ACCESSORIES.
4. INSTALL MARBLE THRESHOLD AT ALL TILE TO OTHER FLOORING TRANSITIONS.

B1 — N/A

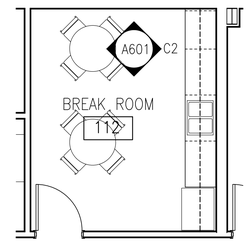
SCALE: NTS | .

NOTE:
CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.



C2 — BREAK ROOM - EAST

SCALE: 1/4" = 1'-0" | ROOM 112



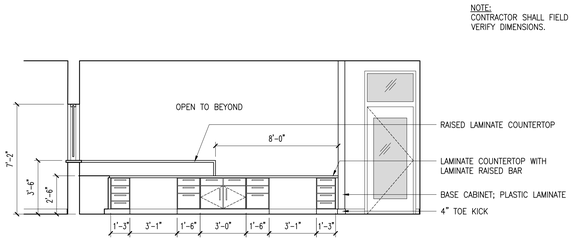
C3 — BREAK ROOM PLAN

SCALE: 1/4" = 1'-0" | ROOM 112

B1 — N/A

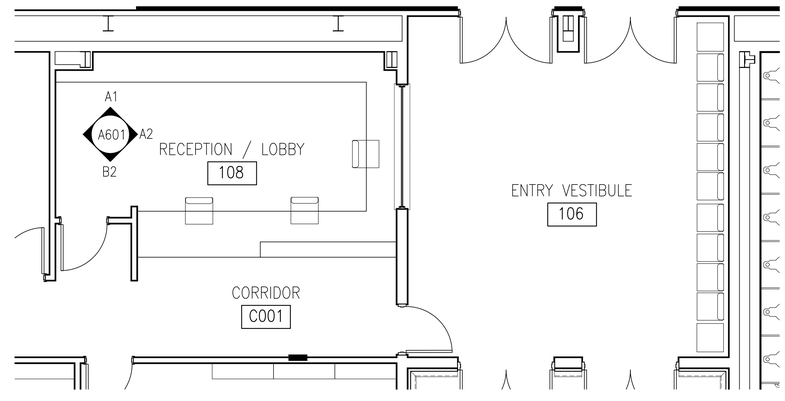
SCALE: NTS | .

NOTE:
CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.



B2 — RECEPTION - SOUTH

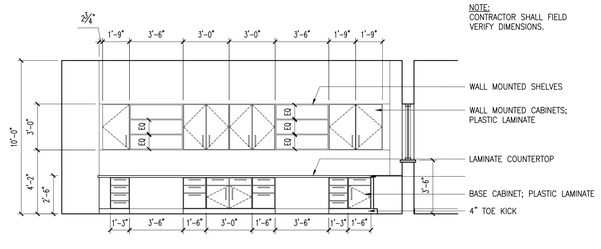
SCALE: 1/4" = 1'-0" | ROOM 108



A3 — RECEPTION / LOBBY PLAN

SCALE: 1/4" = 1'-0" | ROOM 108

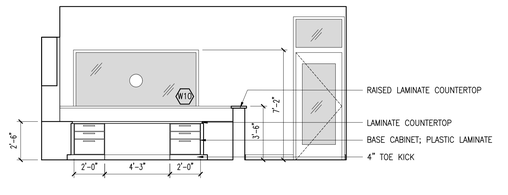
NOTE:
CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.



A1 — RECEPTION - NORTH

SCALE: 1/4" = 1'-0" | ROOM 108

NOTE:
CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.



A2 — RECEPTION - EAST

SCALE: 1/4" = 1'-0" | ROOM 108

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

INTERIOR ELEVATIONS

PROJECT NUMBER	22019
DATED	01/31/2025

A601

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22019
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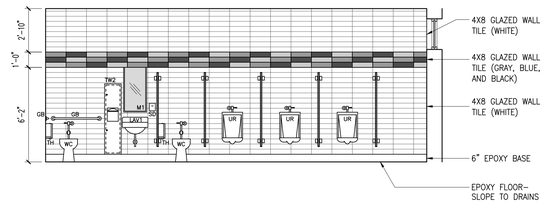
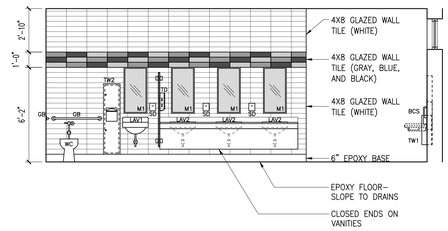
01/31/2025



E1 MEN'S RESTROOM - EAST

SCALE: 1/4" = 1'-0" | ROOM 104



E2 WOMEN'S RESTROOM - EAST

SCALE: 1/4" = 1'-0" | ROOM 105

PLUMBING FIXTURE SCHEDULE

NO.	MANUF.	MODEL NO.	DESCRIPTION	REMARKS
BCS	KOOLA KARE	KB310-SSRE	BABY CHANGING STATION	SURFACE MOUNTED BCS, MOUNT PER MANUF. INSTRUCTIONS.
GB	BOBRICK	B-5806.99x36 B-5806.99x42	GRAB BAR (36" LENGTH BHIND WC & 42" TO THE SIDE OF THE WC)	MOUNT CENTERLINE OF GRAB BAR 2'-10" AFF
M1	BOBRICK	B-2908 18x36	FRAMED MIRROR	MOUNT BOTTOM OF MIRROR 3'-3" AFF
MBH	BOBRICK	B-223X24	MOP AND BROOM HOLDER	3 HOLDER WALL MOUNTED MBH, MOUNT TOP 6'-0" AFF
SD	BOBRICK	B-2112	WALL MOUNTED SOAP DISPENSER	SURFACE WALL MOUNTED SD, MOUNT BOTTOM OF DISPENSER 3'-11½" AFF
SN1	BOBRICK	B-353	SANITARY NAPKIN DISPOSAL	RECESSED MOUNTED SND, MOUNT TOP OF DISPOSAL 2'-6" AFF
SN2	BOBRICK	B-254	SANITARY NAPKIN DISPOSAL	SURFACE MOUNTED SND, MOUNT TOP OF DISPOSAL 2'-6" AFF
SNV	BOBRICK	B-2706 25	SANITARY NAPKIN VENDOR	SURFACE MOUNTED SNV, MOUNT TOP OF VENDOR 5'-2" AFF
TD	BOBRICK	B-262	TOWEL DISPENSER	SURFACE MOUNTED TD, MOUNT TOP OF TD 4'-8" AFF
TH	BOBRICK	B-2892	TOILET TISSUE HOLDER TWIN JUMBO-ROLL DISPENSER	SURFACE MOUNTED TH, MOUNT TOP OF TOILET PAPER HOLDER 2'-6" AFF
TW1	BOBRICK	B-3944	TOWEL DISPENSER AND WASTE RECEPTACLE	RECESSED MOUNTED TW1, MOUNT TOP OF TD 5'-7½" AFF
TW2	BOBRICK	B-38034	TOWEL DISPENSER AND WASTE RECEPTACLE	RECESSED MOUNTED TW2, MOUNT TOP OF TD 4'-11¾" AFF
LAV1	–	WALL MOUNTED LAVATORY		REFER TO PLUMBING DRAWINGS
LAV2	–	LAVATORY		REFER TO PLUMBING DRAWINGS
MS	–	MOP SINK		REFER TO PLUMBING DRAWINGS
UR	–	WALL MOUNTED URINAL		REFER TO PLUMBING DRAWINGS
WC	–	WATER CLOSET		REFER TO PLUMBING DRAWINGS

NOTES:

1. PROVIDE INSULATED COVERINGS ON ALL PIPES BENEATH ALL LAVATORIES SIMILAR TO LAVATORY GUARD. LPG – LAVATORY PIPE GUARD
2. ALL ITEMS FURNISHED AND INSTALLED BY CONTRACTOR.
3. INSTALL WOOD BLOCK IN THE WALL FOR MOUNTING ALL ACCESSORIES.
4. INSTALL MARBLE THRESHOLD AT ALL TILE TO OTHER FLOORING TRANSITIONS.

D4 FIXTURE SCHEDULE & NOTES

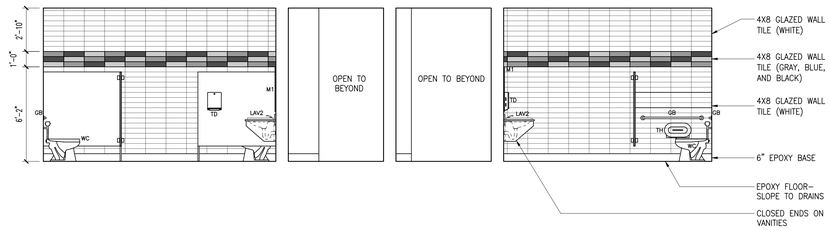
SCALE: NTS

D1 MEN'S / WOMEN'S RESTROOM - SOUTH

SCALE: 1/4" = 1'-0" | ROOM 104 / 105

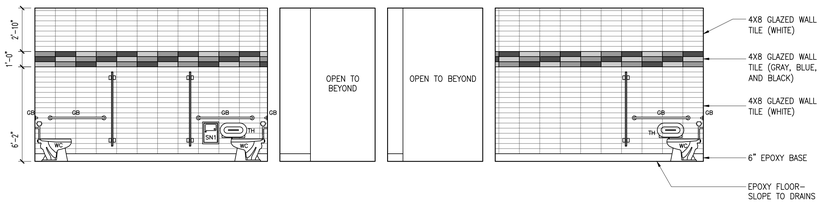
D3 TOILET ACC.

SCALE: NTS | ROOM N / A



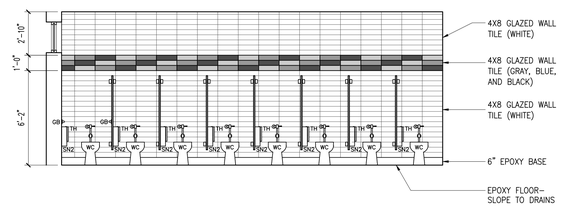
C1 MEN'S / WOMEN'S RESTROOM - NORTH 1

SCALE: 1/4" = 1'-0" | ROOM 104 / 105



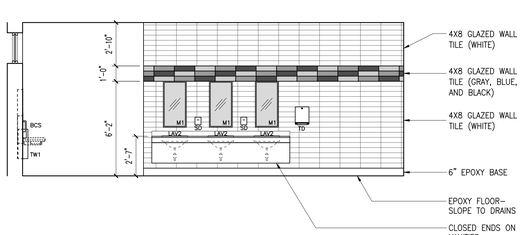
C2 MEN'S / WOMEN'S RESTROOM - NORTH 2

SCALE: 1/4" = 1'-0" | ROOM 104 / 105



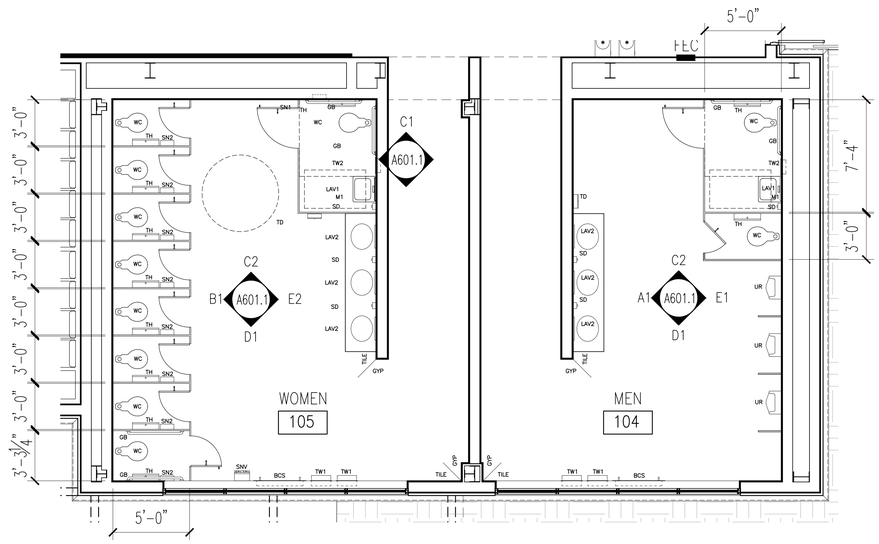
B1 WOMEN'S RESTROOM - WEST

SCALE: 1/4" = 1'-0" | ROOM 105



A1 MEN'S RESTROOM - WEST

SCALE: 1/4" = 1'-0" | ROOM 104



A2 ENLARGED PLAN OF GANG TOILETS

SCALE: 1/4" = 1'-0" | ROOM N / A

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DAG ARCHITECTS

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

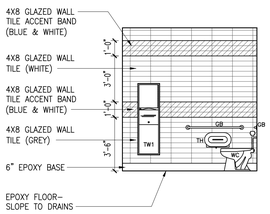
No.	Description	Date

INTERIOR ELEVATIONS

PROJECT NUMBER 22019
DATED 01/31/2025

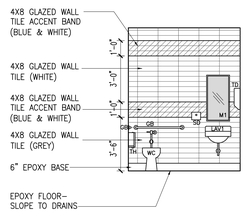
A601.1

22019
01/31/2025
100% CONSTRUCTION DOCUMENTS



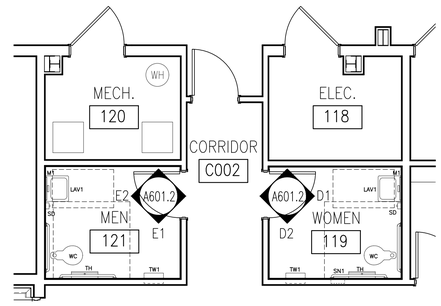
E1 | MEN'S - SOUTH

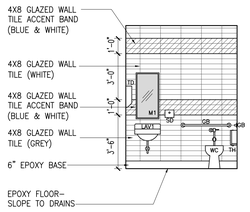
SCALE: 1/4" = 1'-0" | ROOM 121



E2 | MEN'S - WEST

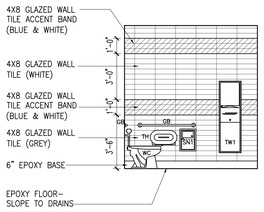
SCALE: 1/4" = 1'-0" | ROOM 121





D1 | WOMEN'S - EAST

SCALE: 1/4" = 1'-0" | ROOM 119



D2 | WOMEN'S - SOUTH

SCALE: 1/4" = 1'-0" | ROOM 119

D3 | JAN. TYP.

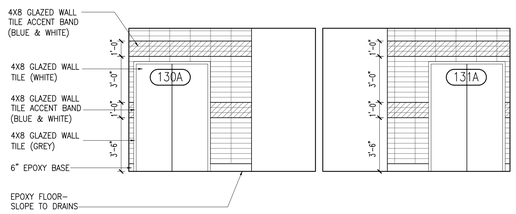
SCALE: 1/4" = 1'-0" | ROOMS 119 / 121

PLUMBING FIXTURE SCHEDULE

NO.	MANUF.	MODEL NO.	DESCRIPTION	REMARKS
BCS	KOOLA KARE	KB310–SSRE	BABY CHANGING STATION	SURFACE MOUNTED BCS, MOUNT PER MANUF. INSTRUCTIONS.
GB	BOBRICK	B–5806.99x36 B–5806.99x42	GRAB BAR (36" LENGTH BHIND WC & 42" TO THE SIDE OF THE WC)	MOUNT CENTERLINE OF GRAB BAR 2'–10" AFF
M1	BOBRICK	B–2908 18x36	FRAMED MIRROR	MOUNT BOTTOM OF MIRROR 3'–3" AFF
MBH	BOBRICK	B–223X24	MOP AND BROOM HOLDER	3 HOLDER WALL MOUNTED MBH, MOUNT TOP 6'–0" AFF
SD	BOBRICK	B–2112	WALL MOUNTED SOAP DISPENSER	SURFACE WALL MOUNTED SD, MOUNT BOTTOM OF DISPENSER 3'–11½" AFF
SN1	BOBRICK	B–353	SANITARY NAPKIN DISPOSAL	RECESSED MOUNTED SND, MOUNT TOP OF DISPOSAL 2'–6" AFF
SN2	BOBRICK	B–254	SANITARY NAPKIN DISPOSAL	SURFACE MOUNTED SND, MOUNT TOP OF DISPOSAL 2'–6" AFF
SNV	BOBRICK	B–2706 25	SANITARY NAPKIN VENDOR	SURFACE MOUNTED SNV, MOUNT TOP OF VENDOR 5'–2" AFF
TD	BOBRICK	B–262	TOWEL DISPENSER	SURFACE MOUNTED TD, MOUNT TOP OF TD 4'–8" AFF
TH	BOBRICK	B–2892	TOILET TISSUE HOLDER TWIN JUMBO–ROLL DISPENSER	SURFACE MOUNTED TH, MOUNT TOP OF TOILET PAPER HOLDER 2'–6" AFF
TW1	BOBRICK	B–3944	TOWEL DISPENSER AND WASTE RECEPTACLE	RECESSED MOUNTED TW1, MOUNT TOP OF TD 5'–7½" AFF
TW2	BOBRICK	B–38034	TOWEL DISPENSER AND WASTE RECEPTACLE	RECESSED MOUNTED TW2, MOUNT TOP OF TD 4'–11¾" AFF
LAV1	–	WALL MOUNTED LAVATORY		REFER TO PLUMBING DRAWINGS
LAV2	–	LAVATORY		REFER TO PLUMBING DRAWINGS
MS	–	MOP SINK		REFER TO PLUMBING DRAWINGS
UR	–	WALL MOUNTED URINAL		REFER TO PLUMBING DRAWINGS
WC	–	WATER CLOSET		REFER TO PLUMBING DRAWINGS

NOTES:

1. PROVIDE INSULATED COVERINGS ON ALL PIPES BENEATH ALL LAVATORIES SIMILAR TO LAVATORY GUARD. LPG – LAVATORY PIPE GUARD
2. ALL ITEMS FURNISHED AND INSTALLED BY CONTRACTOR.
3. INSTALL WOOD BLOCK IN THE WALL FOR MOUNTING ALL ACCESSORIES.
4. INSTALL MARBLE THRESHOLD AT ALL TILE TO OTHER FLOORING TRANSITIONS.



C1 | BOY'S / GIRL'S - NORTH 1

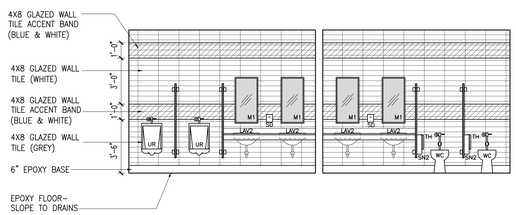
SCALE: 1/4" = 1'-0" | ROOMS 130 / 131

C2 | .

SCALE: NTS

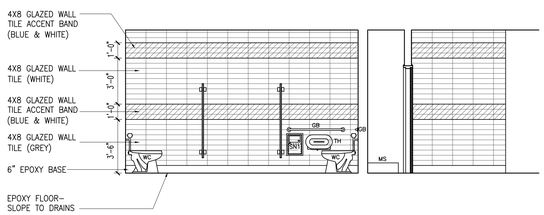
C3 | FIXTURE SCHEDULE & NOTES

SCALE: NTS



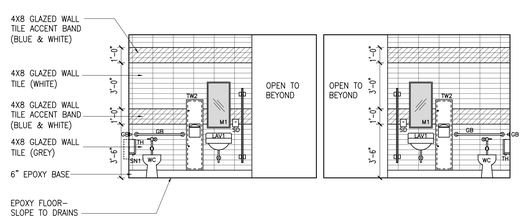
B1 | BOY'S / GIRL'S - NORTH 2

SCALE: 1/4" = 1'-0" | ROOMS 130 / 131



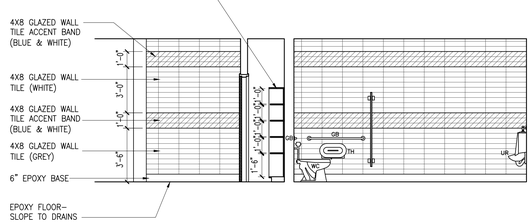
B2 | GIRL'S - EAST

SCALE: 1/4" = 1'-0" | ROOM 131



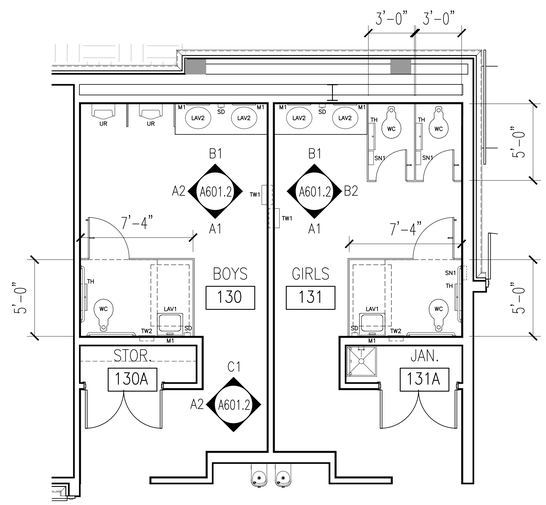
A1 | BOY'S / GIRL'S - SOUTH

SCALE: 1/4" = 1'-0" | ROOMS 130 / 131



A2 | BOY'S - WEST

SCALE: 1/4" = 1'-0" | ROOMS 130 / 131



A3 | ENLARGED PLAN OF GANG TOILETS

SCALE: 1/4" = 1'-0" | ROOMS 130 / 131

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PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

INTERIOR ELEVATIONS

PROJECT NUMBER 22019
DATED 01/31/2025

A601.2

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

LEGEND

FW	FIRE WATER SUPPLY (SITE)
PW	POTABLE WATER SUPPLY
WM	WATER MAIN
FW	EXISTING FIRE WATER SUPPLY
	FIRE SPRINKLER MAIN
	FIRE RISER
FDC	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT

SYSTEM ENGINEERING SUMMARY

AREA SERVICED	30,086 SF
HYDRAULICALLY MOST REMOTE AREA	1500 SF
HAZARD CLASSIFICATION OF REMOTE AREA	LIGHT HAZARD
SYSTEM DESIGN FLOW RATE (INDOOR)	195 GPM
OUTSIDE HOSE STREAM DEMAND	100 GPM
DOMESTIC DEMAND	0 GPM
TOTAL WATER DEMAND	295 GPM
WATER PRESSURE DATA	
END HEAD PRESSURE	7.0 PSI
ELEVATION LOSS	18.62 PSI
OUTSIDE FRICTION LOSS	7.62 GPM
BACK FLOW PREVENTOR	3 PSI
SAFETY FACTOR	10 PSI
AVAILABLE INSIDE FRICTION LOSS	20 PSI

DESIGN CRITERIA

THE NEW FACILITY SHALL BE PROTECTED BY A WET PIPE SPRINKLER SYSTEM. INCLUDE A DOMESTIC WATER DEMAND OF - GPM ON THE MAIN SERVING THE SITE FIRE AND DOMESTIC WATER SYSTEMS. THE WET PIPE SYSTEM SHALL BE HYDRAULICALLY DESIGNED WITH AN OUTSIDE HOSE STREAM ALLOWANCE AS NOTED ON EACH SYSTEM ENGINEERING SUMMARY AND DENSITY VALUES AS FOLLOWS:

LIGHT HAZARD = 0.10 GPM/SF WITH A MAXIMUM OF 225 SF COVERAGE PER SPRINKLER

ORDINARY HAZARD GROUP 1 = 0.15 GPM/SF WITH A MAXIMUM OF 130 SF COVERAGE PER SPRINKLER

ORDINARY HAZARD GROUP 2 = 0.20 GPM/SF WITH A MAXIMUM OF 130 SF COVERAGE PER SPRINKLER

THE SPRINKLER DESIGN SHALL BE BASED ON THE MOST HYDRAULICALLY DEMANDING 1500 SF. THE CONTRACTOR IS ALLOWED TO REDUCE THE DESIGN AREA BASED ON THE USE OF QUICK RESPONSE SPRINKLERS AND CEILING HEIGHT IN ACCORDANCE WITH NFPA 13.

THE DESIGN OF THE SPRINKLER SYSTEM SHALL BE BASED UPON WATER SUPPLY INFORMATION OBTAINED BY THE SPRINKLER CONTRACTOR AND WITNESSED BY THE AUTHORITY HAVING JURISDICTION. WATER SUPPLY SHALL BE PRESUMED AVAILABLE AT THE POINT OF CONNECTION OF THE FIRE MAIN TO THE WATER SUPPLY SYSTEM. THE FOLLOWING FLOW TEST DATA WAS OBTAINED BY THE ENGINEER ON OCTOBER 11, 2022, PROVIDED BY SEAGO FIRE PROTECTION.

HYDRANT #1:

STATIC = 67

RESIDUAL = 51

HYDRANT #2:

FLOWING = 760

COEFFICIENT = 0.9

GENERAL NOTES

1. IT IS NOTED THAT SOME AREAS WILL BE REQUIRED TO BE PROTECTED AS ORDINARY HAZARD (MECHANICAL ROOMS, ETC.) THESE AREAS HAVE BEEN IDENTIFIED BY A DIFFERENT HATCHING PATTERN THEN THE LIGHT HAZARD AREAS ON THE PLANS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN CURRENT WATER FLOW DATA AND DESIGN SPRINKLER SYSTEMS ACCORDINGLY. SHALL OBTAIN CURRENT WATER FLOW DATA AND DESIGN MODIFICATIONS ACCORDINGLY.
3. MAINTAIN THE INTEGRITY OF ALL FIRE RATED ASSEMBLIES AND ACOUSTICAL ASSEMBLIES.
4. CONTRACTOR SHALL COORDINATE SYSTEM DESIGN WITH ALL OTHER TRADES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING INSPECTOR'S TEST LOCATIONS IN ACCORDANCE WITH NFPA 13 AND THE AUTHORITY HAVING JURISDICTION.
6. ALL PIPING SHALL OBSERVE PROPER PITCH. PROVIDE DRAINS FOR LOW POINTS.
7. THE SPRINKLER SYSTEM SHALL BE ARRANGED FOR FLUSHING. READILY REMOVABLE FITTINGS SHALL BE PROVIDED AT THE END OF ALL CROSSMAINS.
8. PIPE HANGERS SHALL BE INSTALLED AS REQUIRED BY NFPA 13 FOR SUPPORTING SPRINKLER PIPING. NO OTHER PIPING OR DEVICES SHALL BE ATTACHED TO THE SPRINKLER HANGER SYSTEM UNLESS THE HANGER HAS BEEN DESIGNED TO CARRY THE ADDITIONAL LOAD.
9. THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.
10. ALL ABOVE GROUND WET SPRINKLER PIPE THAT IS THREADED SHALL BE SCHEDULE 40 BLACK WITH BLACK CAST/MALEABLE IRON FITTINGS WITH JOINTS PER NFPA 13. TEFLON TAPE SHALL BE ADDED TO ALL MALE THREADS OF PIPE AS A JOINING COMPOUND. CPVC PIPING IS NOT ACCEPTABLE.
11. ALL ABOVE GROUND WET SYSTEM SPRINKLER PIPE THAT IS WELDED OR ROLL-GROOVED SHALL BE SCHEDULE 10 BLACK WITH BLACK CAST/MALEBLE IRON FITTINGS WITH JOINTS PER NFPA 13. CPVC PIPING IS NOT ACCEPTABLE.
12. INSTALL SPRINKLER HEADS CENTER OF TILE IN ACOUSTICAL CEILINGS. HEAD LOCATIONS SHALL BE GUIDED BY ARCHITECTURAL ELEMENTS FOR OTHER CEILING TYPES.
13. DO NOT LOCATE INSPECTORS TEST LOCATIONS OR DRAINS IN FINISHED SPACES. INDICATE ALL LOCATIONS OF EXPOSED PIPING ON SHOP DRAWINGS.
14. FLEXIBLE CONNECTIONS TO SPRINKLER HEADS ARE NOT ALLOWED.
15. PROVIDE CLASS II WET STANDPIPES WITH 1.5" HOSE STATIONS ON EACH SIDE OF THE STAGE IN ACCORDANCE WITH NFPA 14.

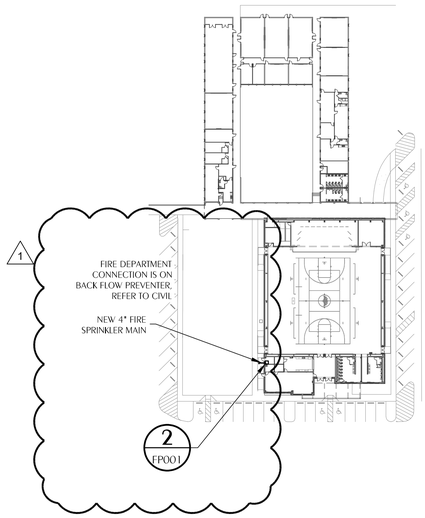
WATER BASED SPRINKLER SYSTEM REQUIREMENTS

1. THE POINT OF SERVICE AND BACKFLOW PREVENTER ARE SHOWN FOR REFERENCE ONLY. REFER TO THE CIVIL SITE UTILITY PLAN FOR FURTHER INFORMATION.
2. THE BUILDING SHALL BE FULLY SPRINKLED IN ACCORDANCE WITH THE MOST RECENT EDITION OF NFPA 13 AND LOCAL CODES.
3. REFER TO PLAN SHEETS AND HAZARD CLASSIFICATION LEGEND FOR HAZARD CLASSIFICATION OF EACH ROOM OR AREA.
4. THE NEW SYSTEMS SHALL SHALL BE HYDRAULICALLY CALCULATED IN ACCORDANCE WITH NFPA 13.

   LIGHT HAZARD: 0.10 GPM/SF, MAX 225 SF PER HEAD, 15 FT MAX NOMINAL SPACING, ORDINARY TEMPERATURE RATING HEADS.
   ORDINARY HAZARD GROUP 1: 0.15 GPM/SF, MAX 130 SF PER HEAD, 15 FT MAX NOMINAL SPACING, INTERMEDIATE TEMPERATURE RATING HEADS.
   ORDINARY HAZARD GROUP 2: 0.20 GPM/SF, MAX 130 SF PER HEAD, 15 FT MAX NOMINAL SPACING, INTERMEDIATE TEMPERATURE RATING HEADS.

   FOR ADDITIONAL REQUIREMENTS, REFER TO DESIGN CRITERIA NOTES ON THIS SHEET.

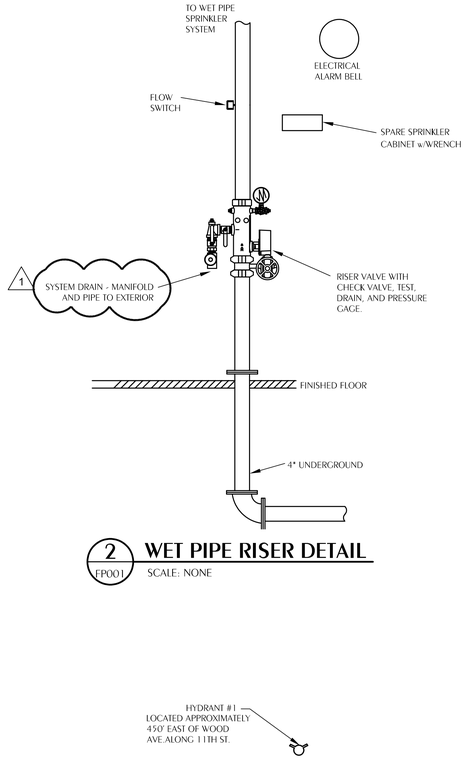
5. THE POINT OF SERVICE CONNECTION IS NOT A CIRCULATING MAIN.
6. REFER TO DESIGN CRITERIA NOTES ON THIS SHEET FOR FLOW TEST DATA.
7. REFER TO WET PIPE RISER DETAIL FOR VALVE AND SUPERVISION REQUIREMENTS.
8. MICROBIAL INDUCED CORROSION IS NOT ANTICIPATED IN THIS PROJECT.
9. REFER TO CIVIL SITE UTILITY DRAWINGS FOR BACKFLOW PREVENTER. MAXIMUM DESIGN PRESSURE DROP SHALL NOT EXCEED 3 PSI.
10. REFER TO DIVISION 21 SPECIFICATIONS FOR QUALITY AND PERFORMANCE SPECIFICATIONS OF ALL FIRE PROTECTION COMPONENTS.
11. NO FIRE PUMP IS REQUIRED.
12. NO ON SITE FIREWATER STORAGE TANK IS REQUIRED.



WEST 11TH STREET

HYDRANT #2
LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF 11TH ST. AND BALBOA AVE.

1 FP001 FIRE PROTECTION SITE PLAN
SCALE: 1" = 60'



2 FP001 WET PIPE RISER DETAIL
SCALE: NONE

HYDRANT #1
LOCATED APPROXIMATELY 450' EAST OF WOOD AVE. ALONG 11TH ST.

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WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
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Kaitlin A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: TLC

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REVISIONS:

No.	Description	Date
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FIRE PROTECTION LEGEND, NOTES, AND SITE PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

FP001

22019
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01/31/2025

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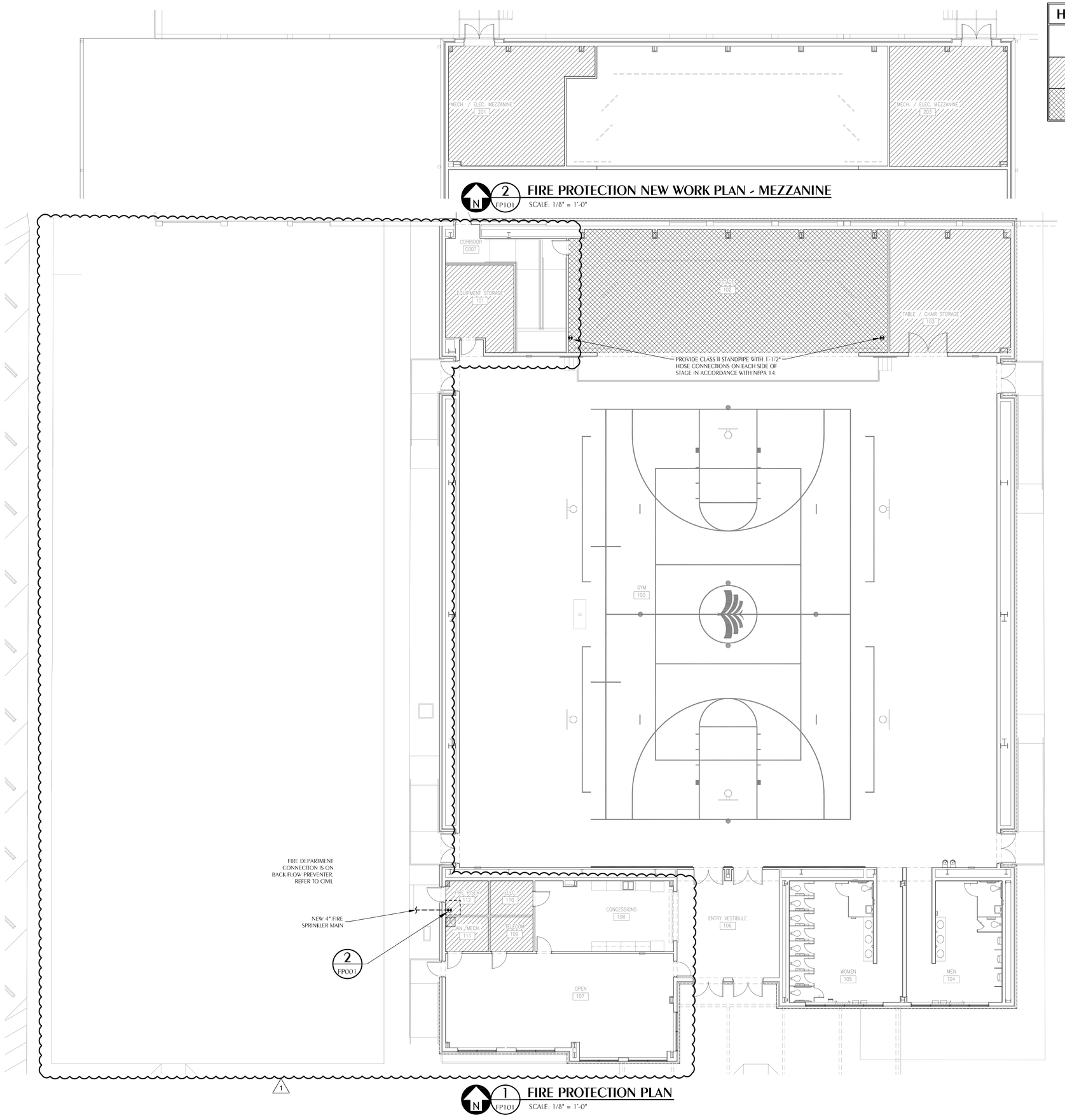
HAZARD CLASSIFICATION

	LIGHT HAZARD
	ORDINARY HAZARD GROUP 1
	ORDINARY HAZARD GROUP 2



N 2 FP101 **FIRE PROTECTION NEW WORK PLAN - MEZZANINE**
SCALE: 1/8" = 1'-0"

N 1 FP101 **FIRE PROTECTION PLAN**
SCALE: 1/8" = 1'-0"

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FIRE PROTECTION PLAN

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DATED	01/31/2025

FP101

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Checked By: KAJ
Drawn By: TLC

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100% CONSTRUCTION DOCUMENTS
01/31/2025

LEGEND

———	S OR W	SOIL OR WASTE PIPING
- - - - - -	V	VENT PIPING
—— CW ——	CW	COLD WATER SUPPLY PIPING
—— HW ——	HW	HOT WATER SUPPLY PIPING
—— HWR ——	HWR	HOT WATER RETURN PIPING
—— GAS —— GAS	G	GAS PIPING
	GV	GATE VALVE
	CV	CHECK VALVE
	BV	BALL VALVE
	HB	HOSE BIBB
	WH	WALL HYDRANT
	CO	CLEANOUT TO FLOOR
	FD	FLOOR DRAIN
	COTS	CLEANOUT TO GRADE
		UNION
	VTR	VENT THRU ROOF
1		SHEET NOTE
		POINT OF CONNECTION TO EXISTING
S		SOLENOID VALVE
	MR	MOP RECEPTOR
	WC	WATER CLOSET
	TP	TRAP PRIMER
	EWH	ELECTRIC WATER HEATER
	WHA	WATER HAMMER ARRESTOR TYPE A
	WHB	WATER HAMMER ARRESTOR TYPE B
	WHC	WATER HAMMER ARRESTOR TYPE C
	L	LAVATORY
	UR	URINAL
	KW	KILOWATT
	TVC	TEMPERATURE CONTROL VALVE
	MS	MASTER SHUT OFF VALVE
	S	SWITCH
	WV	WET VENT
	CP	CIRCULATOR PUMP
	HD	2" HUB DRAIN WITH FLEXIBLE TRAP SEAL BY MIFAB OR EQUAL ABOVE CEILING UNLESS NOTED
	MV	MIXING VALVE
	EWC	ELECTRIC WATER COOLER
	UB	UTILITY BOX
	SH	SHOWER
	SK	SINK

GENERAL NOTES

1. COORDINATE ALL PIPING WITH DUCTWORK SHOP DRAWINGS AND EXISTING CONDITIONS. ROUTE PIPING AS REQUIRED TO AVOID CONFLICTS.
2. PRIOR TO START OF ANY WORK, COORDINATE SANITARY SEWER AND POTABLE WATER PIPING WITH CIVIL DRAWINGS.
3. FIELD VERIFY PIPE INVERTS PRIOR TO LAYING OUT SANITARY SEWER PIPING.
4. ALL PIPING PASSING THROUGH ANY WALL SHALL HAVE A SLEEVE PER SPECIFICATIONS.
5. ALL PIPING PASSING THROUGH FIRE-RATED WALLS SHALL HAVE A FIRE-RATED SLEEVE PER SPECIFICATIONS. ALL PIPING PENETRATIONS THROUGH WALLS OR FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE WALLS OR FLOORS.
6. ALL PIPING INDICATED IS ABOVE THE CEILING EXCEPT THE OBVIOUS SANITARY SOIL, WASTE, VENT AND POTABLE WATER PIPING BELOW FLOOR OR GRADE.
7. SEE TOILET ROOM ELEVATIONS ON ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHT.
8. COORDINATE EXACT LOCATION OF ALL EXTERIOR WALL HYDRANTS WITH ARCHITECTURAL DRAWINGS.
9. UNDER SLAB SOIL, WASTE AND VENT PIPING PASSING TO UNDERSIDE OR THROUGH FOUNDATION FOOTING, WALL OR GRADE BEAM SHALL BE PROVIDED WITH A RELIEVING ARCH OR PIPE SLEEVE 2 (TWO) PIPE SIZES GREATER THAN PIPE SIZE INDICATED ON PLANS. COORDINATE FINAL PIPE ROUTING AND LAYOUT WITH STRUCTURAL DRAWINGS.
10. PRIOR TO SUBSTANTIAL COMPLETION OF NEW AND ALTERED WORK AREAS, CONTRACTOR SHALL HAVE SANITARY PLUMBING SYSTEM CLEARED OF DEBRIS OR ANY MATTER THAT WOULD INTERFERE OR PREVENT ADEQUATE CONVEYANCE OF MATERIALS FROM MOVING THROUGH AND TERMINATING INTO BUILDING OR PUBLIC DISPOSAL FACILITIES.
11. ALL (VTR'S) VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.
12. ALL TRAP PRIMERS AND DOMESTIC WATER ISOLATION VALVES SHALL BE ACCESSIBLE. TRAP PRIMERS LOCATED IN THE VICINITY OF WATER CLOSETS SHALL BE ACTIVATED BY WATER CLOSET USAGE. ISOLATION VALVES SHALL BE OF THE QUARTER TURN BALL OR GATE TYPE.
13. CONTRACTOR SHALL DEVELOP AND SUBMIT COORDINATION SHOP DRAWINGS WHICH IDENTIFY ROUTING OF PLUMBING PIPE AND LOCATION OF EQUIPMENT. SHOP DRAWINGS SHALL INDICATE COORDINATION WITH THE WORK OF OTHER TRADES.
14. ALL WORK SHALL COMPLY WITH THE FLORIDA BUILDING CODE 8TH EDITION (2023) PLUMBING.

PLUMBING SPECIFICATIONS

WC-1 WATER CLOSET, FLOOR-MOUNT (ADULT HANDICAP, MANUAL VALVE):

VITREOUS CHINA, 1.28 GALLONS PER FLUSH, ELONGATED, HIGH EFFICIENCY SIPHON JET, WHITE, WATER SAVER BOWL WITH 1-1/2" TOP SPUD, 17" HIGH FOR HANDICAPPED. EXPOSED CHROME PLATE FLUSH VALVE, WITH SCREWDRIVER STOP, VACUUM BREAKER, QUIET FLUSH FEATURE, WITH SWEAT SOLDER KIT AND CAST WALL FLANGE. HEAVY MOLDED PLASTIC, WHITE, ELONGATED, OPEN FRONT SEAT LESS COVER, WITH STAINLESS STEEL, SELF-SUSTAINING CHECK HINGES. HOLD CENTERLINE FLUSH VALVE ASSEMBLY OFF FINISH WALL FOR GRAB BAR CLEARANCES, COORDINATE WITH ARCHITECTURAL DRAWINGS.

WATER CLOSET	ZURN Z5665BWL
VALVE	ZURN Z6000PL-HET
SEAT	ZURN Z5955SS-EL-STS
CLOSET BOLT/WAX RING KIT	ZURN Z5972-COMB

WC-2 WATER CLOSET, FLOOR-MOUNT (ADULT STANDARD/CHILD ADA, MANUAL VALVE):

VITREOUS CHINA, 1.28 GALLONS PER FLUSH, ELONGATED, HIGH EFFICIENCY SIPHON JET, WHITE, WATER SAVER BOWL WITH 1-1/2" TOP SPUD. 15" HIGH FOR HANDICAPPED CHILDREN AGES 5 THROUGH 8. EXPOSED CHROME PLATE FLUSH VALVE, WITH SCREWDRIVER STOP, VACUUM BREAKER, QUIET FLUSH FEATURE, WITH SWEAT SOLDER KIT AND CAST WALL FLANGE. HEAVY MOLDED PLASTIC, WHITE, ELONGATED, OPEN FRONT SEAT LESS COVER, WITH STAINLESS STEEL, SELF-SUSTAINING CHECK HINGES.

WATER CLOSET	ZURN Z5654-BWL
VALVE	ZURN Z6000PL-HET
SEAT	ZURN Z5955SS-JUV-STS
CLOSET BOLT/WAX RING KIT	ZURNZ5972-COMB

UR-1 URINAL, WALL-MOUNT (HANDICAP, MANUAL VALVE):

VITREOUS CHINA, 0.5 GALLONS PER FLUSH, SIPHON JET FLUSH, 3/4" TOP SPUD, AND 2" OUTLET URINAL. EXPOSED CHROME PLATED FLUSH VALVE WITH SCREWDRIVER STOP, VACUUM BREAKER AND QUIET FLUSH FEATURE. MOUNT TO SATISFY ADA REQUIREMENTS, COORDINATE WITH ARCHITECTURAL DRAWINGS (TOILET ROOM ELEVATIONS) FOR FINAL MOUNTING HEIGHT. FURNISH FLOOR MOUNTED SINGLE CARRIER WITH HANGER PLATE, BEARING PLATE, ADJUSTABLE SUPPORTING RODS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325.

URINAL	ZURN Z5738-U
VALVE	ZURN Z6003AV
URINAL FLANGE KIT	ZURN Z5976-URINAL
CARRIER	ZURN Z-1222
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375

UR-2 URINAL, WALL-MOUNT (STANDARD, MANUAL VALVE):

VITREOUS CHINA, 0.5 GALLONS PER FLUSH, SIPHON JET FLUSH, 3/4" TOP SPUD, AND 2" OUTLET URINAL. EXPOSED CHROME PLATED FLUSH VALVE WITH SCREWDRIVER STOP, VACUUM BREAKER AND QUIET FLUSH FEATURE. SEE ARCHITECTURAL DRAWINGS (TOILET ROOM ELEVATIONS) FOR MOUNTING HEIGHT. FURNISH FLOOR MOUNTED SINGLE CARRIER WITH HANGER PLATE, BEARING PLATE, ADJUSTABLE SUPPORTING RODS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325.

URINAL	ZURN Z5738-U
VALVE	ZURN Z6003AV-EWS
URINAL FLANGE KIT	ZURN Z5976-URINAL
CARRIER	ZURN Z-1222
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375

L-1 LAVATORY, WALL-MOUNT HANDICAP):

VITREOUS CHINA 20" X 18", COLOR "WHITE", 8" ON CENTERS, FRONT OVERFLOW, FOR CONCEALED ARM SUPPORT. FURNISH FLOOR-MOUNTED SINGLE CARRIER WITH CONCEALED ARMS, LEVELING AND SECURING SCREWS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325. PROVIDE CHROME PLATED ANGLE STOP TO WALL WITH CHROME PLATED 3/8" FLEXIBLE SUPPLY AND LOOSE KEY OPERATOR, INTEGRAL PERFORATED CAST BRASS STRAINER WITH ELBOW AND 1-1/4" OFFSET TAILPIECE, CHROME PLATED 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL. POLISHED CHROME PLATED CAST BRASS WATER FAUCET WITH WRIST BLADE HANDLES, WITH 0.5 GPM AERATOR. LAVATORY P-TRAP AN ANGLE VALVE ASSEMBLIES SHALL BE INSULATED WITH FULLY MOLDED INSULATION KIT, AND LIGHT GRAY COLOR WITH 3-PIECE INTERLOCKING RAP ASSEMBLY AND 2-PIECE INTERLOCKING ANGLE VALVE ASSEMBLY. FASTENERS SHALL BE NYLON-TYPE SUPPLIED WITH KIT. LAVATORY SHALL BE MOUNTED WITH A CLEARANCE OF AT LEAST 28" FROM FLOOR TO BOTTOM OF THE APRON. KNEE AND TOE CLEARANCES SHALL BE AS FOLLOWS: 27" CLEAR HEIGHT SHALL BE PROVIDED FROM FINISHED FLOOR TO A POINT ON UNDERSIDE OF BOWL 8" IN FROM FRONT APRON. TOE CLEARANCE SHALL BE A MINIMUM HEIGHT OF 9" UNDER P-TRAP AND SUPPLIES OR STOPS. SEE ARCHITECTURAL DRAWINGS FOR FINAL MOUNTING HEIGHT. UNDER SINK MIXING VALVE WITH THREADED CONNECTION, BRONZE BODY, LIMITS HOT WATER BETWEEN 80ºF & 120ºF AND SET AT 95 DEGREE F, DOUBLE THROTTLING, INTEGRAL INLET FILTER WASHERS & CHECK VALVES, TAMPER RESISTANT LOCKING CAP. MEETS ASSE 1070 STANDARDS.

LAVATORY	ZURN Z5348
FAUCET	ZURN Z-81104-XL-3M
SUPPLY W/STOP	ZURN Z8800LRLK-PC
P-TRAP	ZURN Z8700-PC
STRAINER/TAILPIECE	ZURN Z8746
INSULATION KIT	ZURN Z8946-3-NT
CARRIER	ZURN Z-1231
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375
MIXING VALVE	MV-1

VITREOUS CHINA 20" X 18", COLOR "WHITE", 3 FAUCET HOLES ON 8" CENTER, FRONT OVERFLOW, FOR CONCEALED ARM SUPPORT. FURNISH FLOOR-MOUNTED SINGLE CARRIER WITH CONCEALED ARMS, LEVELING AND SECURING SCREWS, STRUCTURAL UPRIGHTS AND BLOCK BASES, SECURE BASE TO FLOOR FOR RIGID CONNECTION WITH 1/2" X 3-3/4" THREADED ZINC PLATED STEEL HEAVY DUTY WEDGE ANCHORS, COMPLETE WITH STAINLESS STEEL CLIP, WASHER AND THREADED NUT, CONFORMING TO FEDERAL SPEC. FF-S-325. PROVIDE CHROME PLATED ANGLE STOP TO WALL WITH CHROME PLATED 1/2" IPS X 3/8" OD FLEXIBLE COPPER SUPPLY RISERS AND LOOSE KEY OPERATOR, INTEGRAL PERFORATED CAST BRASS STRAINER WITH 1-1/4" OFFSET TAILPIECE AND P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL, WITH WATER SAVER TRAP PRIMER AND STAINLESS-STEEL PRIMER HOSE. POLISHED CHROME PLATED CAST BRASS SINGLE WATER METERING FAUCET WITH COVER PLATE, 0.5 GPM AERATOR OUTLET AND PUSH BUTTON. LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE INSULATED WITH FULLY MOLDED INSULATION KIT, AND LIGHT GRAY COLOR WITH 3-PIECE INTERLOCKING RAP ASSEMBLY AND 2-PIECE INTERLOCKING ANGLE VALVE ASSEMBLY. FASTENERS SHALL BE NYLON-TYPE SUPPLIED WITH KIT. LAVATORY SHALL BE MOUNTED WITH A CLEARANCE OF AT LEAST 28" FROM FLOOR TO BOTTOM OF THE APRON. KNEE AND TOE CLEARANCES SHALL BE AS FOLLOWS: 27" CLEAR HEIGHT SHALL BE PROVIDED FROM FINISHED FLOOR TO A POINT ON UNDERSIDE OF BOWL 8" IN FROM FRONT APRON. TOE CLEARANCE SHALL BE A MINIMUM HEIGHT OF 9" UNDER P-TRAP AND SUPPLIES OR STOPS. SEE ARCHITECTURAL DRAWINGS FOR FINAL MOUNTING HEIGHT. LAVATORY SHALL BE MOUNTED WITH A CLEARANCE OF AT LEAST 28" FROM FLOOR TO BOTTOM OF THE APRON. KNEE AND TOE CLEARANCES SHALL BE AS FOLLOWS: 27" CLEAR HEIGHT SHALL BE PROVIDED FROM FINISHED FLOOR TO A POINT ON UNDERSIDE OF BOWL 8" IN FROM FRONT APRON. TOE CLEARANCE SHALL BE A MINIMUM HEIGHT OF 9" UNDER P-TRAP AND SUPPLIES OR STOPS. SEE ARCHITECTURAL DRAWINGS FOR FINAL MOUNTING HEIGHT. FASTENERS SHALL BE NYLON-TYPE SUPPLIED WITH KIT. LAVATORY SHALL BE MOUNTED FROM FINISHED FLOOR TO A POINT ON UNDERSIDE OF BOWL 8" IN FROM FRONT APRON. FASTENERS SHALL BE NYLON-TYPE SUPPLIED WITH KIT AND CAST WALL FLANGE. HEAVY MOLDED PLASTIC, WHITE, ELONGATED, OPEN FRONT SEAT LESS COVER, WITH STAINLESS STEEL, SELF-SUSTAINING CHECK HINGES.

LAVATORY	ZURN Z5348
FAUCET	ZURN Z-86300-3M
SUPPLY W/STOP	ZURN Z-8802LRLK-PC
P-TRAP	ZURN Z1021
STRAINER/TAILPIECE	ZURN Z-8746
INSULATION KIT	ZURN Z8946-3-NT
AERATOR	ZURN -3M
CARRIER	ZURN Z-1231
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375
MIXING VALVE	MV-1

L-2 LAVATORY, WALL-MOUNT (HANDICAP):

VITREOUS CHINA 20" X 17", OVAL, COLOR "WHITE", CENTER HOLE SETTING, FRONT OVERFLOW. PROVIDE CHROME PLATED 1/2" IPS X 3/8"OD, LOOSE KEY OPERATED, ANGLE STOP TO WALL WITH CHROME PLATED 3/8" FLEXIBLE COPPER RISERS, INTEGRAL PERFORATED CAST BRASS STRAINER WITH ELBOW AND 1-1/4" OFFSET TAILPIECE, CHROME PLATED 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL. POLISHED CHROME PLATED CAST BRASS SINGLE WATER METERING FAUCET WITH COVER PLATE, 0.5 GPM AERATOR OUTLET AND PUSH BUTTON.

LAVATORY	ZURN Z5111
FAUCET	ZURN Z-86300-3M
SUPPLY W/STOP	ZURN Z8802LRLK-PC
P-TRAP	ZURN Z8700-PC
STRAINER/TAILPIECE	ZURN Z8746
CARRIER	ZURN Z-1231
BASE ANCHORAGE	B-LINE ANCHORS AWA-50-375
MIXING VALVE	MV-1

SK-1 DOUBLE COMPARTMENT STAINLESS STEEL SINK (MATERIAL STORAGE):

29" X 22" X 8" DEEP (BOWL IS 11-1/2X16X6-3/8), TYPE 304, 18 GAUGE, 8" CENTERS, SELF RIMMING SINGLE COMPARTMENT, (18-8) NICKEL BEARING STAINLESS STEEL, BACK LEDGE SINK WITH SATIN FINISH AND SOUND DEADENING MATERIALS ON SIDE AND BOTTOM OF SINK. PROVIDE POLISHED CHROME PLATED TOP MOUNT SWING GOOSENECK SPOUT AND VACUUM BREAKER, STRAIGHT LEVER HANDLES, PRESSURE COMPENSATING AERATOR, STRAINER WITH REMOVABLE CRUMB CUP AND STOPPER, CHROME PLATED 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT AND TUBE WASTE TO WALL. CHROME PLATED LOOSE KEY ANGLE STOP TO WALL WITH 3/8" CHROME PLATED FLEXIBLE HOT AND COLD WATER SUPPLIES. COORDINATE WITH CABINET SHOP DRAWINGS, BASE CABINET MUST BE A TRUE MINIMUM 24" DEEP BACK TO FRONT IN ORDER FOR SINK TO DROP INTO COUNTERTOP OPENING. SINK DRILLINGS SHALL ACCOMMODATE FITTING INSTALLATION, ONLY, NO OTHER CAPPED OPENINGS WILL BE ALLOWED.

SINK	ELKAY LRAD292265PD-3
FAUCET	ZURN Z-871 B1
STRAINER	ELKAY LK-35
SUPPLIES	ZURN Z-8800-LR-LK
P-TRAP	ZURN Z8700-PC
MIXING VALVE	MV-1

MV-1 WATER MIXING VALVE (THERMOSTATIC MIXING):

UNDER SINK 3/8" COMPRESSION FITTING MIXING VALVE, BRASS BODY, LEAD FREE, LIMITS HOT WATER BETWEEN 80ºF & 120ºF, DUAL CHECK VALVES, 0.25GPM MIN. FLOW, 40 MESH STAINLESS STEEL STRAINER, TAMPER RESISTANT LOCKING CAP. MEETS ASSE 1070 STANDARDS.

EXPOSED MIXING VALVE — WATTS LFUSG-B

UB-1 ICE MAKER HOOK-UP (REFRIGERATOR SPACE):

RECESSED METAL WALL BOX CONSTRUCTED AND SUITABLE FOR FIRE RATED PARTITIONS, COMPLETE WITH FACTORY INSTALLED SHANK VALVE WITH 1/4" O.D. COPPER OUTLET TESTED @ 100 P.S.I. PROVIDE APPROXIMATELY 5'-0" OF 1/4" O.D. SOFT COPPER TUBING WITH COMPRESSION FITTING IN TIGHT COIL. ANCHOR BOX TO WALL STRUCTURE. VERIFY LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS OR MOUNT TO MANUFACTURERS RECOMMENDATIONS.

WALL BOX — GUY GRAY BIM 875

CP-1 CIRCULATOR PUMP (INLINE TYPE):

INFINITELY VARIABLE CIRCULATOR MADE OF COMPOSITE CASING, HOUSING, IMPELLER, CERAMIC SHAFT, AND CARBON BEARINGS. A 44 WATT ECM PERMANENT MAGNET MOTOR AND ELECTRICAL CHARACTERISTICS ARE 120V/1 PHASE, 60 HZ., WITH 1" CONNECTIONS, MAXIMUM OPERATING PRESSURE OF 150 PSI, UL STANDARD 778 AND NSF CERTIFIED. DIGITAL TIMER WITH CIRCULATOR PROGRAMMING, TEMPERATURE AQUASTAT, MAINTAINS WATER TEMPERATURE BETWEEN 95ºF AND 115ºF. CIRCUIT SETTER CALIBRATED BALANCE VALVE, LEAD-FREE BRASS, WITH 1/4" NPT TAPPED DRAIN PORT, MEMORY STOP FEATURE, SET AT 1 CPM. PROVIDE CIRCUIT SOLVER A SELF-ACTING THERMOSTATIC RECIRCULATION VALVE SET AT 110ºF.

CIRCULATOR	TACO 006E3
TIMER	TACO 265-3
AQUASTAT	TACO 563-2
CIRCUIT SETTER	XYLEM CB-1/2S LF
RECIRCULATION VALVE (TVC)	CIRCUIT SOLVER CS-1/2-110,

EWH-1 ELECTRIC WATER HEATER:

ASHRAE STANDARD 90, GLASS LINED TANK SUITABLE FOR 150 PSI WORKING PRESSURE, 300-PSI TEST. FINISH OF DURABLE HIGH GLOSS BAKED ENAMEL. BLANKET GLASS FIBER INSULATION OVER ENTIRE TANK. CONTROL CIRCUIT TRANSFORMER AND MANUAL RESET HIGH TEMPERATURE LIMIT CONTROL. ASME PRESSURE AND TEMPERATURE RELIEF VALVE. WATER HEATER SHALL BE ACCEPTABLE FOR COMMERCIAL APPLICATION BY MANUFACTURER. PROVIDE 3 FULL YEAR WARRANTY, SNAP ACTION AUTOMATIC IMMERSION MOUNTED THERMOSTATS, IMMERSION TYPE HEATING ELEMENTS AND MAGNESIUM ANODE ROD. PROVIDE UNIT MOUNTED DISCONNECT SWITCH. PROVIDE INLET AND OUTLET SHUT-OFF VALVES, VACUUM RELIEF VALVE ON INLET WATER SUPPLY. PROVIDE GALVANIZED STEEL DRIP PAN. PROVIDE PRE-CHARGED EXPANSION TANK, OUTER STEEL SHELL (FLEXIBLE DIAPHRAGM TYPE), ON COLD WATER INLET SIDE OF WATER HEATER FOR THERMAL EXPANSION CONTROL, TANK VOLUME IN GALLONS SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE WATER HEATER SIZE IN GALLONS. 80 GAL 5KW 208V/3 PHASE. WIRED FOR SIMULTANEOUS OPERATION.

WATER HEATER	A. O. SMITH DEN 80
VACUUM RELIEF	WATTS 36A
EXPANSION TANK	AMTROL "THERM-X-TROL"

EWH-2 ELECTRIC WATER HEATER:

ASHRAE STANDARD 90, GLASS LINED TANK SUITABLE FOR 150 PSI WORKING PRESSURE, 300-PSI TEST. FINISH OF DURABLE HIGH GLOSS BAKED ENAMEL. BLANKET GLASS FIBER INSULATION OVER ENTIRE TANK. CONTROL CIRCUIT TRANSFORMER AND MANUAL RESET HIGH TEMPERATURE LIMIT CONTROL. ASME PRESSURE AND TEMPERATURE RELIEF VALVE. WATER HEATER SHALL BE ACCEPTABLE FOR COMMERCIAL APPLICATION BY MANUFACTURER. PROVIDE 3 FULL YEAR WARRANTY, SNAP ACTION AUTOMATIC IMMERSION MOUNTED THERMOSTATS, IMMERSION TYPE HEATING ELEMENTS AND MAGNESIUM ANODE ROD. PROVIDE UNIT MOUNTED DISCONNECT SWITCH. PROVIDE INLET AND OUTLET SHUT-OFF VALVES, VACUUM RELIEF VALVE ON INLET WATER SUPPLY. PROVIDE GALVANIZED STEEL DRIP PAN. PROVIDE PRE-CHARGED EXPANSION TANK, OUTER STEEL SHELL (FLEXIBLE DIAPHRAGM TYPE), ON COLD WATER INLET SIDE OF WATER HEATER FOR THERMAL EXPANSION CONTROL, TANK VOLUME IN GALLONS SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE WATER HEATER SIZE IN GALLONS. 36 GAL 3KW 208V/3 PHASE. WIRED FOR SIMULTANEOUS OPERATION.

WATER HEATER	A. O. SMITH DEL 30
VACUUM RELIEF	WATTS 36A
EXPANSION TANK	AMTROL "THERM-X-TROL"

FD FLOOR DRAIN:

DURA-COATED CAST IRON BODY, BOTTOM OUTLET AND TRAP PRIMER CONNECTION. TYPE B POLISHED NICKEL BRONZE STRAINER, MEMBRANE CLAMP & ADJUSTABLE COLLAR WITH SLOTS.

FLOOR DRAIN — ZURN Z-415B-P

WH RECESSED HOSE BIB & WALL HYDRANT:

ANTI-SIPHON VACUUM BREAKER, FLUSH MOUNTING STAINLESS STEEL WALL BOX WITH HINGED COVER, 3/4 INCH HOSE THREAD, BRONZE BODY AND INTER PARTS, WHEEL HANDLE, LOOSE KEY FAUCET OPERATED CONTROL VALVE, DUAL CHECK VALVE, SCREWDRIVER OPERATED STOP VALVE IN SUPPLY, NARROW INSTALLATION.

WALL FAUCET — ZURN Z1335

HB RECESSED HOSE BIB & WALL HYDRANT:

ANTI-SIPHON VACUUM BREAKER, FLUSH MOUNTING WALL BOX, 3/4 INCH, MALE HOSE THREAD, BRASS CASTING WITH CHROME FINISH POLYCARBONATE WHEEL HANDLE, LOOSE KEY FAUCET OPERATOR.

WALL FAUCET — WOODFORD MODEL B24

TP TRAP PRIMERS:

PROVIDE BRASS TRAP PRIMERS AND DISTRIBUTION UNITS TO SEAL FLOOR DRAINS INDICATED ON DRAWINGS. TRAP PRIMER VALVES SHALL BE AUTOMATIC, SELF CONTAINED TYPE WITH NO SPRINGS OR DIAPHRAGMS AND SHALL NOT REQUIRE ADJUSTMENT. INLET AND OUTLET SIZE IS 1/2". TRAP PRIMER VALVES SHALL BE THE TYPE THAT CAN BE INSTALLED ANYWHERE ON COLD WATER PIPING SIZE 1-1/2" OR LESS. DISTRIBUTION UNITS SHALL SUPPLY 1-4 FLOOR DRAINS. TRAP PRIMER VALVES SHALL COMPLY WITH ASSE 1018. PRECISION PLUMBING PRODUCTS (PPP)

TRAP PRIMER	PPP PR-500
DISTRIBUTION UNIT	PPP DU-U

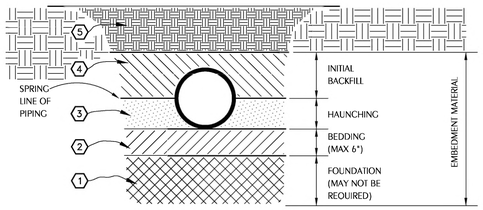
PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	FIXTURE CONNECTIONS			PIPE SIZES-INCHES			
		CW	HW	W	CW	HW	W	V
WC-1	WATER CLOSET (ADULT HANDICAP, MANUAL)	1	"	4	1	"	4	"
WC-2	WATER CLOSET (CHILD HANDICAP/ADULT STANDARD, MANUAL)	1	"	4	1	"	4	"
UR-1	URINAL (HANDICAP, MANUAL)	3/4	"	2	3/4	"	2	1-1/2
UR-2	URINAL (STANDARD, MANUAL)	3/4	"	2	3/4	"	2	1-1/2
L-1	LAVATORY (HANDICAP, 20X18)	1/2	1/2	2	3/8	3/8	1-1/4	1-1/2
L-2	LAVATORY (HANDICAP, 20X18)	1/2	1/2	2	3/8	3/8	1-1/4	1-1/2
SK-1	SINK (29"x22"x7-8")	1/2	1/2	2	3/8	3/8	1-1/2	1-1/2
UB-1	RECESSED UTILITY WALL BOX (ICE-MAKER HOOK-UP)	"	"	"	1/4	"	"	"
EWC-1	ELECTRIC WATER COOLER (DUAL LEVEL, BOTTLE FILL STATION)	1/2	"	2	3/8	"	1-1/2	"
MV-1	WATER MIXING VALVE	"	"	"	3/8	3/8	"	"
EWH-1	ELECTRIC WATER HEATER	1	1	"	3/4 INLET	3/4 OUTLET	"	"
EWH-2	ELECTRIC WATER HEATER	1	1	"	3/4 INLET	3/4 OUTLET	"	"
CP-1	CIRCULATOR PUMP(INLINE)	"	1/2	"	"	3/4 FLANGE	"	"
TCV-1	TEMPERATURE CONTROL VALVE	"	1/2	"	"	1/2	"	"
FD	FLOOR DRAIN	"	"	3	1/2	"	3	"
HB	HOSE BIBB	3/4	"	"	3/4	"	"	"
WH	RECESSED WALL HYDRANT	3/4	"	"	3/4	"	"	"
TP-1	TRAP PRIMER	"	"	"	1/2	"	"	"

1. WATER SUPPLY TAPPING TO EACH PLUMBING FIXTURE SHALL BE FULL SIZE (MINIMUM).
2. SEE ELECTRICAL DWGS FOR FINAL POWER REQUIREMENTS.
3. PROVIDE WATER HAMMER ARRESTERS ON HOT & COLD WATER SUPPLY BRANCHES SERVING SINGULAR, MULTIPLE OR GROUPS OF PLUMBING FIXTURES. ADHERENCE TO THE PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I.-WH201 (PER SPECIFICATIONS) SHALL BE EMPLOYED IN DETERMINING PROPER SIZE, SELECTION, PLACEMENT, LOCATION AND INSTALLATION OF ARRESTERS.

1. A FOUNDATION MAY BE REQUIRED IN VERY POOR SOIL CONDITIONS.
2. BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE. IN DRY SOIL CONDITIONS, CLASS II OR III MATERIAL SHALL BE HAND PLACED IN 4-6", LIGHTLY COMPACTED UNIFORM AND NOT FINER THAN THE FOUNDATION MATERIAL. IN WET CONDITIONS, CLASS I, II OR III MATERIAL SHALL BE HAND PLACED IN 4-6", UNIFORM AND NOT FINER THAN THE FOUNDATION MATERIAL. WHEN UTILIZING CLASS I MATERIAL, SUFFICIENT AMOUNTS OF CLASS II OR III MATERIAL SHALL BE ADDED TO FILL ALL VOIDS CREATED BY THE USE OF CLASS I MATERIAL.
3. HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. CLASS II OR III MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4. INITIAL BACKFILL MATERIAL SHALL BE CLASS II OR III. IT SHALL BE PLACED WITHIN 24-30" ABOVE THE TOP OF THE PIPE AND TAMPED BY A PORTABLE VIBRATOR. FINAL BACKFILL MATERIAL MAY BE MACHINE PLACED. THE MATERIAL SHALL BE CLASS II OR III MATERIAL. CLASS IV MATERIAL MAY BE INSTALLED OUTSIDE OF ROADWAY.
5. FINAL BACKFILL UNDER ROADWAYS MAY REQUIRE SPECIAL COMPACTION AND DENSITY TESTS. A MINIMUM OF 30" OF COVER OVER THE TOP OF THE PIPE SHALL BE PROVIDED BEFORE THE TRENCH IS WHEEL- LOADED.

NOTE:
ALL EMBEDMENT MATERIALS SHALL BE NO LESS THAN 95% OF MAXIMUM DENSITY. LABORATORY TESTING OF THE SOIL WILL BE REQUIRED. THIS PROCEDURE SHALL BE REQUIRED ON ALL INSTALLATIONS. ALL TRENCHING, EXCAVATION, AND BACKFILLING SHALL BE IN ACCORDANCE WITH 2023 FLORIDA BUILDING CODE, PLUMBING SECTION 306.



EMBEDMENT MATERIALS

CLASS I: ANGULAR, 1/4"-1-1/2", GRADED STONE, INCLUDING A NUMBER OF FILL MATERIALS THAT HAVE REGIONAL SIGNIFICANCE SUCH AS CORAL, SLAG, CINDERS, CRUSHED STONE AND CRUSHED SHELLS.

CLASS II: COARSE SANDS AND GRAVELS WITH MAXIMUM PARTICLE SIZE OF 1-1/2" INCLUDING VARIOUS GRADED SANDS AND GRAVELS CONTAINING SMALL PERCENTAGES OF FINES, GENERALLY GRANULAR AND NON-COHESIVE, EITHER WET OR DRY. SOIL TYPES GW, GP, SW, AND SP ARE INCLUDED IN THIS CLASS.

CLASS III: FINE SAND AND CLAY GRAVELS, INCLUDING FINE SANDS, SAND-CLAY MIXTURES AND GRAVEL-CLAY MIXTURES. SOIL TYPES GM, GC, SM, AND SC ARE INCLUDED IN THIS CLASS.

CLASS IV: SILT, SILTY CLAYS, AND CLAYS, INCLUDING INORGANIC CLAYS A

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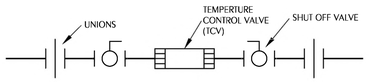
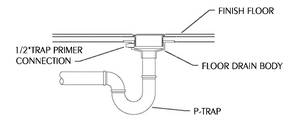
100% CONSTRUCTION DOCUMENTS
01/31/2025



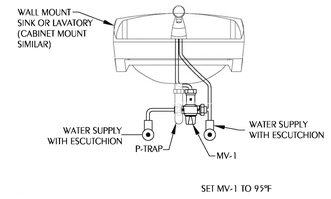
1 P002 THERMOSTATIC TEMPERATURE CONTROL VALVE DETAIL

SCALE: NONE



2 P002 FLOOR DRAIN WITH TRAP PRIMER DETAIL

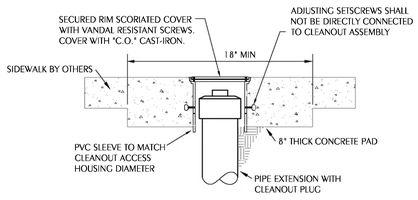
SCALE: NONE



3 P002 LAV/SINK MIXING VALVE DETAIL

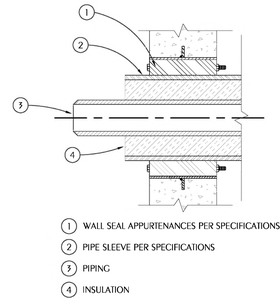
SCALE: NONE

NOTE: MIXING VALVE WILL BE TYPICAL FOR L-1, L-2, & SK-1



4 P002 CLEANOUT TO SIDEWALK

SCALE: NONE

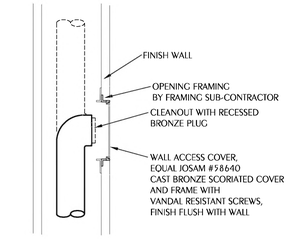


1. WALL SEAL APPURTENANCES PER SPECIFICATIONS
2. PIPE SLEEVE PER SPECIFICATIONS
3. PIPING
4. INSULATION

TYPICAL PIPE PENETRATION OF WALL

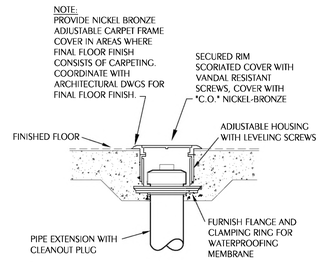
5 P002

SCALE: 1/8" = 1'-0"



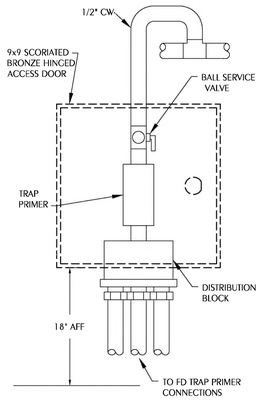
6 P002 CLEANOUT TO WALL

SCALE: NONE



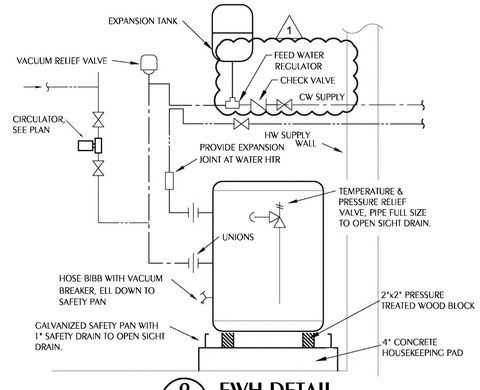
7 P002 CLEANOUT TO FLOOR

SCALE: NONE



8 P002 TRAP PRIMER DETAIL

SCALE: NONE



9 P002 EWH DETAIL

SCALE: NONE

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

PLUMBING DETAILS

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27825
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: TLC

PROJECT NUMBER	22019
DATED	01/31/2025

P002

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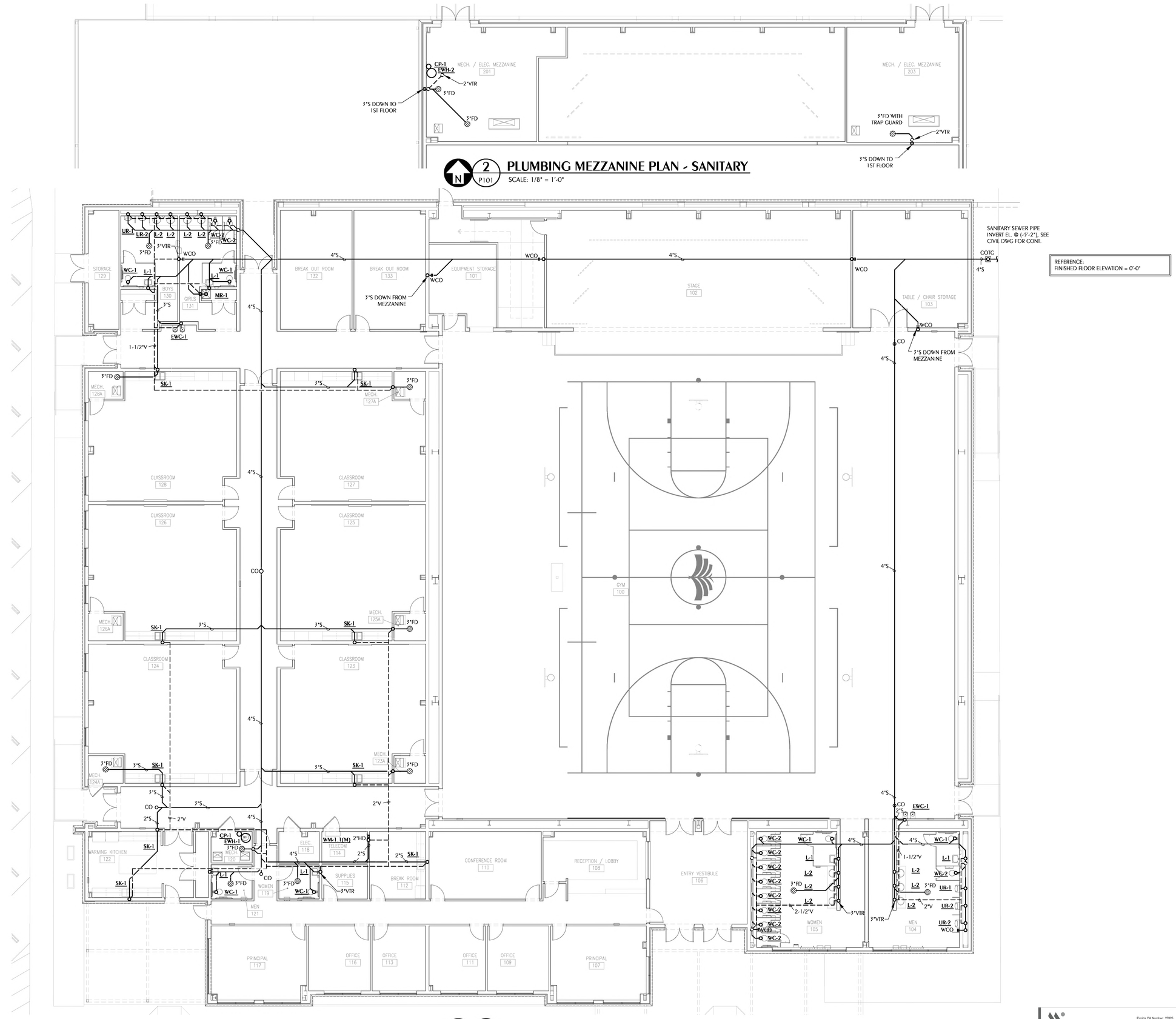

N 2 P101 **PLUMBING MEZZANINE PLAN - SANITARY**
SCALE: 1/8" = 1'-0"

N 1 P101 **PLUMBING PLAN - SANITARY**
SCALE: 1/8" = 1'-0"

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PROJECT NUMBER	22019
DATED	01/31/2025

P101

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
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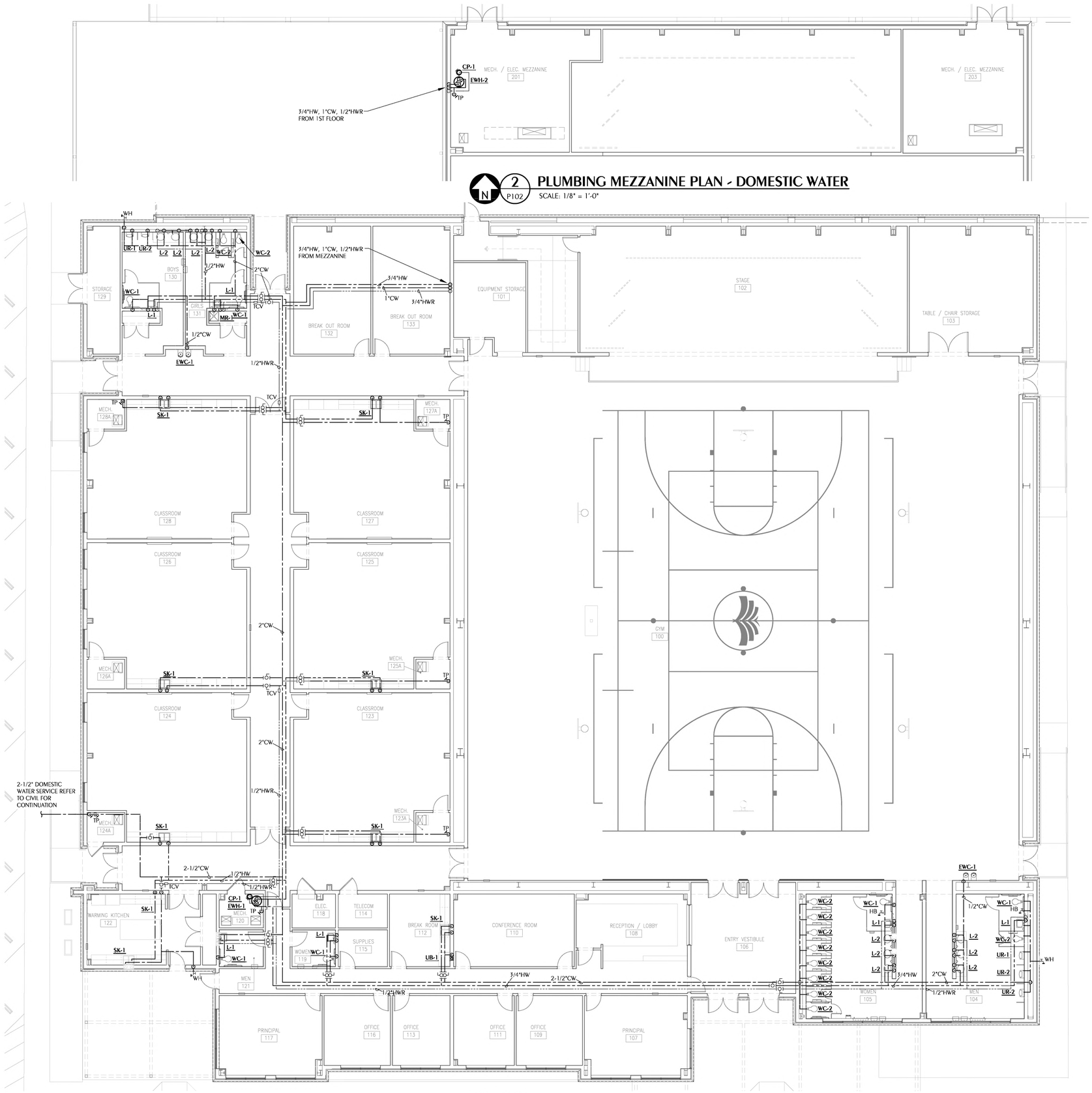

2 P102 N **PLUMBING MEZZANINE PLAN - DOMESTIC WATER**
SCALE: 1/8" = 1'-0"

1 P102 N **PLUMBING PLAN - DOMESTIC WATER**
SCALE: 1/8" = 1'-0"

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REVISIONS:

No.	Description	Date

PLUMBING PLAN - DOMESTIC WATER

PROJECT NUMBER	22019
DATED	01/31/2025

P102

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
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Drawn By: TLC

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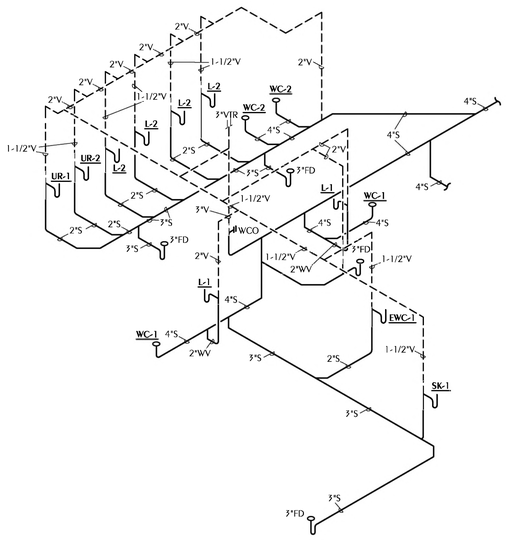
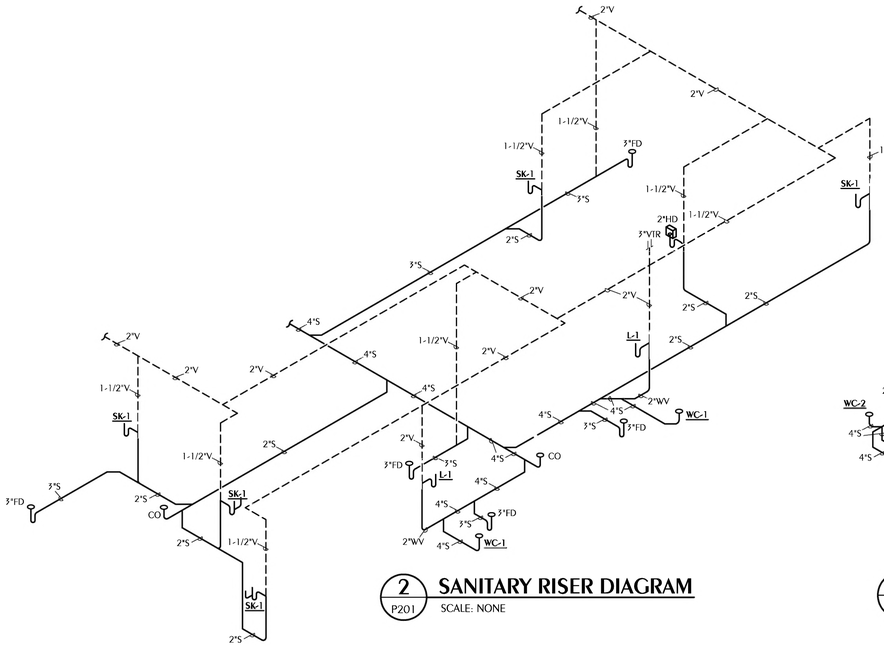
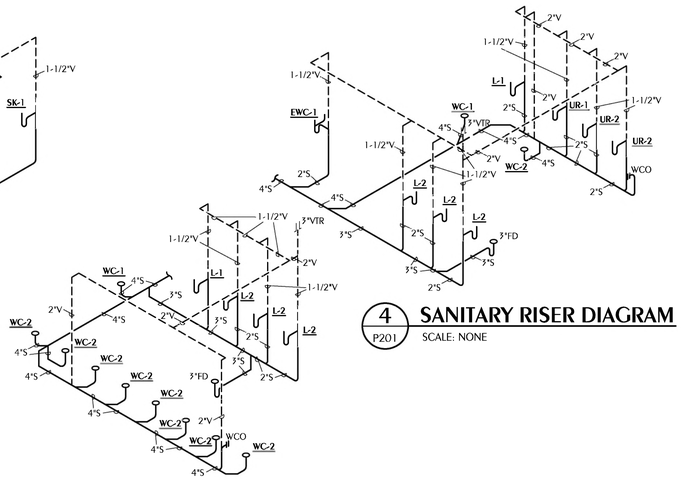


1 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE

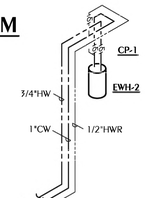


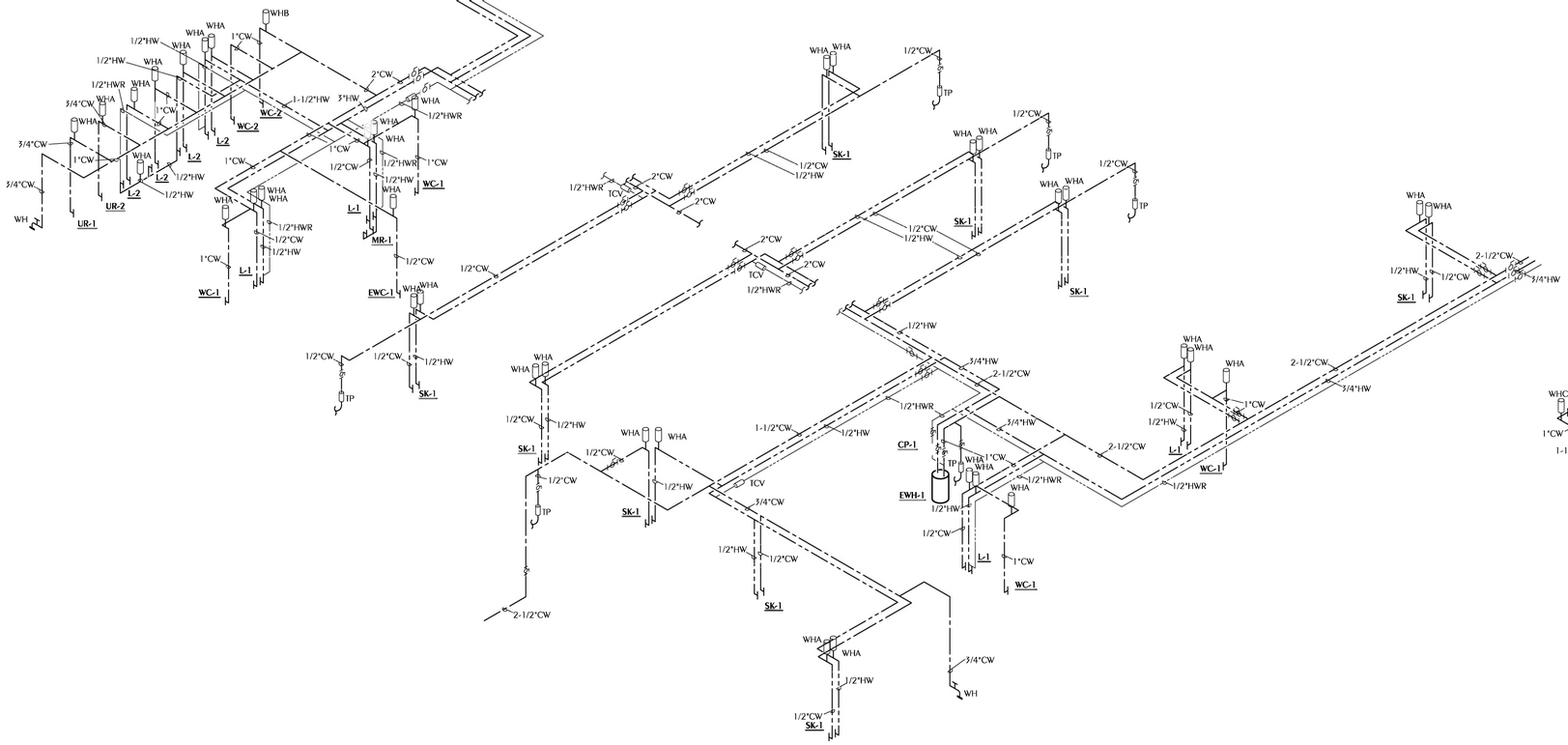
2 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE



3 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE

4 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE





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PLUMBING
RISER DIAGRAMS

PROJECT NUMBER	22019
DATED	01/31/2025

P201

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

LEGEND

- AHU-1 — EQUIPMENT TAG
- 1 / M3 — DETAIL TAG ("1" INDICATES IDENTIFICATION NUMBER; "M3" INDICATES THE SHEET NUMBER DRAWN ON)
- 1 — SHEET NOTE
- SUPPLY DUCT SECTION POSITIVE PRESSURE
- RETURN OR EXHAUST DUCT NEGATIVE PRESSURE
- AxB — RECTANGULAR DUCT SIZE ("A" INDICATES SIDE SHOWN; "B" INDICATES SIDE NOT SHOWN)
- INDICATES RISE IN ELEVATION OF DUCT.
- EXTERNALLY INSULATED DUCTWORK
- DOUBLE WALL SPIRAL DUCTWORK
- INTERNALLY INSULATED DUCTWORK
- FABRIC DISPERSION DUCTWORK
- EXTERNALLY INSULATED ROUND FLEXIBLE DUCTWORK
- DUCT ELBOW WITH TURNING VANES
- RADIUSED DUCT ELBOW
- FLEXIBLE DUCT CONNECTION
- MANUAL VOLUME BALANCING DAMPER
- M — MOTORIZED DAMPER
- FD — FIRE DAMPER WITH ACCESS DOORS
- SD — SMOKE DAMPER WITH ACCESS DOORS
- BD — BACKDRAFT DAMPER
- TEE WITH TURNING VANES
- TRANSITION
- FLEX DUCT TAKE OFF WITH MVD SIZE EQUALS DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE
- LOW PROFILE RECTANGULAR TO ROUND SIDE TAKEOFF FITTING WITH MVD; CROWN MODEL 3300-DS OR EQUAL
- BRANCH DUCT TAKEOFF WITH MVD
- CO — CLEANOUT
- C — CONDENSANE DRAIN LINE
- REF = REFRIGERANT PIPE PAIR

- EXISTING DUCTWORK TO BE DEMOLISHED
- 18x16e — EXISTING DUCTWORK TO REMAIN
- SR-1 / 100 — AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM
- (2)SR-1 / 100 — AIR DEVICE TAG. TOP LINE INDICATES TYPE OF DEVICE BOTTOM LINE INDICATES AIRFLOW IN CFM (2) INDICATES TYPICAL OF TWO DEVICES

TYP	TYPICAL
TEMP	TEMPERATURE
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
MA	MIXED AIR
OA	OUTDOOR AIR
TA	TRANSFER AIR
EF	EXHAUST FAN
CD	CEILING DIFFUSER
RG	RETURN GRILLE
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
CEF	CEILING MOUNTED EXHAUST FAN
AHU	INDOOR AIR HANDLING UNIT
HP	OUTDOOR HEAT PUMP UNIT
OAU	OUTSIDE AIR PRECONDITIONING UNIT
CU	OUTDOOR CONDENSING UNIT-COOLING ONLY
T1	THERMOSTAT AND HUMIDISTAT, "1" INDICATES UNIT CONTROLLED
C	CO2 MONITORING STATION
S	DUCT MOUNTED SMOKE DETECTOR
FD	FLOOR DRAIN
UC	UNDERCUT DOOR ¾"
DG	DOOR GRILLE, REFER TO DOOR SCHEDULE
FD DG	22x22 FIRE RATED DOOR GRILLE WITH AUXILIARY FRAME
AFF	ABOVE FINISHED FLOOR
FD	FIRE DAMPER AT CEILING DIFFUSER OR GRILLE.
XFR	TRANSFER AIR
RLF	PRESSURE RELIEF
	TYPICAL 4 WAY THROW CEILING DIFFUSER
	CEILING DIFFUSER WITH THROW INDICATED
VRF	VARIABLE REFRIGERANT FLOW
E OR (E)	EXISTING
CC	DUCTLESS FCU-CEILING MOUNTED CASSETTE
CAH	DUCTED FCU-CONCEALED AIR HANDLING UNIT
WM	DUCTLESS FCU-WALL MOUNTED UNIT
DP	DEW POINT
	POINT OF CONNECTION TO EXISTING

GENERAL NOTES

1. ALL DUCT DIMENSIONS ARE NET INSIDE.
2. VERIFY COLLAR SIZES ON ALL AIR TERMINALS, EQUIPMENT OUTLETS AND INLETS, TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE TRANSITIONS AT EQUIPMENT CONNECTIONS.
3. FIELD VERIFY CLEAR SPACE AVAILABLE, ROUTING PATH, AND CONFLICTS WITH STRUCTURE AND THE WORK OF OTHER TRADES PRIOR TO FABRICATING DUCTWORK. PROVIDE OFFSETS IN DUCTWORK AS REQUIRED, WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT. SUBMIT SHOP DRAWINGS ON DUCTWORK LAYOUT PRIOR TO COMMENCING WORK. MAINTAIN CLEARANCE AROUND ALL LIGHT FIXTURES AS REQUIRED TO REMOVE AND SERVICE FIXTURES. COORDINATE WITH ROOF TRUSSES/STRUCTURE. PRESSURE TEST ALL DUCTWORK FOR LEAKS.
4. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, PIPING, AND DUCTWORK SUCH THAT MANUFACTURERS' RECOMMENDED CLEARANCES ARE MET FOR ALL ACCESS PANELS, MOTORS, FANS, BELTS, FILTERS AND AIR INTAKES. CONDENSATE LINES SHALL BE CLEAR OF FILTER RACK ACCESS.
5. PROVIDE DUCT FLEX CONNECTIONS & VIBRATION ISOLATION FOR ALL UNITS NOT INTERNALLY ISOLATED.
6. ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR INTAKE DUCTWORK SHALL BE GALVANIZED SHEET METAL UNLESS OTHERWISE NOTED.
7. ALL AHU FILTERS SHALL BE OF A READILY AVAILABLE SIZE, OF DISPOSABLE TYPE, AND BE ACCESSIBLE WITHOUT THE USE OF SCREWS OR OTHER MECHANICAL DEVICES REQUIRING TOOLS.
8. PROVIDE ACCESS PANELS IN CEILINGS AS REQUIRED FOR MAINTENANCE AND ADJUSTMENT OF EQUIPMENT LOCATED ABOVE CEILING.
9. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATION OF ALL EQUIPMENT AND UTILITIES.
10. ALL WORK SHALL COMPLY WITH THE EIGHTH EDITION (2023) FLORIDA BUILDING CODE.
11. COORDINATE LOCATION OF ALL CEILING MOUNTED EQUIPMENT WITH ARCHITECTS REFLECTED CEILING PLAN.
12. SLOPE ALL CONDENSATE DRAIN PIPING AT 1/8" PER FOOT.

DUCTWORK NOTES

1. ALL ROUND FLEXIBLE DUCT SHALL BE FLEXMASTER TYPE 8M ACOUSTICAL FLEX OR ENGINEER APPROVED EQUAL. MAXIMUM LENGTH OF ANY FLEXIBLE DUCT RUNOUT SHALL BE 5'-0". WHERE LENGTH REQUIRED EXCEEDS 5'-0", INSTALL EXTERNALLY INSULATED ROUND SNAPLOCK DUCT FOR BALANCE OF DISTANCE TO SPIN-IN TAP AT MAIN DUCT TRUNK.
2. SEAL ALL DUCT PENETRATIONS OF WALLS AIRTIGHT, REGARDLESS OF WHETHER WALLS ARE FIRE RATED OR NOT.
3. ALL SUPPLY AIR DUCTWORK FROM AHU'S (EXCEPT TAKEOFFS TO SUPPLY AIR DIFFUSERS) SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
4. ALL RETURN AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED UNLESS OTHERWISE INDICATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
5. ALL OUTSIDE AIR INTAKE DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS.
6. STANDARD EXHAUST AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1/2" W.G., SEAL CLASS A.
7. WHEN ROUTING DUCTWORK OVER LIGHTS, PROVIDE A MINIMUM 6" CLEARANCE BETWEEN DUCT AND LIGHTS.
8. EXTERNALLY INSULATE DUCTWORK WITH 2" THICK FLEXIBLE FIBERGLASS INSULATION.

VENTILATION SCHEDULE

SPACE TYPE	VENTILATION CFM/S.F.	VENTILATION CFM/PERSON
CLASSROOM	0.12	10
CORRIDOR	0.06	0
STORAGE	0.06	0
OFFICE	0.06	5
BREAK	0.18	7.5
CAFETERIA	0.18	7.5
MULTIPURPOSE ASSEMBLY	0.06	7.5
DRESSING ROOM	0.25	0
RESTROOM-INTERMITTENT	0	70/FIXTURE
RESTROOM-CONTINUOUS	0	50/FIXTURE
SHOWER-CONTINUOUS	0	20/FIXTURE
JANITORS CLOSETS	1	0

NOTE:
VENTILATION RATES IN COMPLIANCE WITH ASHRAE STANDARD 62.1-2019.

LOUVER SCHEDULE

MARK	AIRFLOW CFM (MAX)	LOUVER SIZE (WxH) INCHES	FREE AREA FT² (MIN)
LVR-1 / CFM	320	24x12	0.6
LVR-2 / CFM	180	20x12	0.4
LVR-3 / CFM	395	36x12	0.9
LVR-4 / CFM	140	16x12	0.3
LVR-5 / CFM	700	36x18	1.8

1. PROVIDE GREENHECK MODEL 'EHV-901D' (OR EQUAL) EXTRUDED ALUMINUM, WIND-DRIVEN RAIN RESISTANT, STATIONARY LOUVER WITH BIRDSCREEN.
2. FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

FAN SCHEDULE

UNIT	TYPE	CFM	MAX. FAN RPM	ESP (IN. H20)	MAX. MOTOR POWER	SONES/db (MAX.)	BASIS OF DESIGN	MODEL	CONTROL	ELECTRICAL VOLTS/PHASE	NOTES
							NOT USED				1
EF-2	CEF	70	799	0.20	10 W	0.3	GREENHECK	SP-A110	INTERLOCK WITH LIGHTS	115/1	1,2,3,4,5,6,7
							NOT USED				1
EF-4	INLINE	700	801	0.25	318 W	0.3	GREENHECK	CSP-A900	INTERLOCK WITH AHU-8 OA DAMPER	115/1	1,2,3,4,5,7

1. PROVIDE DISCONNECT
2. PROVIDE SOLID STATE SPEED CONTROLLER.
3. PROVIDE BACK DRAFT DAMPER
4. PROVIDE THERMAL OVERLOAD
5. PROVIDE DIRECT DRIVE FAN
6. PROVIDE WHITE FINISH ALUMINUM GRILLE
7. PROVIDE VIBRATION ISOLATION HANGERS.

MINI SPLIT SYSTEM CONDENSING UNIT SCHEDULE

UNIT MHP	BASIS OF DESIGN	MODEL	NOMINAL COOL CAPACITY (BTUH)	DESIGN COOLING OUTDOOR TEMP DB	SEER2	NOMINAL HEAT CAPACITY (BTUH)	DESIGN HEATING OUTDOOR TEMP DB	HSPF	VOLTS/PHASE	MCA (AMPS)	MOP (AMPS)	NOTES
1	MITSUBISHI	PUY-A18NKA7	18000	95.0	19.8	NA	25.0	NA	208/1	11.0	28.0	1,2,3,4

1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°(WB)
3. EFFICIENCY VALUES FOR EER, IEER, AND COP ARE BASED ON AHRI 1230 TEST METHOD FOR MIXTURE OF DUCTED AND NON-DUCTED INDOOR UNITS.
4. PROVIDE UNITS WITH EPA APPROVED REFRIGERANT. PROVIDE INSTALLED REFRIGERANT MONITORING SYSTEM

MINI SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

UNIT	BASIS OF DESIGN	MODEL	TYPE	NOMINAL COOL CAPACITY (BTUH)	DESIGN COOLING EAT °F DB/WB	DESIGN COOLING CAPACITY (BTUH) COOLING TOTAL	DESIGN COOLING CAPACITY (BTUH) COOLING SENSIBLE	NOMINAL HEAT CAPACITY (BTUH)	DESIGN HEATING TOTAL CAPACITY (BTUH)	DESIGN HEATING EAT °F DB	AIRFLOW (CFM)	VOLTS/PHASE	MCA (AMPS)	MOP (AMPS)	NOTES
WM-1.1	MITSUBISHI	PKA-A18LA	WALL MOUNT	18000	18000	18000	18000	NA	NA	NA	310	FED FROM MHP	NA	NA	1,2,3,4,6,7,8

1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°(WB)
3. DESIGN COOLING CONDITIONS ARE AT 95°F AMBIENT; DESIGN HEATING CONDITIONS ARE AT 26°F AMBIENT
4. DESIGN CAPACITY IS NET CAPACITY FOR INSTALLATION ACCOUNTING FOR 150 FT PIPE RUN LENGTHS, ETC.
5. DESIGN CAPACITY IS NET CAPACITY FOR INSTALLATION ACCOUNTING FOR 65 FT PIPE RUN LENGTHS, ETC.
6. CALCULATE REFRIGERANT LINE SIZES BASED UPON FINAL FIELD PIPING LAYOUT.
7. EXPOSED (INDOOR OR OUTDOOR) REF PIPING SHALL BE HARD DRAWN COPPER.
8. PROVIDE HARD WIRED REMOTE THERMOSTAT.

100% OUTSIDE AIR UNIT SCHEDULE

UNIT OAU	BASIS OF DESIGN	OAU MODEL	CONFIGURATION	OA (CFM)	WEIGHT (LBS)	ESP (IN. WC)	FAN POWER (HP)	COOLING EAT° (DB/WB)	COOLING LAT° (DP)	COOLING TOTAL (BTUH)	COOLING SENSIBLE (BTUH)	ISMRE2 ASHRAE 90.1 MIN EFFICENCY	ISMRE2 CALCULATED EFFICENCY	HEATING EAT (DB)	HEATING LAT° (F)	HEATING KW	OAU ELECTRICAL VOLTS/PHASE	OAU ELECTRICAL MCA	OAU ELECTRICAL MOP	NOTES
1	GREENHECK	RV-45-30L-1-F2	PACKAGED	3500	3251	1	2	83.9/80.5	52.5/51.9	345500	113100	3.8	7.1	25.4	69.8	49.2	208/3	179.2	200	1,2,3,4,5,6

1. DIRECT DRIVE FAN WITH ECM MOTOR
2. REFER TO CONDENSING UNIT SCHEDULE FOR EFFICIENCIES
3. ESP DOES NOT INCLUDE FILTER, CASING, ETC.
4. PROVIDE 100% OUTSIDE AIR DEHUMIDIFICATION UNIT WITH HOT GAS REHEAT.
5. PROVIDE MOTORIZED OA DAMPER
6. PROVIDE COATED INDOOR COILS, NON FUSED DISCONNECT, PHASE FAILURE MONITOR, DIRTY FILTER SWITCH, OUTSIDE AIR TEMPERATURE SENSOR, DISCHARGE AIR TEMPERATURE SENSOR AND LEAVING COIL TEMPERATURE SENSOR.

AIR DEVICE SCHEDULE

MARK	MAX AIRFLOW CFM	AIR DEVICE SIZE	DUCT CONNECTION SIZE	TITUS MODEL
CD-1 / CFM	80	9x9	6Ø	TDC
CD-2 / CFM	245	12x12	8Ø	TDC
CD-3 / CFM	350	12x12	10Ø	TDC
CD-4 / CFM	210	18-1/4Ø	10Ø	TMR
RG,EG,SG,IG,RR,ER				
xx-1 / CFM	450	12x12	12x12	350FL
xx-2 / CFM	1705	22x22	22x22	350FL
xx-3 / CFM	220	8x8	8x8	33RL
xx-4 / CFM	1255	22x22	22x22	33RL
xx-5 / CFM	3470	48x36	48x36	33RL

NOTES:
1. MAX NC=20
2. PROVIDE 2x2 LAY IN PANEL FOR AIR DEVICES IN LAY IN CEILINGS.
3. PROVIDE BEVELED MOUNTING FRAME FOR CEILING DIFFUSERS IN HARD CEILINGS.
4. PROVIDE FLAT MOUNTING FRAME FOR GRILLES LOCATED IN HARD CEILINGS.

AIR PURIFICATION EQUIPMENT SCHEDULE

ZONE AHU	SUPPLY CFM	OA CFM	PRESS. IN. W.C.	BASIS OF DESIGN	MODEL	QUANTITY	ELECTRICAL VOLTS/PHASE	ELECTRICAL WATTS	NOTES
-	-	-	-	-	NOT USED	-	-	-	1
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
-	-	-	-	-	NOT USED	-	-	-	
8	2020	200	<0.01	GPS	DM-2	1	24 VAC	11	1,2,3,4
9	1310	1750	-	GPS	GPS-DM48-AC	2	24VAC	12	1,2,3,4
-	-	-	-	-	NOT USED	-	-	-	1
11	2535	1750	-	GPS	GPS-DM48-AC	2	24VAC	12	1,2,3,4
12	1540	145	<0.01	GPS	DM-2	1	24 VAC	11	1,2,3,4

1. GPS = GLOBAL PLASMA SOLUTIONS.
2. PROVIDE BASIS OF DESIGN OR APPROVED EQUAL.
3. BI-POLAR IONIZATION SYSTEMS REQUIRING PERISHABLE GLASS TUBES ARE NOT ACCEPTABLE.
4. MANUFACTURER MUST PASS UL-867-2007 OZONE CHAMBER TESTING BY EITHER UL OR ETL

SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT	SA (CFM)	OA (CFM)	ESP (IN.H20)	FAN (HP)	COOLING MAT °F (DB/WB)	COOLING OAT °F (DB/WB)	COOLING TOTAL (BTUH)	COOLING SENSIBLE (BTUH)	COOLING SEER2	HEATING MAT °F (DB)	HEATING OAT °F (DB)	HEATING TOTAL (BTUH)	HEATING HSPF2	SUPPL HEAT	AHU ELECTRICAL VOLTS/PHASE	AHU ELECTRICAL MCA	AHU ELECTRICAL MOP	HP ELECTRICAL VOLTS/PHASE	HP ELECTRICAL MCA	HP ELECTRICAL MOP	NOTES
								NOT USED													1
								NOT USED													
								NOT USED													
								NOT USED													
								NOT USED													
								NOT USED													
								NOT USED													
8	2020	200	0.75	1.00	74.5/63.0	95.0/78.0	52100	39300	14.3	65.7	25.0	38800	7.5	5.9KW	208/1	32	35	208/3	23	35	1,2,3,4,5,8,10,11
9	1310	1750	0.50	1.50	71.9/62.2	95.0/78.0	158000	129100	10.6 EER	70.1	25.0	30000	3.3 COP	10.2KW	208/3	82	90	208/3	39	60	1,2,3,4,7,6,7,8,9,10,11,12
								NOT USED													1
11	2535	1750	0.50	2.40	71.8/62.1	95.0/78.0	162100	137800	10.6 EER	69.8	25.0	34500	3.3 COP	13.2KW	208/3	82	90	208/3	58	60	1,2,3,4,5,6,7,8,9,10,11,12
12	1540	145	0.50	1.00	74.7/63.4	95.0/78.0	42900	31300	15.2	65.8	25.0	32200	7.5	6.2KW	208/1	30	30	208/3	18	30	1,2,3,4,5,8,10,11

1. PROVIDE 2 " MERV 13 FILTERS.
2. EFFICIENCIES IN ACCORDANCE WITH ARI STANDARD 210/240.
3. ESP DOES NOT INCLUDE FILTER, CASING, ETC.
4. PROVIDE CONTROL KIT TO INCLUDE BLOWER CONTACTOR OR STARTER, TRANSFORMER, ELECTRIC HEATER INTLERLOCKS. ELECTRICAL SERVICE SHALL BE A SINGLE POINT OF CONNECTION.
5. PROVIDE THERMAL EXPANSION VALVES.
6. BELT DRIVE AHU FAN.
7. PRETREATED OUTSIDE AIR.
8. COOLING CAPACITY IS NET AND DOES NOT INCLUDE FAN HEAT.
9. PROVIDE TWO STAGE COMPRESSORS.
10. PROVIDE SEACOAST COATING ON CONDENSER COILS.
11. PROVIDE UNITS WITH EPA APPROVED REFRIGERANT. PROVIDE FACTORY INSTALLED REFRIGERANT MONITORING SYSTEM.
12. PROVIDE TWO 7.5 TON HEAT PUMPS. HP ELECTRICAL DATA IS FOR A SINGLE UNIT.

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

HVAC LEGEND, SCHEDULES, AND NOTES

PROJECT NUMBER	22019
DATED	01/31/2025

M001

WATFORD ENGINEERING
4402 Clinton Street Marianna, Florida 32446
Florida CA Number: 27525
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By:KAJ
Drawn By:BBS

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

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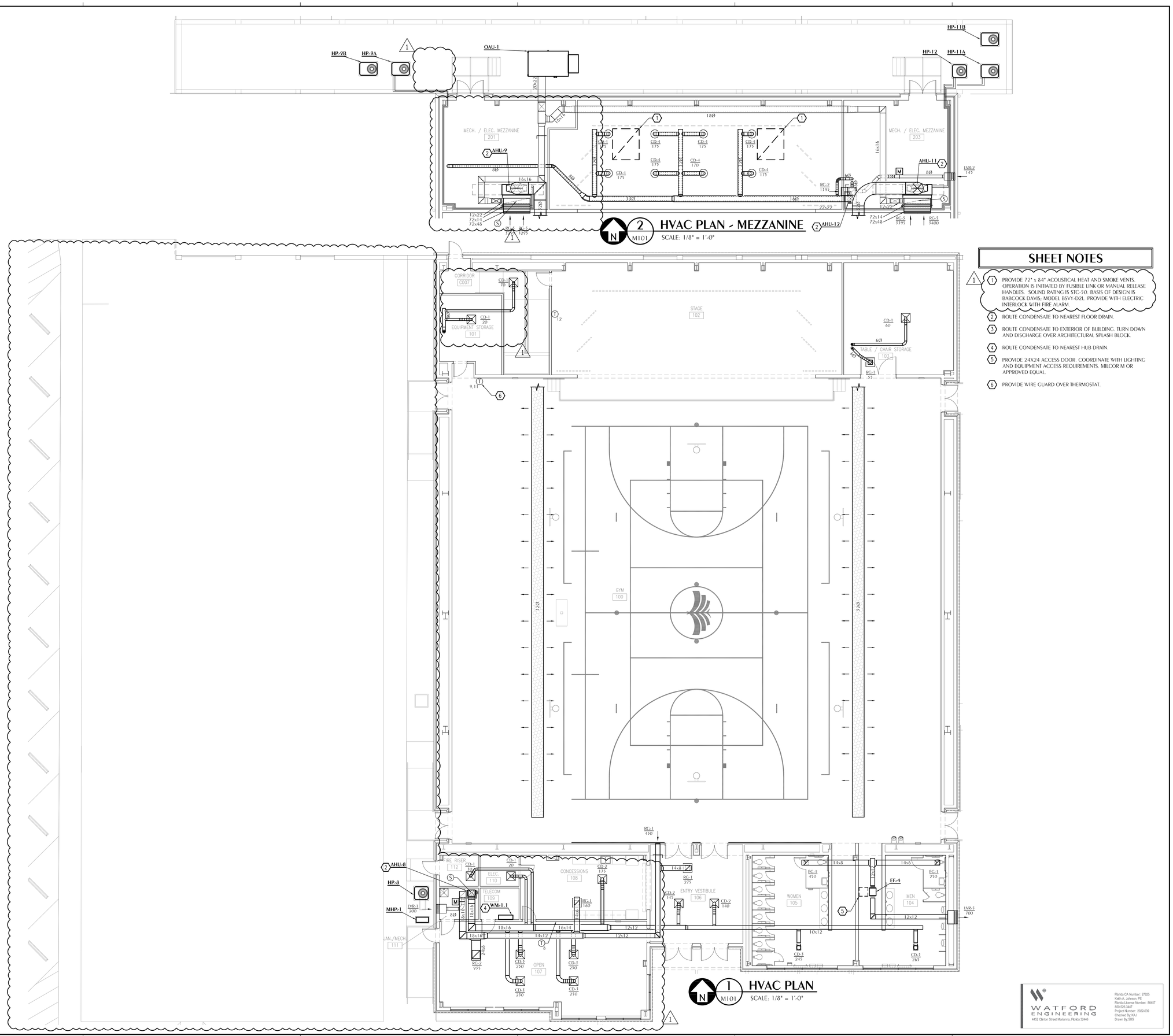

SHEET NOTES

1. PROVIDE 72" x 84" ACOUSTICAL HEAT AND SMOKE VENTS. OPERATION IS INITIATED BY FUSIBLE LINK OR MANUAL RELEASE HANDLES. SOUND RATING IS STC-50. BASIS OF DESIGN IS BABCOCK DAVIS, MODEL BSVV-D2L. PROVIDE WITH ELECTRIC INTERLOCK WITH FIRE ALARM.
2. ROUTE CONDENSATE TO NEAREST FLOOR DRAIN.
3. ROUTE CONDENSATE TO EXTERIOR OF BUILDING. TURN DOWN AND DISCHARGE OVER ARCHITECTURAL SPLASH BLOCK.
4. ROUTE CONDENSATE TO NEAREST HUB DRAIN.
5. PROVIDE 24X24 ACCESS DOOR. COORDINATE WITH LIGHTING AND EQUIPMENT ACCESS REQUIREMENTS. MILCOR M OR APPROVED EQUAL.
6. PROVIDE WIRE GUARD OVER THERMOSTAT.

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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REBID REVISION #1	02/24/2026

HVAC PLAN

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27925
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By:KAJ
Drawn By:SBS

PROJECT NUMBER 22019
DATED 01/31/2025

M101

22019
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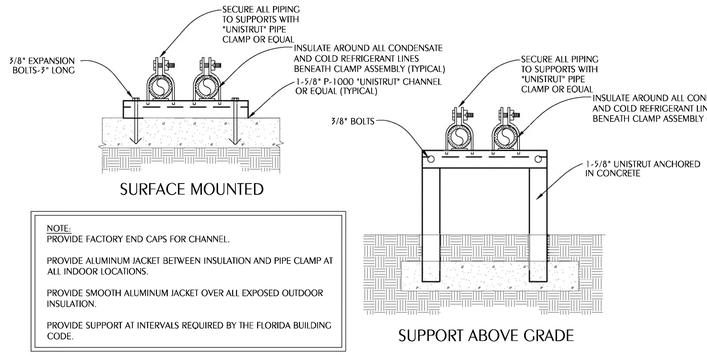
01/31/2025



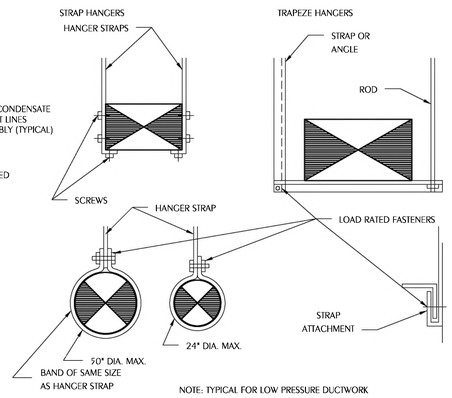
NOTE:
PROVIDE FACTORY END CAPS FOR CHANNEL.

PROVIDE ALUMINUM JACKET BETWEEN INSULATION AND PIPE CLAMP AT ALL INDOOR LOCATIONS.

PROVIDE SMOOTH ALUMINUM JACKET OVER ALL EXPOSED OUTDOOR INSULATION.

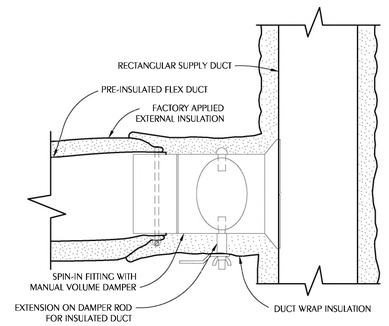
PROVIDE SUPPORT AT INTERVALS REQUIRED BY THE FLORIDA BUILDING CODE.

1 TYPICAL EXTERIOR PIPING SUPPORT DETAIL
M201 SCALE: NONE



NOTE: TYPICAL FOR LOW PRESSURE DUCTWORK

2 DUCT HANGER DETAILS
M201 SCALE: NONE

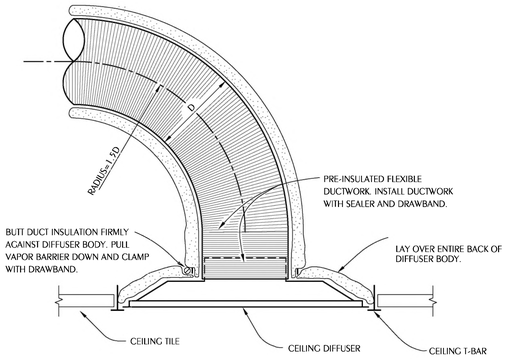


NOTES:
CONNECT FLEXIBLE DUCT TO FITTING WITH DRAWBAND AND SEALER.

ROUND HARD DUCT RUNOUTS SHOULD START WITH SPIN-IN FITTINGS SIMILAR TO THIS DETAIL.

PROVIDE CABLE ACTIVATED DAMPER WITH ADJUSTMENT IN FACE OF CEILING DIFFUSER.

3 TYPICAL FLEX DUCT TAKEOFF DETAIL
M201 SCALE: NONE

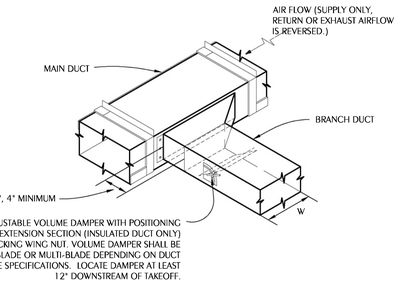


NOTES:
FLEX DUCT SHALL BE NO LONGER THAN 5'-0".

PROVIDE 24x24 LAY IN PANEL FOR DIFFUSERS IN LAY IN CEILINGS.

PROVIDE BEVELED MOUNTING FRAME FOR DIFFUSERS IN HARD CEILINGS.

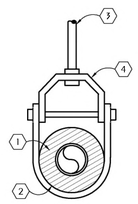
4 TYPICAL FLEX DUCT TAKEOFF DETAIL
M201 SCALE: NONE



NOTES:
PROVIDE CABLE ACTIVATED DAMPER WITH ADJUSTMENT IN FACE OF AIR DEVICE FOR INACCESSIBLE TAKEOFFS LOCATED ABOVE HARD CEILINGS.

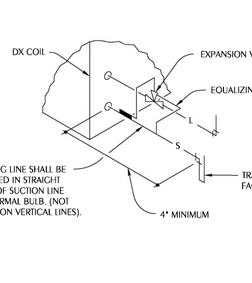
FLEXIBLE INSULATION SHALL BE 2" THICK, ASTM C553, TYPE 1, CLASS B-3 WITH 1 PCF DENSITY AND UL RATED ALUMINUM FOIL VAPOR BARRIER (FSK)

5 TYPICAL BRANCH DUCT TAKEOFF
M201 SCALE: NONE



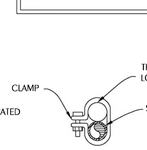
1. INSULATION
2. PIPE COVERING PROTECTION SADDLE
3. HANGER ROD FASTEN TO STRUCTURE PER SPECIFICATION
4. CLEVIS TYPE HANGER

6 OVERHEAD PIPE SUPPORT
M201 SCALE: NONE

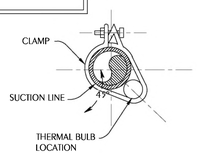


NOTES:
THERMOSTATIC BULB TO BE AS CLOSE TO COIL AS POSSIBLE NOT ALLOWED ON VERTICAL LINES.

INSULATE REFRIGERANT LINES PER SPECIFICATIONS.

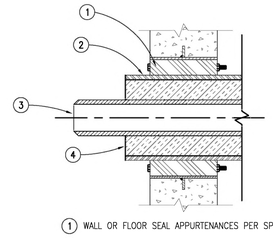


5/8" O.D. OR SMALLER



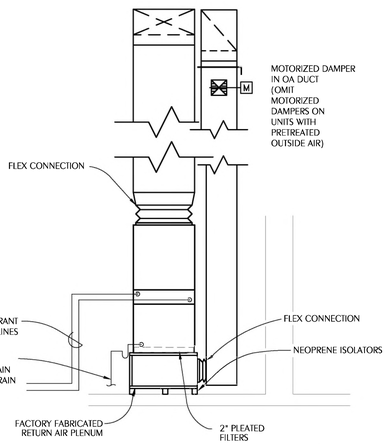
7/8" O.D. OR LARGER

7 REFRIGERANT COIL CONNECTION DETAIL
M201 SCALE: NONE



1. WALL OR FLOOR SEAL APPURTENANCES PER SPECIFICATIONS
2. PIPE SLEEVE PER SPECIFICATIONS
3. PIPING
4. INSULATION

8 TYPICAL WALL PIPE PENETRATION
M201 SCALE: NONE

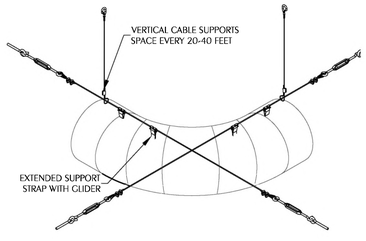


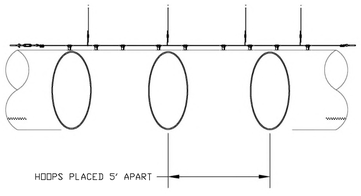
NOTES:
SECURE REFRIGERANT LINES AND CONDENSATE PIPING WITH UNISTRUT.

PROVIDE FACTORY FABRICATED RETURN AIR PLENUM OR ENGINEER APPROVED EQUAL.

SIZE COPPER CONDENSATE LINE AT FULL SIZE OF UNIT CONNECTION, BUT IN NO CASE SMALLER THAN 3/4".

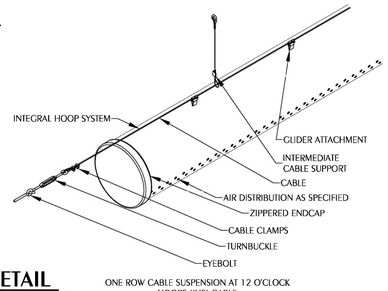
9 VERTICAL UPFLOW AHU DETAIL
M201 SCALE: NONE

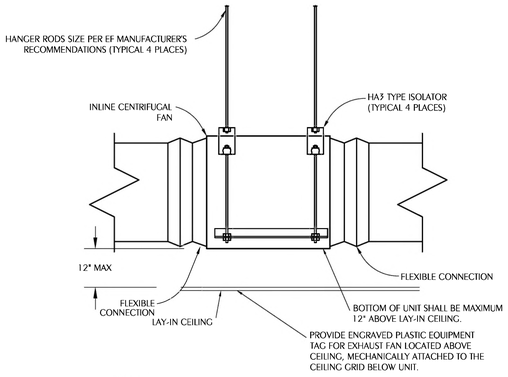




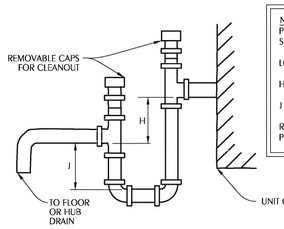
NOTE:
HOOP SYSTEM IS REQUIRED IN ORDER FOR DUCT TO MAINTAIN SHAPE IN LOW-FLOW CONDITIONS.

10 FABRIC DUCT SUSPENSION DETAIL
M201 SCALE: NONE





11 INLINE FAN DETAIL
M201 SCALE: NONE



NOTES:
PIPE TYPE 'L' HARD DRAWN COPPER CONDENSATE LINE AT FULL SIZE OF UNIT CONNECTION, BUT IN NO CASE SMALLER THAN 3/4".

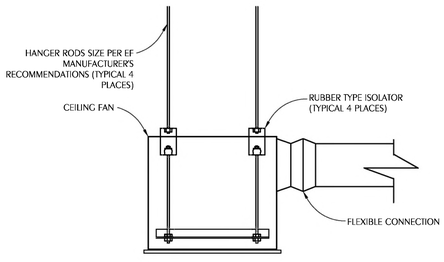
LOCATE TRAPS SO AS TO BE ACCESSIBLE FOR CLEANING.

H = AIR UNIT TOTAL STATIC PRESSURE + 1"

J = H/2

ROUTE CONDENSATE TO NEAREST FLOOR DRAIN. CONDENSATE PIPE SHALL BE PROVIDED BY THE HVAC CONTRACTOR.

12 NEGATIVE PRESSURE CONDENSATE DRAIN TRAP
M201 SCALE: NONE



13 CEILING FAN DETAIL
M201 SCALE: NONE

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100% CONSTRUCTION DOCUMENTS

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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

HVAC DETAILS

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27925
Keith A. Johnson, PE
Florida License Number: 86457
850.528.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: SBS

PROJECT NUMBER	22019
DATED	01/31/2025

M201

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22019
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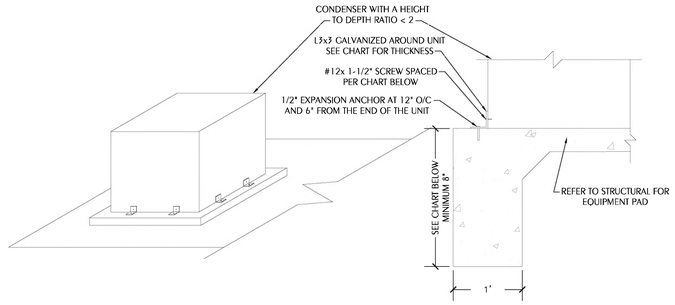
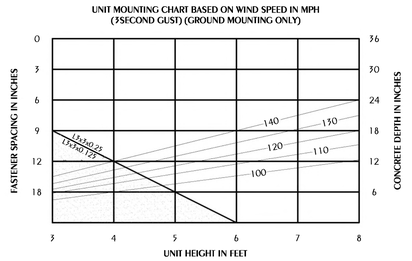
01/31/2025

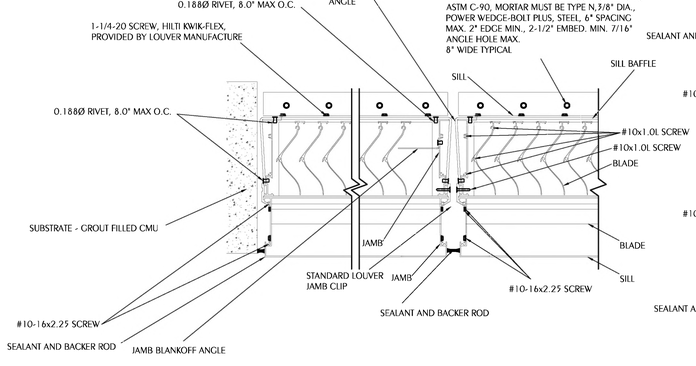




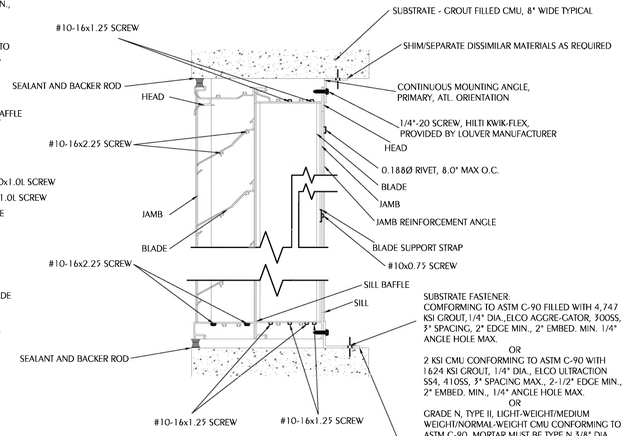
DESIGN CRITERIA:

CODE:	ASCE 7-05
VELOCITY:	SEE BELOW
Kz:	0.70
Kzt:	1.00
Kd:	0.85
IMPORTANCE:	1.15
EXPOSURE:	B
Ci:	1.3
Gf:	0.85
qz:	
100 mph	17.52 psf
110 mph	21.20 psf
120 mph	25.22 psf
130 mph	29.60 psf
140 mph	34.33 psf
Pdesign:	
100 mph	19.36 psf
110 mph	23.42 psf
120 mph	27.87 psf
130 mph	32.71 psf
140 mph	37.94 psf

1 OUTDOOR MECHANICAL UNIT MOUNTING DETAIL
M202 SCALE: NONE



SUBSTRATE FASTENER:
COMFORMING TO ASTM C-90 FILLED WITH 4,747 KSI GROUT,1/4" DIA.,ELCO AGCRE-GATOR, 300SS, 3" SPACING, 2" EDGE MIN., 2" EMBED. MIN. 1/4" ANGLE HOLE MAX.
OR
2 KSI CMU CONFORMING TO ASTM C-90 WITH 1624 KSI GROUT, 1/4" DIA., ELCO ULTRACTION SS4, 410SS, 3" SPACING MAX., 2-1/2" EDGE MIN., 2" EMBED. MIN., 1/4" ANCLE HOLE MAX.
OR
GRADE N, TYPE II, LIGHT-WEIGHT/MEDIUM WEIGHT/NORMAL-WEIGHT CMU CONFORMING TO ASTM C-90, MORTAR MUST BE TYPE N,3/8" DIA., POWER WEDGE-BOLT PLUS, STEEL, 6" SPACING MAX. 2" EDGE MIN., 2-1/2" EMBED. MIN. 7/16" ANGLE HOLE MAX.
8" WIDE TYPICAL



NOTES:

1. THE INSTALLATION SHOWN HEREIN MUST BE FOLLOWED STRICTLY TO ENSURE COMPLIANCE WITH FLORIDA BUILDING CODE PRODUCT APPROVAL.
2. CONTINUOUS INSTALLATION ANGLES AND FASTENERS ARE SHIPPED LOOSE AND REQUIRE INSTALLATION IN THE FIELD.
3. SHIMS MAY BE REQUIRED TO ACHIEVE CONSISTENT CLEARANCE BETWEEN LOUVER AND OPENING ON ALL SIDES.
4. INSTALLATION DETAIL IS BASED UPON GREENHECK MODEL 'EHV-901D', IF AN ALTERNATE MANUFACTURER'S LOUVER IS USED, IT MUST BE INSTALLED WITH ITS FLORIDA PRODUCT APPROVAL.

2 WALL LOUVER DETAIL
M202 SCALE: NONE NOA #:19-0516.09

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

HVAC DETAILS

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27825
Keith A. Johnson, PE
Florida License Number: 86457
850.528.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: SBS

PROJECT NUMBER	22019
DATED	01/31/2025

M202

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

DDC SYSTEM GENERAL NOTES

1. THE DDC CONTRACTOR SHALL CONNECT TO THE EXISTING DAIKIN BUILDING MANAGEMENT DDC SYSTEM TO PERFORM THE INDICATED SEQUENCES, ALL OTHER FUNCTIONS REQUIRED BY THE CONTRACT DOCUMENTS, AND ALL OTHER FUNCTIONS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
2. THE CONTROLS CONTRACTOR SHALL PROVIDE A DDC SYSTEM FOR THE NEW EQUIPMENT THAT MEETS ALL REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS. THIS SHALL INCLUDE ALL GRAPHICS, AREA CONTROL MEMBERS, TIME SCHEDULING, ETC. ALL WORK SHALL BE THE RESPONSIBILITY OF THIS CONTROLS CONTRACTOR.
3. ALL SEQUENCES ARE SUBJECT TO SAFETIES. DDC CONTRACTOR SHALL PROVIDE ALL NECESSARY AND CUSTOMARY SAFETIES.
4. ALL WIRING SHALL BE IN CONDUIT. ALL CONDUIT SHALL BE IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS, REQUIREMENTS FOR 120 VAC CIRCUITS.
5. ALL CONTROL TUBING SHALL BE RUN IN CONDUIT. ALL CONDUIT SHALL BE IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS, REQUIREMENTS FOR 120 VAC CIRCUITS.
6. CONDUIT SHALL BE RUN PERPENDICULAR AND PARALLEL TO BUILDING LINES IN A FIRST CLASS WORKMANSHIP LIKE MANNER.
7. NO EXPOSED CONDUIT SHALL BE USED IN FINISHED SPACES.
8. PROVIDE WIRE GUARD FOR THERMOSTATS AND TEMPERATURE SENSORS LOCATED IN MULTIPURPOSE ROOMS AND CORRIDORS.
9. THE DDC SYSTEM SHALL COMMUNICATE WITHIN THE BUILDING ON ITS OWN WIRING SYSTEM AND SHALL NOT UTILIZE THE OWNER'S LOCAL AREA NETWORK WITHIN THE BUILDING.

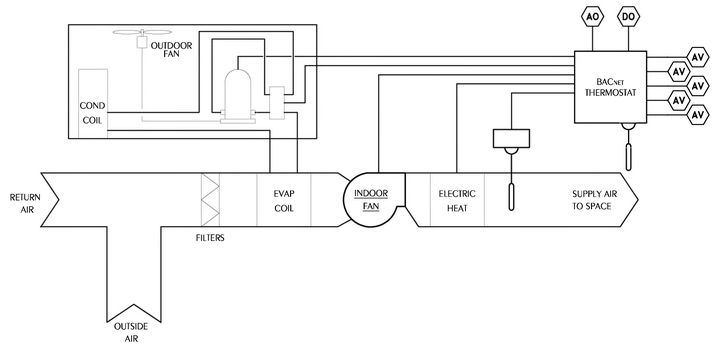
SEQUENCE OF OPERATION
HEAT PUMP-PRETREATED OA

GENERAL: THE UNIT SHALL BE STARTED AUTOMATICALLY BY THE BACnet THERMOSTAT. ALL CONTROLS ACTIVATED SUBJECT TO THE FIRE ALARM RELAY, SAFETIES AND OVERLOADS. THE DDC SYSTEM SHALL INCLUDE A GRAPHIC FOR EACH UNIT AND COMMUNICATE THE INDICATED VALUES AND SETPOINTS ON THE GRAPHIC. THE DDC SHALL POST AN ALARM WHEN THE RELATIVE HUMIDITY EXCEEDS 65% (ADJUSTABLE) AND TEMPERATURE EXCEEDS SETPOINT ±5°F FOR SPACE TEMPERATURE MORE THAN 1 HOUR AFTER OCCUPIED MODE BEGINS.

OCCUPIED MODE: THE INDOOR FAN SHALL RUN CONTINUALLY AND THE HEAT PUMP SHALL CYCLE WITH A CALL FOR HEATING AND COOLING. THE SET POINT FOR COOLING SHALL BE 75°F ADJUSTABLE. THE SET POINT FOR HEATING SHALL BE 70°F ADJUSTABLE. THE SUPPLEMENTAL ELECTRIC HEAT SHALL OPERATE AS A SECOND STAGE OF HEATING ENABLED ONLY DURING DEFROST OR WHEN THE OUTDOOR TEMPERATURE IS BELOW 35°F AND THE HEAT PUMP CAN NOT SATISFY THE CALL FOR HEATING AFTER 20 MINUTES OF RUN TIME.

UNOCCUPIED MODE: THE INDOOR FAN AND HP SHALL CYCLE TO MAINTAIN SET POINT TEMPERATURE. THE SET POINT FOR COOLING SHALL BE 80°F ADJUSTABLE. THE SET POINT FOR HEATING SHALL BE 65°F ADJUSTABLE.

OVERRIDE MODE: THE OVERRIDE MODE SHALL PLACE THE SYSTEM IN OCCUPIED MODE FOR 1 HR AND THE OUTSIDE AIR UNIT FOR THE UNIT IN OVERRIDE SHALL BE PLACED IN OCCUPIED MODE FOR 1 HR.



1 M301 **HEAT PUMP-PRETREATED OA CONTROL DIAGRAM**
SCALE: NONE

HEAT PUMP-PRETREATED OA POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	DI	DO	AV	DV	SCHED	TREND	ALARM	GRAPHIC
OCCUPIED/UNOCCUPIED SCHED				X						X
BMS TEMPERATURE SETPOINT		X								X
ZONE TEMP SETPOINT					X					X
ZONE TEMP					X				X	X
ZONE RELATIVE HUMIDITY					X				X	X
SUPPLY AIR TEMP					X					X

SEQUENCE OF OPERATION
100% OUTSIDE AIR UNIT

GENERAL: THE DDC CONTRACTOR SHALL INSTALL FIELD MOUNTED SENSORS PROVIDED BY THE UNIT MANUFACTURER. THE DDC SYSTEM SHALL CONNECT TO THE UNITS BACNET INTERFACE TO READ THE POINTS INDICATED. THE DDC SYSTEM SHALL PROVIDE OCCUPIED/UNOCCUPIED SIGNAL TO THE FACTORY MOUNTED UNIT CONTROLLER, MONITOR ALARM STATUS, AND MONITOR VALUES INDICATED. THE DDC SHALL MONITOR BUILDING RELATIVE HUMIDITY (BACnet POINTS FROM ROOM THERMOSTATS) AND OUTSIDE AIR SUPPLY AIR DEWPOINT TEMPERATURE. WHEN THE OA DEWPOINT SUPPLY AIR TEMPERATURE RISES ABOVE 60°F FOR MORE THAN 10 MINUTES (ADJUSTABLE), THE DDC SHALL POST AN ALARM AND SHUT DOWN THE OUTSIDE AIR UNIT.

THE FOLLOWING SEQUENCE OF OPERATIONS SHALL BE PROVIDED BY THE UNIT MANUFACTURER:

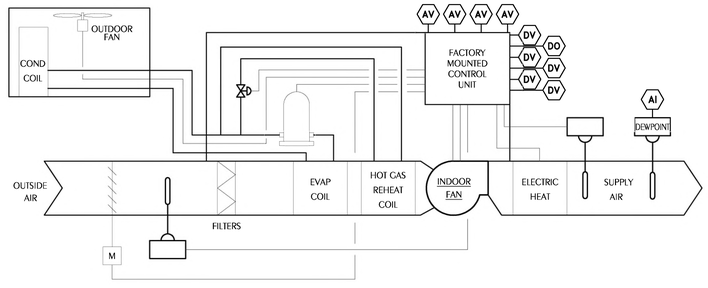
GENERAL: STARTING AND STOPPING OF EQUIPMENT SHALL BE BY A UNIT MOUNTED DIGITAL CONTROLLER. WITH THE DIGITAL CONTROLLER IN THE AUTO POSITION, THE UNIT SHALL BE STARTED AUTOMATICALLY BY THE ELECTRONIC CONTROL SYSTEM AND ALL CONTROLS ACTIVATED SUBJECT TO THE FIRE ALARM RELAY, SAFETIES AND OVERLOADS.

OCCUPIED MODE DEHUMIDIFICATION: THE MOTORIZED OA DAMPER SHALL OPEN TO THE BALANCED POSITION AND THE INDOOR FAN SHALL RUN CONTINUOUSLY. THE UNIT SHALL DEHUMIDIFY SUPPLY AIR ANYTIME THE OUTDOOR AIR DEWPOINT IS ABOVE 55°F. THE UNIT SHALL REHEAT SUPPLY AIR TO SPACE CONDITIONS WITH VARIABLE HOT GAS, MAINTAINING LEAVING AIR TEMPERATURE OF 72°F.

OCCUPIED MODE HEATING: WHEN THE OUTDOOR AIR TEMPERATURE FALLS BELOW 50°F, THE ELECTRIC HEAT SHALL OPERATE AS REQUIRED TO MAINTAIN 70°F LEAVING AIR TEMPERATURE. THE ELECTRIC HEAT SHALL BE LOCKED OUT DURING COOLING.

UNOCCUPIED MODE: THE MOTORIZED OA DAMPER SHALL CLOSE AND THE UNIT SHALL BE NOT OPERATE.

OVERRIDE MODE: THE OVERRIDE MODE SHALL PLACE THE SYSTEM IN OCCUPIED MODE AND THE OUTSIDE AIR DAMPER FOR THE UNIT IN OVERRIDE SHALL OPEN TO THE BALANCED POSITION.



2 M301 **100% OUTSIDE AIR UNIT CONTROL DIAGRAM**
SCALE: NONE

100% OUTSIDE AIR UNIT POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	DI	DO	AV	DV	SCHED	TREND	ALARM	GRAPHIC
SCHEDULE				X						X
FAULT						X			X	X
OUTSIDE AIR SUPPLY DEW POINT	X								X	X
OUTDOOR AIR TEMP					X					X
OUTSIDE AIR DEW POINT					X					X
SUPPLY AIR TEMP					X					X
ELECTRIC HEAT					X					X
OA DAMPER						X				X
COMPRESSOR						X				X
FAN START/STOP						X				X
FAN STATUS						X			X	X

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PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

HVAC CONTROLS

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4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27825
Keith A. Johnson, PE
Florida License Number: 89457
850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: BRS

PROJECT NUMBER	22019
DATED	01/31/2025

M301

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

SEQUENCE OF OPERATION
HEAT PUMP-UNTREATED OA

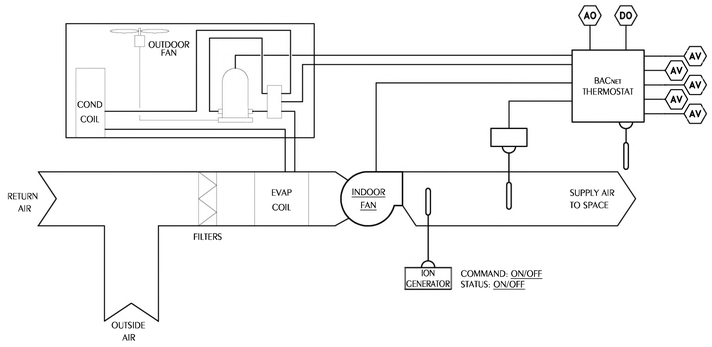
GENERAL: THE UNIT SHALL BE STARTED AUTOMATICALLY BY THE BACnet THERMOSTAT. ALL CONTROLS ACTIVATED SUBJECT TO THE FIRE ALARM RELAY, SAFETIES AND OVERLOADS.

OCCUPIED MODE: THE INDOOR FAN SHALL RUN CONTINUALLY AND THE HEAT PUMP SHALL STAGE COMPRESSORS WITH A CALL FOR HEATING AND COOLING. THE SET POINT FOR COOLING SHALL BE 75°F ADJUSTABLE. THE SET POINT FOR HEATING SHALL BE 70°F ADJUSTABLE.

UNOCCUPIED MODE: THE INDOOR FAN AND HP SHALL CYCLE TO MAINTAIN SET POINT TEMPERATURE. THE SET POINT FOR COOLING SHALL BE 80°F ADJUSTABLE. THE SET POINT FOR HEATING SHALL BE 65°F ADJUSTABLE.

OVERRIDE MODE: THE OVERRIDE MODE SHALL PLACE THE SYSTEM IN OCCUPIED MODE FOR 1 HR.

HUMIDITY CONTROL: UPON A CALL FOR DEHUMIDIFICATION (SETPOINT EQUALS 60%, ADJUSTABLE), THE UNIT SHALL BE PLACED IN COOLING MODE ON LOW FAN SPEED UNTIL THE CALL FOR DEHUMIDIFICATION HAS BEEN SATISIFIED OR THE SPACE TEMPERATURE FALLS 2°F. BELOW COOLING SETPOINT.



1 M302 HEAT PUMP-UNTREATED OA CONTROL DIAGRAM
SCALE: NONE

HEAT PUMP-UNTREATED OA POINTS LIST

	HARDWARE POINTS				LOCAL CONTROLLER POINTS				
POINT NAME	AI	AO	DI	DO	AV	DV	SCHED	TREND	ALARM
OCCUPIED/UNOCCUPIED SCHED							X		
ZONE TEMP SETPOINT					X				
ZONE TEMP					X				
ZONE RELATIVE HUMIDITY					X				
SUPPLY AIR TEMP					X				

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PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

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Keith A. Johnson, PE
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Drawn By: SRS

PROJECT NUMBER	22019
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M302

BEST ROOF HATCHES

GALVANIZED STEEL DOUBLE DOOR ACOUSTICMAX™ 50 SMOKE VENT, LINEAR ACTUATOR WITH ELECTRICAL OPENING MECHANISM

CATEGORY: SMOKE VENTS

SKU: BSVY-D2A

babcockdavis

DETAILS

SOUND RATING(S) Independent third party tested to ASTM E90 and ASTM E1332
- BSVX: STC 48 - OITC 36
- BSVY: STC 50 - OITC 39

MATERIAL 14 gauge galvanneal steel; powder coat

FINISH High Reflectance White exterior cover with black interior liner and black curb

COVER Metal with liner, withstands a live load of 40psf with a max deflection of 1/150 the span

CURB Double wall curb with EZ tab counterflash and mounting flange

INSULATION Mineral wool and sound mat in cover and curb
- BSVX: Total R-10
- BSVY: Total R-14

GASKET Extruded EPDM adhesive backed gasket seals

HINGE Stainless steel heavy duty pintle hinge

72"x84".

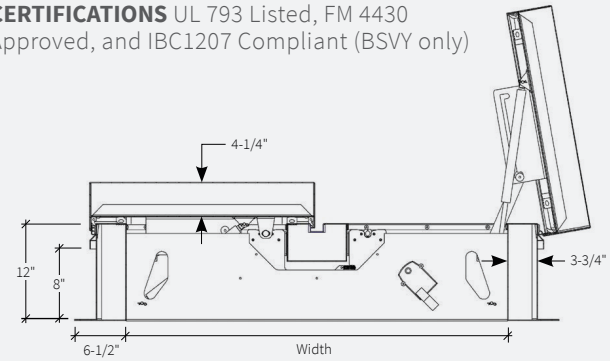
SPRING Gas spring with damper opens cover against 10psf snow load

HOLD OPEN ARM Zinc plated steel automatic hold open arm locks cover in open position

LATCH Zinc plated steel rotary latch designed to hold covers closed against 90psf wind uplift

OPERATION Opens automatically with a fusible link and manual pull handles

CERTIFICATIONS UL 793 Listed, FM 4430 Approved, and IBC1207 Compliant (BSVY only)



ORDER GUIDE

BASE	RATING	MATERIAL	WIDTH	X	LENGTH	DOOR	CURB	ELECTRIC	LINK TEMP (°F)	CLOSING	—	OPTIONS
BSV		**G**		**X**							**—**	
	X STC 48 **Y** STC 50	**G** Galvanneal Steel	**Standard Sizes** (W x L) 48" x 48" 48" x 72" 48" x 96" 60" x 60" 60" x 96" 60" x 120" 72" x 72" 72" x 96" *Additional size options also available.*			**D** Double Door **Q** Quad Door	**2** Double Wall **3** Curb Mount	**N** No Electrical **L** 24VDC/24VAC **H** 110VAC / 240VAC	**165** **350** **212** **360** **280** **450**	**R** Rooftop Close **W** Manual Winch **A** Linear Actuator* **Voids UL*		**SFM** FM Labeled **OP1** Door Position Sensor **B__** Burglar Bars

TOLL FREE PHONE:
1-800-431-8651

EMAIL:
info@bestroofhatches.com

FAX:
1-888-828-6021

www.BestRoofHatches.com

ELECTRICAL LEGEND

A–1 'B' — A–1 ADJACENT TO ARROW INDICATES HOMERUN OF CIRCUIT NO. 1 TO PANEL A; "B" INDICATES FIXTURE TYPE; MARKS ACROSS RACEWAY RUN INDICATES THE NUMBER OF NO. 12 CONDUCTORS; UNLESS NOTED OTHERWISE NO MARKS INDICATES TWO NO. 12 CONDUCTORS AND ONE NO. 12 GREEN GROUND CONDUCTOR IN 1/2" CONDUIT (2#12 & 1#12 GND–1/2"C)

CEILING FIXTURE

CEILING FIXTURE WITH INTEGRAL EMERGENCY BATTERY BACKUP

WALL BRACKET FIXTURE

2' X 2' FIXTURE; CEILING MOUNTED; ARROW INDICATES LENS DIRECTION

2' X 2' FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; CEILING MOUNTED; ARROW INDICATES LENS DIRECTION

1' x 4' FIXTURE; CEILING MOUNTED

LED 1' x 4' FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE

LED WALL MOUNTED FIXTURE; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE

HIGH BAY FIXTURE; PENDANT MOUNTED

HIGH BAY EMERGENCY FIXTURE; PENDANT MOUNTED

POLE MOUNTED LIGHT FIXTURE.

EXIT SIGN; CEILING MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN

WG — EXIT SIGN; BACK MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN; WG, IF SHOWN, INDICATES WIRE GUARD

JUNCTION BOX; MOUNTED ABOVE CEILING

JUNCTION BOX; MOUNTED FLUSH IN WALL WITH BLANK COVER

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

CEILING MOUNTED DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT FLUSH IN CEILING UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

CEILING MOUNTED QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT FLUSH IN CEILING UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

DUPLEX FLOOR RECEPTACLE, 125 V, 20 A; NEMA 5–20R; HUBBELL SERIES HBL5352

QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5352

TAMPER RESISTANT DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL SERIES BR20xxTR

TAMPER RESISTANT QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL SERIES BR20xxTR

TAMPER RESISTANT DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES GFTR20

QUAD RECEPTACLE; TAMPER RESISTANT; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES GFTR20

QUAD RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA GF–5–20R; HUBBELL SERIES GF5362

DUPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; GFI; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA GF–5–20R; HUBBELL SERIES GF5362

WP — LETTERS "WP" ADJACENT TO SYMBOL INDICATES GFI WEATHER RESISTANT RECEPTACLE; HUBBELL HBLGFTW20 SERIES WITH WEATHERPROOF COVER; HUBBELL/TAYMAC MR420CW COVER.

DUPLEX RECEPTACLE FOR TELEVISION WITH SURGE PROTECTION, LED AND ALARM; 125V; 20A; 2 POLE; 3 WIRE; GND; SEE TELECOM PLANS FOR MOUNTING DETAILS. NEMA 5–20R; HUBBELL SERIES HBL5362SA

COMBINATION POWER/TELECOM FLOOR BOX; FOUR DUPLEX RECEPTACLES; 125V; 20A; 3 POLE GND; NEMA 5–20R; HUBBELL SERIES HBL5352; REFER TO TELECOM AND A/V PLANS FOR FLOOR BOX PART NUMBERS, INSTALLATION DETAILS AND LOCATION.

LETTERS +XX" ADJACENT TO SYMBOL INDICATES RECEPTACLE MOUNTING HEIGHT.
+AC" = ABOVE COUNTER.
+DF" = VERIFY HEIGHT FOR DRINKING FOUNTAIN WITH MECHANICAL CONTRACTOR
+TV" = VERIFY HEIGHT OF TV WITH OWNER.
+SB" = SMARTBOARD/INTERACTIVE FLAT PANEL TV RECEPTACLE, VERIFY MOUNTING REQUIREMENTS WITH TELECOM PLANS.
+TS" = TEACHER STATION RECEPTACLE, VERIFY MOUNTING REQUIREMENTS WITH TELECOM PLANS.
+DW" = DISHWASHER RECEPTACLE, VERIFY MOUNTING REQUIREMENTS WITH MECHANICAL CONTRACTOR.
+REF" = REFRIGERATOR, VERIFY & COORDINATE MOUNTING HEIGHT WITH REFRIGERATOR MANUFACTURER.

SIMPLEX RECEPTACLE; 125V; 20A; 3 POLE GND; MT 18" AFF TO C/L UNLESS NOTED OTHERWISE; NEMA 5–20R; HUBBELL SERIES HBL5351

S — WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1221

S — WALL SWITCH; 120/277V; 20A; VACANCY SENSOR DUAL TECHNOLOGY MULTI–WAY TYPE; MT 48" AFF TO C/L; REFER TO SPECS; WATTSTOPPER #DW–100–W.

S — WALL MOUNT SINGLE POLE–DOUBLE THROW KEYED MOMENTARY SWITCH; 120/277V; 20A; MT 48" AFF TO C/L; WATTSTOPPER #1250–L

S — LOW VOLTAGE WALL SWITCH; CONNECT TO LOCAL NON–NETWORKED POWER PACK OR ROOM CONTROLLER; MT 48" AFF TO C/L; REFER TO SPECS; SEE LIGHTING CONTROL DETAILS. NUMBER "x" INDICATES BUTTON COUNT; REFER TO LOW VOLTAGE SWITCH MATRIX FOR SPECIFIC INFORMATION.

MOTOR CONTROL SWITCH; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL–BRYANT 30102D.

WP — NEMA 3R MOTOR CONTROL SWITCH; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL–BRYANT 30322D.

LIGHTING CONTROLS ROOM CONTROLLER; INSTALL CONCEALED ABOVE CEILING SPACE; REFER TO LIGHTING CONTROLS DETAILS

ELM — EMERGENCY RELAY; EQUAL TO WATTSTOPPER #ELCU–200. MOUNT ABOVE CEILING; UNLESS NOTED OTHERWISE. REFER TO EMERGENCY LIGHTING RELAY CONNECTION DETAIL.

LOW VOLTAGE OCCUPANCY SENSOR; 360° DUAL–TECHNOLOGY TYPE; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

LOW VOLTAGE VACANCY SENSOR; 360° DUAL–TECHNOLOGY TYPE; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

LOW VOLTAGE DAYLIGHTING SENSOR; CEILING MOUNTED; UNLESS OTHERWISE NOTED; REFER TO LIGHTING CONTROLS DETAILS

HIGH BAY PASSIVE INFRARED OCCUPANCY SENSOR; CEILING MOUNTED; CONNECT TO LIGHTING CONTROL PANEL, UNLESS OTHERWISE NOTED.

PHOTOCELL; REFER TO LIGHTING CONTROL DIAGRAM

PANEL; 120/208V; MT 72" AFF TO TOP

T — TRANSFORMER; SIZE AND RATING AS NOTED

NON–FUSED DISCONNECT SWITCH; AMP SIZE AS NOTED

FUSED DISCONNECT SWITCH; AMP SIZE AS NOTED; FUSE SIZE PER EQUIPMENT NAMEPLATE DATA

MOTOR; FURNISHED BY OTHERS

RACEWAY INSTALLED CONCEALED IN WALLS AND/OR ABOVE CEILING

RACEWAY INSTALLED CONCEALED IN FLOOR SLAB AND/OR BELOW GRADE

RACEWAY INSTALLED EXPOSED

LV — LOW VOLTAGE CONDUCTOR; COORDINATE WITH DEVICE CONNECTION REQUIREMENTS.

FLEXIBLE CONDUIT CONNECTION

CONDUIT STUB UP WITH FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT

ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT SIZE AND LOCATION OF EQUIPMENT WHICH IS FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL.

B. RECEPTACLES, SWITCHES AND COVERPLATES COLOR SHALL BE SELECTED BY THE ARCHITECT FROM STANDARD COLORS.

C. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING–IN WALL FOR SWITCHES.

D. LOCATION OF LIGHTING FIXTURES, DISCONNECT SWITCHES, ETC. FOR MECHANICAL EQUIPMENT/ROOM SHALL BE COORDINATED WITH FINAL MECHANICAL EQUIPMENT LOCATION TO PROVIDE NATIONAL ELECTRIC CODE REQUIRED ACCESS SPACE.

E. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION.

F. ALL EXIT AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.

G. ALL PANELBOARDS, BACKBOARDS, TERMINAL CABINETS, ETC SHALL HAVE CUSTOM ENGRAVED MICARTA NAMEPLATE MECHANICALLY AFFIXED IDENTIFYING SYSTEM.

H. PROVIDE GREEN GROUND CONDUCTOR IN ALL CIRCUITS – SIZE PER N.E.C.

I. ALL EXPOSED CONDUITS, BOXES, STRAPS AND HANGERS IN THE CONTRACT AREA WHETHER NEW OR EXISTING THAT ARE PART OF THE ELECTRICAL SYSTEM SHALL BE PAINTED TO MATCH ADJACENT FINISH.

J. PROVIDE CONCRETE MARKER AT END OF ALL CONDUITS STUBBED OUT OF BUILDING FOR FUTURE USE. MARKER SHALL BE 6" DIA X 18" HIGH WITH 2" ABOVE FINISHED GRADE. INSCRIBE IN TOP OF MARKER "E" FOR ELECTRICAL,"T" FOR TELEPHONE,"V" FOR TV CABLE,"F" FOR FIRE ALARM, AND "IC" FOR INTERCOM.

K. GENERAL CONTRACTOR SHALL FIELD–VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.

L. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.

M. FIRE ALARM LOW VOLTAGE SOURCE AND BATTERY STANDBY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.

N. VERIFY EXACT LOCATION OF ALL FLOOR OUTLETS WITH THE ARCHITECT PRIOR TO ROUGHING–IN.

O. FINAL CONNECTION TO ALL DRY TYPE TRANSFORMERS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION

P. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FAULT CURRENT CALCULATIONS FOR THE SERVICE EQUIPMENT AND SHALL MARK THE EQUIPMENT WITH THE AVAILABLE FAULT CURRENT AND DATE OF THE CALCULATION PER NEC 110.24. REFER TO TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL.

Q. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FAULT LABELS PER NFPA 70E ARTICLE 110.16 FOR NEW EQUIPMENT. THE OWNER SHALL PROVIDE AVAILABLE CALCULATION DATA FOR THE EXISTING EQUIPMENT IN THE ELECTRICAL SYSTEM. REFER TO TYPICAL ARC FLASH HAZARD LABEL DETAIL.

R. PROVIDE NEUTRAL AT ALL LINE VOLTAGE SWITCH LOCATIONS PER N.E.C. 404.2(C).

S. PROVIDE 'LSI' TRIP UNITS FOR ALL BREAKERS GREATER THAN OR EQUAL TO 200A.

T. PROVIDE BUSHINGS ON ALL CONDUIT.

ABBREVIATIONS

AFF – ABOVE FINISHED FLOOR
AHU – AIR HANDLING UNIT
C. – CONDUIT
C/L – CENTERLINE
CP – CIRCULATION PUMP
EC – ELECTRICAL CONTRACTOR
EF – EXHAUST FAN
EMT – ELECTRICAL METALLIC TUBING
EWC – ELECTRIC WATER COOLER
EWH – ELECTRIC WATER HEATER
GFI – GROUND FAULT PROTECTION
GND – GROUND CONDUCTOR
HP – HEAT PUMP
IMC – INTERMEDIATE METAL CONDUIT
LSI – INDICATES BREAKER SETTING (LONG, SHORT, INSTANTANEOUS)
LTG – LIGHTING
LTS – LIGHTS
MHP – MINI–SPLIT HEAT PUMP
MW – MINI–SPLIT WALL MOUNT
NEC – NATIONAL ELECTRIC CODE (NFPA–70)
NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
OAU – OUTDOOR AIR UNIT
PC – POLYCARBONATE COVER
PVC – POLYVINYL CHLORIDE CONDUIT
REC – RECEPTACLE
UNO – UNLESS NOTED OTHERWISE
WG – WIRE GUARD (SIZE AS REQUIRED)
WP – WEATHERPROOF

DRAWING SHEET INDEX

Sheet Number	Sheet Title
E001	LEGEND AND NOTES
E101	SITE PLAN - ELECTRICAL
E201	FLOOR PLAN - POWER
E202	FLOOR PLAN - HVAC POWER
E203	FLOOR PLAN - FIRE ALARM
E204	FLOOR PLAN - LIGHTING
E205	FLOOR PLAN - AV POWER & THEATRICAL LIGHTING
E206	MEZZANINE PLAN - ELECTRICAL
E301	ELECTRICAL DETAILS
E302	LIGHTING FIXTURE SCHEDULE AND CONTROLS
E303	LIGHTING CONTROLS DETAILS
E304	LIGHTING CONTROLS DETAILS
E401	SINGLE LINE POWER & FIRE ALARM RISER DIAGRAMS
E501	MECHANICAL EQUIPMENT & PANEL SCHEDULES
E601	GROUNDING DETAILS

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LEGEND AND NOTES

PROJECT NUMBER 22019
DATED 03/12/2026

E001

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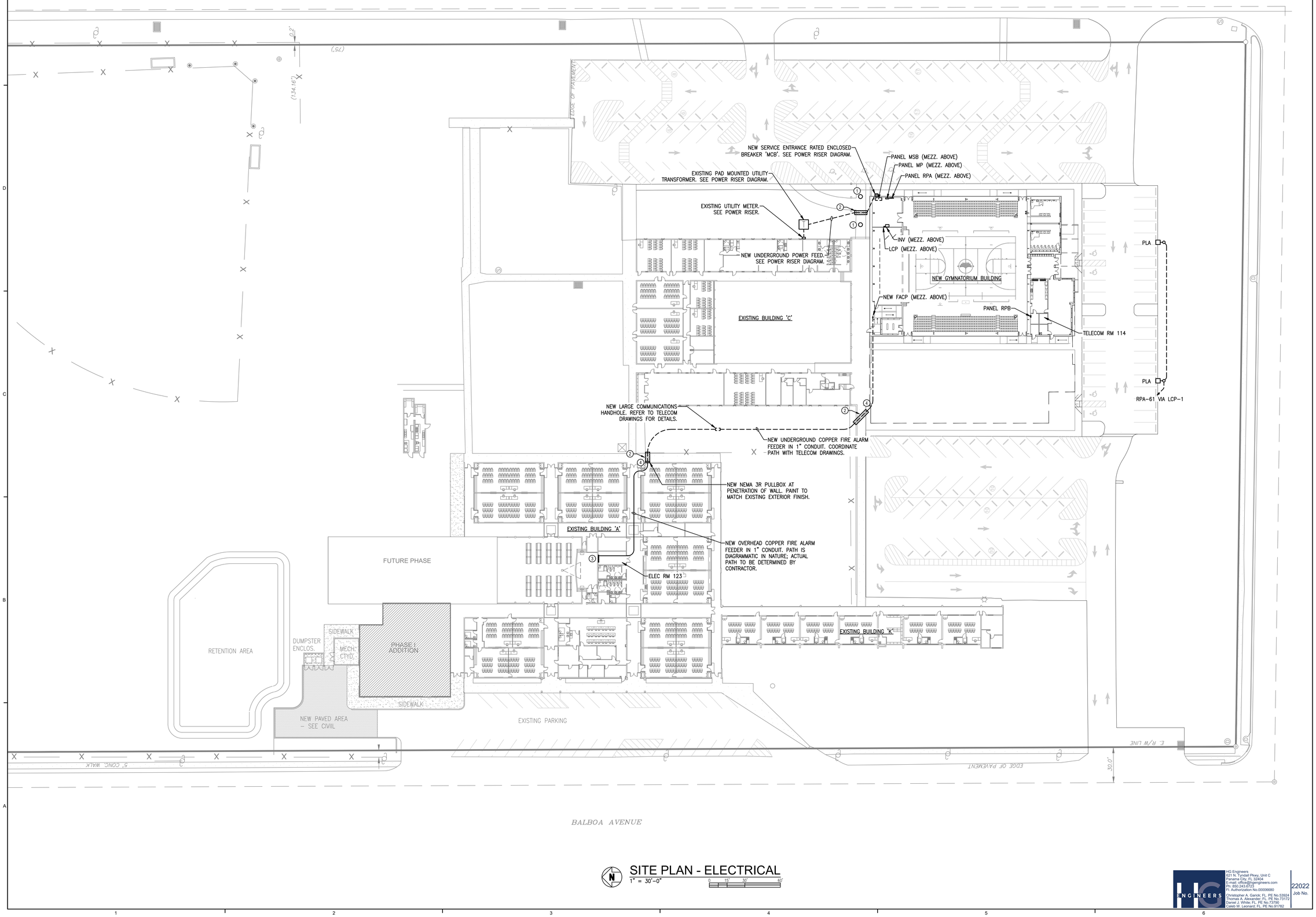
SPECIAL NOTE

REFER TO TELECOM PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

KEYNOTES

1. DEMO AND REMOVE EXISTING CANOPY LIGHT FIXTURES IN THEIR ENTIRETY. ENSURE THAT THE EXISTING CIRCUIT CONDUIT AND CONDUCTORS, IF FEEDING OTHER DEVICES OR FIXTURES, ARE EXTENDED AS NECESSARY TO MAINTAIN CIRCUIT CONTINUITY.
2. SAW, CUT AND PATCH EXISTING SIDEWALK AS REQUIRED.
3. EXISTING EDWARDS IO-SERIES FIRE ALARM CONTROL PANEL WITH AUDIO NOTIFICATION SYSTEM AND POWER SUPPLIES. NEW SYSTEM SHALL BE FULLY COMPATIBLE WITH EXISTING SYSTEM.
4. PROVIDE SURGE PROTECTION FOR FIRE ALARM CABLING WITHIN 6 FEET UPON EXITING AND ENTERING BUILDINGS.



SITE PLAN - ELECTRICAL

1" = 30'-0"

0 15' 30' 60'

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PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SITE PLAN - ELECTRICAL

PROJECT NUMBER	22019
DATED	03/12/2026

E101

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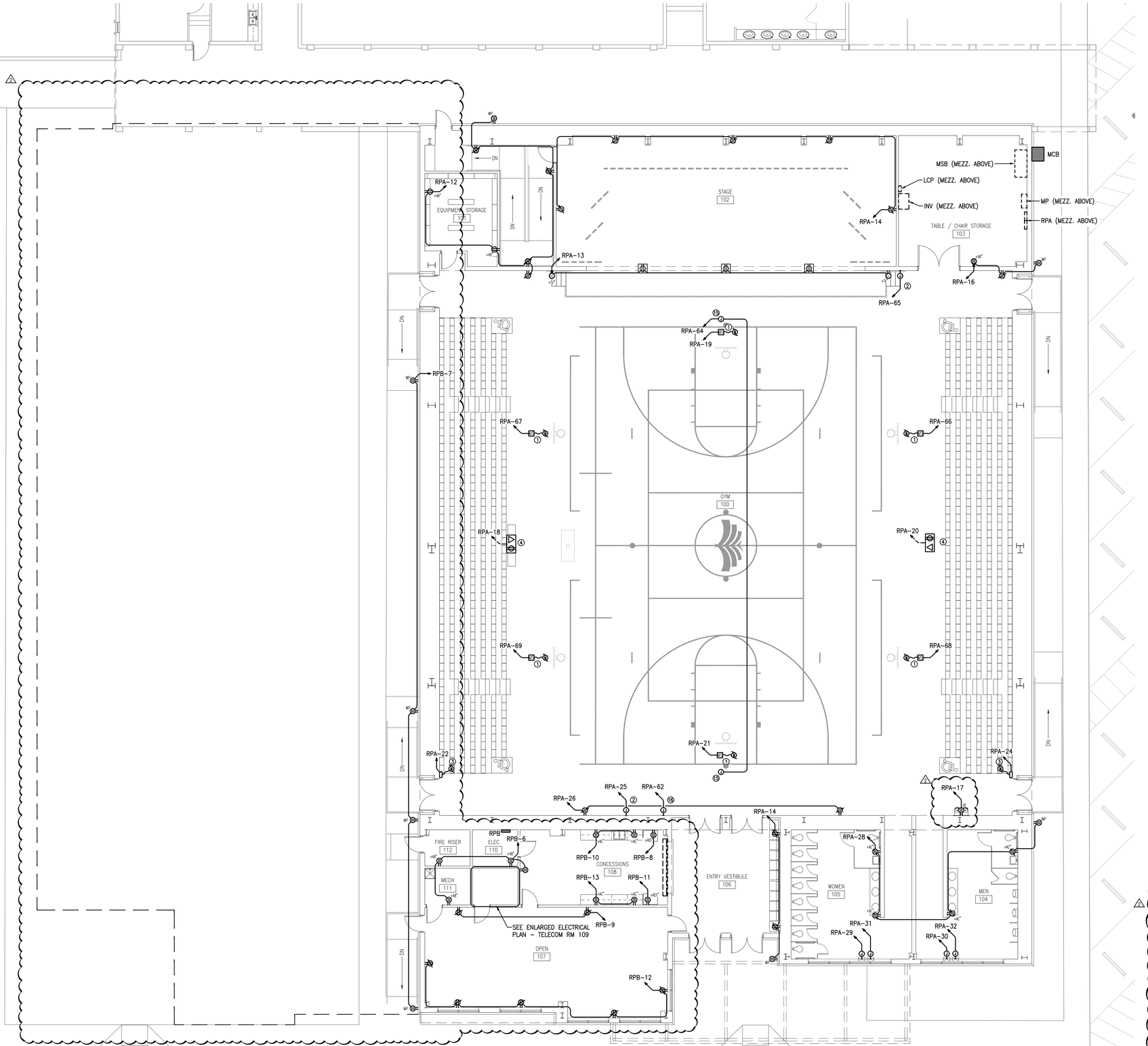


KEYNOTES

1. INSTALL 4-SQUARE JUNCTION BOX (POWER) AND CONTROL WIRING (BY OTHERS) FOR GOAL HOIST SYSTEM. CONCEAL CONDUIT ALONG CEILING JOISTS. INSTALL GOAL HOIST CONTROLS (2-GANG BOX) AT LOCATION SELECTED BY OWNER/ARCHITECT. INSTALL PER MANUFACTURERS SPECIFICATIONS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
2. INSTALL JUNCTION BOX FOR SCOREBOARD POWER AND CONTROLS. INSTALL PER MANUFACTURERS REQUIREMENTS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
3. INSTALL DISCONNECT SWITCH FOR CONNECTION TO MOTORIZED AUTOMATIC BLEACHER. COORDINATE ELECTRICAL REQUIREMENTS WITH MANUFACTURER PRIOR TO PURCHASING AND INSTALLING EQUIPMENT. INSTALL CONTROLS AS REQUIRED. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
4. PROVIDE FLOOR BOX DATA AND POWER FOR SCORER'S TABLE. REFER TO TELECOM DRAWINGS FOR DETAILS. COORDINATE LOCATION WITH OWNER/ARCHITECT. COORDINATE INSTALLATION WITH TELECOM CONTRACTOR.

1
5. NOT USED
6. NOT USED
7. NOT USED

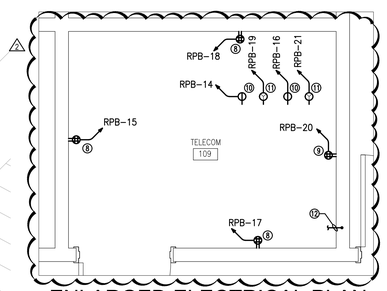
8. PROVIDE DEDICATED 120V 20A QUAD RECEPTACLE CIRCUIT. ROUGH-IN WALL BOX FLUSH WITH FACE OF BACKBOARD. EXTEND EMT CONDUIT FROM BOX CONCEALED BEHIND BACKBOARD. SEE TELECOM DRAWINGS.
9. PROVIDE DEDICATED 120V 20A QUAD RECEPTACLE CIRCUIT MOUNTED DIRECTLY UNDER CCTV ENCLOSURE. ROUGH-IN WALL BOX FLUSH WITH FACE OF BACKBOARD. EXTEND EMT CONDUIT FROM BOX CONCEALED BEHIND BACKBOARD. SEE TELECOM DRAWINGS.
10. INSTALL DEDICATED 120V 20A SIMPLEX RECEPTACLE ON BACKSIDE OF CABLE RUNWAY IN NON-METALLIC BOX FOR SURGE SUPPRESSOR POWER. SEE TELECOM DRAWINGS.
11. INSTALL DEDICATED 120V L5-30 30A RECEPTACLE ON REAR OF RACK FOR 3000VA UPS. PROVIDE 2#10, #10G, IN 3/4"C SEE TELECOM DRAWINGS.
12. INSTALL 3/4" EMT CONDUIT WITH PULLSTRING TO MAIN CIRCUIT BREAKER MCB. SEE TELECOM DRAWINGS.

1
13. NOT USED
14. NOT USED

15. INSTALL JUNCTION BOX FOR SHOT CLOCK POWER AND CONTROLS. INSTALL PER MANUFACTURERS REQUIREMENTS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.
16. INSTALL JUNCTION BOX FOR BASKETBALL HOIST OPERATOR SWITCHES. INSTALL PER MANUFACTURERS REQUIREMENTS. COORDINATE FINAL LOCATIONS WITH ARCHITECTURAL PLANS PRIOR TO ROUGHING IN.

SPECIAL NOTE

REFER TO TELECOM, AV, AND THEATRICAL PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.



ENLARGED ELECTRICAL PLAN - TELECOM RM 109
1/2" = 1'-0"

FLOOR PLAN - POWER
1/8" = 1'-0"

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FLOOR PLAN - POWER

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Job No.

PROJECT NUMBER	22019
DATED	03/12/2026

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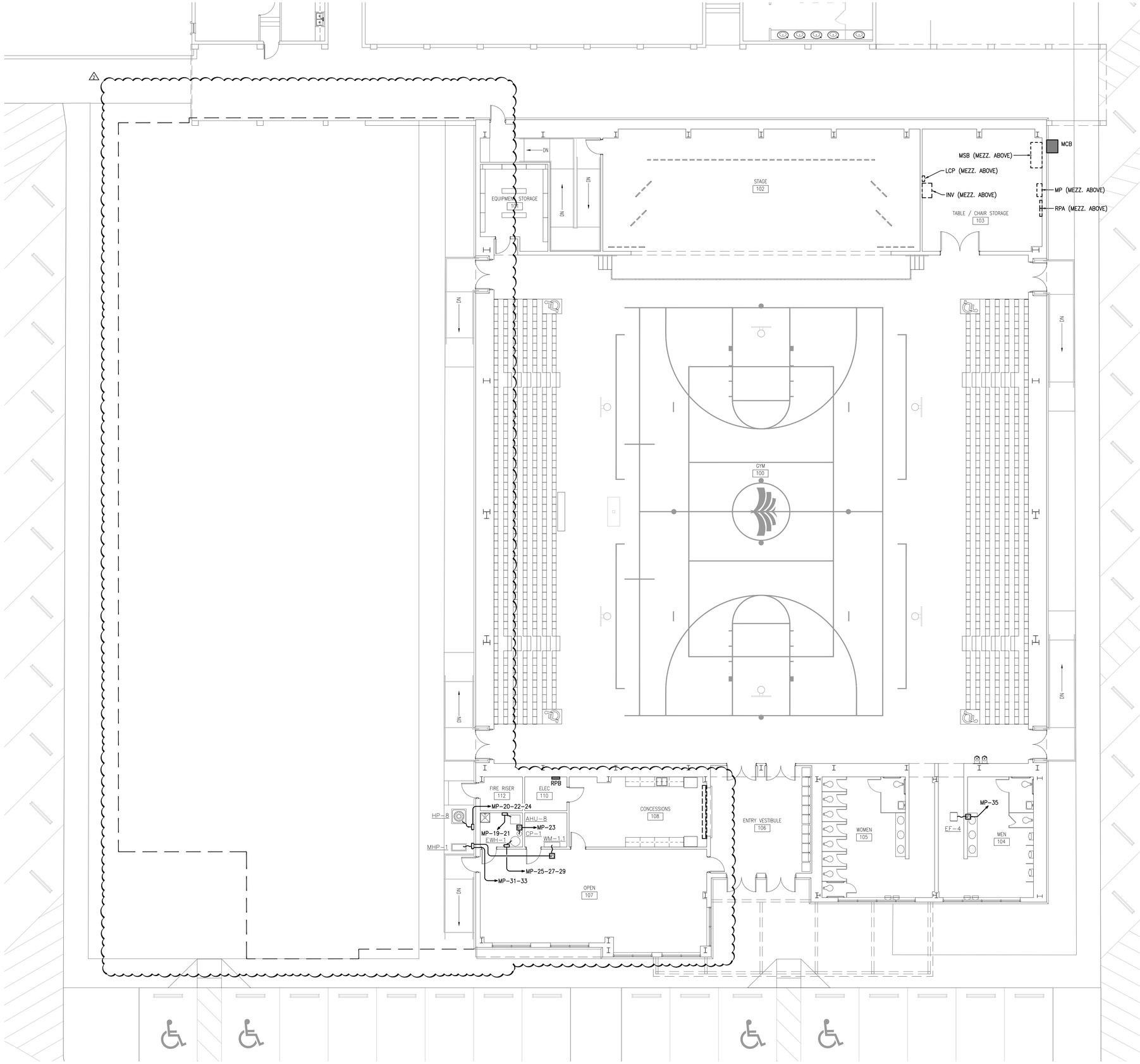

FLOOR PLAN - HVAC POWER
1/8" = 1'-0"
0 4' 8' 16'

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PALM BAY CHARTER SCHOOLS
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No.	Description	Date

FLOOR PLAN - HVAC POWER

PROJECT NUMBER	22019
DATED	03/12/2026

E202

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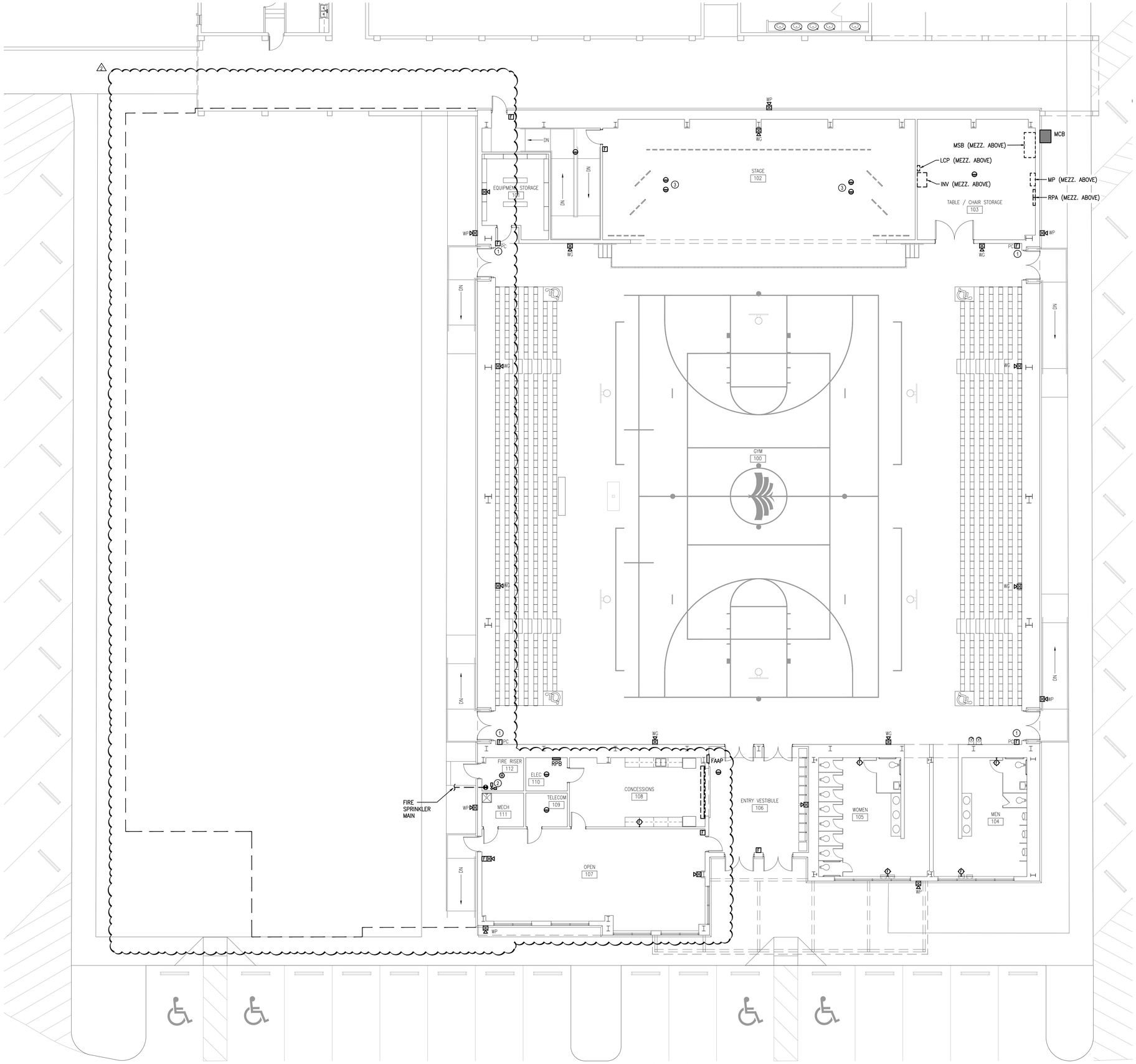
KEYNOTES

1. INSTALL PROTECTIVE POLYCARBONATE SHIELD.
2. VERIFY QUANTITY & LOCATION WITH FIRE SPRINKLER SUPPLIER.
3. ONE SMOKE DETECTOR TO SERVE THE ABOVE-STAGE SPACE. THE SECOND SMOKE DETECTOR TO SERVE THE BENEATH-STAGE CAVITY.



FLOOR PLAN - FIRE ALARM
1/8" = 1'-0"

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REVISIONS:

No.	Description	Date

FLOOR PLAN - FIRE ALARM

PROJECT NUMBER	22019
DATED	03/12/2026

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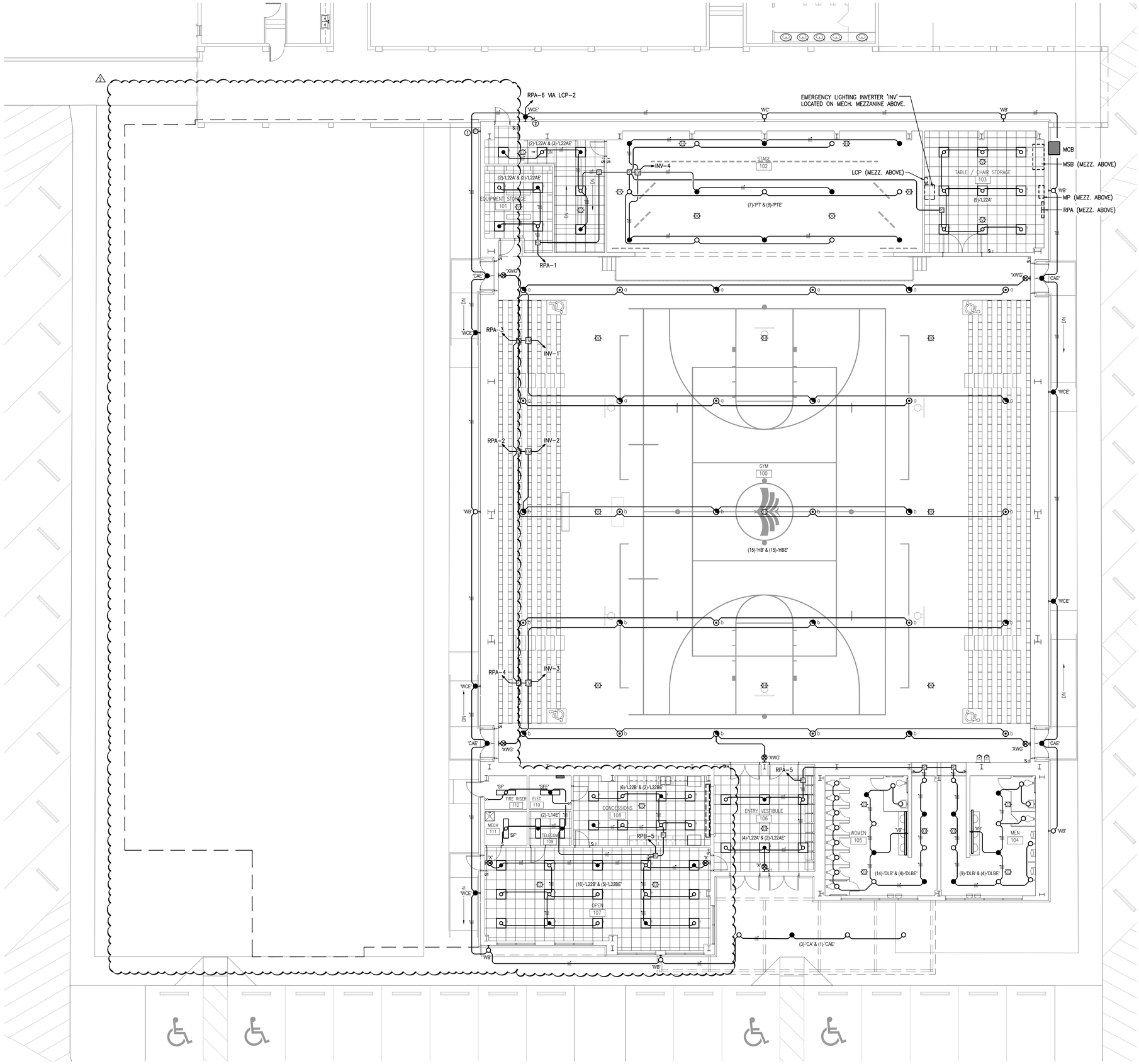

KEYNOTES

1. MOUNT PHOTOCELL AS HIGH AS POSSIBLE FACING NORTH. REFER TO LIGHTING CONTROL DETAILS.
2. CONNECT TO MEZZANINE EXTERIOR LIGHTING CIRCUIT.

FLOOR PLAN - LIGHTING

1/8" = 1'-0"

0 4' 8' 16'

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REVISIONS:

No.	Description	Date

FLOOR PLAN - LIGHTING

PROJECT NUMBER	22019
DATED	03/12/2026

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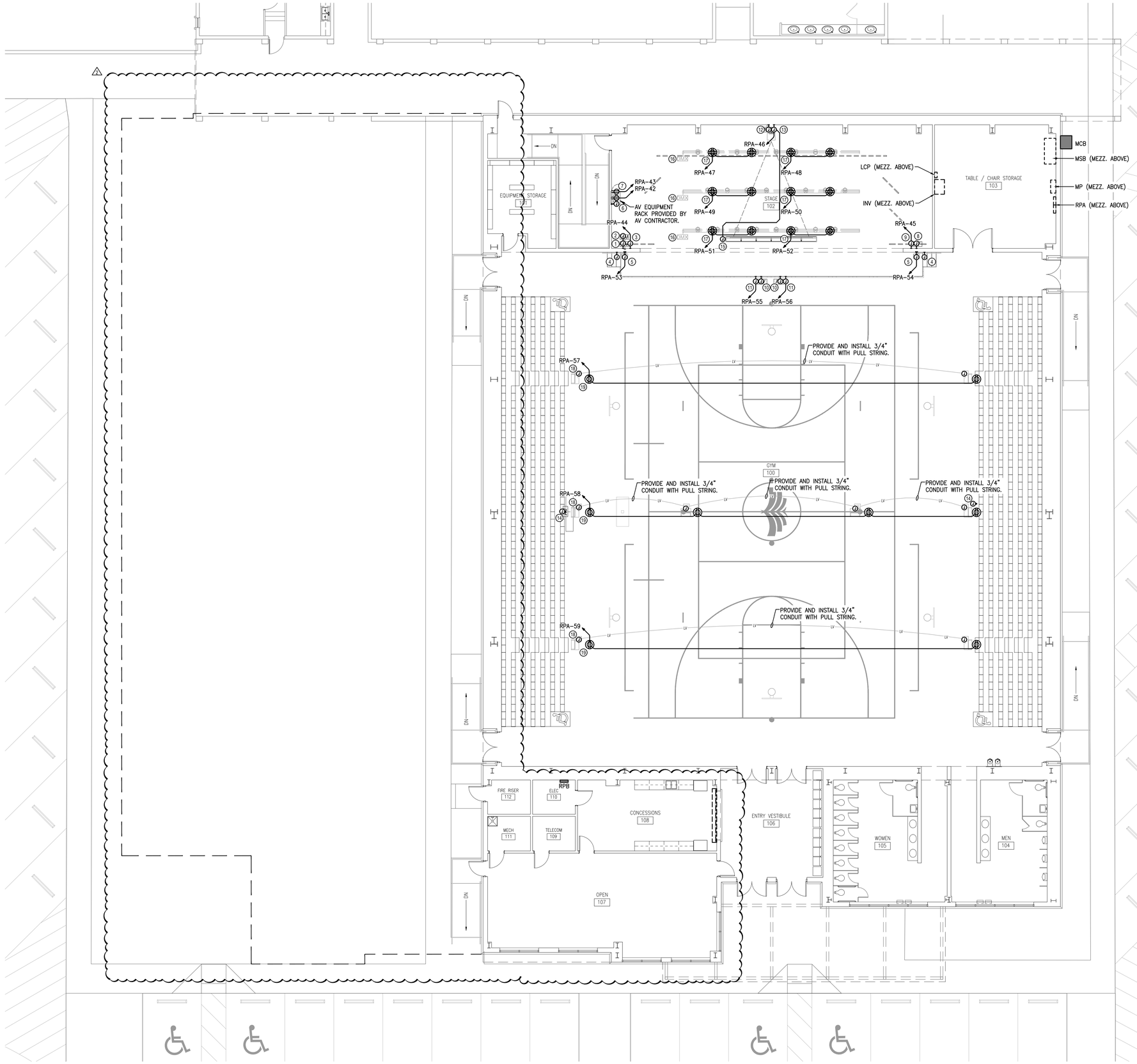

KEYNOTES

1. INSTALL 8" X 8" JUNCTION BOX RECESSED IN-WALL 18" AFF FOR AV INPUT PLATE. PROVIDE AND INSTALL 1" CONDUIT FROM AV INPUT PLATE TO WALL REMOTE. PROVIDE AND INSTALL THREE 1" CONDUITS FROM AV INPUT PLATE TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL BOXES, CONDUIT AND POWER. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
2. PROVIDE AND INSTALL RECESSED IN-WALL 2-GANG JUNCTION BOX 60" AFF FOR AV INPUT PLATE AND AV WALL REMOTE. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL BOXES, CONDUIT AND POWER. WALL REMOTE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
3. AV COMPONENT POWER. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO AV INPUT PLATE FOR AV COMPONENT POWER. REFER TO AV/THEATRICAL DRAWINGS.
4. LOUDSPEAKER JUNCTION BOX. INSTALL SINGLE GANG JUNCTION BOX 84" AFF. INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK. INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO JUNCTION BOX 84" AFF FOR LOUDSPEAKER POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
5. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO JUNCTION BOX 84" AFF FOR LOUDSPEAKER POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
6. INSTALL STAGE JUNCTION BOX RECESSED IN-WALL 18" AFF. SIZE JUNCTION BOX BASED ON QUANTITY AND SIZE OF CONDUIT TERMINATIONS PER NEC. INSTALL 1" CONDUIT FROM STAGE JUNCTION BOX TO 'OVER STAGE' AREA FOR SUSPENDED MICROPHONE CABLES. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
7. INSTALL TWO 120V 20A DEDICATED RECEPTACLE CIRCUITS ADJACENT TO STAGE JUNCTION BOX FOR AV COMPONENT POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
8. PROVIDE AND INSTALL 8" X 8" AV JUNCTION BOX 18" AFF RECESSED IN-WALL. PROVIDE AND INSTALL THREE 1" CONDUITS TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101. BOXES AND CONDUIT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
9. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT FOR AV COMPONENT POWER. REFER TO AV/THEATRICAL DRAWINGS.
10. PROVIDE AND INSTALL SINGLE GANG BOX IN VERTICAL STEP RISER. PROVIDE AND INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT ROOM 101. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
11. PROVIDE AND INSTALL 120V 20A DEDICATED CIRCUIT ADJACENT TO AV JUNCTION BOX FOR AV COMPONENT POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
12. PROVIDE AND INSTALL 2-GANG JUNCTION BOX 9'-0" AFF. PROVIDE AND INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK IN EQUIPMENT STORAGE 101. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. PROJECTOR PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
13. PROVIDE AND INSTALL 120V 20A SHARED CIRCUIT 9'-0" AFF FOR PROJECTOR AND PROJECTION SCREEN POWER. REFER TO AV/THEATRICAL DRAWINGS.
14. PROVIDE AND INSTALL 1" CONDUIT FROM SCORER'S DESK FLOOR BOX TO AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101 FOR GYM AV INPUT. FLOOR BOX AND CONDUIT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
15. PROVIDE AND INSTALL 120V 20A SHARED CIRCUIT WITH PROJECTOR. PROVIDE AND INSTALL 1" CONDUIT TO STAGE JUNCTION BOX AT AV EQUIPMENT RACK FOR UP/DOWN CONTROL CABLING. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. PROJECTION SCREEN PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
16. PROVIDE AND INSTALL 1" CONDUIT TO FROM DMX JUNCTION BOX ON BATTEN TO STAGE JUNCTION BOX IN EQUIPMENT STORAGE RM 101 FOR DMX CABLING. CONDUIT, BOXES & POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. STAGE LIGHTING LED FIXTURES, 1.5" PIPE BATTEN & DMX CABLING PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
17. PROVIDE AND INSTALL 120V 20A CIRCUITS (TWO QUADRAPLEX RECEPTACLES PER CIRCUIT) FOR DMX AND STAGE LIGHTING FIXTURE POWER. COORDINATE LOCATION AND INSTALLATION WITH AV/THEATRICAL LIGHTING CONTRACTOR. STAGE LIGHTING LED FIXTURES, 1.5" PIPE BATTEN & DMX CABLING PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
18. PROVIDE AND INSTALL SINGLE GANG JUNCTION BOX TO STEEL STRUCTURE. PROVIDE AND INSTALL 1" CONDUIT TO FROM LOUDSPEAKER JUNCTION BOX TO AV EQUIPMENT RACK IN EQUIPMENT STORAGE RM 101. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. LOUDSPEAKER PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.
19. PROVIDE AND INSTALL 120V 20A CIRCUIT PER ROW OF LOUDSPEAKERS. MOUNT CEILING RECEPTACLE ADJACENT TO LOUDSPEAKER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. LOUDSPEAKER PROVIDED AND INSTALLED BY AV CONTRACTOR. REFER TO AV/THEATRICAL DRAWINGS.

SPECIAL NOTE

REFER TO TELECOM, AV, AND THEATRICAL PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

FLOOR PLAN - AV POWER & THEATRICAL LIGHTING

1/8" = 1'-0"

0 4' 8' 16'

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

FLOOR PLAN - AV POWER & THEATRICAL LIGHTING

PROJECT NUMBER	22019
DATED	03/12/2026

E205

HG ENGINEERS
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Ph: 850.243.8722
FL Authorization No.00006680
Christopher A. Garick: FL. PE No.53924
Thomas A. Alexander: FL. PE No.73172
Daniel J. White: FL. PE No.73170
Caleb W. Leonard: FL. PE No.91782

22022 Job No.

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22019
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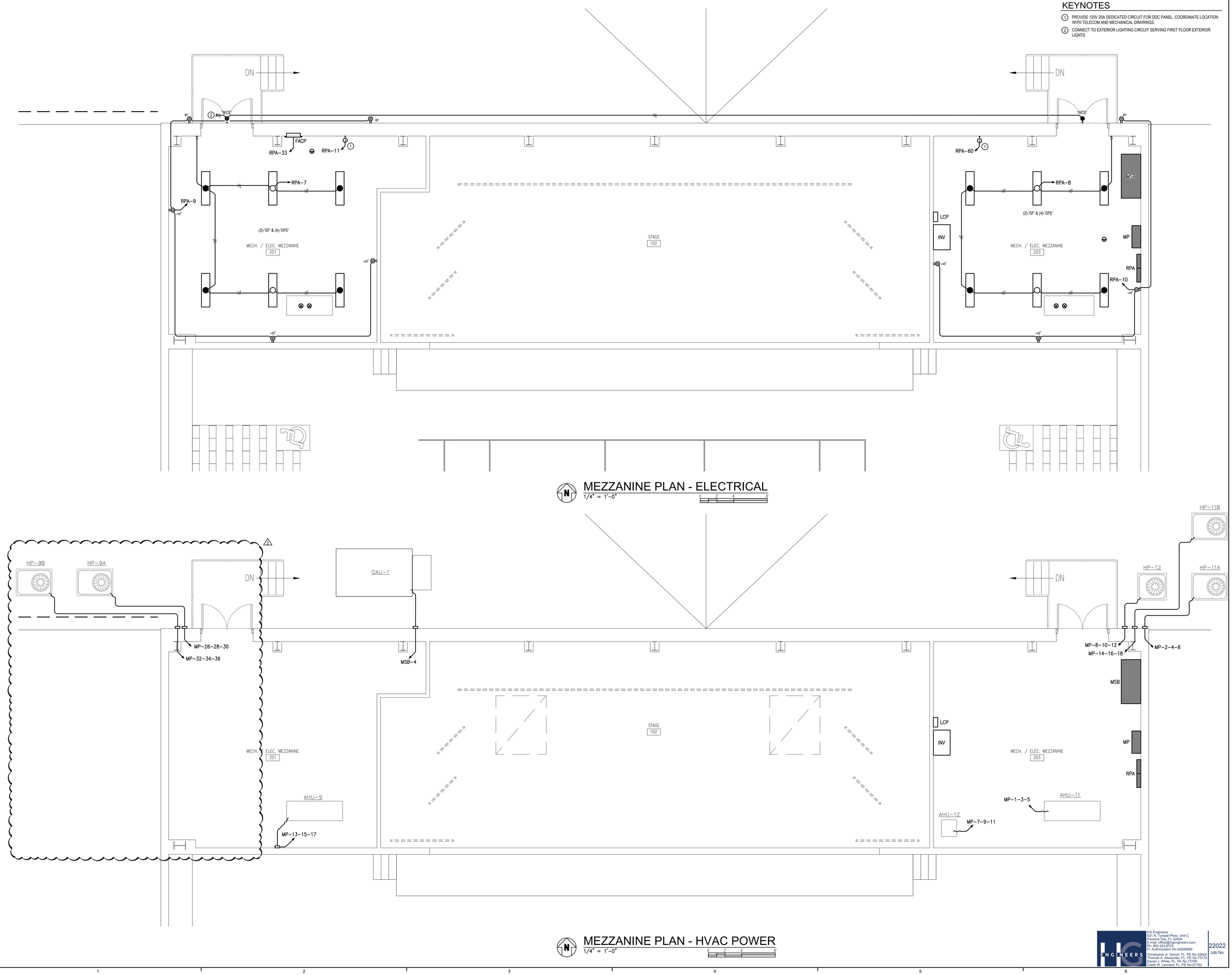
12/12/2025

KEYNOTES

1. PROVIDE 120V 20A DEDICATED CIRCUIT FOR DDC PANEL. COORDINATE LOCATION WITH TELECOM AND MECHANICAL DRAWINGS.
2. CONNECT TO EXTERIOR LIGHTING CIRCUIT SERVING FIRST FLOOR EXTERIOR LIGHTS.



MEZZANINE PLAN - ELECTRICAL
1/4" = 1'-0"

MEZZANINE PLAN - HVAC POWER
1/4" = 1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

MEZZANINE PLAN - ELECTRICAL

PROJECT NUMBER	22019
DATED	03/12/2026

E206

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Daniel J. White: FL. PE No.73790
Caleb W. Leonard: FL. PE No.91782

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10/13/2025

WARNING

MAXIMUM AVAILABLE FAULT CURRENT

____ SYMMETRICAL RMS AMPERES

__/__/__ DATE OF CALCULATION

____ EQUIPMENT NAME

COMPANY RESPONSIBLE FOR CALCULATION CONTACT INFORMATION; COMPANY NAME, ADDRESS, PHONE NUMBER

ORANGE

WHITE

4"H x 6"W VINYL LABEL WITH BLACK LETTERING PER ANSI Z535 STANDARDS.

TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL
NOT TO SCALE

WARNING

Arc Flash and Shock Risks Appropriate PPE Required

ARC FLASH RISK PROTECTION		MINIMUM PPE
Incident Energy:	1.3 cal/cm^2	▪ 4 cal/sq cm, FR shirt (long-sleeve) plus FR pants (long), or FR coverall, rainwear as needed.
Arc Flash Boundary	19 in	
SHOCK PROTECTION		
Shock Risk When Cover is Removed	480 VAC	▪ Hardhat + Safety Glasses or Goggles + Ear Canal Inserts
Limited Approach:	42 in	▪ Glove Class 00
Restricted Approach:	12 in	▪ Leather work shoes
Bus ID:		Calculated Fault Current:
Prot Device ID:		Date of Analysis:

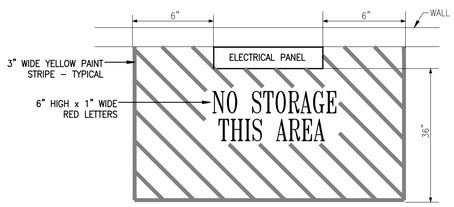
Warning: Changes in equipment settings or system configuration may invalidate the calculated results.

ORANGE

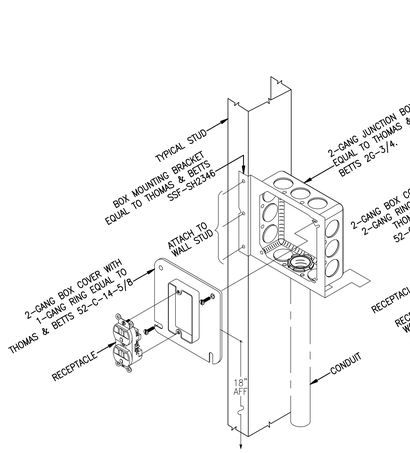
WHITE

4"H x 6"W VINYL LABEL WITH BLACK LETTERING PER ANSI Z535 STANDARDS.

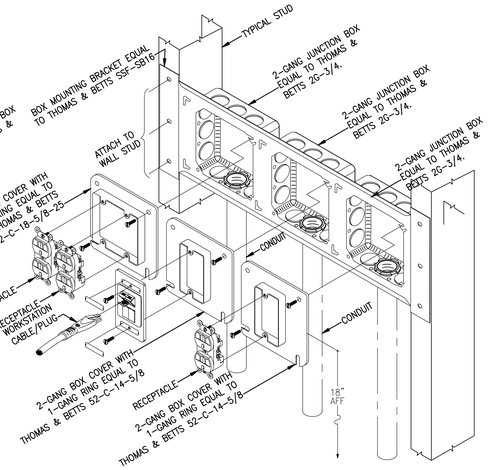
TYPICAL ARC FLASH HAZARD LABEL DETAIL
NOT TO SCALE



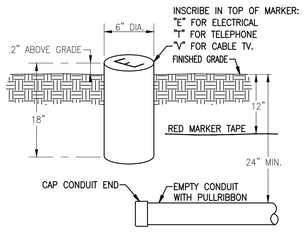
TYPICAL FLOOR MARKING AT ELECTRICAL PANELS
NOT TO SCALE



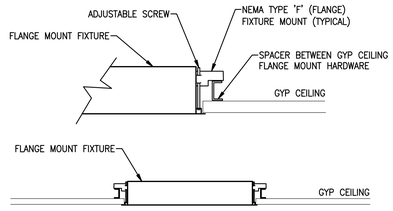
TYPICAL POWER OUTLET INSTALLATION DETAIL
NOT TO SCALE



TYPICAL POWER/COMMUNICATIONS OUTLET INSTALLATION DETAIL
NOT TO SCALE

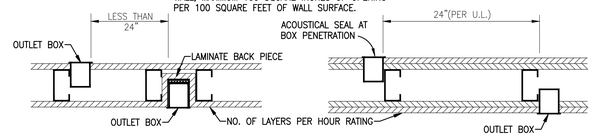


CONDUIT MARKER DETAIL
NOT TO SCALE



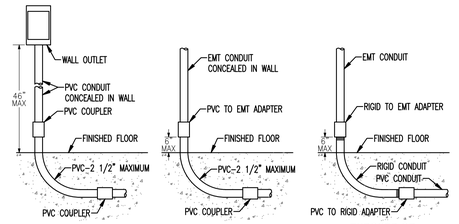
FLANGE MOUNT FIXTURE IN GYP BOARD CEILING
NOT TO SCALE

note:
FOR ONE HOUR OR TWO HOUR FIRE OR SMOKE WALL; MAXIMUM 100 SQUARE INCHES OF OPENING PER 100 SQUARE FEET OF WALL SURFACE.



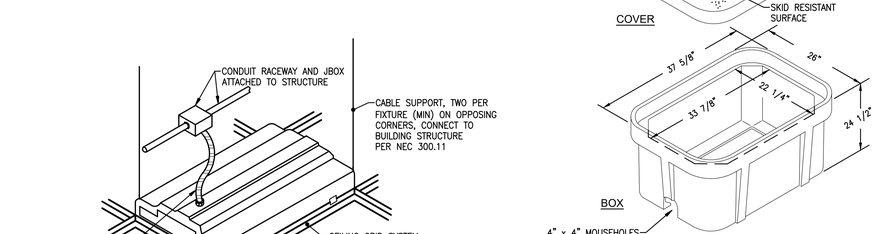
FIVE SIDED ELECTRICAL BOX — ADJACENT ELECTRICAL BOXES

WALL DETAILS - ELECTRICAL BOX INSTALLATION
NOT TO SCALE

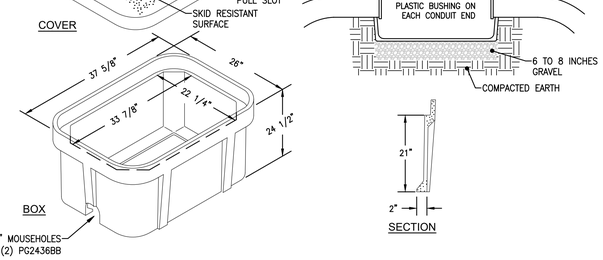


WITH OUTLET BOX — WITHOUT OUTLET BOX — EXPOSED OR FEEDER CONDUIT

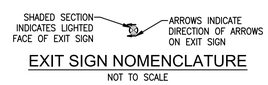
PVC STUB-UP DETAILS
NOT TO SCALE



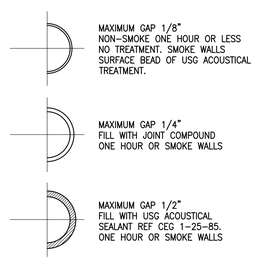
LAY-IN FIXTURE CABLE SUPPORT DETAIL
NOT TO SCALE



ELECTRICAL PULLBOX DETAIL
NOT TO SCALE

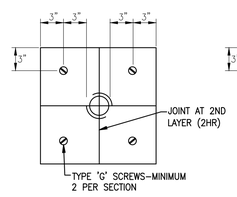


EXIT SIGN NOMENCLATURE
NOT TO SCALE

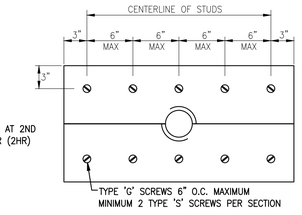


SMALL DIAMETER GAPS IN ONE HOUR WALLS

NOTE:
BUTTER BACK SIDE OF PATCH WITH JOINT COMPOUND–DO NOT STRIKE OFF EXCESS. LEAVE SCREWS EXPOSED

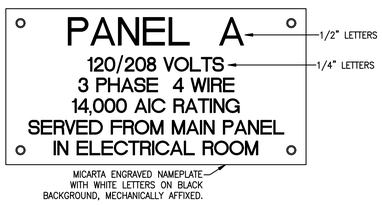


OPENINGS UP TO 3" DIA.

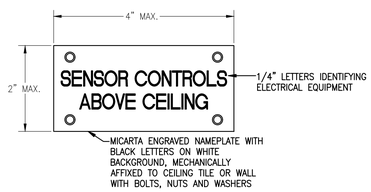


OPENINGS OVER 3" DIA.

WALL PENETRATIONS —APPLIES TO ALL CORRIDOR, SMOKE AND FIRE RATED WALLS
NOT TO SCALE

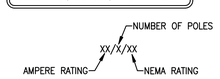


TYPICAL ELECTRICAL EQUIPMENT NAMEPLATE
NOT TO SCALE



TYPICAL ELECTRICAL EQUIPMENT ABOVE CEILING NAMEPLATE
NOT TO SCALE

GENERAL NOTE
REFER TO MECHANICAL SCHEDULE FOR DISCONNECT, CONDUIT, AND WIRE SIZE.



DISCONNECT SWITCH DESCRIPTION NOMENCLATURE

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

ELECTRICAL DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E301

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Thomas A. Alexander, FL. PE No.73172
Daniel J. White, FL. PE No.73790
Caleb W. Leonard, FL. PE No.91782

22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
10/1/2026

LIGHTING FIXTURE SCHEDULE

Project: #2022 - PALM BAY GYMNATORIUM

Note: Per electrical specifications, alternate fixtures shall be submitted to the engineer for prior approval a minimum of (10) ten business days prior to bid date. Any alternate fixtures not submitted for prior approval will not be reviewed.

Luminaire Designation	Manufacturer	Catalog Number	Connected Voltage	Luminaire Load (va)	Lamping Source	Color Rendering Index(CRI)	Kelvin Temperature	Mounting	Comments
CA	GARDCO	SFC-5R-48L-250-NW-G2-UNV-MGY	120	38	LED	80	4000	CANOPY SURFACE	
CAE	GARDCO	SFC-5R-48L-250-NW-G2-UNV-MGY	120	38	LED	80	4000	CANOPY SURFACE	PROVIDE WITH BATTERY PACK CAPABLE OF OPERATING FIXTURE FOR 90-MINUTES UPON LOSS OF POWER. IF EXTERNAL BATTERY PACK REQUIRED, MOUNT INDOORS ABOVE ACCESSIBLE CEILING.
DLB	HE WILLIAMS	6DR-TL-L15/840-DIM-UNV-OW-OF-CS-N	120	14	LED	80	4000	CEILING RECESSED	
DLBE	HE WILLIAMS	6DR-TL-L15/840-EM/10W-DIM-UNV-OW-OF-CS-N	120	14	LED	80	4000	CEILING RECESSED	
HB	TGS	CHB-P-150W-40K-WD-U-D-W-PM	120	150	LED	80	4000	PENDANT MOUNT 25'-0" AFF TO BOTTOM OF FIXTURE	WIRE GUARD: CHB-P-WG-W; SPECIFY PENDANT LENGTH
HBE	TGS	CHB-P-150W-40K-WD-U-D-W-PM	120	150	LED	80	4000	PENDANT MOUNT 25'-0" AFF TO BOTTOM OF FIXTURE	WIRE GUARD: CHB-P-WG-W; SPECIFY PENDANT LENGTH; HOMERUN VIA INVERTER.
L14E	HE WILLIAMS	LT-14-L63/840-EM/10W-AF-DRV-UNV	120	49	LED	80	4000	CEILING GRID LAY-IN	
L22A	HE WILLIAMS	LT-22-L27/840-AF-DIM-UNV	120	22	LED	80	4000	CEILING GRID LAY-IN	
L22AE	HE WILLIAMS	LT-22-L27/840-EM/10W-AF-DIM-UNV	120	22	LED	80	4000	CEILING GRID LAY-IN	
L22B	HE WILLIAMS	LT-22-L39/840-AF-DIM-UNV	120	34	LED	80	4000	CEILING GRID LAY-IN	
L22BE	HE WILLIAMS	LT-22-L39/840-EM/10W-AF-DIM-UNV	120	34	LED	80	4000	CEILING GRID LAY-IN	
PLA	GARDCO	ECF-S-48L-900-NW-G2-AR-3-UNV-DD-TLRD5-BZ	-	135	LED	70	4000	POLE MOUNTED 18'-0" AFG TO BOTTOM OF FIXTURE	MOUNT TO POLE - PL(POLE)
PT	HE WILLIAMS	6CR-TL-L30/840-WHT-DIM-UNV-OW-CS-PM36	120	28	LED	80	4000	PENDANT MOUNT 20'-0" AFF TO BOTTOM OF FIXTURE	SPECIFY PENDANT LENGTH
PTE	HE WILLIAMS	6CR-TL-L30/840-WHT-DIM-UNV-OW-CS-PM36	120	28	LED	80	4000	PENDANT MOUNT 20'-0" AFF TO BOTTOM OF FIXTURE	SPECIFY PENDANT LENGTH; HOMERUN VIA INVERTER
SF	HE WILLIAMS	39-4-L30/840-A-DRV-UNV	120	23	LED	80	4000	CEILING SURFACE MOUNT	
SFE	HE WILLIAMS	39-4-L30/840-A-EM/10WLP-DRV-UNV	120	23	LED	80	4000	CEILING SURFACE MOUNT	
V9	HE WILLIAMS	P2WDP-5W-C1R-108-40K-WH	120	45	LED	80	4000	WALL MOUNT 6" ABOVE VANITY MIRROR TO BOTTOM OF FIXTURE	
WB	HE WILLIAMS	VWM-V-L20-740-T3-DBZ-SDGL-DIM-UNV	120	27	LED	80	4000	WALL MOUNT 10'-0" AFG TO BOTTOM OF FIXTURE	
WC	HE WILLIAMS	WPAL-L49/850-BZ-DIM-UNV	120	69	LED	80	5000	WALL MOUNT 8'-0" AFG TO BOTTOM OF FIXTURE	
WCE	HE WILLIAMS	WPAL-L49/850-BZ-EM/6W-DIM-UNV	120	69	LED	80	5000	WALL MOUNT 8'-0" AFG TO BOTTOM OF FIXTURE	WITH EMERGENCY BATTERY
X	HE WILLIAMS	EXIT-R-EM-WHT-SDT-D	120	4	LED	-	-	WALL MOUNT ABOVE DOOR AT 8'-0" AFF TO BOTTOM OF FIXTURE	
XWG	HE WILLIAMS	EXIT-R-EM-WHT-SDT-WG-D	120	4	LED	-	-	WALL MOUNT ABOVE DOOR AT 8'-0" AFF TO BOTTOM OF FIXTURE	
PL(POLE)	VALMONT	R170830506T4-D1-335	-	-	-	-	-	CONCRETE BASE	REFER TO POLE BASE DETAIL

2

Lighting Space and Zones				Sequence of Opperations										Low Voltage Switch Matrix (Button Labels to be designated by owner duringinstallation)			
		ZONE OF CONTROL		CONTROL SCENARIOS										CONNECT TO NON-NETWORKED LOCAL ROOM CONTROL			
Space Type	Room Number	Description	Designator	Manual On	Manual Off	Dimming	Multi-Level Control	Timeclock On	Timeclock Off	Occupancy Sensor On	Vacancy Sensor Off	Daylight Harvesting	Photo Sensor On	SL2 (2-Button)	SL4 (4-Button)	SL8 (8-Button)	Control Detail #
GYM	100	ZONE A	a	X	X	X					X					X	7
		ZONE B	b	X	X	X					X						6
EQUIPMENT STORAGE	101			X	X					X	X			X			5
STAGE	102			X	X	X					X				X		6
ENTRY VESTIBULE	106			X	X					X	X			X			1
OPEN	107			X	X					X	X			X			5
CONCESSIONS	108			X	X					X				X			5
RESTROOMS	TYPICAL			X						X	X						4
CORRIDORS	TYPICAL			X	X					X							1
EXISTING CANOPY - NORTH	N/A							X	X				X				9
BUILDING EXTERIOR	N/A							X	X				X				9
PARKING/SITE LIGHTING	N/A							X	X				X				9

2

LIGHTING CONTROL PANEL

PANEL LCP

VOLTAGE: 120V **SUPPLY CIRCUIT:** RPA-63 **MOUNTING:** SURFACE
PANEL: LMCP8-115/277-8 **AIC RATING:** 10k MINIMUM
NEMA RATING 1 **OPTIONS:** **LOCATION** MEZZ. RM 201

RELAY	LOAD (VA)	LINE FEED	SERVING	VOLTAGE	VOLTAGE	SERVING	LINE FEED	LOAD (VA)	RELAY
1	270	RPA-61	PARKING/SITE LIGHTING	120V	120V	BUILDING EXTERIOR	RPA-6	1003	2
3	--	--	SPARE	120V	120V	SPARE	--	--	4
5	--	--	SPARE	120V	120V	SPARE	--	--	6
7	--	--	SPARE	120V	120V	SPARE	--	--	8

LIGHTING CONTROL GENERAL NOTES

A. THE DIAGRAMS ARE NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR ESTIMATED DEVICE QUANTITIES AND LOCATIONS.

B. THE LOCAL DEVICE INTERCONNECTIONS FOR ALL LIGHTING CONTROL DEVICES SHALL BE OF THE TOPOLOGY FREE TYPE.

C. COLORS FOR ALL DEVICES AND DEVICE COVERS SHALL BE SELECTED BY THE ARCHITECT.

D. ALL DATA LINE SWITCHES SHALL INCLUDE CUSTOM ENGRAVED LABEL INDICATING FUNCTION OF SWITCH. COORDINATE EXACT LABEL DESCRIPTIONS WITH OWNER PRIOR TO INSTALLATION.

E. PROVIDE ADDITIONAL POWER AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

F. THE DIAGRAMS REPRESENT A TYPICAL SYSTEM AND ARE NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

G. E.C. SHALL COORDINATE FIELD PROGRAMMING OF LIGHTING CONTROL SYSTEM WITH SYSTEM PROGRAMMER, SPECIFYING ENGINEER, AND OWNER TO ENSURE PROPER OPERATION AND TIME SCHEDULES.

H. ALL EMERGENCY AND EXIT LIGHTING CIRCUITS SHALL BE CONNECTED TO CONTINUOUS POWER SOURCE AHEAD OF RELAY PANEL OR INDIVIDUAL RELAY COMPONENTS.

I. INSTALL ALL CEILING SENSORS MINIMUM OF 6FT CLEAR OF DUCT REGISTERS.

J. THE LIGHTING CONTROL AND EMERGENCY LIGHTING SYSTEMS SHALL BE CAPABLE OF BEING ACCESSED VIA THE LOCAL AREA NETWORK AND REMOTELY VIA AUTHORIZED PERSONNEL ONLY.

K. PROGRAMMER / COMMISSIONING AGENT SHALL BE CERTIFIED BY THE EQUIPMENT MANUFACTURER ON THE SYSTEM INSTALLED.

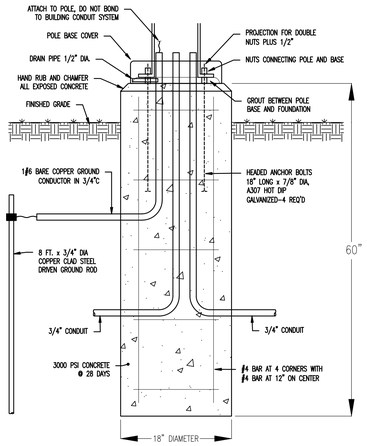
L. THE MANUFACTURER CERTIFIED TECHNICIAN WILL MEET ONSITE WITH THE ELECTRICAL CONTRACTORS TO COORDINATE INSTALLATION DETAILS, REVIEW BEST PRACTICES, AND DISCUSS PROJECT SPECIFIC CHALLENGES; PRIOR TO THE INSTALLATION BEING STARTED, ENABLING THE CONTRACTORS TO WORK WITH THE TECHNICIAN TO PREPARE AND MAKE CHANGES UP FRONT.

M. THE MANUFACTURER'S LIGHTING SYSTEMS TEAM SHALL WORK ONSITE AFTER FIXTURE AND CONTROLS INSTALLATION IS COMPLETED. THE MANUFACTURER'S AGENT IS TO VERIFY THE PROJECT IS REVIEWED AND CHECKED FOR PROPER WIRING, INSTALLATION AND FUNCTIONALITY OF THE SYSTEM AS A WHOLE. ANY PROBLEMS SHALL BE ADDRESSED AND RESOLVED WITH THE ONSITE CONTRACTORS.

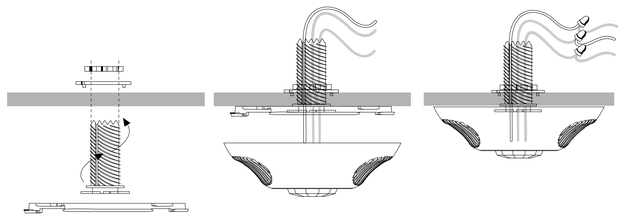
N. MANUFACTURER'S TECHNICIANS SHALL MAP OUT THE FIXTURE LOCATIONS AND ADDRESSES WITHIN THE LIGHTING CONTROL SOFTWARE. ASTRONOMIC TIMECLOCK EVENTS, SCENES, AND SCHEDULES ARE PROGRAMMED ACCORDING TO A PRE-DEFINED SCRIPT. THESE EVENTS, SCENES, AND SCHEDULES ARE TESTED AND FINALIZED FOR FINAL APPROVAL BY THE PROJECT'S OWNERSHIP.

O. MANUFACTURER'S TECHNICIANS SHALL PROVIDE TRAINING FOR SYSTEM USERS AND THE SYSTEM MAINTENANCE TEAM. THE DETAILS OF THE TECHNOLOGY SHALL BE COVERED FROM A MAINTENANCE AND TROUBLESHOOTING POINT OF VIEW. THIS COVERS THE LIGHTING CONTROL SYSTEM AND ITS CORE FUNCTIONALITY, WITH A FOCUS ON HOW TO EDIT EXISTING SCENES AND ASTRONOMIC LIGHTING EVENTS.

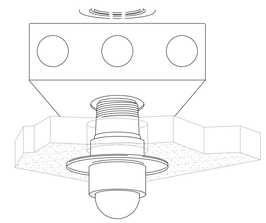
P. THE MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE IN-DEPTH TRAINING TO THE END USER ON MANAGING THE SPECIFIC CONTROL SYSTEM, GIVING THEM THE TOOLS AND KNOWLEDGE TO OPERATE THEIR SYSTEM.



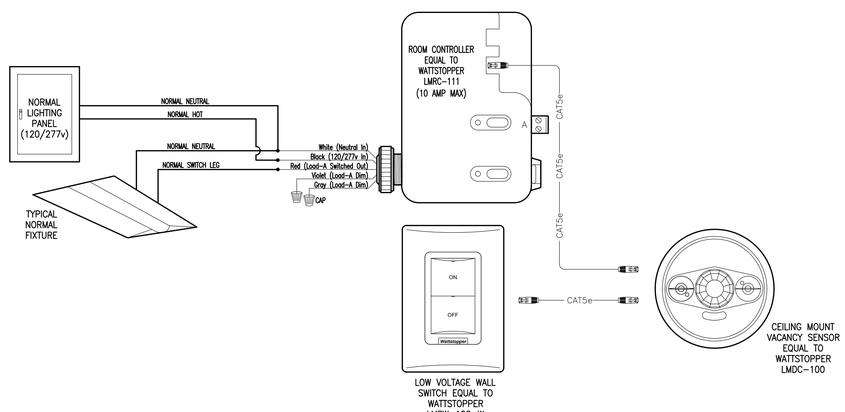
POLE PL - CONCRETE POLE BASE FOR FIXTURE "PLA"
NOT TO SCALE



OCCUPANCY SENSOR MOUNTING DETAIL
NOT TO SCALE



INDOOR PHOTOCELL MOUNTING DETAIL
NOT TO SCALE



LIGHTING CONTROL DETAIL #1
NOT TO SCALE

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIGHTING FIXTURE SCHEDULE AND CONTROLS

PROJECT NUMBER	22019
DATED	03/12/2026

E302

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Caleb W. Leonard; FL. PE No.91782

22022 Job No.

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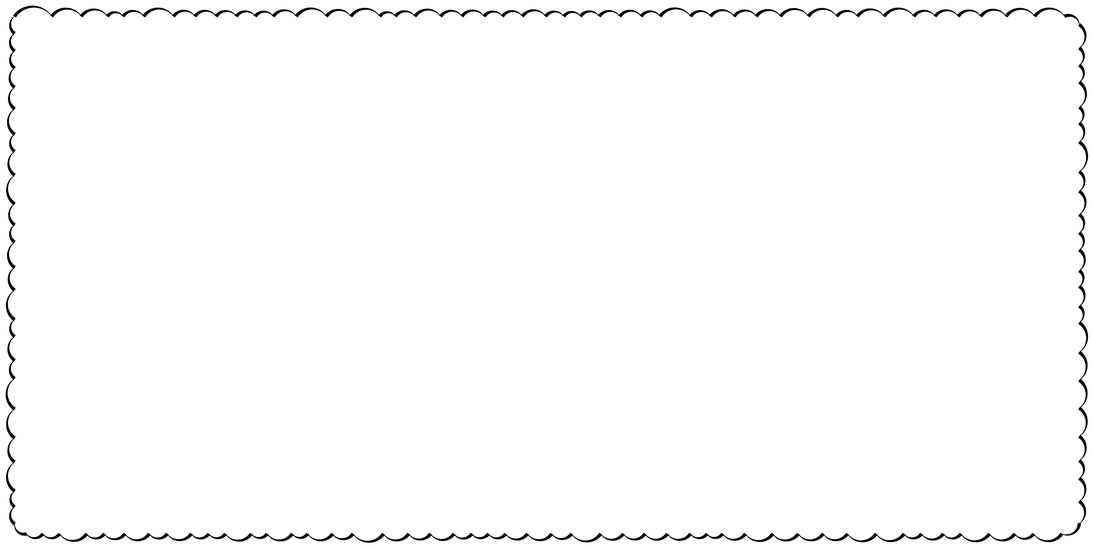
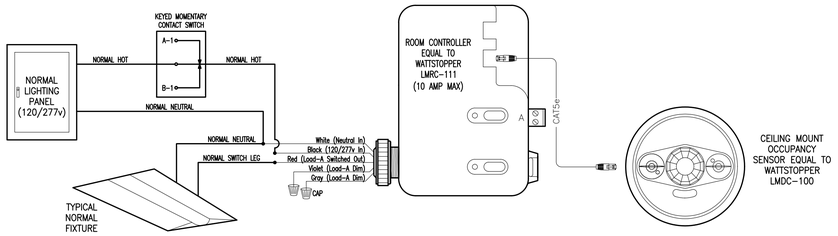
22019
100% CONSTRUCTION DOCUMENTS
03/12/2026

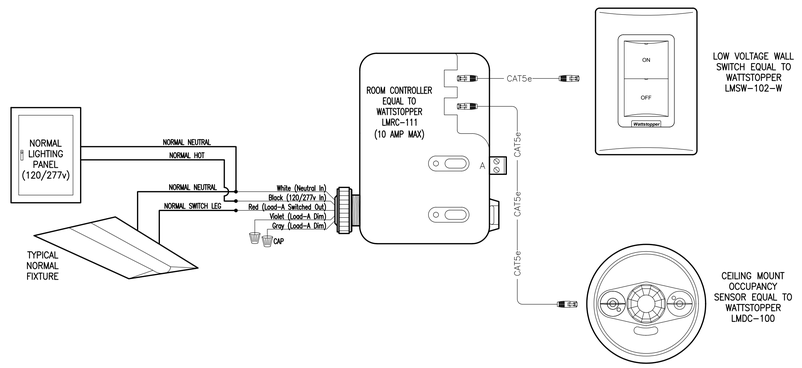


LIGHTING CONTROL DETAIL #2
NOT TO SCALE

LIGHTING CONTROL DETAIL #3
NOT TO SCALE



LIGHTING CONTROL DETAIL #4
NOT TO SCALE



LIGHTING CONTROL DETAIL #5
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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIGHTING CONTROLS DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E303

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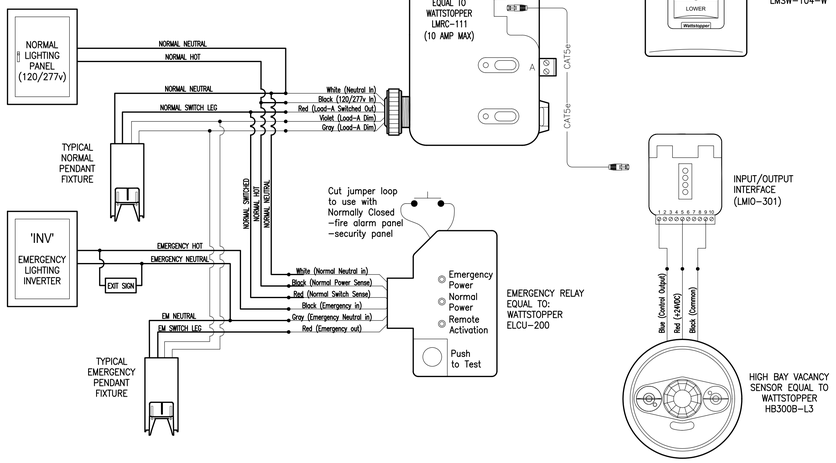
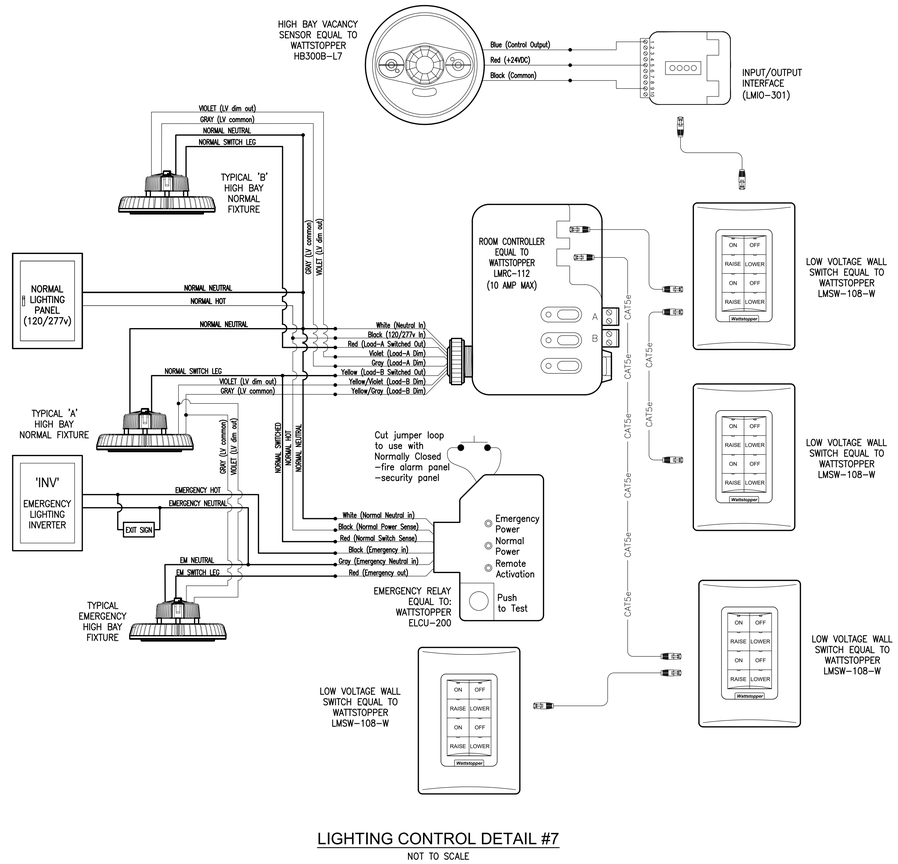
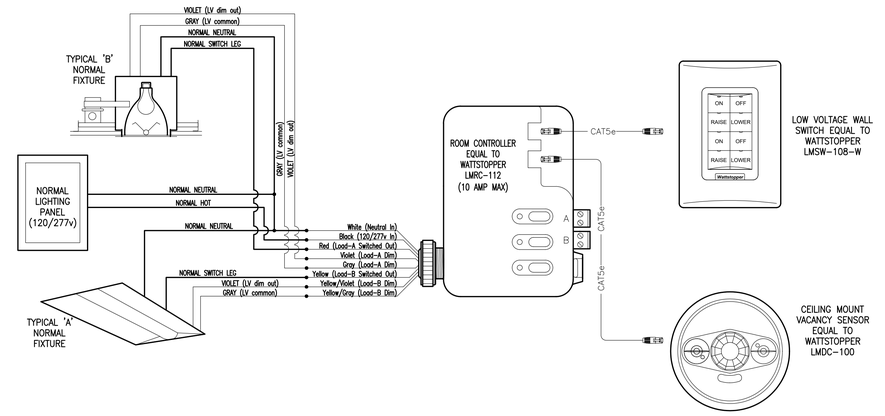
22019
100% CONSTRUCTION DOCUMENTS
03/12/2026



LIGHTING CONTROL DETAIL #6
NOT TO SCALE



LIGHTING CONTROL DETAIL #7
NOT TO SCALE



LIGHTING CONTROL DETAIL #8
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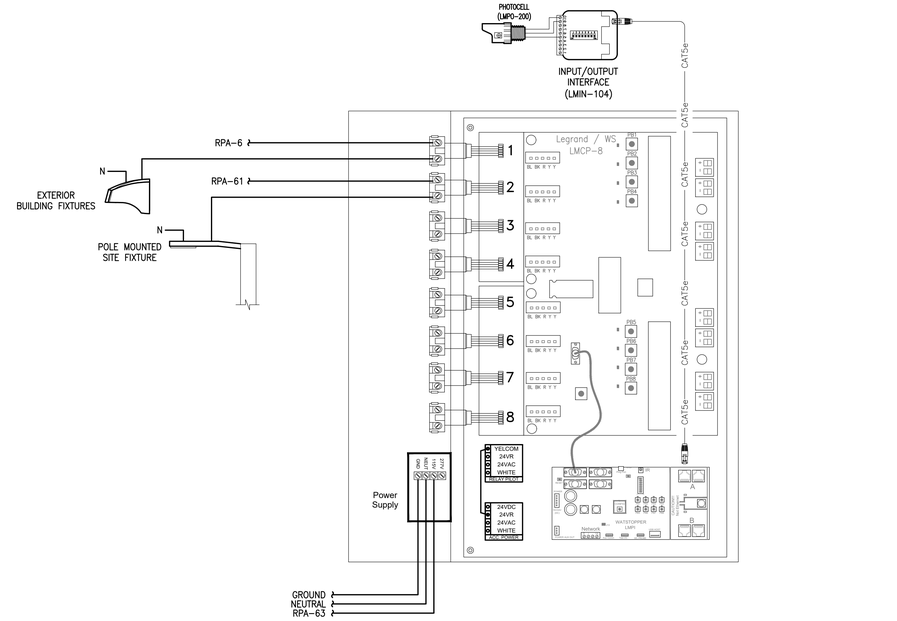

LIGHTING CONTROL DETAIL #9
NOT TO SCALE

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

LIGHTING CONTROLS DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E304

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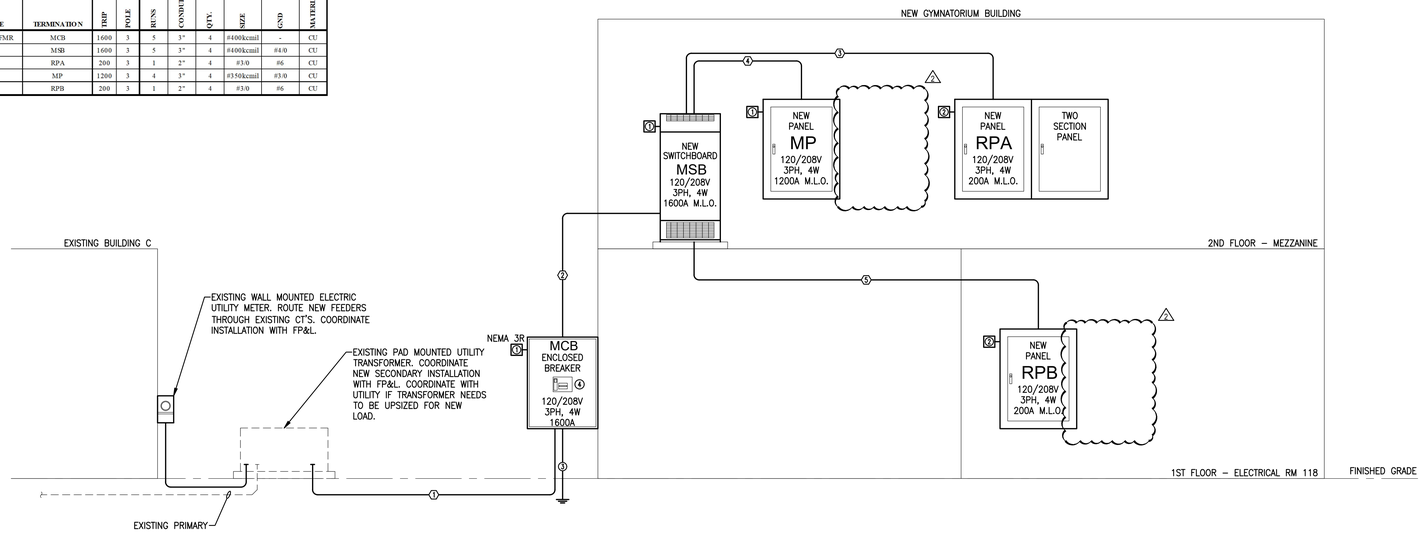
Daniel J. White: FL. PE No.73790
Caleb W. Leonard: FL. PE No.91782

22022 Job No.

FEEDER SCHEDULE											
(#) DESIGNATION	EQUIPMENT		BREAKER		CONDUCTOR / CONDUIT SIZE						
							CONDUCTORS				
	SOURCE	TERMINATION	TRIP	POLE	RUNS	CONDUIT	QTY.	SIZE	GND	MATERIAL
1	UTILITY XFMR	MCB	1600	3	5	3"	4	#400kcmil	-	CU
2	MCB	MSB	1600	3	5	3"	4	#400kcmil	#4/0	CU
3	MSB	RPA	200	3	1	2"	4	#3/0	#6	CU
4	MSB	MP	1200	3	4	3"	4	#350kcmil	#3/0	CU
5	MSB	RPB	200	3	1	2"	4	#3/0	#6	CU



SINGLE LINE POWER RISER DIAGRAM

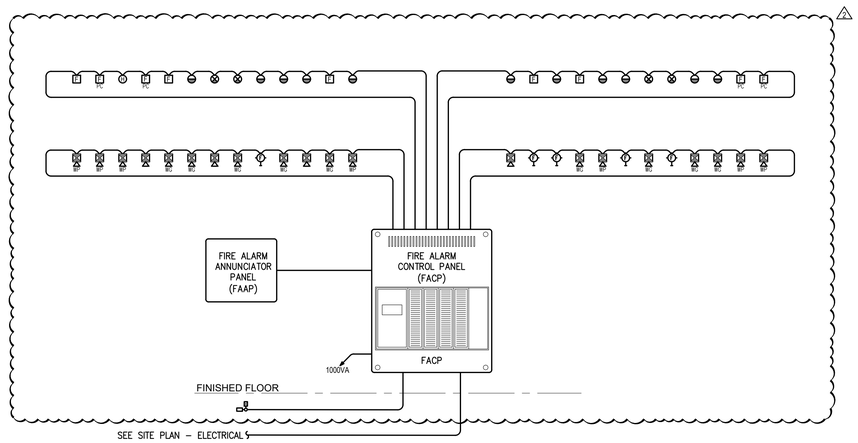
NOT TO SCALE

KEYNOTES

1. INSTALL SURGE SUPPRESSOR WITH 4#6, 1#10 GROUND IN 1" CONDUIT; LOCATE SURGE SUPPRESSOR SO LEAD LENGTH DOES NOT EXCEED 14 INCHES PER 1449–2014 4TH EDITION. PROVIDE FUSES PER MANUFACTURER RECOMMENDATIONS.
2. INSTALL SURGE SUPPRESSOR WITH 4#10, 1#10 GROUND IN 3/4" CONDUIT; LOCATE SURGE SUPPRESSOR SO LEAD LENGTH DOES NOT EXCEED 14 INCHES PER ANSI/UL 1449–2014 4TH EDITION. PROVIDE FUSES PER MANUFACTURER RECOMMENDATIONS.
3. REFER TO GROUNDING DETAILS.
4. SERVICE ENTRANCE RATED ENCLOSED BREAKER. LSI TYPE. SURFACE MOUNT NEMA 3R. 65K AIC MIN.

***** SPECIAL NOTE *****

PROVIDE 'LSI' TRIP UNITS FOR BREAKERS GREATER THAN OR EQUAL TO 200A.



FIRE ALARM SYSTEM RISER

NOT TO SCALE

LEGEND

FIRE ALARM WIRING

FIRE ALARM RISER GENERAL NOTES

A. THIS DIAGRAM IS NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR DEVICE QUANTITIES AND LOCATIONS.

B. THE RISER REPRESENTS A TYPICAL SYSTEM AND IS NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

C. PROVIDE ADDITIONAL MONITOR AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

D. FIRE ALARM SYSTEM SHALL HAVE U.L. APPROVED DIGITAL ALARM DIALER/COMMUNICATOR TO SEND ALARM SIGNAL TO MONITORING SERVICE.

E. FIRE ALARM SYSTEM LOW VOLTAGE SOURCE AND BATTERY STAND–BY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.

F. REFER TO MECHANICAL DRAWINGS FOR SMOKE AND/OR SMOKE/FIRE DAMPER LOCATIONS. CONNECT TO FIRE ALARM SYSTEM AND TO 120V POWER.

G. VERIFY LOCATION AND QUANTITIES OF FLOW AND TAMPER SWITCHES WITH SPRINKLER CONTRACTOR.

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

SINGLE LINE POWER & FIRE ALARM RISER DIAGRAMS

PROJECT NUMBER	22019
DATED	03/12/2026

E401

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22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
10/17/2025

SWITCHBOARD

MSB

SYSTEM 208/120V 3Φ 4W
RATING 1600A M.L.O. 65,000 AIC MINIMUM
ENCLOSURE NEMA 1 FREE STANDING; 4' CONCRETE PAD
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR UNIT	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)
1	PANEL MP	LSI	1200	3	181496
2	PANEL RPA	LSI	200	3	46787
3	PANEL RPB	LSI	200	3	17857
4	OUTSIDE AIR HANDLER UNIT - OAU	LSI	200	3	47951
5	EMERGENCY LIGHTING INVERTER - INV	-	40	1	2774
6	SPACE ONLY (100A FRAME)	-	-	3	-
7	SPACE ONLY (200A FRAME)	-	-	3	-
8	SPACE ONLY (200A FRAME)	-	-	3	-
9	SPACE ONLY (60A FRAME)	-		3	-
10	SURGE PROTECTIVE DEVICE	-	60	3	-

TOTAL CONNECTED LOAD = 296865 VA / 360 = 824.6 A

NOTES:

*** SPECIAL NOTE ***
PROVIDE 'LSI' TRIP UNITS FOR BREAKERS GREATER THAN OR EQUAL TO 200A.

POWER PANEL

RPA

SYSTEM 208/120V 3Φ 4W
RATING 200A M.L.O. 65,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS; TWO EQUAL SECTIONS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	LTG - EQ/CHAIR STO, STAGE - 101-103	20	1	816	1500	1	20	LTG - GYM 100 - CNTR	2
3	LTG - GYM 100 - N.	20	1	1500	1500	1	20	LTG - GYM 100 - S.	4
5	LTG - ENTRY, MENS, WOMENS - 104-106	20	1	572	1003	1	20	LTG - EXTERIOR BLDG/CANOPY LIGHTING	6
7	LTG - MEZZ 201	20	1	138	138	1	20	LTG - MEZZ 203	8
9	REC - MEZZ 201	20	1	540	540	1	20	REC - MEZZ 203	10
11	DDC PANEL - MEZZANINE 201	20	1	500	1260	1	20	REC - EQ. STORAGE 101, GYM 100 N.	12
13	REC - FLR REC STAGE, TV'S STAGE - 102	20	1	1040	900	1	20	REC - STAGE 102	14
15	A/V EQUIPMENT - TABLE/CHAIR STO 103	20	1	1000	540	1	20	REC - ENTRY VESTIBULE/ EXTERIOR	16
17	REC- EWC-1 - GYM	20	1	600	500	1	20	GYM 100 - SCORER'S TABLE W.	18
19	BASKETBALL GOAL - GYM 100 N.	20	1	1000	500	1	20	GYM 100 - SCORER'S TABLE E.	20
21	BASKETBALL GOAL - GYM 100 S.	20	1	1000	1500	1	20	GYM 100 - BLEACHERS W.	22
23	SPARE	20	1	---	1500	1	20	GYM 100 - BLEACHERS E.	24
25	GYM 100 S. - WALL SCOREBOARD	20	1	1200	360	1	20	REC - GYM 100 S.	26
27	SPARE	20	1	---	720	1	20	REC - MENS 105/WOMENS 104	28
29	HAND DRYER - WOMENS	20	1	1000	1000	1	20	HAND DRYER - MENS	30
31	HAND DRYER - WOMENS	20	1	1000	1000	1	20	HAND DRYER - MENS	32
33	FIRE ALARM CONTROL PANEL (FACP) - 106*	20	1	500	---	1	20	SPARE	34
35	SPARE	20	1	---	---	1	20	SPARE	36
37	SPARE	20	1	---	---	1	20	SPARE	38
39	SPARE	20	1	---	790	1	20	REC - CONF 110 - SW.	40
41	REC - CORR C001, SUPPLIES 115	20	1	900	500	1	20	REC - AV COMPONENT PWR - EQ STO 101	42
43	REC - AV COMPONENT PWR - EQ STO 101	20	1	500	500	1	20	AV COMPONENT - STAGE 102	44
45	AV COMPONENT - STAGE 102	20	1	500	500	1	20	PROJECTOR AND PROJECTION SCREEN	46
47	CLG REC - STAGE LTG - 102	20	1	720	720	1	20	CLG REC - STAGE LTG - 102	48
49	CLG REC - STAGE LTG - 102	20	1	720	720	1	20	CLG REC - STAGE LTG - 102	50
51	CLG REC - STAGE LTG - 102	20	1	720	720	1	20	CLG REC - STAGE LTG - 102	52
53	STAGE LEFT - LOUDSPEAKER	20	1	500	500	1	20	STAGE RIGHT - LOUDSPEAKER	54
55	AV COMPONENT - FRONT STAGE 102	20	1	500	500	1	20	AV COMPONENT - FRONT STAGE 102	56
57	GYM 100 - LOUDSPEAKERS - N. ROW	20	1	360	720	1	20	GYM 100 - LOUDSPEAKERS - CNTR. ROW	58
59	GYM 100 - LOUDSPEAKERS - S. ROW	20	1	360	500	1	20	DDC PANEL - MEZZANINE 203	60
61	LTG - PARKING LOT - SOUTH	20	1	270	500	1	20	GYM 100 - HOIST SWITCHES	62
63	LIGHTING CONTROL PANEL (LCP)	20	1	500	1000	1	20	GYM 100 - SHOT CLOCKS	64
65	GYM 100 N. - WALL SCOREBOARD	20	1	1200	1000	1	20	BASKETBALL GOAL - GYM 100 NE.	66
67	BASKETBALL GOAL - GYM 100 NW.	20	1	1000	1000	1	20	BASKETBALL GOAL - GYM 100 SE.	68
69	BASKETBALL GOAL - GYM 100 SW.	20	1	1000	-	1	20	SPARE	70
71	SPARE	20	1	-	-	1	20	SPARE	72
73	SPARE	20	1	-	-	1	20	SPARE	74
75	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	76
77	SPACE ONLY	-	-	-	-	-	-	SPACE ONLY	78
79	SPACE ONLY	-	-	-	0	3	30	SURGE PROTECTIVE DEVICE	80
81	SPACE ONLY	-	-	-	-	-	-	----	82
83	SPACE ONLY	-	-	-	-	-	-	----	84

TOTAL CONNECTED LOAD = 46787 VA / 360 = 130.0 A

NOTES:
* PROVIDE BREAKER LABELED "FIRE ALARM CIRCUIT" WITH RED HANDLE LOCKABLE IN THE ON POSITION.

POWER PANEL

RPB

SYSTEM 208/120V 3Φ 4W
RATING 200A M.L.O. 10,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	SPARE	20	1	---	---	1	20	SPARE	2
3	SPARE	20	1	---	---	1	20	SPARE	4
5	LTG - CONCESSION & OPEN	20	1	957	720	1	20	REC - ELEC RM 110	6
7	REC - EXTERIOR WEST	20	1	720	1500	1	20	REC - CONCESSION 108 - REF	8
9	REC - OPEN 107	20	1	360	1200	1	20	REC - CONCESSION 108	10
11	REC - CONCESSION 108 - REF	20	1	1500	900	1	20	REC - OPEN 107	12
13	REC - CONCESSION 108	20	1	1200	500	1	20	REC - DED. SIMPLEX REC - TELECOM 109	14
15	REC - DEDICATED QUAD - TELECOM 109	20	1	720	500	1	20	REC - DED. SIMPLEX REC - TELECOM 109	16
17	REC - DEDICATED QUAD - TELECOM 109	20	1	360	360	1	20	REC - DEDICATED QUAD - TELECOM 109	18
19	REC - DED. 30A REC - TELECOM 109	30	1	3000	360	1	20	REC - DEDICATED QUAD - TELECOM 109	20
21	REC - DED. 30A REC - TELECOM 109	30	1	3000	---	1	20	SPARE	22
23	SPARE	20	1	---	---	1	20	SPARE	24
25	SPARE	20	1	---	---	1	20	SPARE	26
27	SPARE	20	1	---	---	1	20	SPARE	28
29	SPARE	20	1	---	---	1	20	SPARE	30
31	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	32
33	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	34
35	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	36
37	SPACE ONLY	--	-	---	0	3	30	SURGE PROTECTIVE DEVICE	38
39	SPACE ONLY	--	-	---	---	-	--	----	40
41	SPACE ONLY	--	-	---	---	-	--	----	42

TOTAL CONNECTED LOAD = 17857 VA / 360 = 49.6 A

POWER PANEL

MP

SYSTEM 208/120V 3Φ 4W
RATING 1200A M.L.O. 65,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)		CKT BKR POLE	CKT BKR TRIP	SERVING	CKT #
1	AHU-11	90	3	28718	20000	3	60	HP-11A	2
3	----	--	-	---	---	-	--	----	4
5	----	--	-	---	---	-	--	----	6
7	AHU-12	30	3	10738	8000	3	30	HP-12	8
9	----	--	-	---	---	-	--	----	10
11	----	--	-	---	---	-	--	----	12
13	AHU-9	90	3	28718	20000	3	60	H9-11B	14
15	----	--	-	---	---	-	--	----	16
17	----	--	-	---	---	-	--	----	18
19	AHU-8	40	2	7481	10000	3	35	HP-8	20
21	----	--	-	---	---	-	--	----	22
23	CP-1 - CIRCULATION PUMP - MECH 120	15	1	65	---	-	--	----	24
25	EWH-1 - WATER HEATER - MECH 120	15	3	5000	20000	3	60	HP-9A	26
27	----	--	-	---	---	-	--	----	28
29	----	--	-	---	---	-	--	----	30
31	MINISPLIT - MHP-1/WM-1.1	25	2	1600	20000	3	60	HP-9B	32
33	----	--	-	---	---	-	--	----	34
35	EF-4 - WOMENS 105, MENS 104	20	1	1176	---	-	--	----	36
37	SPARE	20	1	---	---	1	20	SPARE	38
39	SPARE	20	1	---	---	1	20	SPARE	40
41	SPARE	20	1	---	---	1	20	SPARE	42
43	SPARE	20	1	---	---	1	20	SPARE	44
45	SPARE	20	1	---	---	1	20	SPARE	46
47	SPARE	20	1	---	---	1	20	SPARE	48
49	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	50
51	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	52
53	SPACE ONLY	--	-	---	---	-	--	SPACE ONLY	54
55	SPACE ONLY	--	-	---	0	3	60	SURGE PROTECTIVE DEVICE	56
57	SPACE ONLY	--	-	---	---	-	--	----	58
59	SPACE ONLY	--	-	---	---	-	--	----	60

TOTAL CONNECTED LOAD = 181496 VA / 360 = 504.2 A

Emergency Lighting Inverter

INV

INPUT VOLTAGE 120V **OUPUT VOLTAGE** 120V
PART NUMBER CHLORIDE#: CHT-AA-3.5-S0-05A-00-Z-0-Z*
SUPPLY CIRCUIT MDP-13; 2/#8, #10G, 3/4"C

CKT #	SERVING	CKT BKR TRIP	CKT BKR POLE	CONNECTED LOAD (VA)
1	LTG - GYM RM 100 - NORTH	20	1	1050
2	LTG - GYM RM 100 - CENTER	20	1	750
3	LTG - GYM RM 100 - SOUTH	20	1	750
4	LTG - STAGE RM 102 - HOUSE LTS	20	1	224
5	SPARE	20	1	-

TOTAL CONNECTED LOAD = 2774 VA / 120 VOLT = 23.1 A

NOTES:
* PROVIDE COMPLETE FACTORY STARTUP.

MECHANICAL EQUIPMENT SCHEDULE

(VERIFY ALL EQUIPMENT CIRCUIT REQUIREMENTS WITH MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN)

EQUIPMENT DESIGNATION	DESCRIPTION	CFM	VOLT	Φ	ELECTRICAL LOAD: MOTOR(S) FLA QTY	LARGEST	SUM OF REMAINING	ELECTRIC HEAT KW	OTHER VA	TOTAL CONNECTED V/A	PROTECTION: MCA	MOCP	SPECIFIED TRIP	SPECIFIED POLE	CONDUCTOR / CONDUIT SIZE: SETS	CONDUCTORS QTY.	SIZE	GND	CONDUIT	DISC.	REMARKS
AHU-8	AIR HANDLER UNIT	2070	208	1	1	7.6		5.9		7481	32	35	40	2	1	4	#8	#10	3/4"	60/3/1	
AHU-9	AIR HANDLER UNIT	7310	208	3	1	24.2		20		28718	82	90	90	3	1	4	#3	#8	1-1/4"	100/3/1	
AHU-11	AIR HANDLER UNIT	7535	208	3	1	24.2		20		28718	82	90	90	3	1	4	#3	#8	1-1/4"	BREAKER	
AHU-12	AIR HANDLER UNIT	1599	208	3	1	7.6		8		10738	30	30	30	3	1	4	#10	#10	3/4"	BREAKER	
HP-8	HEAT PUMP		208	3	1			10		10000	23	35	35	3	1	4	#8	#10	3/4"	60/3/3R	
HP-9A	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-9B	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-11A	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-11B	HEAT PUMP		208	3	3			20		20000	39	60	60	3	1	4	#6	#10	1"	60/3/3R	
HP-12	HEAT PUMP		208	3	2			8		8000	18	30	30	3	1	4	#10	#10	3/4"	30/3/3R	
OAU-1	OUTDOOR AIR HANDLER	3500	208	3	6	55.8	77.3			47951	179.2	200	200	3	1	4	#3/0	#6	2"	200/3/3R	
CP-1	CIRCULATION PUMP		120	1	1	0.54				65	0.7	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	
EF-1	EXHAUST FAN	300	120	1	1	3.3				396	4.1	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	INTERLOCK WITH AHU-10 OUTSIDE AIR DAMPER
EF-4	EXHAUST FAN	700	120	1	1	3				360	3.8	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	INTERLOCK WITH AHU-8 OUTSIDE AIR DAMPER
EWH-1	ELECTRIC WATER HEATER		208	3	1			5		5000	13.9	15	15	3	1	4	#12	#12	3/4"	30/3/1	
MHP-1	MINI-SPLIT OUTDOOR UNIT	1590	208	1	2	7	0.5			1560	11	28	25	2	1	3	#10	#10	3/4"	30/2/3R	
WM-1.1	MINI-SPLIT INDOOR UNIT	455	208	1	1	0.19				40	1	15	15	2	1	3	#12	#12	3/4"	MOTOR SWITCH	INDOOR UNIT IS POWERED BY OUTDOOR UNIT

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

MECHANICAL EQUIPMENT & PANEL SCHEDULES

PROJECT NUMBER 22019
DATED 03/12/2026

E501

HG ENGINEERS
HG Engineers
621 N. Tyndall Pkwy, Unit C
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E-mail: office@hgengineers.com
Ph: 850.243.6723
FL Authorization No.00006680
Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790
Caleb W. Leonard; FL. PE No.91782

22022 Job No.

22019
100% CONSTRUCTION DOCUMENTS
10/13/2026

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GENERAL NOTES

1 BOND HOT AND COLD WATER PIPING SYSTEMS.

2 CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.

3 INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.

4 INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.

5 INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.

KEYNOTES

① INSTALL GROUNDED (NEUTRAL) CONDUCTOR SAME SIZE AS THE LARGEST PHASE CONDUCTOR IF THE LINE-TO-NEUTRAL LOAD EXCEEDS 5% OF THE CONNECTED LOAD. IF NEUTRAL LOAD IS SMALLER, INSTALL THE NEC MINIMUM GROUNDED CONDUCTOR.

② INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE, BUT NOT SMALLER THAN NO 4.

③ INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER OVERCURRENT DEVICE SIZE.

④ 20 FOOT MINIMUM X 3/4" DIAMETER COPPER CLAD STEEL SECTIONAL DRIVEN GROUND ROD.

⑤ INSTALL BONDING JUMPER WIRE THAT IS SIZED BASED ON NEC TABLE 250-66 OR 250.28(D)(1) USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE PHASE CONDUCTOR SIZE.

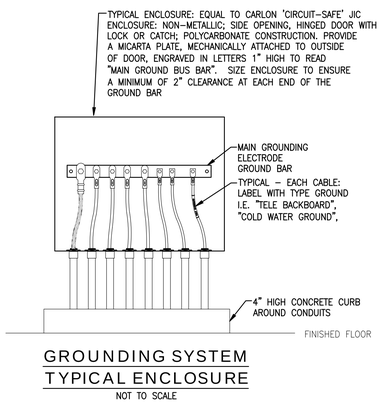
⑥ INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION PER NEC ARTICLE 250.52 (A) (3).

⑦ BOND EACH PERIMETER STRUCTURAL STEEL COLUMN TO THE CONCRETE-ENCASED MAIN GROUNDING ELECTRODE. USE COMPRESSION CONNECTORS THAT MEET IEEE 837 REQUIREMENTS OR USE EXOTHERMIC WELDS.

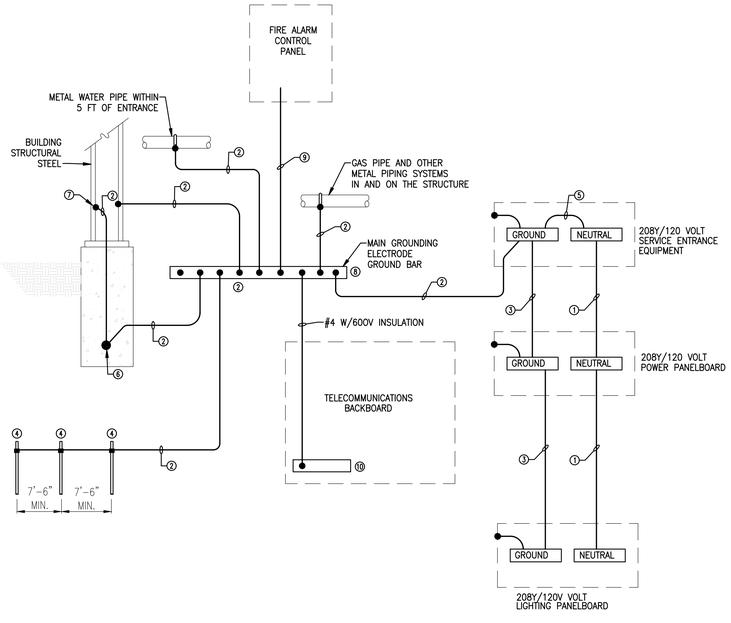
⑧ INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND ELECTRODE CONDUCTOR USING IRREVERSIBLE CONNECTORS OR EXOTHERMIC WELDS. MAKE OTHER CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR

⑨ FIRE ALARM CONTROL PANEL GROUND – #6 COPPER CONDUCTOR.

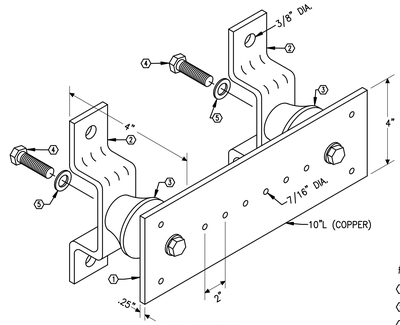
⑩ INSTALL A COPPER GROUNDING BAR IN EACH TELECOMMUNICATIONS ROOM. CONNECT TO THE "MAIN GROUNDING ELECTRODE GROUND BAR" USING 600V INSULATED #4 COPPER CABLE AND COMPRESSION SPADE LUGS.



GROUNDING SYSTEM
TYPICAL ENCLOSURE
NOT TO SCALE



208Y/120V GROUNDING SYSTEM DIAGRAM
NOT TO SCALE



GROUND BAR NOTES:

1 INSTALL ONE BAR AT EACH COMMUNICATIONS ROOM.

2 ROUTE 1#4 BARE CU IN 1"CONDUIT FROM GROUND BAR TO BUILDING ELECTRICAL SERVICE ENTRANCE GROUND.

3 CONNECT BARS WITH 1#6 BARE CU IN 1" CONDUIT.

#	DESCRIPTION
①	GROUND BAR
②	WALL MTG. BRACKET
③	INSULATORS
④	5/8" X 1" H.H.C.S. BOLT
⑤	5/8" LOCKWASHER

INSULATED GROUNDING BAR DETAIL
NOT TO SCALE

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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

GROUNDING DETAILS

PROJECT NUMBER	22019
DATED	03/12/2026

E601

HG ENGINEERS
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621 N. Tyndall Pkwy, Unit C
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FL Authorization No.00006680
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Thomas A. Alexander, FL. PE No.73172
Daniel J. White, FL. PE No.73790
Caleb W. Leonard, FL. PE No.91782

22022 Job No.

RIGID CONDUIT NOTE

PROVIDE RIGID THREADED CONDUIT (RMC) WITH THREADED MALLEABLE IRON FITTINGS AS INDICATED FOR BACKBONE CONDUIT. MAINTAIN ELECTRICAL CONTINUITY FROM END-TO-END AND GROUND PER "CC GROUNDING NOTES" AND "GENERAL ABOVEGROUND CONDUIT NOTES".

GENERAL CONDUIT PATHWAYS NOTE

RUN ALL CABLING IN CONDUIT PATHWAYS AS INDICATED. THE CONTRACTOR AGREES TO USE THE CONDUIT SYSTEM AS SHOWN, OR SHALL PROVIDE ADDITIONAL CONDUIT AT NO ADDITIONAL COST TO THE OWNER AS REQUIRED TO PROPERLY INSTALL ALL CABLING INDICATED, WITHOUT DAMAGE TO CABLING. ALL CONDUIT SHALL CONFORM TO REQUIREMENTS OF THE CONTRACT DOCUMENTS, WHETHER SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT.

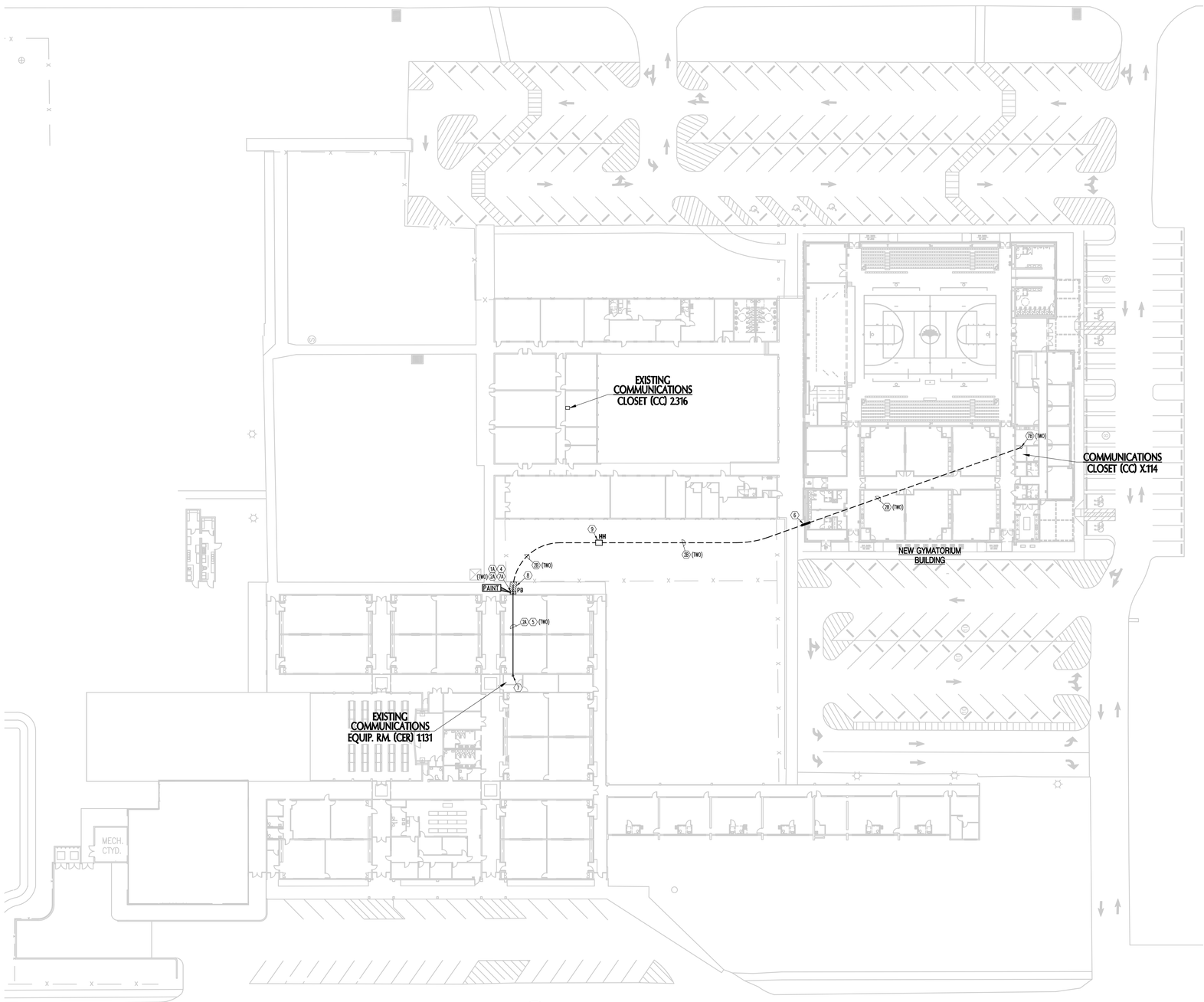
DOCUMENTATION OF EXISTING CONDITIONS

THE PROJECT MAY REQUIRE THAT THE CONTRACTOR WORK ABOVE CEILINGS IN EXISTING OCCUPIED BUILDINGS. IN ALL SUCH CASES, THE CONTRACTOR SHALL PROVIDE PHOTOGRAPHIC DOCUMENTATION OF THE CONDITIONS OF ALL EXISTING CEILINGS (TO REMAIN) WHERE WORK IS TO BE PERFORMED USING A HIGH RESOLUTION DIGITAL CAMERA PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR SHALL PROVIDE DIGITAL FILES OF ALL PHOTOGRAPHS (WITH AREAS LABELED) TO THE OWNER'S PROJECT MANAGER. THE CONTRACTOR SHALL REPLACE ALL CEILING TILES OR REPAIR OTHER CEILING TYPE FINISHES (MATCH EXISTING) DAMAGED AS A RESULT OF WORK UNDER THIS CONTRACT.

FIRESTOPPING NOTE:

THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF ALL FLOORS AND ALL WALLS WHICH EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE. FIRESTOPPING SHALL BE ACCOMPLISHED USING UL CLASSIFIED SYSTEMS WITH FIRE RATING EQUAL TO OR GREATER THAN THE FIRE RATING OF THE FLOOR OR WALL ASSEMBLY PENETRATED. FIRESTOP SYSTEMS SHALL BE 3M, NELSON OR ENGINEER APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S STANDARD DETAIL FOR EACH TYPE OF FLOOR AND WALL PENETRATION REQUIRED FOR THIS PROJECT. ALL OTHER PENETRATIONS OR OPENINGS IN NON-FIRE RATED WALLS SHALL BE REPAIRED AND SEALED WITH MATERIALS TO MATCH THE CONSTRUCTION OF THE WALL.

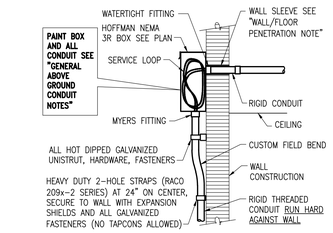
THE CONTRACTOR SHALL PROVIDE DETAILS FOR EACH DIFFERENT TYPE OF FIRESTOP ASSEMBLY REQUIRED TO THE BUILDING OFFICIAL FOR APPROVAL PRIOR TO INSTALLATION. EACH DETAIL SHALL INCLUDE THE TEST ASSEMBLY NUMBER AND A DESCRIPTION OF THE MATERIALS TO BE USED. HAVE APPROVED FIRESTOPPING DETAILS AVAILABLE AT PROJECT SITE AT TIME OF INSPECTION.



COMMUNICATIONS SITE PLAN

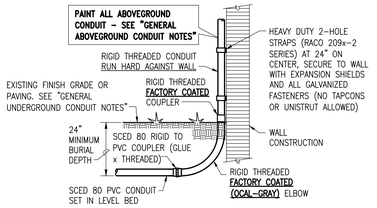
SCALE: 1" = 30'-0"

NOTE: SITE PLAN SCALE IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DISTANCES IN THE FIELD PRIOR TO BIDS.



BUILDING ENTRANCE - NEMA 3R BOX AT CONDUIT PENETRATION OF WALL OR FASCIA

NOT TO SCALE



BUILDING ENTRANCE - CONDUIT TURNING DOWN INTO EARTH

NOT TO SCALE

COMMUNICATIONS SITE PLAN KEY NOTES:

1A NEMA 3R PULLBOX AT PENETRATION OF WALL, GALVANIZED STEEL WITH FACTORY PAINTED FINISH, SIZE 12"x 12"x 6", HOFFMAN A-12R126 (NO EQUAL).

2A 2" RIGID METALLIC CONDUIT (RMC OUTDOORS, RMC OR IMC INDOORS). SEE "GENERAL ABOVEGROUND CONDUIT NOTES".

2B 2" PVC CONDUIT (UNDERGROUND), SCHEDULE 80, RUN UNDERGROUND DIRECT BURIED. MINIMUM BURIAL DEPTH 24" BELOW FINISHED GRADE. PROVIDE CONTINUOUS WARNING TAPE (ORANGE 3" WIDE - DETECTABLE - CARLON MAT3061) OVER ALL BURIED CONDUIT AT 6" BELOW FINISH GRADE. INSTALL 3/8" MARKED PULL TAPE (CARLON TL382) ALONG WITH REQUIRED CABLES. SEE "GENERAL UNDERGROUND CONDUIT NOTES".

4 CONDUIT PENETRATION THRU BUILDING EXTERIOR WALL/FLOOR/SOFFIT/FASCIA, SEE "WALL/FLOOR/SOFFIT/FASCIA PENETRATION NOTE".

5 ROUTE BACKBONE CONDUIT THRU BUILDING ABOVE CEILING AND UP HIGH ALONG UNDERSIDE OF ROOF STRUCTURE. SEE "GENERAL ABOVEGROUND CONDUIT NOTES".

6 SLEEVE CONDUIT WITH 6'-0" LONG SECTION OF SCHEDULE 80 PVC SLEEVE (4" SLEEVE FOR 2" CONDUIT & 6" SLEEVE FOR 3" CONDUIT) WHERE CONDUIT PENETRATES OR PASSES UNDER FOUNDATION/FOUNDATION WALL.

7 TURN RIGID (RMC OR IMC) CONDUIT DOWN AT EXISTING COMMUNICATIONS BACKBOARD, TO 6" BELOW CEILING, TRIM CEILING TILE NEATLY AND TERMINATE WITH UL LISTED RIGID CONDUIT THREADED MALLEABLE IRON INSULATED GROUNDING BUSHING WITH BRONZE LUG (O-Z/GEDNEY TYPE IBC-1-BC) PRIOR TO INSTALLING CABLING AND BOND TO EXISTING GROUNDING BUSBAR WITH #6 AWG INSULATED (GREEN) COPPER GROUNDING CONDUCTOR.

7A TURN RIGID CONDUIT UP FROM UNDERGROUND, UP EXTERIOR WALL, AND INTO NEMA 3R BOX TO ENTER BUILDING, GROUP TOGETHER WITH EXISTING. PAINT TO MATCH WALL. SEE "BUILDING ENTRANCE - NEMA 3R BOX AT CONDUIT PENETRATION OF WALL OR FASCIA" AND "BUILDING ENTRANCE - CONDUIT TURNING DOWN INTO EARTH".

7B TURN SCHED 80 PVC CONDUIT UP, SLEEVE AND SEAL FLOOR PENETRATION AND TERMINATE WITH CARLON E997x SERIES END BELL AT 4" A.F.F. SEE ENLARGED FLOOR PLANS FOR LOCATION OF CONDUIT TURNING UP.

8 SAW CUT AND PATCH EXISTING SIDEWALK TO MATCH EXISTING.

9 LARGE COMMUNICATIONS HANDHOLE, SEE DETAIL.

WALL/FLOOR/SOFFIT/FASCIA PENETRATION NOTE:

FIRE-RATED WALLS AND FLOORS:
THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF ALL FLOORS AND ALL WALLS THAT EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE. FIRESTOPPING SHALL BE ACCOMPLISHED USING UL CLASSIFIED SYSTEMS WITH FIRE RATING EQUAL TO OR GREATER THAN THE FIRE RATING OF THE FLOOR OR WALL ASSEMBLY PENETRATED. FIRESTOP SYSTEMS SHALL BE 3M, NELSON OR ENGINEER APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S STANDARD DETAIL FOR EACH TYPE OF FIRE-RATED WALL AND FLOOR PENETRATION REQUIRED FOR THIS PROJECT.

INTERIOR NON FIRE-RATED WALLS:
ALL OPENINGS IN WALLS THAT DO NOT EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE SHALL BE SLEEVED, REPAIRED AND COMPLETELY SEALED WITH MATERIALS TO MATCH THE WALL CONSTRUCTION.

EXTERIOR WALLS:
SLEEVE WALL OPENING WITH SECTION OF SCHEDULE 40 PVC CONDUIT SIZED TO ACCEPT CONDUIT WITH ±1/4" ANNULAR SPACE FOR CAULK. SEAL BETWEEN SLEEVE AND CONDUIT WITH BACKER AND DOUBLE APPLICATION OF CLEAR LIFETIME SILICONE CAULK (BOTH SIDES). REPAIR WALL OPENING AROUND SLEEVE WITH NON-SHRINK HYDRAULIC GROUT FINISHED SMOOTH TO WALL SURFACE (BOTH SIDES). FINISH PAINT TO MATCH EXISTING BUILDING WALL COLOR.

SOFFITS:
PENETRATE SOFFIT CENTERED IN FLAT PART OF PANEL. CUT CIRCULAR OPENING IN FASCIA NO MORE THAN 1/4" LARGER THAN SLEEVE DIAMETER. COVER OPENING AND MAKE WEATHERTIGHT WITH STAINLESS STEEL ESCUTCHEON SET IN BED OF CLEAR LIFETIME SILICONE CAULK AND SECURED WITH SS SCREWS.

FASCIA:
PENETRATE FASCIA CENTERED IN FLAT PART OF PANEL. CUT CIRCULAR OPENING IN FASCIA NO MORE THAN 1/4" LARGER THAN SLEEVE DIAMETER. PROVIDE SLEEVE SAME AS FOR EXTERIOR WALLS AND SEAL WATERTIGHT (SLEEVE TO FASCIA AND SLEEVE TO CONDUIT) WITH BACKING AND DOUBLE APPLICATION OF CLEAR LIFETIME SILICONE CAULK (BOTH SIDES). COVER OPENING WITH STAINLESS STEEL ESCUTCHEON SET IN BED OF CLEAR LIFETIME SILICONE CAULK AND MAKE WEATHERTIGHT. SECURED WITH SS SCREWS.

COMMUNICATIONS SITE PLAN LEGEND:

- PB — COMMUNICATIONS PULL BOX, SIZE AS INDICATED.
- HH — COMMUNICATIONS HAND HOLE. SEE HAND HOLE DETAILS.
- ——— COMMUNICATIONS BACKBONE CONDUIT RUN ABOVEGROUND, QUANTITY AS INDICATED.
- — — — COMMUNICATIONS BACKBONE CONDUIT RUN UNDERGROUND, QUANTITY AS INDICATED.

CONDUIT WORK NOTE

ALL CONDUIT WORK INDICATED SHALL BE PROVIDED AS PART OF THIS CONTRACT AND SHALL BE PERFORMED BY A LICENSED CERTIFIED ELECTRICAL CONTRACTOR IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. PERMANENTLY LABEL ALL CONDUITS.

NIGHT WORK NOTE:

ALL WORK WITHIN EXISTING OCCUPIED BUILDINGS SHALL BE ACCOMPLISHED ON WEEKDAYS OR AT NIGHT WHEN SCHOOL IS NOT IN REGULAR SESSION. EXACT TIMES SHALL BE AS DIRECTED BY THE SCHOOL PRINCIPAL. WORK DURING THE DAY AND ON WEEKENDS SHALL NOT BE ALLOWED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE SCHOOL PRINCIPAL. ALL EXISTING SYSTEMS SHALL BE MAINTAINED IN FULL WORKING ORDER AT ALL TIMES.

PROJECT NOTE (ALL SHEETS):

ALL MATERIALS AND EQUIPMENT INDICATED AND REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION SHALL BE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNDER THIS PROJECT UNLESS SPECIFICALLY INDICATED TO BE EXISTING OR TO BE PROVIDED BY OTHERS.

Graphic Scale

30 15 0 30FT 60FT

SCALE: 1" = 30'-0"

DAG ARCHITECTS

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100% CONSTRUCTION DOCUMENTS

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI Gregory A. Cook BICSI ID # 104998 EXPIRES 12-31-27 RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

COMMUNICATIONS SITE PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

T101

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2425 W. Nine Mile Road, Suite 2 Pensacola, Florida 32534
Florida Certificate of Authorization #9308
Phone: (850) 469-0465 Fax: (850) 432-0905
Premier Project #220124

PROJECT NOTE (ALL SHEETS):

ALL MATERIALS AND EQUIPMENT INDICATED AND REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION SHALL BE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNDER THIS PROJECT UNLESS SPECIFICALLY INDICATED TO BE EXISTING OR TO BE PROVIDED BY OTHERS.

GENERAL LABELING NOTE

1. ALL COs AND HORIZONTAL PATCH PANELS SHALL BE LABELED USING THE FINAL FISH ROOM NUMBERS. OBTAIN FINAL FISH ROOM NUMBERS FROM THE ARCHITECT PRIOR TO LABELING.
2. ALL LABELS FOR COs AND HORIZONTAL PATCH PANELS SHALL BE PRODUCED USING FACTORY LABEL SHEETS FOR LASER PRINTERS MANUFACTURED FOR THE SPECIFIC DEVICE.

SPECIAL SERVICES NOTE:

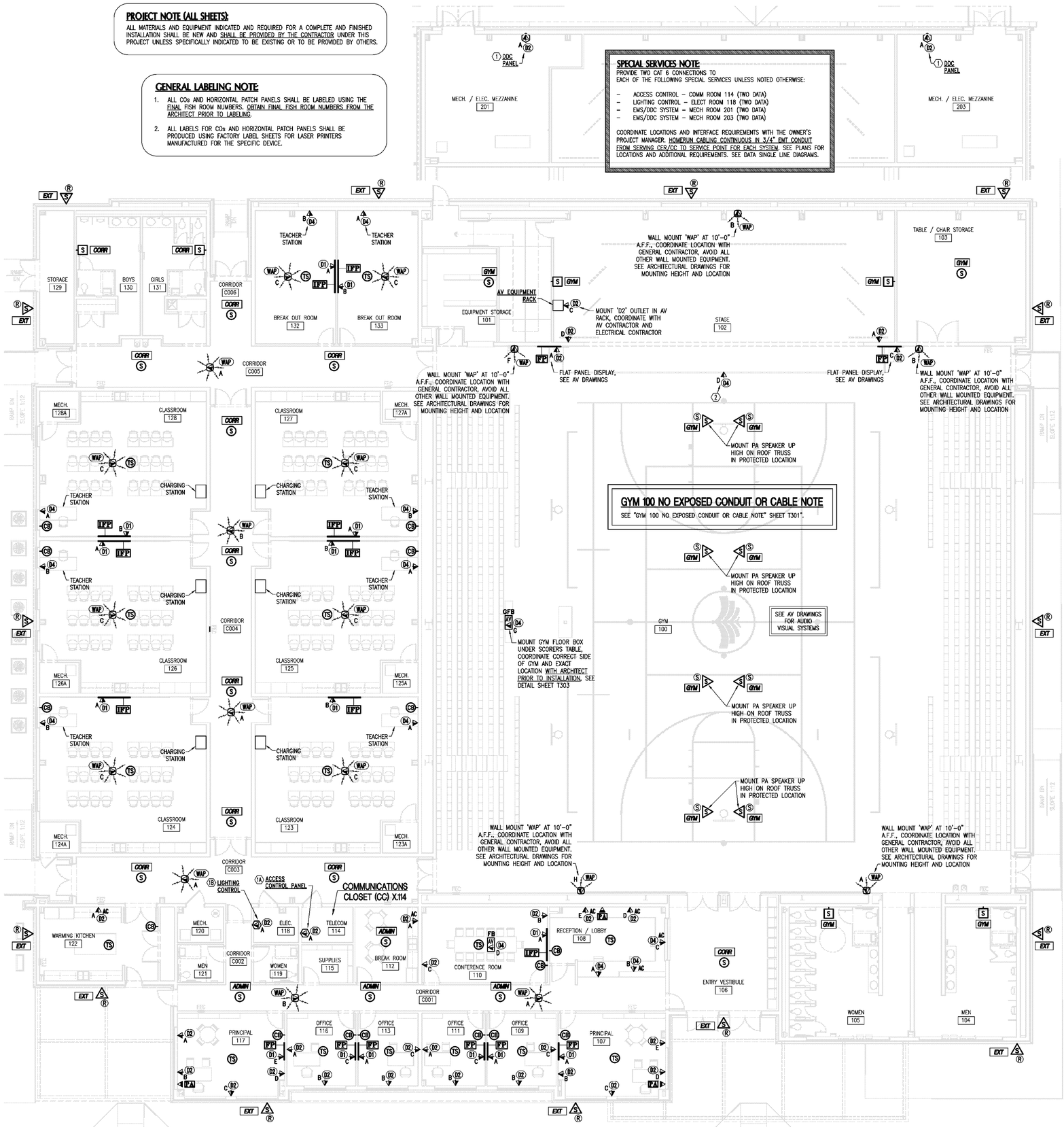
PROVIDE TWO CAT 6 CONNECTIONS TO EACH OF THE FOLLOWING SPECIAL SERVICES UNLESS NOTED OTHERWISE:

- ACCESS CONTROL – COMM ROOM 114 (TWO DATA)
- LIGHTING CONTROL – ELECT ROOM 118 (TWO DATA)
- EMS/DDC SYSTEM – MECH ROOM 201 (TWO DATA)
- EMS/DDC SYSTEM – MECH ROOM 203 (TWO DATA)

COORDINATE LOCATIONS AND INTERFACE REQUIREMENTS WITH THE OWNER'S PROJECT MANAGER. HOMERUN CABLING CONTINUOUS IN 3/4" EMT CONDUIT FROM SERVING CER/CC TO SERVICE POINT FOR EACH SYSTEM. SEE PLANS FOR LOCATIONS AND ADDITIONAL REQUIREMENTS. SEE DATA SINGLE LINE DIAGRAMS.

COMMUNICATIONS OUTLET NOTE

COMMUNICATIONS OUTLET LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EACH OUTLET WITH THE ARCHITECT, THE OWNER'S PROJECT MANAGER AND THE ELECTRICAL CONTRACTOR PRIOR TO THE CONDUIT AND DEVICE BOX ROUGH-IN. PARTICULAR ATTENTION SHALL BE GIVEN TO COORDINATION OF OUTLET LOCATIONS RELATIVE TO WINDOWS, CASEWORK AND OTHER OBSTRUCTIONS. ALL COMMUNICATIONS OUTLETS (CO's) SHALL BE LOCATED AT 18" A.F.F. UNLESS INDICATED OTHERWISE ON FLOOR PLANS AND DETAILS OR SO DIRECTED BY ARCHITECT IN THE FIELD. FOR MOUNTING HEIGHTS OF LARGE SURFACE RACEWAY AND BOXES AT STUDENT COMPUTER STATIONS AND TEACHER STATIONS, SEE LARGE RACEWAY DETAILS.



COMMUNICATIONS FLOOR PLAN

SCALE: 1/8" = 1'-0"

COMMUNICATIONS LEGEND

- CLASSROOM 127 — ARCHITECT'S ROOM NUMBER, SEE "GENERAL LABELING NOTE."
- D1 A — COMMUNICATIONS OUTLET (CO), TYPE 'D1'. SEE DETAILS. LETTER INDICATES DESIGNATION OF OUTLET IN ROOMS WITH MORE THAN ONE OUTLET.
- D2 A — COMMUNICATIONS OUTLET (CO), TYPE 'D2'. SEE DETAILS. LETTER INDICATES DESIGNATION OF OUTLET IN ROOMS WITH MORE THAN ONE OUTLET.
- D4 A — COMMUNICATIONS OUTLET (CO), TYPE 'D4'. SEE DETAILS. LETTER INDICATES DESIGNATION OF OUTLET IN ROOMS WITH MORE THAN ONE OUTLET.
- GFB AV D4 A — COMMUNICATIONS OUTLET (CO) MOUNTED IN GYM FLOOR BOX, TYPE 'D4', AV AND POWER. LETTER INDICATES DESIGNATION OF OUTLET IN ROOMS WITH MORE THAN ONE OUTLET. SEE "HIGH LOAD CAPACITY GYMNASIUM FLOOR BOX DETAIL", SHEET T303. SEE ELECTRICAL DRAWINGS AND AV DRAWINGS.
- FB AV D4 A — COMMUNICATIONS OUTLET (CO) MOUNTED IN FLOOR BOX, TYPE 'D4', AV AND POWER. LETTER INDICATES DESIGNATION OF OUTLET IN ROOMS WITH MORE THAN ONE OUTLET. SEE ELECTRICAL DRAWINGS. SEE FLOOR BOX AND POKE-THRU CONDUIT NOTES SHEET T-303.
- WAP A — WIRELESS ACCESS POINT (WAP) MOUNTED IN CEILING OR ON WALL AS INDICATED. SEE WIRELESS ACCESS POINT (WAP) MOUNTING DETAILS. LETTER INDICATES DESIGNATION OF WAP IN ROOMS WITH MORE THAN ONE WAP.
- D2 A — SPECIAL SERVICE OUTLET (CO), TYPE 'D2'. SEE "SPECIAL SERVICES NOTE" AND PLANS. RUN CABLING CONTINUOUS TO CC IN CONDUIT. LETTER INDICATES DESIGNATION OF OUTLET IN ROOMS WITH MORE THAN ONE OUTLET.
- IFP — INTERACTIVE FLAT PANEL, SEE DETAILS.
- FP — FLAT PANEL, SEE DETAILS.
- CORR — INTERCOM/PA SYSTEM ONE-WAY SPEAKER HARD-WIRED ZONE NAME.
- TS — INDOOR CEILING MOUNT TALKBACK INTERCOM/PA SPEAKER. IN LAY-IN CEILINGS CAREHAWK SPL-24-RTRJ. IN HARD CEILINGS 8-INCH ROUND SPEAKERS CAREHAWK WITH BRIDGE AND BACKBOX. IN ROOMS WITH EXPOSED ROOF STRUCTURE OR IN ROOMS WITH INACCESSIBLE HARD CEILINGS CAREHAWK VANDAL RESISTANT SURFACE WALL MOUNT SPEAKER WITH PAINTED STEEL ANGLED ENCLOSURE. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION AND QUANTITIES OF SPEAKER TYPES BASED ON CEILING CONDITIONS.
- S S — INDOOR CEILING MOUNT ONE-WAY INTERCOM/PA SPEAKER WITH TWO RJ45 JACKS FOR DAISY CHAINING OF MULTIPLE SPEAKERS ON SAME ZONE. IN LAY-IN CEILINGS CAREHAWK SPL-24-RTRJ. IN HARD CEILINGS 8-INCH ROUND SPEAKERS CAREHAWK WITH BRIDGE AND BACKBOX. IN ROOMS WITH EXPOSED ROOF STRUCTURE OR IN ROOMS WITH INACCESSIBLE HARD CEILINGS CAREHAWK VANDAL RESISTANT SURFACE WALL MOUNT SPEAKER WITH PAINTED STEEL ANGLED ENCLOSURE. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION AND QUANTITIES OF SPEAKER TYPES BASED ON CEILING CONDITIONS.
- S R A — OUTDOOR ONE-WAY PA VANDAL RESISTANT SPEAKER, RECESSED MOUNT 16 WATT, TELECOR STB-16 SPEAKER AND FLUSH MOUNT FACEPLATE ASSEMBLY WITH TELECOR H16 FULLY RECESSED FACTORY BACKBOX. FLUSH MOUNT IN WALL AT FINAL HEIGHT AND LOCATION AS DIRECTED BY THE ARCHITECT. COORDINATE WITH GENERAL CONTRACTOR AND ARCHITECT PRIOR TO ROUGH-IN. PROVIDE 3/4" CONDUIT SLEEVE THRU WALL AND SET JUNCTION BOX IN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING, THEN FREE ROUTE CABLING ABOVE CEILING TO SERVING CC. SEE "SPEAKER ATTACHMENT NOTES".
- S S A — GYM SPEAKERS – OUTDOOR/INDOOR GRADE HEAVY DUTY ONE-WAY INTERCOM/PA SPEAKER WITH VOLUME CONTROL, SURFACE MOUNT 5 WATT HORN TYPE SPEAKER, CAREHAWK. MOUNT SPEAKER BASE DIRECTLY TO GYM ROOF TRUSS. RUN 3/4" CONDUIT HARD AGAINST ROOF TRUSS ALONG WITH OTHER UTILITIES OVER TO ACCESSIBLE LOCATION ABOVE LAY-IN CEILING, THEN FREE ROUTE CABLING ABOVE CEILING TO SERVING CC. GENERAL CONTRACTOR PAINT CONDUIT TO MATCH GYM ROOF STRUCTURE. SEE "SPEAKER ATTACHMENT NOTES" SHEET T305.
- CB — INTERCOM/PA CALL SWITCH, CAREHAWK CS100. FLUSH MOUNT IN WALL AT 48" A.F.F. USING CONCEALED CONDUIT ROUGH-IN. SEE DETAILS.
- PA — PA OUTLET FOR PA SYSTEM ADMIN HANDSET. ROUGH-IN SAME AS REQUIRED FOR COMMUNICATIONS OUTLET EXCEPT HOMERUN CONDUIT BACK TO CC.

ABBREVIATIONS

CER	COMMUNICATIONS EQUIPMENT ROOM	RMC	RIGID METALLIC CONDUIT	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CC	COMMUNICATIONS CLOSET	IMC	INTERMEDIATE METALLIC CONDUIT	OFOI	OWNER FURNISHED OWNER INSTALLED
CO	COMMUNICATIONS OUTLET	HH	HAND HOLE	CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
A.F.F.	ABOVE FINISHED FLOOR	WP	WATERPROOF	AV, A/V	AUDIO-VISUAL
AC	ABOVE COUNTER	SS	STAINLESS STEEL	WAP	WIRELESS ACCESS POINT
N.I.C.	NOT IN CONTRACT	IFP	INTERACTIVE FLAT PANEL DISPLAY	CM	CONSTRUCTION MANAGER
HPP	HORIZONTAL PATCH PANEL	FP	FLAT PANEL DISPLAY	PM	PROJECT MANAGER
PB	PULLBOX	SCED	SCHEDULE	GC	GENERAL CONTRACTOR
GALV	GALVANIZED STEEL	TYP	TYPICAL	PA	PUBLIC ADDRESS SYSTEM
DDC	DIRECT DIGITAL CONTROLS (HVAC)	ARCH	ARCHITECTURAL	EXT	EXTERIOR
EMS	ENERGY MANAGEMENT SYSTEM = DDC (HVAC)	SCS	STRUCTURED CABLING SYSTEM	CCTV	CLOSED CIRCUIT TELEVISION SECURITY CAMERA SYSTEM
IP	INTERNET PROTOCOL	SCSC	STRUCTURED CABLING SYSTEM CONTRACTOR		

COMMUNICATIONS FLOOR PLAN KEY NOTES:

(1) EMS/DDC SYSTEM CONNECTION: SEE SPECIAL SERVICES NOTE. RUN CABLING CONTINUOUS IN CONDUIT. PROVIDE "BISCUIT" STYLE 'D2' OUTLET LABELED WITH "DDC" AND SERVING CLOSET. MOUNT OUTLET INSIDE THE EMS/DDC PANEL LOCATION AS DIRECTED BY THE DDC CONTRACTOR. FINAL LOCATION OF DDC PANEL IS UNKNOWN – COORDINATE WITH THE GENERAL CONTRACTOR AND THE EMS/DDC SYSTEM INSTALLER FOR FINAL DDC PANEL LOCATION. SEE DATA SINGLE LINE FOR CABLING.

(1A) ACCESS CONTROL PANEL CONNECTION: SEE SPECIAL SERVICES NOTE. RUN CABLING CONTINUOUS IN CONDUIT. PROVIDE "BISCUIT" STYLE 'D2' OUTLET LABELED WITH "ACCESS CONTROL" AND SERVING CLOSET. MOUNT INSIDE ACCESS CONTROL PANEL. COORDINATE WITH GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, AND ACCESS CONTROL SYSTEM CONTRACTOR. ACCESS CONTROL SYSTEM CONTRACTOR IS RESPONSIBLE FOR ANY UL SECONDARY LISTED SURGE PROTECTION DEVICE REQUIRED TO PROTECT ACCESS CONTROL PANEL. SEE DATA SINGLE LINE FOR CABLING.

(1B) LIGHTING CONTROL PANEL CONNECTION: SEE SPECIAL SERVICES NOTE. RUN CABLING CONTINUOUS IN CONDUIT. PROVIDE "BISCUIT" STYLE "D2" OUTLET LABELED WITH "LIGHTING CONTROL" AND SERVING CLOSET. MOUNT OUTLET INSIDE THE LIGHTING CONTROL PANEL AS DIRECTED BY THE ELECTRICAL CONTRACTOR. FINAL LOCATION OF LCP PANEL IS UNKNOWN – COORDINATE WITH THE GENERAL CONTRACTOR AND THE ELECTRICAL CONTRACTOR FOR FINAL LCP PANEL LOCATION. SEE DATA SINGLE LINE FOR CABLING.

(2) MOUNT CO FLUSH ON VERTICAL FACE OF STAGE WALL – USE BELDEN STAINLESS STEEL FACEPLATE THIS APPLICATION. RUN 1" SCHEDULE 80 PVC CONDUIT DOWN CONCEALED IN WALL AND TURN TO RUN UNDER FLOOR SLAB TO SERVING CC. RUN UNDERGROUND CONDUIT STRAIGHT "AS THE CROW FLIES" FROM POINT OF TURNING DOWN THRU FLOOR SLAB TO RUN UNDERGROUND OVER TO POINT OF TURNING UP IN SERVING CC. IN CC TURN CONDUITS UP THRU FLOOR IN LOCATION SHOWN ON ENLARGED CC FLOOR PLAN AND TERMINATE AT 4" A.F.F. WITH END BELL. MAKE ALL UNDERGROUND JOINTS WATERTIGHT. ELECTRICAL CONTRACTOR VALIDATE CONTINUITY OF CONDUIT, BLOW OR VACUUM ALL WATER OUT OF CONDUIT, AND INSTALL HEAVY DUTY PULL STRING CONTINUOUS FROM END TO END OF EACH CONDUIT PRIOR TO FLOOR SLAB POUR. ELECTRICAL CONTRACTOR PROVIDE 10' OF PULL STRING SLACK AT EACH END. TEMPORARILY CAP CONDUIT ENDS TO PREVENT ENTRY OF WATER AND DIRT. STRUCTURED CABLING SYSTEM CONTRACTOR AGAIN BLOW WATER OUT OF CONDUITS PRIOR TO INSTALLING CABLES. SCSC PROVIDE ALL BURIAL GRADE CATEGORY 6 CABLE. SEE CC ENLARGED FLOOR PLAN AND GENERAL ABOVEGROUND CONDUIT NOTES.

Graphic Scale

8 4 0 8FT 16FT

SCALE: 1/8" = 1'-0"

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COMMUNICATIONS FLOOR PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

T201

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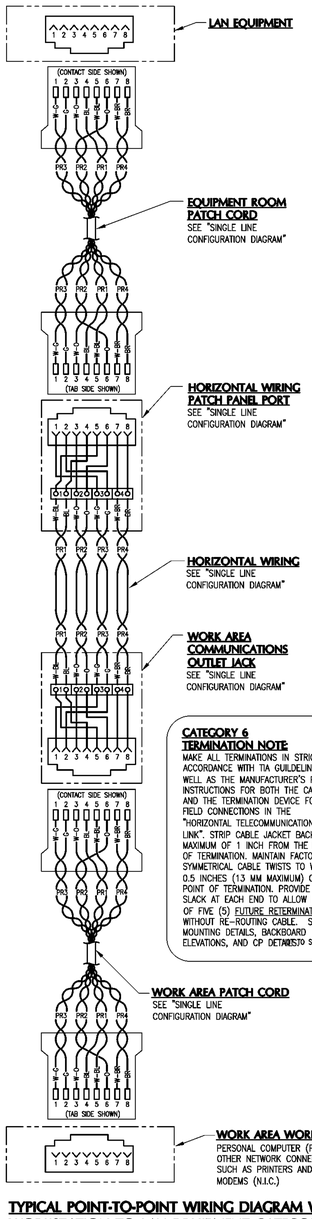
Premier Project #220204

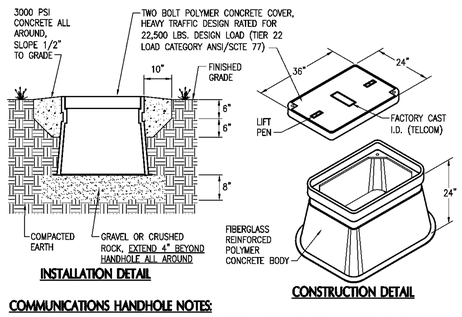


TYPICAL POINT-TO-POINT WIRING DIAGRAM WORK AREA WORKSTATION TO LAN EQUIPMENT CATEGORY 6 "HORIZONTAL TELECOMMUNICATIONS CHANNEL"

NOT TO SCALE

IP SECURITY CAMERA SPECIAL CONDUIT NOTES:

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING FINAL CONDUIT ROUTING IN THE FIELD. THE CONTRACTOR SHALL COORDINATE THE FINAL ROUTING OF CONDUITS TO CONCEAL CONDUITS AND TO AVOID CONFLICTS WITH THE BUILDING STRUCTURE, OTHER UTILITIES AND OBSTACLES, WHILE MINIMIZING CHANGES IN DIRECTION AND OVERALL CONDUIT LENGTH. ALL CONDUIT SHALL BE RUN OVERHEAD AND CONCEALED EXCEPT AS SPECIFICALLY INDICATED. BEST ROUTING WITHIN BUILDINGS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR WITH THE LIMITATIONS SPECIFIED IN THESE NOTES AND THE CONTRACT DOCUMENTS IN GENERAL.
2. A HOMERUN CONDUIT SHALL BE RUN TO EACH CAMERA. CONDUITS RUN INDOORS SHALL BE RUN CONCEALED OVERHEAD ABOVE CEILINGS UNLESS LOCATED IN SPACES WITHOUT CEILINGS, IN SPACES WITH EXPOSED ROOF STRUCTURE, OR AS OTHERWISE SPECIFICALLY INDICATED. INDOOR CONDUIT SHALL BE EMT WITH STEEL COMPRESSION FITTINGS. DIE CAST EMT FITTINGS ARE NOT ALLOWABLE. SUPPORT EXPOSED CONDUIT AT A MINIMUM OF 4'-0" ON CENTER WITH 2-HOLE HEAVY DUTY GALVANIZED STEEL HARDWARE.
3. HOMERUN CONDUITS FROM CC SHALL BE A MAXIMUM OF 260 FEET LONG. PROVIDE PULLBOXES AT EVERY 100 FEET ON CENTER AND AT EACH END OF CONDUIT RUNS CONTAINING A TOTAL OF TWO 90 deg BENDS OR A COMBINATION OF LESSER BENDS TOTALING 180 deg (MINIMUM REQUIREMENTS – PROVIDE WHETHER SPECIFICALLY INDICATED OR NOT). CONDUIT RUNS CONTAINING MORE THAN TWO 90 deg BEND WITHOUT A PULLBOX ARE NOT ALLOWABLE. FACTORY CONDUIT ELBOWS AND ALL OTHER BENDS SHALL HAVE A MINIMUM RADIUS OF SIX TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT OFFSETS AND PULLBOXES REQUIRED TO SUIT FIELD CONDITIONS AND TO CONFORM TO THESE REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. PULL BOXES FOR 3/4" HOMERUN CONDUITS SHALL BE 4"x4"x2-1/8" WITH BLANK COVER.
4. IDENTIFICATION: IDENTIFY ALL INDOOR IP CAMERA CONDUITS, PULLBOXES ABOVE LAY-IN CEILINGS AND ACCESS DOORS WITH GREEN PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). IDENTIFY ALL CCTV CONDUIT PULLBOXES BY PAINTING WITH 1" TALL LETTER STENCIL (COLOR GREEN) THE WORDS "CCTV" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT CENTER OF PULLBOX COVER. DO NOT PAINT CONDUIT COUPLERS AND ENCLOSURES IN CC.
5. SEE ADDITIONAL NOTES FOR SECURITY CAMERAS ON SEC SHEETS.



INSTALLATION DETAIL

CONSTRUCTION DETAIL

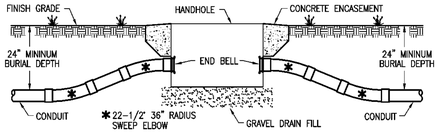
COMMUNICATIONS HANDHOLE NOTES:

1) HANDHOLE SHALL BE 36"x24"x24" DEEP, OLDCASTLE H SERIES. COVER AND BODY SHALL BOTH BE HEAVY TRAFFIC RATED, 22,500 POUND DESIGN LOAD, ANSI/SCTE 77 TIER 22 LOAD CATEGORY. COVER LOGO SHALL BE "TELCOM" OR "COMMUNICATIONS". INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE REQUIREMENTS OF THIS PROJECT.

2) TERMINATE CONDUITS ENTERING HANDHOLE WITH END BELL (CARLON E997). CONSTRUCT CONDUIT RISE TO ENTER BOX FROM SIDE WITH 22-1/2" SWEEP ELBOWS. SEE "TYPICAL HANDHOLE CONDUIT ENTRY DETAIL". DO NOT ENTER HANDHOLE FROM BOTTOM.

LARGE COMMUNICATIONS HANDHOLE TYPICAL DETAILS

NOT TO SCALE



TYPICAL HANDHOLE CONDUIT ENTRY DETAIL

NOT TO SCALE

GENERAL ABOVEGROUND CONDUIT NOTES:

1. SEE PLANS, NOTES AND DETAILS FOR SPECIAL REQUIREMENTS TO RUN HORIZONTAL CABLING, SECURITY CAMERA CABLING, AND ACCESS CONTROL SYSTEM CABLING IN CONDUIT UNDERGROUND – ALL SUCH CABLING SHALL BE BURIAL GRADE GEL FILLED.
2. CONDUIT INSTALLER PROVIDE PULL STRINGS IN ALL HORIZONTAL CABLE CONDUITS AND PULL TAPE IN ALL BACKBONE CONDUITS FOR USE BY CABLING INSTALLER.
3. LOCATION AND ROUTING OF ABOVEGROUND CONDUITS IS APPROXIMATE AND DEPICTS DESIGN INTENT ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING FINAL CONDUIT ROUTING IN THE FIELD. THE CONTRACTOR SHALL COORDINATE THE FINAL ROUTING OF CONDUITS TO AVOID CONFLICTS WITH OTHER TRADES, WHILE MINIMIZING CHANGES IN DIRECTION AND OVERALL CONDUIT LENGTH. OBTAIN APPROVAL OF ENGINEER PRIOR TO ANY CHANGES IN ROUTING. CONDUIT INSTALLER – PROVIDE PULL TAPE IN ALL BACKBONE CABLING CONDUITS CONTINUOUS FROM END TO END.
4. FREE-ROUTE CATEGORY 6 AND CATEGORY 6A HORIZONTAL CABLES NOT OTHERWISE INDICATED TO BE HOMERUN IN CONDUIT. SEE "HORIZONTAL CABLE ROUTING NOTE" AND "HORIZONTAL CABLING CONDUIT SLEEVES NOTE".
5. PROVIDE A HOMERUN CONDUIT RUN CONTINUOUSLY CONCEALED IN WALLS AND OVERHEAD FROM EACHIY IP SECURITY CAMERA TO SERVING CC. EACH HOMERUN CONDUIT SHALL BE 3/4" TRADE SIZE. SEE "CCTV SECURITY CAMERA CONDUIT NOTES" THIS SHEET. CONDUIT INSTALLER SHALL PROVIDE PULL STRINGS IN ALL HORIZONTAL CONDUITS CONTINUOUS FROM END TO END.
6. PROVIDE A HOMERUN CONDUIT RUN CONTINUOUSLY CONCEALED IN WALLS AND OVERHEAD FROM EACH SPECIAL SERVICE OUTLET TO SERVING CC. EACH HOMERUN CONDUIT SHALL BE 3/4" TRADE SIZE. CONDUIT INSTALLER SHALL PROVIDE PULL STRINGS IN ALL HORIZONTAL CONDUITS CONTINUOUS FROM END TO END.
7. CONDUITS RUN INDOORS SHALL BE RUN CONCEALED OVERHEAD ABOVE CEILINGS UNLESS LOCATED IN SPACES WITHOUT CEILINGS, IN AN UNFINISHED SPACE SUCH AS EQUIPMENT ROOMS. INDOOR CONDUIT SHALL BE EMT WITH STEEL FITTINGS EXCEPT WHERE RIGID THREADED CONDUIT IS INDICATED. DIE CAST EMT FITTINGS ARE NOT ALLOWABLE. FITTINGS IN EXPOSED INDOOR LOCATIONS SHALL BE STEEL COMPRESSION TYPE. FITTINGS IN CONCEALED INDOOR LOCATIONS SHALL BE STEEL SET SCREW TYPE. SUPPORT EXPOSED CONDUIT AT A MINIMUM OF 4'-0" ON CENTER WITH 2-HOLE HEAVY DUTY GALVANIZED STEEL HARDWARE. DO NOT RUN CONDUITS BELOW SLAB EXCEPT AS SPECIFICALLY INDICATED.
8. WHERE RIGID CONDUIT (RMC) IS INDICATED, PROVIDE ALL THREADED WATERTIGHT RIGID GALVANIZED THREADED FITTINGS. IN ALL LOCATIONS WHERE INDICATED OUTDOORS PROVIDE RIGID CONDUIT ONLY (RMC). WHERE INDICATED INDOORS CONTRACTOR MAY PROVIDE IMC CONDUIT, BUT ALL FITTINGS SHALL BE THREADED RMC. MAINTAIN ELECTRICAL CONTINUITY FROM END-TO-END AND TERMINATE/GROUND WITH UL LISTED BONDING BUSHING.
9. SUPPORT CONDUIT DIRECTLY FROM BUILDING STRUCTURE USING APPROVED HARDWARE. DO NOT SUPPORT CONDUIT FROM OTHER SYSTEMS COMPONENTS OR SUPPORTS. ROUTE ALL CONDUITS AS HIGH AS POSSIBLE. WHERE CONDUIT IS EXPOSED RUN HARD AGAINST WALL OR UNDERSIDE OF ROOF/FLOOR DECK. RUN ALL CONDUITS PARALLEL/PERPENDICULAR AND PLUMB WITH BUILDING LINES.
10. CONDUIT BODIES SUCH AS 'LB' FITTINGS ARE NOT ALLOWABLE.
11. PROVIDE PULLBOXES OF THE SAME TYPE AND SIZE AS THOSE INDICATED ON DRAWINGS FOR EACH RUN OF CONDUIT AT EVERY 100 FEET ON CENTER AND AT EACH END OF CONDUIT RUNS CONTAINING A TOTAL OF TWO 90 deg BENDS OR A COMBINATION OF LESSER BENDS TOTALING 180 deg (MINIMUM REQUIREMENTS – PROVIDE WHETHER SPECIFICALLY INDICATED OR NOT). CONDUIT RUNS CONTAINING MORE THAN TWO 90 deg BENDS WITHOUT A PULLBOX ARE NOT ALLOWABLE. FACTORY CONDUIT ELBOWS AND ALL OTHER BENDS SHALL HAVE A MINIMUM RADIUS OF SIX TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT OFFSETS AND PULLBOXES REQUIRED TO SUIT FIELD CONDITIONS AND TO CONFORM TO THESE REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
12. PULLBOXES FOR BACKBONE CONDUITS SHALL BE AS INDICATED. PULL BOXES FOR HOMERUN CONDUITS SHALL BE 4" WIDE x 4" LONG x 2-1/8" DEEP NEMA 1 GALVANIZED STEEL WITH SCREW COVER. WHERE HOMERUN CONDUITS ARE TIGHTLY RACKED WITH UNIFORM SPACING, WIDER PULL BOXES MAY BE PROVIDED TO SERVE MULTIPLE CONDUITS. TERMINATE CONDUITS AT OPPOSITE ENDS OF PULLBOXES. DO NOT TERMINATE CONDUITS IN PULLBOXES AT RIGHT ANGLES TO EACH OTHER. HOMERUN CONDUITS SHALL NOT BE COMBINED INTO LARGER CONDUITS SERVING MULTIPLE OUTLETS. PROVIDE INDIVIDUAL HOMERUN CONDUITS FROM EACH SECURITY CAMERA.
13. WHERE CONDUIT AND PULLBOXES ARE LOCATED ABOVE NON-ACCESSIBLE CEILINGS OR SOFFITS (EXAMPLE PLASTER, METAL, OR GYPSUM BOARD), INSTALL AN 24"x 24" ALL ALUMINUM CEILING ACCESS DOOR IN CEILING DIRECTLY BELOW EACH SUCH PULLBOX. ACCESS DOORS SHALL BE LARSEN'S L-LCP, ALL ALUMINUM CONSTRUCTION AND FASTENERS. PROVIDE ACCESS DOORS FACTORY PRIMED FOR PAINTING. FINISH PAINT WITH TWO COATS ENAMEL AFTER INSTALLATION TO MATCH EXISTING CEILING, SOFFIT, OR WALL.
14. TERMINATE ALL CONDUIT ENDS WITH THREADED PLASTIC INSULATING BUSHINGS (PUSH-ON NOT ALLOWABLE). BUSHINGS MUST FIT TIGHTLY ON CONDUIT CONNECTOR THREADS. INSTALL ALL BUSHINGS PRIOR TO PULLING CABLE. CONDUIT INSTALLER PROVIDE PULL STRINGS IN ALL HORIZONTAL CABLE CONDUITS AND PULL TAPE IN ALL BACKBONE CONDUITS FOR USE BY CABLING INSTALLER. LEAVE 10'-0" OF PULL TAPE SLACK AT EACH END OF BACKBONE CONDUIT AND TAPE EXCESS INTO ROLL.
15. IDENTIFICATION: IDENTIFY ALL COMMUNICATIONS CONDUITS AND PULLBOXES ABOVE LAY-IN CEILINGS, ACCESS DOORS AND IN ROOF SPACE WITH BLUE PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). DO NOT PAINT CONDUIT COUPLERS AND ENCLOSURES IN CC. IDENTIFY ALL BACKBONE CONDUIT PULLBOXES. PAINT WITH 1" TALL LETTER STENCIL (COLOR BLUE) THE WORDS "TELCOM" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT CENTER OF PULLBOX COVER.
16. IDENTIFICATION: IDENTIFY ALL CCTV IP SECURITY CAMERA CONDUITS AND PULLBOXES ABOVE LAY-IN CEILINGS, ACCESS DOORS AND IN ROOF SPACE WITH RED PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). DO NOT PAINT CONDUIT COUPLERS AND ENCLOSURES IN CC. IDENTIFY ALL CCTV CONDUIT PULLBOXES. PAINTING WITH 1" TALL LETTER STENCIL (COLOR GREEN) THE WORDS "CCTV" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT CENTER OF PULLBOX COVER.
17. IDENTIFICATION: IDENTIFY ALL INTERCOM/PA CONDUIT SLEEVES AND PULLBOXES ABOVE LAY-IN CEILINGS, ACCESS DOORS AND IN ROOF SPACE WITH YELLOW PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). DO NOT PAINT CONDUIT COUPLERS AND ENCLOSURES IN CC. PAINT WITH 1" TALL LETTER STENCIL (COLOR YELLOW) THE WORDS "INTERCOM/PA" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT CENTER OF PULLBOX COVER.

GENERAL UNDERGROUND CONDUIT NOTES:

1. LOCATION AND ROUTING OF NEW UNDERGROUND CONDUIT IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATION AND ROUTING OF CONDUIT TO AVOID CONFLICTS WITH BURIED UTILITIES AND OTHER OBSTRUCTIONS. SIGNIFICANT CHANGES TO CONDUIT ROUTING SHALL REQUIRE THE APPROVAL OF THE ENGINEER.
2. ALL BURIED CONDUIT SHALL BE SCHEDULE 80 ELECTRICAL GRADE PVC CONDUIT. ALL PVC CONDUIT JOINTS SHALL BE CLEANED AND GLUED FOR A WATERTIGHT CONNECTION. TERMINATE ENDS OF PVC CONDUIT AT CLOSETS AND HANDHOLES WITH END BELLS.
3. SEAL ALL UNDERGROUND CONDUITS WATERTIGHT AT ALL HANDHOLE EXITS AND AT ALL BUILDING ENTRY POINTS FOLLOWING CABLE INSTALLATION TO PREVENT THE ENTRY OF WATER INTO BUILDINGS, AND TO PREVENT THE ENTRY OF WATER OR DEBRIS INTO THE CONDUITS FROM THE BUILDING OR HANDHOLES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING BURIED UTILITIES PRIOR TO COMMENCING ANY EXCAVATION REQUIRED FOR WORK UNDER THE PROJECT. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITIES THAT OCCURS AS A RESULT OF OPERATIONS PERFORMED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. REPAIRS SHALL BE MADE USING MATERIALS & METHODS TO MATCH EXISTING CONSTRUCTION AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO RE-COVERING.
5. LOCATION OF HANDHOLES SHOWN IS INTENDED TO PLACE HANDHOLES IN ACCESSIBLE SODDED, PLANTED OR PAVED AREAS. COORDINATE LOCATIONS WITH DRAINAGE STRUCTURES, SIDEWALKS, OTHER OUTSIDE STRUCTURES, AND LANDSCAPING TO AVOID CONFLICTS.
6. PROVIDE HANDHOLES IN UNDERGROUND CONDUIT AS INDICATED AND ADDITIONAL HANDHOLES AS REQUIRED DUE TO CHANGES IN CONDUIT DIRECTION. INSTALL A HANDHOLE IN EACH CONDUIT RUN OF LONGER THAN 500 FEET OR CONTAINING THE EQUIVALENT OF MORE THAN TWO 90° BENDS. INSTALL HANDHOLES AFTER BENDS AS INDICATED. DO NOT USE HANDHOLES TO MAKE A CHANGE IN DIRECTION.
7. RESTORE TO THEIR ORIGINAL ELEVATION AND CONDITION UNPAVED SURFACES DISTURBED DURING INSTALLATION OF UNDERGROUND CONDUIT. PRESERVE AND REPLACE SOD OR TOPSOIL AFTER INSTALLATION IS COMPLETED. REPLACE SOD THAT IS DAMAGED WITH SOD OF TYPE AND QUALITY EQUAL TO THAT REMOVED.
8. WHERE TRENCHES OR OTHER EXCAVATIONS ARE MADE IN AREAS OF EXISTING WALKWAYS WHERE SURFACE TREATMENT OF ANY KIND EXISTS, RESTORE SUCH SURFACE TREATMENT TO THE SAME THICKNESS AND IN THE SAME KIND AS PREVIOUSLY EXISTED (EXCEPT AS OTHERWISE INDICATED) AND TO MATCH AND TIE INTO THE ADJACENT AND SURROUNDING SURFACES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING SURFACE TREATMENT SUCH AS CONCRETE OR ASPHALTIC PAVING. THE DRAWINGS SHALL NOT BE CONSTRUED AS PROVIDING ACCURATE REPRESENTATION OF THE TYPE, LOCATION OR EXTENT OF SURFACE TREATMENT OF ANY KIND.
10. THE MINIMUM BEND RADIUS FOR ALL UNDERGROUND CONDUITS SHALL BE 10 TIMES THE INTERNAL CONDUIT DIAMETER.
11. BURIED WARNING AND IDENTIFICATION TAPE: PROVIDE METALLIC DETECTION TAPE MANUFACTURED SPECIFICALLY FOR WARNING AND IDENTIFICATION OF BURIED UTILITIES. INSTALL TAPE DIRECTLY ABOVE EACH BURIED CONDUIT AT DEPTH OF 10 TO 12 INCHES BELOW GRADE FOR ENTIRE LENGTH OF CONDUIT. TAPE SHALL BE DETECTABLE BY ANY STANDARD NON-FERRIC METAL DETECTOR. PROVIDE TAPE IN ROLLS, 2 INCHES MINIMUM WIDTH, COLOR ORANGE, WITH WARNING AND IDENTIFICATION IMPRINTED IN BOLD BLACK LETTERS CONTINUOUSLY AND REPEATEDLY OVER ENTIRE TAPE LENGTH. WARNING AND IDENTIFICATION SHALL READ "CAUTION BURIED COMMUNICATIONS LINE BELOW". USE PERMANENT CODE AND LETTER COLORING UNAFFECTED BY MOISTURE AND OTHER SUBSTANCES CONTAINED IN BACKFILL MATERIAL.
12. UNDERGROUND CONDUIT VALIDATION – FOLLOWING INSTALLATION OF UNDERGROUND CONDUITS, PERFORM THE FOLLOWING OPERATION FOR EACH CONDUIT: CLEAN, LUBRICATE AND VALIDATE EACH INSTALLED CONDUIT FOR SERVICEABILITY BY RUNNING A FULL SIZE RUBBER DUCT SWAB THROUGH THE CONDUIT FROM END TO END. CONDUITS THAT ARE OBSTRUCTED MAY BE CLEANED USING A WIRE BRUSH MANDREL, THEN REVALIDATED WITH THE FULL SIZE RUBBER DUCT SWAB. CONDUITS THAT DO NOT ALLOW PASSAGE OF THE FULL SIZE RUBBER DUCT SWAB SHALL BE REPLACED.
13. PULL TAPES: AS BACKBONE CABLING RUNS ARE INSTALLED CONDUIT INSTALLER SHALL PROVIDE A CONTINUOUS MARKED PULL TAPE (MULE TAPE WP2500P 2500 LB. TENSILE STRENGTH) FOR THE FULL LENGTH OF THE END-TO-END CABLE RUN WITH 10 FEET OF SLACK AT EACH END PULLED IN ALONGSIDE CABLING. BUNDLE SLACK NEATLY AT EACH END AND TIE OFF TO CONDUIT SUPPORT STRUT AT EACH END. PROVIDE CONTINUOUS FACTORY UNCUT LENGTHS OF PULL TAPE FROM END-TO-END – UNDER NO CIRCUMSTANCES SHALL PULL PARTIAL LENGTH SECTION OF PULL TAPE BE TIED TOGETHER.
14. SPARE CONDUITS: FOR CONDUITS THAT ARE INDICATED AS SPARE, INSTALL A CONTINUOUS MARKED PULL TAPE (CARLON TL382 1800 LB. TENSILE STRENGTH) FOR THE FULL LENGTH OF THE END-TO-END CONDUIT RUN WITH 10 FEET OF SLACK AT EACH END, TIE EACH END OF THE TAPE TO A BLANK DUCT PLUG WITH ROPE TIE TAB, PUSH SLACK TAPE BACK INTO CONDUIT, AND INSTALL A DUCT PLUG IN EACH CONDUIT END FOR A WATERTIGHT SEAL.
15. SEE "HORIZONTAL DIRECTIONAL DRILLING NOTES" THIS SHEETS FOR ADDITIONAL REQUIREMENTS.

GYM 100 NO EXPOSED CONDUIT OR CABLE NOTE

EXPOSED CONDUIT OR CABLE IS NOT ALLOWED IN GYM 100 AND ADJACENT EXPOSED ROOF STRUCTURE AREAS AS FOLLOWS (EXCEPT THAT LIMITED EXPOSED CONDUIT IS ALLOWED IN THE GYM FOR STRUCTURE MOUNTED INTERCOM/PA HORN SPEAKERS).

ALL CONDUIT AND CABLE FOR COMMUNICATIONS OUTLETS, WAPs, EXTERIOR INTERCOM/PA SPEAKERS, SECURITY CAMERAS, SECURE DOORS AND OTHER DEVICES SHOWN MOUNTED IN THE NORTH AND EAST WALLS OF GYM 100, STAGE 102 AND TABLE/CHAIR STORAGE 103 AND IN MECH/ELEC MEZZANINES 201 AND 203 SHALL BE RUN CONCEALED IN WALLS DOWN TO TURN AND RUN UNDERGROUND BELOW SLAB TO SERVING CC. CONDUITS SHALL BE 1" SCHEDULE 80 PVC WITHIN WALLS AND BELOW SLAB. 3/4" CONDUIT SIZES INDICATED IN DETAILS SHOWING CONDUIT AND CABLE RUN ABOVE THE FLOOR SLAY DO NOT APPLY – PROVIDE ALL 1" CONDUITS FOR BURIAL APPLICATIONS. IN SERVING CC TURN CONDUITS UP IN TIGHT RECTANGULAR UNIFORM GROUPING SEPARATED BY SERVICE (DO NOT MIX SYSTEMS) THRU FLOOR SLAB IN LOCATION SHOWN ON ENLARGED CC FLOOR PLAN AND TERMINATE AT 4" A.F.F. WITH END BELL. RUN UNDERGROUND CONDUIT STRAIGHT "AS THE CROW FLIES" FROM POINT OF TURNING DOWN THRU FLOOR SLAB TO RUN UNDERGROUND OVER TO POINT OF TURNING UP IN SERVING CC. THE ONLY BENDS OR CHANGES IN DIRECTION IN EACH UNDERGROUND CONDUIT SHALL BE THOSE TWO 90 DEGREE ELBOWS, AND THOSE ELBOWS SHALL BE SCHEDULE 80 LONG RADIUS. CLEAN, GLUE AND MAKE ALL UNDERGROUND CONDUIT JOINTS WATERTIGHT. ELECTRICAL CONTRACTOR VALIDATE CONTINUITY OF CONDUITS, BLOW OR VACUUM ALL WATER OUT OF CONDUITS, AND INSTALL HEAVY DUTY PULL STRING CONTINUOUS FROM END TO END OF EACH CONDUIT PRIOR TO FLOOR SLAB POUR – ELECTRICAL CONTRACTOR PROVIDE 10' OF HEAVY DUTY PULL STRING SLACK AT EACH END. TEMPORARILY CAP CONDUIT ENDS TO PREVENT ENTRY OF WATER AND DIRT. SUBCONTRACTOR FOR EACH SYSTEM AGAIN BLOW WATER OUT OF CONDUITS PRIOR TO INSTALLING CABLES. SCS: PROVIDE ALL BURIAL GRADE CATEGORY 6 CABLE EXCEPT PROVIDE CATEGORY 6A BURIAL GRADE CABLE FOR WAPS. INTERCOM/PA CONTRACTOR PROVIDE BURIAL GRADE SPEAKER CABLE. ACCESS CONTROL SYSTEM CONTRACTOR PROVIDE BURIAL GRADE ACS CABLE. SEE CC ENLARGED FLOOR PLAN AND 'GENERAL ABOVEGROUND CONDUIT NOTES'.

FREE-ROUTED HORIZONTAL CABLING CONDUIT SLEEVES NOTE

CONDUIT SLEEVES FOR FREE-ROUTED HORIZONTAL CAT 6 AND CAT 6A CABLING: FINAL ROUTING PATHS FOR HORIZONTAL CABLING SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. FOR THIS REASON CONDUIT SLEEVES ARE NOT INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE EMT CONDUIT SLEEVES IN THE QUANTITIES AND LOCATIONS REQUIRED TO SUIT THE CONTRACTOR SELECTED HORIZONTAL CABLE ROUTING AND AS REQUIRED FOR A COMPLETE INSTALLATION, REGARDLESS OF WHETHER THOSE SLEEVES ARE INDICATED ON THE DRAWINGS OR NOT, AND AT NO ADDITIONAL COST TO THE OWNER. AT ALL LOCATIONS WHERE HORIZONTAL CABLING RUNS THRU MECHANICAL OR ELECTRICAL EQUIPMENT ROOMS, STORAGE ROOMS, OR ANY OTHER TYPE OF ROOM WITH EXPOSED STRUCTURE CEILING, ALL SUCH CABLING SHALL BE RUN IN CONTINUOUS CONDUIT SLEEVES EXTENDING TO THE NEAREST ACCESSIBLE LAY-IN CEILING AT BOTH ENDS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES TRAVERSING INACCESSIBLE (HARD) CEILING OR SOFFIT AREAS AND EXTENDING TO THE NEAREST ACCESSIBLE LAY-IN CEILING AT BOTH ENDS FOR CABLE PASS-THRU – PROVIDE ACCESS PANELS IN INACCESSIBLE CEILINGS AS REQUIRED TO INSTALL SLEEVES. SLEEVES SHALL BE SIZED FOR MAXIMUM 30 PERCENT CABLE FILL AND SHALL BE CONSTRUCTED AND PROVIDED WITH PULL BOXES AND ACCESS DOORS PER THE GENERAL ABOVEGROUND CONDUIT NOTES. GENERAL CONTRACTOR PAINT EXPOSED CONDUIT SLEEVES IN ALL FINISHED/OCCUPIED SPACES WITH NO CEILINGS TO MATCH ADJACENT SURFACES.

FREE-ROUTED HORIZONTAL CABLE ROUTING NOTE

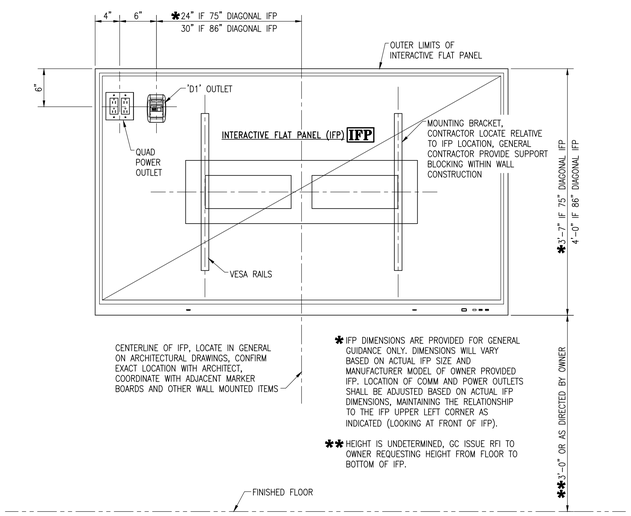
ALL COMMUNICATIONS CABLE NOT SHOWN TO BE INSTALLED IN CONDUIT SHALL BE RUN ABOVE CEILINGS AND SHALL BE ROUTED UP HIGH DIRECTLY UNDER THE BUILDING ROOF STRUCTURE AND PROPERLY SUPPORTED WITH APPROVED HANGERS AT 4'-0" ON CENTER TO THE NEAREST WIRE BASKET CABLE TRAY (SEE 'WIRE BASKET CABLE TRAY NOTES' THIS SHEET). DO NOT RUN CABLES CLOSER THAN 6" BELOW ROOF DECK (TO AVOID DAMAGE FROM LONG SCREWS USED IN FUTURE ROOF REPLACEMENTS). RUN ALL CABLING ABOVE DUCTWORK, PIPING, CONDUITS AND ALL OTHER WORK BY OTHER TRADES AND PLACE FOR MAXIMUM PHYSICAL PROTECTION. BUNDLE CABLES TOGETHER AND ROUTE PARALLEL AND PERPENDICULAR TO BUILDING LINES. HANGERS SHALL BE ERICO CADDY "CABLECAT" CATEGORY-5 WITH WIDE BASE LOOP. SEE "CATEGORY 6 & CATEGORY 6A CABLE J-HOOK SCHEDULE" FOR MINIMUM J-HOOK SIZES AND MAXIMUM CABLE BUNDLE CABLE REQUIREMENTS. BUNDLE CABLES AT 4'-0" O.C. WITH VELCRO, COLOR BLUE FOR CATEGORY 6 CABLES AND COLOR RED FOR CATEGORY 6A WAP CABLES. ATTACH HANGERS TO THE BUILDING STRUCTURE. DO NOT ATTACH HANGERS TO CEILING GRID OR SUPPORT WIRES, CONDUITS, DUCTWORK, PIPING, OR ANY OTHER SYSTEM COMPONENT OR WORK OF OTHER TRADES. INSTALL CABLES TO AVOID ELECTROMAGNETIC INTERFERENCE FROM MOTORS, TRANSFORMERS, GENERATORS, ELEVATORS, POWER CABLES/CONDUITS, LIGHTING FIXTURES, ETC. DO NOT ROUTE CABLE THRU FIRE DAMPERS, HVAC DUCTS, VENTILATING SHAFTS, OR GRATES. DO NOT BLOCK ACCESS TO PULL/JUNCTION BOXES, HATCHES, DOORS, UTILITY ACCESS PANELS, MECHANICAL SERVICE AREAS, ELECTRICAL SERVICE AREAS, OR ANY OTHER SPACE ASSOCIATED WITH SERVICE OR ACCESS OF ANY TYPE. DO NOT RUN HORIZONTAL CABLING ABOVE CEILINGS OF CHEMICAL STORAGE ROOMS.

DUST CONTROL NOTE !

THE GENERAL CONTRACTOR AND THE STRUCTURED CABLING SYSTEM CONTRACTOR SHALL SHARE FULL RESPONSIBILITY FOR PROTECTING ALL COMMUNICATIONS OUTLETS AND THE CER/CC FROM DUST AND DEBRIS DURING CONSTRUCTION AND UNTIL FINAL COMPLETION OF THE PROJECT. THE SCS SHALL NOT INSTALL WIRE MANAGERS, PATCH PANELS, OR DRESS OUT AND TERMINATE CABLES UNTIL THE CC ARE COMPLETELY ISOLATED FROM DUST INFILTRATION WITH PLASTIC SHEETING AND DUCT TAPE. ALL COS JACKS SHALL BE PROTECTED BY BAGGING AND SEALING DUST TIGHT AT ALL TIMES AFTER CONNECTIVITY DEVICES ARE INSTALLED. ALL SYSTEM COMPONENTS THAT, IN THE SOLE JUDGMENT OF THE ENGINEER, ARE EXPOSED TO EXCESSIVE ACCUMULATION OF CONSTRUCTION DUST/DEBRIS AT ANY STAGE OF THE PROJECT SHALL BE REMOVED AND REPLACED WITH NEW COMPONENTS AT NO ADDITIONAL COST TO THE OWNER.

USE OF SCS FACILITIES BY BY OTHER TRADES

CC:	THE CC WITH ALL RELATED SPACE, BACKBOARDS, CABLE RUNWAY, ETC. ARE DEDICATED TO STRUCTURED CABLING SYSTEM COMPONENTS ONLY AND SHALL NOT BE USED IN ANY WAY BY ANY OTHER TRADE WITH THE EXCEPTION OF ELECTRICAL POWER AND HVAC WORK SPECIFICALLY ASSOCIATED WITH THAT SPACE.
J-HOOKS:	CATEGORY 5 J-HOOKS INDICATED ON 'TEL' DRAWINGS ARE DEDICATED TO

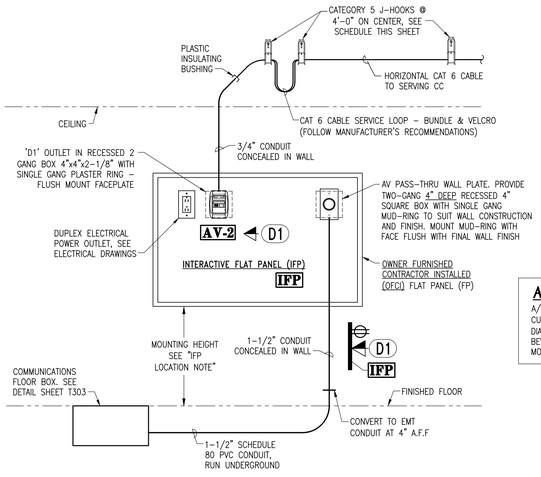


INTERACTIVE FLAT PANEL DIMENSIONAL MOUNTING DETAIL

NOT TO SCALE

IFP OWNER FURNISHED CONTRACTOR INSTALLED (OFCI) NOTES:

1. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION FOR EACH IFP BASED ON CENTERLINE IN PLAN VIEW AND HEIGHT WITH THE ARCHITECT AND THE OWNER'S PROJECT MANAGER. THE GENERAL CONTRACTOR SHALL PROVIDE SUPPORT BLOCKING FOR IFPs AT FRAMED OR OTHER NON-SUPPORTING WALL TYPE.
2. THE CONTRACTOR SHALL PROVIDE COMMUNICATIONS OUTLET AND POWER RECEPTACLE CONCEALED BEHIND EACH IFP BASED ON THE LOCATION DETERMINED IN STEP 1 AND THE IFP DIMENSIONAL MOUNTING DETAIL THIS SHEET.
3. THE OWNER WILL FURNISH THE IFPs WITH FACTORY SUPPLIED MATCHING WALL MOUNT BRACKETS FOR INSTALLATION BY THE CONTRACTOR.
4. THE OWNER WILL SETUP THE IFP.



FLUSH MOUNT 'D1' OUTLET A/V PASS-THRU AND QUAD POWER AT 'IFP' MOUNTING DETAIL - CONFERENCE ROOM 110

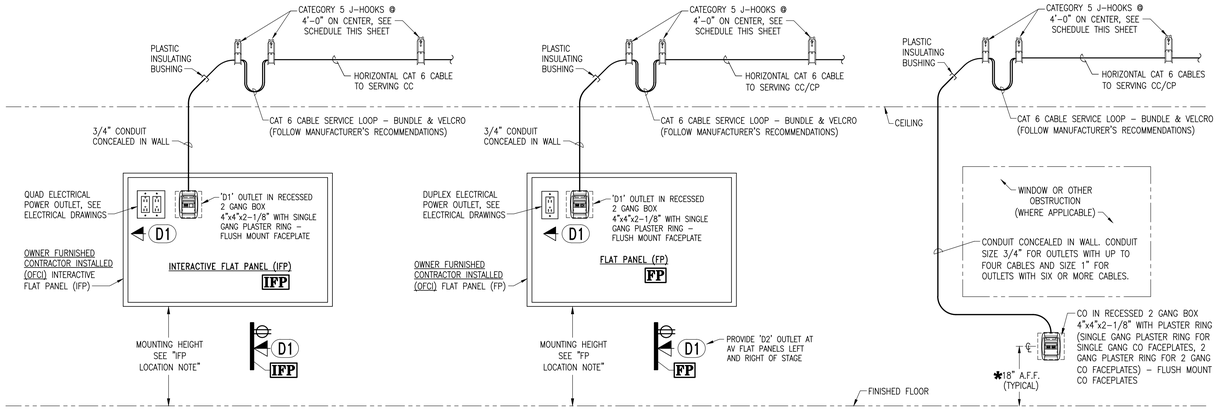
NOT TO SCALE

FP LOCATION NOTE:

LOCATE FLAT PANELS IN GENERAL ON ARCHITECTURAL DRAWINGS. CONFIRM EXACT LOCATION WITH ARCHITECT, COORDINATE WITH ADJACENT MARKER BOARDS AND OTHER WALL MOUNTED ITEMS.

A/V PASS-THRU PLATE

A/V WALL PLATE (PASS-THRU) SHALL BE RCI CUSTOM 'AL118BK' ONE-GANG PLATE WITH 2" DIAMETER GROMMET, 1/8 THICK T6 ALUMINUM, BEVELED EDGES, BLACK ANODIZED FINISH. MOUNT USING FACTORY BLACK SCREWS.



TYPICAL FLUSH MOUNT 'D1' OUTLET AND QUAD POWER AT 'IFP' MOUNTING DETAIL

NOT TO SCALE

IFP LOCATION NOTE:

LOCATE INTERACTIVE FLAT PANELS IN GENERAL ON ARCHITECTURAL DRAWINGS. CONFIRM EXACT LOCATION WITH ARCHITECT, COORDINATE WITH ADJACENT MARKER BOARDS AND OTHER WALL MOUNTED ITEMS.

TYPICAL FLUSH MOUNT 'D1' OUTLET AND DUPLEX POWER AT 'FP' MOUNTING DETAIL

NOT TO SCALE

FP LOCATION NOTE:

PRIOR TO INSTALLING FPs, ASSOCIATED CONDUITS AND POWER OBTAIN PLAN AND MOUNTING HEIGHT DIMENSIONS FROM OWNER AND ARCHITECT FOR FP PLACEMENT. DO NOT SCALE FP LOCATIONS FROM 'T' DRAWINGS OR ANY OTHER DRAWINGS. REQUEST INFORMATION THRU GENERAL CONTRACTOR IN WRITING.

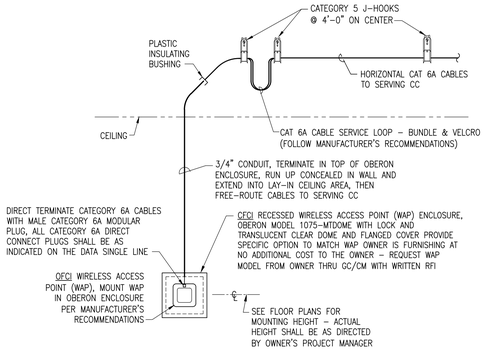
*NOTES:

1) COMMUNICATIONS OUTLET (CO) MOUNTING HEIGHT MAY VARY AT CABINETS OR CASEWORK. LOCATE AND MOUNT CO's AS DIRECTED BY ARCHITECT IN FIELD. MATCH HEIGHT OF ADJACENT ELECTRICAL POWER OUTLETS.
2) MOUNTING HEIGHT OF COMMUNICATIONS OUTLET (CO) SHOWN TO BE MOUNTED ABOVE COUNTER (AC) SHALL BE COORDINATED WITH THE ARCHITECT AND THE GENERAL CONTRACTOR IN THE FIELD PRIOR TO ROUGH-IN.
3) REFER TO ARCHITECTURAL DRAWINGS INTERIOR ELEVATIONS FOR CASEWORK DRAWINGS.

TYPICAL FLUSH MOUNT COMMUNICATIONS OUTLET (CO) MOUNTING DETAIL

NOT TO SCALE

D2 D4 D6



WALL MOUNT WIRELESS ACCESS POINT (WAP) IN GYM MOUNTING DETAIL

NOT TO SCALE

WAP WALL

CATEGORY 6 & CATEGORY 6A CABLE J-HOOK SCHEDULE

J-HOOK SIZE, ERICO CADDY CAT HP SERIES PART #	MAXIMUM BUNDLE SIZE (NUMBER OF CABLES)		NOTES
	CATEGORY 6	CATEGORY 6A	
CAT32HP	24	24	NOTES 1, 2, 3

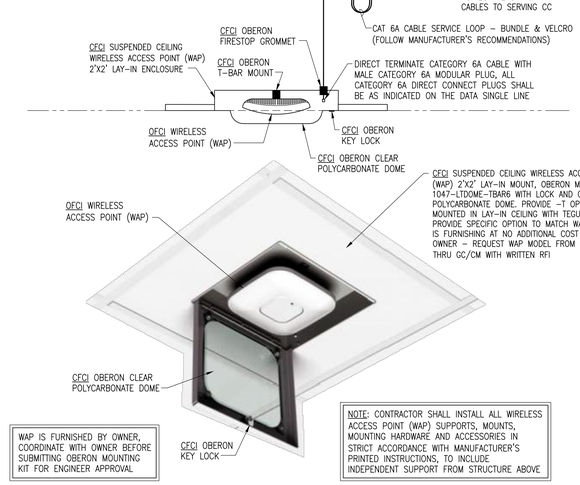
NOTES:

1. USE CADDY CAT32HP SIZE J-HOOKS FOR ALL CABLE TYPES AND APPLICATIONS.
2. LIMIT BUNDLE SIZE TO 24 CABLES MAXIMUM FOR ALL CABLE TYPES AND APPLICATIONS.
3. ALWAYS RUN CAT 6 CABLES AND CAT 6A CABLES IN SEPARATE CABLE BUNDLES, J-HOOKS AND SLEEVES.

ATTACHMENT NOTES

ALL ATTACHMENTS SHALL BE MADE WITH HIGH STRENGTH/HIGH LOAD COMMERCIAL GRADE FASTENERS. ALL FASTENERS AND MISCELLANEOUS RELATED HARDWARE SHALL BE STAINLESS STEEL. TAP-CONS OR RAM-SET TYPE FASTENERS ARE NOT ALLOWABLE. ATTACHMENTS AT VARIOUS BUILDING WALL CONSTRUCTIONS SHALL BE AS FOLLOWS AS A MINIMUM REQUIREMENT, COMPLY WITH MORE STRINGENT FASTENER SPECIFICATIONS WHEN REQUIRED BY THE LOADING APPLICATION OR RECOMMENDED BY THE MANUFACTURER OF EACH SYSTEM COMPONENT:

1. AT FRAMED WALLS WITH GYP BOARD FINISH OR AT OPEN BLOCK CELLS OF CMU WALLS PROVIDE TOGGLER 'SNAP-TOGGLE' TOGGLE BOLTS. AT FRAMED WALLS FASTENERS SHALL BE PLACED AT STUDS.
2. AT BRICK WALLS, BLOCK WEBS AND FILLED CELLS OF CMU WALLS, AND AT CONCRETE WALLS, PROVIDE COMMERCIAL GRADE HIGH LOAD EXPANSION ANCHORS SUCH AS TOGGLER 'ALLIGATOR' SOLID-WALL ANCHORS WITH STAINLESS STEEL FASTENERS.
3. FASTENERS SHALL BE FULL SIZE OF FASTENER HOLES/OPENING IN EQUIPMENT TO BE SECURED (ALLOWING FOR STANDARD CLEARANCES - FASTENERS SIZE 1/16" LESS THAN HOLE SIZE).



WAP IS FURNISHED BY OWNER, COORDINATE WITH OWNER BEFORE SUBMITTING OBERON MOUNTING KIT FOR ENGINEER APPROVAL

NOTE: CONTRACTOR SHALL INSTALL ALL WIRELESS ACCESS POINT (WAP) SUPPORTS, MOUNTS, MOUNTING HARDWARE AND ACCESSORIES IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS, TO INCLUDE INDEPENDENT SUPPORT FROM STRUCTURE ABOVE

LAY-IN CEILING RECESSED MOUNT WIRELESS ACCESS POINT (WAP) MOUNTING DETAILS

NOT TO SCALE

WAP

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100% CONSTRUCTION DOCUMENTS

BICSI Gregory A. Cook BICSI ID # 104998 EXPIRES 12-31-27 RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

COMMUNICATIONS TYPICAL DETAILS

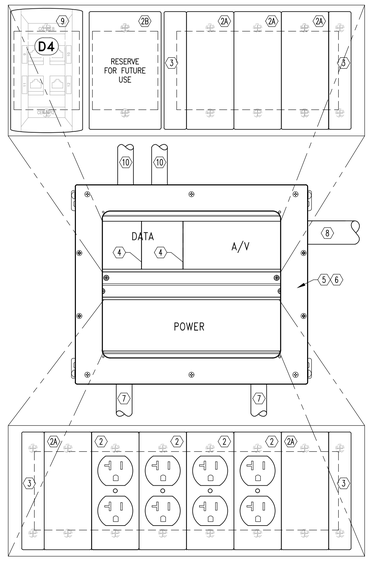
PROJECT NUMBER	22019
DATED	01/31/2025

T302

Premier Engineering Group, LLC
2425 W. Nine Mile Road, Suite 2 Pensacola, Florida 32534
Florida Certificate of Authorization #9308
Phone: (850) 469-0465 Fax: (850) 432-0995
Premier Project #220124

WIREMOLD RFB11 FLOOR BOX REPLACEMENT MODEL

THE WIREMOLD RFB11-OG FLOOR BOX SPECIFIED THIS SHEET HAS BEEN OBSOLETED BY THE MANUFACTURER. INSTEAD PROVIDE WIREMOLD RFBA10R FLOOR BOX WITH EQUIVALENT FEATURES, FITTINGS AND CONDUIT CONNECTORS. OPTIONALLY PROVIDE FSR (WWW.FSRINC.COM) MODEL FL-600P-6-B FLOOR BOX BOTTOM WITH STEEL CONSTRUCTION COVER, CONCRETE POUR PLAN AND FACTORY FINISH COVER. COVER SHALL BE UL LISTED SCRUB WATER RATED FOR TILE AND CARPET INSTALLATIONS. COVER STYLE AND FINISH SHALL BE SELECTED BY THE ARCHITECT AND SHALL BE ANY FACTORY OPTION FOR COVER STYLES 1, 2, 3, 4 OR 5. IF THE ARCHITECTS SELECT STYLE 1, 2 OR 3 WITH INSET FOR FLOORING THE GC SHALL PROVIDE FLOORING MATERIAL TO FILL THE INSET, THICKNESS AS REQUIRED TO MAKE FINISH FLUSH WITH TOP OF FLANGE AND FLUSH WITH THE SURROUNDING FLOOR FINISH. FOR PRODUCT SUBMITTALS THE MANUFACTURER'S REP SHALL PROVIDE A SUBMITTAL PACKAGE FOR THE CONTRACTOR THAT INCLUDE COMPLETE DATASHEETS WITH ALL COMPONENTS HIGHLIGHTED OR OTHERWISE IDENIFIED.



FLOOR BOX KEY NOTES:

1. BY ELECTRICAL CONTRACTOR: RECTANGULAR 11-GANG ON GRADE FLOOR BOX, WIREMOLD RFB11-OG. PROVIDE WITH FLANGED COVER AND DEVICE PLATES.

   INSTALL FLOOR BOX IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND AS FOLLOWS:

   SET FLOOR BOX ON TOP OF VAPOR BARRIER AND LEVEL WHILE MAINTAINING FULL SLAB THICKNESS BELOW AND AROUND FLOOR BOX. INSTALL FACTORY FURNISHED MUDCAP TO PREVENT ENTRY OF CONCRETE DURING POUR. SET TOP EDGE OF BOX FLUSH WITH TOP OF THE CONCRETE SLAB (COORDINATE WITH GENERAL CONTRACTOR).

   COMPLETE INSTALLATION OF DEVICES PER NOTES FOLLOWING.

2. BY ELECTRICAL CONTRACTOR: WIREMOLD RFB119-SD SECTIONAL ONE-GANG DUPLEX RECEPTACLE DEVICE PLATE WITH DUPLEX POWER RECEPTACLE, QUANTITY AS INDICATED ON ELECTRICAL DRAWINGS. PROVIDE WIREMOLD RFB119-SB SECTIONAL BLANK DEVICE PLATE WHERE NUMBER OF DEVICES IN FLOOR BOX INDICATED ON ELECTRICAL DRAWINGS IS LESS THAN THAT INDICATED ON THIS DETAIL.

2A. BY ELECTRICAL CONTRACTOR: WIREMOLD RFB119-B STANDARD WIDTH ONE-GANG BLANK OR RFB119-SB SECTIONAL ONE-GANG BLANK TO SUIT. PROVIDE FOR ALL UNUSED SPACES.

2B. BY ELECTRICAL CONTRACTOR: WIREMOLD RFB119-2SB SECTIONAL TWO-GANG BLANK.

3. BY ELECTRICAL CONTRACTOR: WIREMOLD RFB119-SPACER.

4. BY ELECTRICAL CONTRACTOR: WIREMOLD FACTORY POWER/COMMUNICATIONS PARTITION PLATE PER NEC.

5. BY ELECTRICAL CONTRACTOR: FLOOR BOX FLANGED COVER WITH FLOOR INSERT TO MATCH FLOORING, WIREMOLD RFB119CTCAL FOR CARPET, WIREMOLD RFB119BTCAL FOR TERRAZZO, TILE AND WOOD FLOORS. GENERAL CONTRACTOR PROVIDE SECTION OF FLOOR FINISH IN COVER INSET.

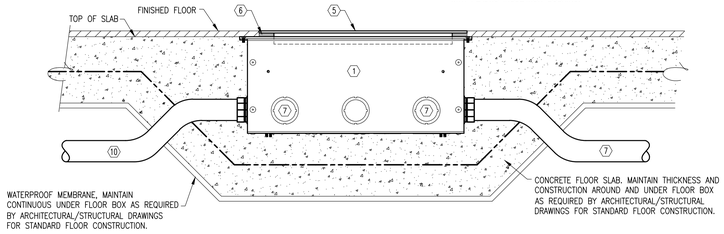
6. BY ELECTRICAL CONTRACTOR: PROVIDE SPACERS AS REQUIRED FOR FLOORING TYPE GREATER THAN 1/4" THICK, WIREMOLD RFB119-PAN AND RFB119-TS FOR TERRAZZO, WIREMOLD RFB119-TS FOR WOOD AND TILE. PROVIDE MULTIPLE QUANTITY OF SPACERS AS REQUIRED TO SET TOP SURFACE OF COVER ASSEMBLY FLUSH WITH FINISHED FLOOR SURFACE.

7. BY ELECTRICAL CONTRACTOR: PROVIDE QUANTITY AND SIZE OF POWER CONDUITS WITH WATERTIGHT FITTINGS INDICATED ON ELECTRICAL DRAWINGS AND SPECIFICATIONS.

8. BY ELECTRICAL CONTRACTOR: PROVIDE ONE 1-1/2" SCHEDULE 80 PVC CONDUIT, RUN CONDUIT UNDERGROUND TO INTERACTIVE FLAT PANEL WALL, TURN CONDUIT UP CONCEALED IN WALL AND CONVERT TO EMT AT 4" A.F.F, THEN EXTEND CONDUIT UP CONCEALED IN WALL AND TERMINATE ON WALL BOX FOR AV PASS-THRU PLATE BEHIND INTERACTIVE FLAT PANEL. SEE "FLUSH MOUNT 'D1' OUTLET, A/V PASS-THRU AND QUAD POWER AT 'IFP' MOUNTING DETAIL – CONFERENCE ROOM 110" SHEET T302.

9. BY STRUCTURED CABLING SYSTEM CONTRACTOR: STANDARD 'D4' COMMUNICATION OUTLET. SEE FACEPLATE DETAILS. ALL CABLING RUN IN UNDERGROUND CONDUITS SHALL BE GEL FILLED BURIAL GRADE AS NOTED ON THE CATEGORY 6 CABLING SCHEDULE ON THE VOICE AND DATA SINGLE LINE DIAGRAMS.

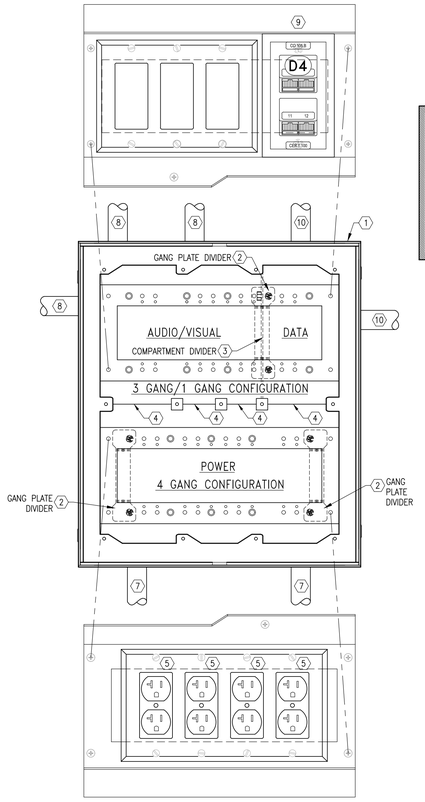
10. BY ELECTRICAL CONTRACTOR: PROVIDE TWO 1" COMMUNICATIONS CONDUITS (ONE EMPTY CONDUIT W/PULLSTRING AND ONE USED). RUN SCHDULE 80 PVC CONDUITS UNDER FLOOR, TURN UP CONCEALED IN WALL AND CONVERT TO EMT AT 4" A.F.F, THEN EXTEND UP IN WALL, RUN CONCEALED TO ACCESSIBLE LAY-IN CEILING AND TERMINATE WITH PLASTIC INSULATION BUSHING.



COMMUNICATIONS FLOOR BOX DETAIL

NOT TO SCALE (AT CONFERENCE ROOM 110)

FB AV D4 = 4 CAT 6 JACKS IN ONE 'D4' CO + AV + POWER



GYM FLOOR BOX FINISH NOTE:

GENERAL CONTRACTOR COORDINATE WORK OF FLOOR FINISH PROVIDER TO INSTALL FLOOR FINISH MATCHING ADJACENT SURFACES INSET INTO FLOOR BOX COVER CAVITY FOR TILE/STONE/WOOD AND CARPETED FLOORS. THE FLOOR BOX MANUFACTURERS HAVE DIFFERENT TYPES OF COVERS FOR EACH TYPE OF FLOOR FINISH – THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE REQUIRED FLOOR BOX COVER FOR EACH AREA BASED ON FLOOR FINISH. FINAL HEIGHT OF HIGH LOAD FLOOR BOXES AND LARGE FLOOR BOXES IN TILE/STONE/WOOD FLOOR AREAS AT TOP OF COVER AND INSET FINISH SHALL BE ABSOULUTELY FLUSH WITH TOP OF SURROUNDING FLOOR FINISH. COVER FLANGE OF LARGE FLOOR BOXES IN CARPETED AREAS SHALL SIT ON TOP OF SURROUNDING CARPET AND CARPET SHALL BE FLUSH WITH TOP OF COVER FLANGE.

HIGH LOAD CAPACITY GYM FLOOR BOX KEY NOTES:

1. BY ELECTRICAL CONTRACTOR: HIGH LOAD CAPACITY RECTANGULAR 8-GANG FLOOR BOX, FSR FLH20 WITH RECESSED COVER FOR WOOD FLOOR INSERT. GENERAL CONTRACTOR COORDINATE WITH BOX MANUFACTURER AND ELECTRICAL CONTRACTOR TO SELECT COVER WITH RECESS DEPTH AND PERIMETER WALL THICKNESS DIMENSION TO SUIT WOOD FLOOR INSERT – BOTH DIMENSIONS ARE FACTORY OPTIONS. GENERAL CONTRACTOR PROVIDE WOOD FLOOR INSERT IN COVER RECESS TO MATCH GYM FLOOR.

   INSTALL FLOOR BOX IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. SEE DETAIL THIS SHEET. INSTALL FACTORY FURNISHED MUDCAP TO PREVENT ENTRY OF CONCRETE DURING POUR. COORDINATE WITH GENERAL CONTRACTOR.

   COMPLETE INSTALLATION OF DEVICES PER NOTES FOLLOWING.

2. BY ELECTRICAL CONTRACTOR: FACTORY GANG PLATE DIVIDER.

3. BY ELECTRICAL CONTRACTOR: FACTORY COMPARTMENT DIVIDER.

4. BY ELECTRICAL CONTRACTOR: FACTORY CENTER DIVIDER.

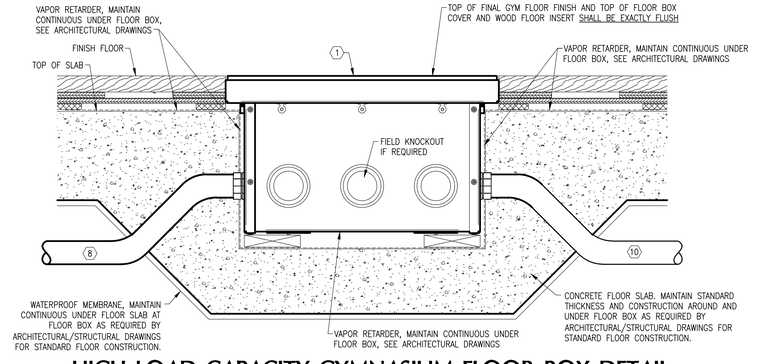
5. ELECTRICAL POWER RECEPTACLES, SEE ELECTRICAL DRAWINGS.

7. BY ELECTRICAL CONTRACTOR: PROVIDE QUANTITY AND SIZE OF POWER CONDUITS WITH WATERTIGHT FITTINGS INDICATED ON ELECTRICAL DRAWINGS AND SPECIFICATIONS.

8. BY ELECTRICAL CONTRACTOR: PROVIDE QUANTITY AND SIZE OF A/V CONDUITS WITH WATERTIGHT FITTINGS INDICATED ON A/V DRAWINGS. TERMINATE IN A/V SECTION OF FLOOR BOX.

9. BY STRUCTURED CABLING SYSTEM CONTRACTOR: STANDARD 'D4' COMMUNICATION OUTLET. SEE FACEPLATE DETAILS.

10. BY ELECTRICAL CONTRACTOR: PROVIDE ONE 1" COMMUNICATIONS HOMERUN CONDUIT FOR EACH 'D4' OUTLET INDICATED ON PLAN PLUS ONE 1" EMPTY CONDUIT W/PULLSTRING. RUN MINIMUM OF TWO 1" SCHEDULE 80 PVC CONDUITS – RUN CONDUITS UNDERGROUND TO SERVING CC AND TERMINATE AT 4" A.F.F. WITH END BELL. SEE "GENERAL ABOVEGROUND CONDUIT NOTES."



HIGH LOAD CAPACITY GYMNASIUM FLOOR BOX DETAIL

NOT TO SCALE (AT SCORER'S TABLE)

GFB AV D4 = 4 CAT 6 JACKS IN ONE 'D4' CO + AV + POWER

UNDERGROUND CONDUITS - WATERTIGHT REQUIREMENTS

ALL UNDERGROUND CONDUITS FOR COMMUNICATIONS AND AUDIO-VISUAL CABLING SERVED BY FLOOR BOXES SHALL BE SCHEDULE 80 PVC, SHALL HAVE CONDUIT ENTRY INTO FLOOR BOXES SEALED WITH LEXEL CAULK/ADHESIVE, AND SHALL OTHERWISE BE MADE FULLY WATERTIGHT TO PROTECT THE CABLES FROM WATER INTRUSION.

NO CABLES SHALL BE INSTALLED IN THE UNDERGROUND CONDUITS UNTIL THE ENTIRE BUILDING IS UNDER ROOF, FULLY ENCLOSED AND AIR CONDITIONED, AT WHICH TIME THE CONDUIT SHALL BE VACUUMED BY THE ELECTRICAL CONTRACTOR TO REMOVE ALL WATER AND THE CONDUITS LEFT TO DRY COMPLETELY.

AT THAT POINT THE STRUCTURED CABLING SYSTEM CONTRACTOR SHALL VACUUM THE CONDUITS A SECOND TIME TO VERIFY THAT ALL WATER HAS BEEN REMOVED BEFORE INSTALLING ANY CABLES. CABLES PULLED INTO CONDUITS CONTAINING WATER OR CABLES INSTALLED IN CONDUITS FOUND TO CONTAIN WATER FOLLOWING THE CABLE INSTALLATION SHALL BE REMOVED AND REPLACED WITH NEW AT NO COST TO THE OWNER.

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100% CONSTRUCTION DOCUMENTS

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EXPIRES 12-31-27
RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

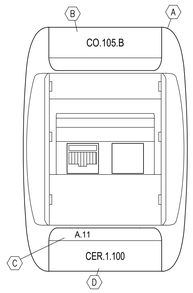
REVISIONS:

No.	Description	Date

COMMUNICATIONS TYPICAL FLOOR BOX DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

T303



TYPE "D1" CO KEY NOTES:

(A) SINGLE GANG FACEPLATE, COLOR ELECTRIC WHITE, BELDEN AX101747. PROVIDE WITH FACTORY CLEAR TOP LABEL COVER AND ADDITIONAL BELDEN AX101773 CLEAR BOTTOM LABEL COVER. PROVIDE WITH ONE 2 PORT ANGLED INSERT COLOR ELECTRIC WHITE, BELDEN AX102413, ONE TIA CATEGORY 6+ 8-PIN MODULAR JACK, COLOR ELECTRIC WHITE, BELDEN REVCONNECT RV6MJKUEW, AND ONE BLANK JACK COVER. PROVIDE WITH ONE BELDEN AX101759 1-UNIT FILLER INSERT AND ONE BELDEN AX101763 2-UNIT FILLER INSERT, BOTH COLOR ELECTRIC WHITE.

(B) LASER PRINTED LABEL INDICATING OUTLET IDENTIFIER – SEE "CO IDENTIFICATION NOMENCLATURE". TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

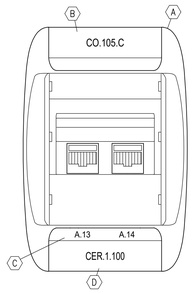
(C) LASER PRINTED LABEL INDICATING SERVING HORIZONTAL PATCH PANEL ALPHA IDENTIFIER AND JACK PORT NUMBER – SEE "CO IDENTIFICATION NOMENCLATURE". TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

(D) LASER PRINTED LABEL INDICATING SERVING CER. TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

TYPE "D1" COMMUNICATIONS OUTLET (CO)

NOT TO SCALE

(D1 = ONE DATA) ◀ D1



TYPE "D1ITV" CO KEY NOTES:

(A) SINGLE GANG FACEPLATE, COLOR ELECTRIC WHITE, BELDEN AX101747. PROVIDE WITH FACTORY CLEAR TOP LABEL COVER AND ADDITIONAL BELDEN AX101773 CLEAR BOTTOM LABEL COVER. PROVIDE WITH ONE 2 PORT ANGLED INSERT, COLOR ELECTRIC WHITE, BELDEN AX102413 AND TWO TIA CATEGORY 6+ 8-PIN MODULAR JACKS, COLOR ELECTRIC WHITE, BELDEN REVCONNECT RV6MJKUEW. PROVIDE WITH ONE BELDEN AX101759 1-UNIT FILLER INSERT AND ONE BELDEN AX101763 2-UNIT FILLER INSERT, BOTH COLOR ELECTRIC WHITE.

(B) LASER PRINTED LABEL INDICATING OUTLET IDENTIFIER – SEE "CO IDENTIFICATION NOMENCLATURE". TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

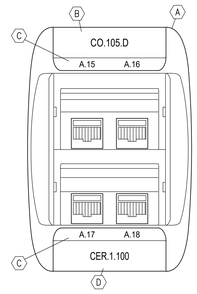
(C) LASER PRINTED LABEL INDICATING ITV, SERVING HORIZONTAL PATCH PANEL ALPHA IDENTIFIER AND JACK PORT NUMBER – SEE "CO IDENTIFICATION NOMENCLATURE". TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

(D) LASER PRINTED LABEL INDICATING SERVING CER. TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

TYPE "D2" COMMUNICATIONS OUTLET (CO)

NOT TO SCALE

(D2 = TWO DATA/VOICE) ◀ D2



TYPE "D4" CO KEY NOTES:

(A) SINGLE GANG FACEPLATE, COLOR ELECTRIC WHITE, BELDEN AX101747. PROVIDE WITH FACTORY CLEAR TOP LABEL COVER AND ADDITIONAL BELDEN AX101773 CLEAR BOTTOM LABEL COVER. PROVIDE WITH TWO 2 PORT ANGLED INSERTS, COLOR ELECTRIC WHITE, BELDEN AX102413 AND FOUR TIA CATEGORY 6+ 8-PIN MODULAR JACKS, COLOR ELECTRIC WHITE, BELDEN REVCONNECT RV6MJKUEW.

(B) LASER PRINTED LABEL INDICATING OUTLET IDENTIFIER – SEE "CO IDENTIFICATION NOMENCLATURE". TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

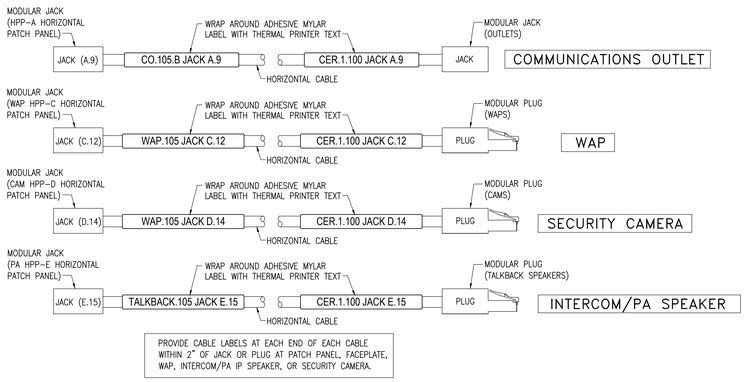
(C) LASER PRINTED LABEL INDICATING SERVING HORIZONTAL PATCH PANEL ALPHA IDENTIFIER AND JACK PORT NUMBERS – SEE "CO IDENTIFICATION NOMENCLATURE". TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

(D) LASER PRINTED LABEL INDICATING SERVING CER. TEXT SHALL BE MINIMUM 12 POINT ARIAL NARROW FONT.

TYPE "D4" COMMUNICATIONS OUTLET (CO)

NOT TO SCALE

(D4 = FOUR DATA/VOICE) ◀ D4



PROVIDE CABLE LABELS AT EACH END OF EACH CABLE WITHIN 2" OF JACK OR PLUG AT PATCH PANEL, FACEPLATE, WAP, INTERCOM/PA IP SPEAKER, OR SECURITY CAMERA.

HORIZONTAL CABLE IDENTIFIER LABELS

NOT TO SCALE

CATEGORY 6 and 6A HORIZONTAL PATCH PANEL TERMINATION/LABELING REQUIREMENTS

HORIZONTAL PATCH PANEL I.D. NOMENCLATURE

CER.1.100.A
- HORIZONTAL PATCH PANEL IDENTIFIER
- CER NUMBER

CER.1.100.A INDICATES THE FIRST HORIZONTAL PATCH PANEL IN CER.1.100 (LETTER PATCH PANELS BEGINNING WITH 'A' TOP TO BOTTOM AND LEFT TO RIGHT)

1) TERMINATE CATEGORY 6 HORIZONTAL CABLING ON HORIZONTAL PATCH PANELS IN NUMERICAL ORDER BY ROOM NUMBER. REFER TO FLOOR PLANS FOR ROOM NUMBER AND LOCATION. TERMINATE JACKS FOR EACH 'CO' SEQUENTIALLY IN ORDER OF ASSIGNED PATCH PANEL PORT NUMBER.

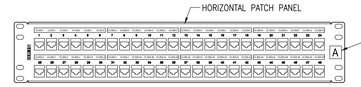
2) PROVIDE OVERALL IDENTIFICATION TAG FOR EACH HORIZONTAL PATCH PANEL IN ACCORDANCE WITH "HORIZONTAL PATCH PANEL I.D. NOMENCLATURE". TAG CONSTRUCTION AND LAYOUT SHALL BE PER "TYPICAL HORIZONTAL PATCH PANEL LAMINATED I.D. TAG DETAIL".

3) PROVIDE ENGRAVED TAG FOR EACH HORIZONTAL PATCH PANEL INDICATING LETTER IDENTIFIER. SEE "TYPICAL HPP ENGRAVED TAG DETAIL."

HORIZONTAL PATCH PANEL PORT NUMBER IDENTIFICATION

A.12
- PATCH PANEL CONSECUTIVE PORT NUMBER
- PATCH PANEL IDENTIFIER

A.12 INDICATES 'CO' OUTLET TERMINATED ON PATCH PANEL 'A' PORT 12.

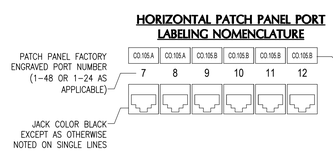


ENGRAVED PLASTIC TAG WITH 1/2" HIGH WHITE LETTER ON BLACK BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH, SECURE TAG WITH DOUBLE SIDED TAPE ON FAR RIGHT SIDE OF PATCH PANEL FRONT FACE. SEE DETAIL THIS SHEET

TYPICAL HPP ENGRAVED TAG DETAIL

NOT TO SCALE

HORIZONTAL PATCH PANEL PORT LABELING NOMENCLATURE

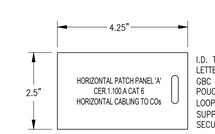


LASER PRINTED LABEL INSIDE FACTORY LABEL HOLDER – PRINT WITH ROOM NUMBER AND OUTLET IDENTIFIER IN WHICH OUTLET IS LOCATED.

NOTE: FOR INTERCOM/PA PATCH PANELS, THE NOMENCLATURE SHALL MATCH THE SPEAKER IDENTIFIER LABEL, NOT STANDARD 'CO' LABELING.

NOTE: FOR WAP PATCH PANELS, REPLACE 'CO' WITH 'WAP'.

NOTE: FOR CAM PATCH PANELS, REPLACE 'CO' WITH 'CAM'.

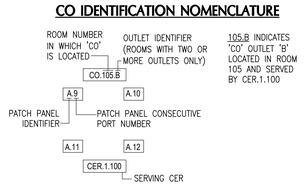


I.D. TAG WITH 0.15" HIGH BLACK LETTERS ON WHITE BACKGROUND. GBC "DOCUSEAL" LAMINATING POUCH, LUGGAGE TAG SIZE WITH LOOP (AVAILABLE FROM OFFICE SUPPLY STORES). USE LOOP TO SECURE TO PROTECTOR.

TYPICAL HORIZONTAL PATCH PANEL LAMINATED I.D. TAG DETAIL

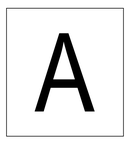
NOT TO SCALE

CO IDENTIFICATION NOMENCLATURE



105.B INDICATES 'CO' OUTLET 'B' LOCATED IN ROOM 105 AND SERVED BY CER.1.100

ENGRAVED PLASTIC TAG WITH 1/2" HIGH WHITE LETTER ON BLACK BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH, SECURE TAG WITH DOUBLE SIDED TAPE ON FAR RIGHT SIDE OF PATCH PANEL FRONT FACE



TYPICAL HORIZONTAL PATCH PANEL ENGRAVED TAG DETAIL

NOT TO SCALE

SEE "COMMUNICATIONS TYPICAL LABELING DETAILS"

GENERAL LABELING NOTES:

1. ROOM NUMBERS INDICATED THIS SHEET TO INCLUDE COMMUNICATIONS ROOM NUMBERS ARE PROTOTYPICAL TO INDICATE REQUIRED LABELING METHODS AND ARE NOT BASED ON ACTUAL ROOM NUMBERS FOR THIS PROJECT.
2. ALL LABELS SHALL BE BASED ON THE FINAL FLORIDA INVENTORY OF SCHOOL HOUSES ("FISH") ACTUAL ROOM NUMBERS. OBTAIN FINAL "FISH" ROOM NUMBERS FROM THE ARCHITECT PRIOR TO LABELING.
3. ALL LABELS FOR COMMUNICATIONS OUTLETS AND HORIZONTAL PATCH PANELS SHALL BE PRODUCED USING FACTORY NON-ADHESIVE LABEL SHEETS FOR LASER PRINTERS MANUFACTURED FOR THE SPECIFIC DEVICE AND USING LABELING SOFTWARE PROVIDED BY MANUFACTURER'S REPRESENTATIVE.
4. ALL LABELS SHALL BE HEIGHT OF PLASTIC LABEL HOLDERS AND SAME HEIGHT AND WIDTH AS INDIVIDUAL PAPER LABELS FACTORY FURNISHED WITH THE COMMUNICATIONS OUTLETS OR PATCH PANEL LABEL HOLDERS (LABELS SHALL COMPLETELY FILL PLASTIC LABEL HOLDERS).
5. ALL LABELS SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL MANNER, STRAIGHT AND CENTERED ON LABEL HOLDERS.

GENERAL TEXT WIDTH NOTE:

USE ARIAL NARROW FONT, WHICH IS VERY COMPRESSED BY WIDTH. IF ADDITIONAL WIDTH COMPRESSION IS REQUIRED FOR UNUSUALLY LONG LABELS, USE THE MS WORD FORMAT–FONT–CHARACTER SPACING–SPACING–CONDENSED–BY X POINTS (USE POINT REDUCTIONS OF LESS THAN ONE IN TENTHS OF A POINT – USE NO MORE REDUCTION THAN REQUIRED TO FIT LABEL).

FACEPLATE AND DEVICE COLOR NOTE

VERIFY ALL FACEPLATE AND DEVICE COLORS WITH THE ARCHITECT AND OWNER'S PROJECT MANAGER PRIOR TO PRE-INSTALLATION SUBMITTALS. PROVIDE ALTERNATE COLOR STANDARD WITH THE MANUFACTURER AT NO ADDITIONAL COST TO THE OWNER IF SO DIRECTED. COORDINATE WITH THE ENGINEER PRIOR TO ORDERING MATERIALS.

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100% CONSTRUCTION DOCUMENTS

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Gregory A. Cook
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EXPIRES 12-31-27
RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

COMMUNICATIONS TYPICAL FACEPLATE & LABELING DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

T304

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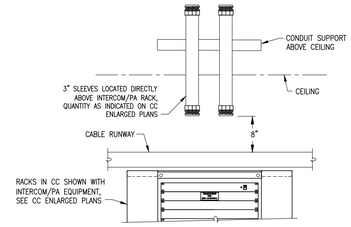
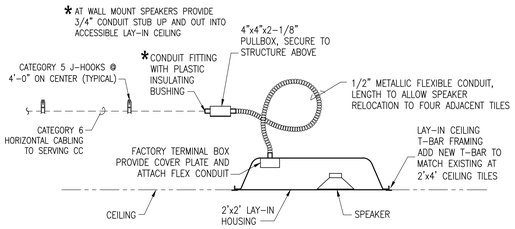
Premier Project #220124



TYPICAL HOMERUN SPEAKER CONDUITS AT CC DETAIL

NOT TO SCALE



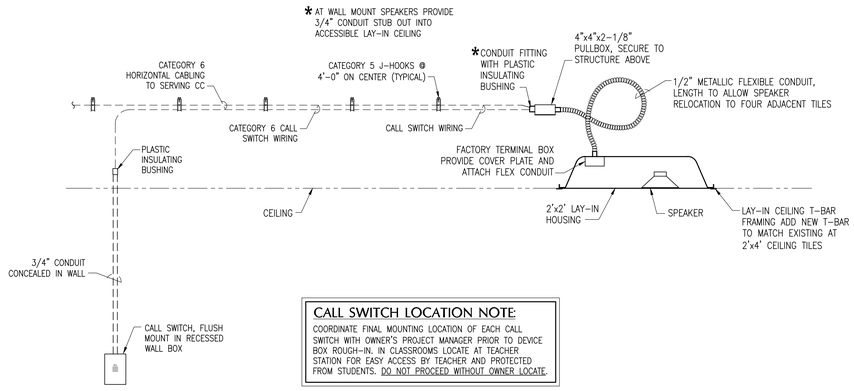
TYPICAL ONE-WAY SPEAKER MOUNTING DETAIL

NOT TO SCALE

SPEAKER ATTACHMENT NOTES

ALL ATTACHMENTS SHALL BE MADE WITH HIGH STRENGTH/HIGH LOAD COMMERCIAL GRADE FASTENERS. ALL FASTENERS AND MISCELLANEOUS RELATED HARDWARE SHALL BE STAINLESS STEEL. TAP-CONS OR RAM-SET TYPE FASTENERS ARE NOT ALLOWABLE. ATTACHMENTS AT VARIOUS BUILDING WALL CONSTRUCTIONS SHALL BE AS FOLLOWS AS A MINIMUM REQUIREMENT, COMPLY WITH MORE STRINGENT FASTENER SPECIFICATIONS WHEN REQUIRED BY THE LOADING APPLICATION OR RECOMMENDED BY THE MANUFACTURER OF EACH SYSTEM COMPONENT:

1. AT FRAMED WALLS WITH GYP BOARD FINISH OR AT OPEN BLOCK CELLS OF CMU WALLS PROVIDE TOGGLER "SNAP-TOGGLE" TOGGLE BOLTS. AT FRAMED WALLS FASTENERS SHALL BE PLACED AT STUDS.
2. AT BRICK WALLS, BLOCK WEBS AND FILLED CELLS OF CMU WALLS, AND AT CONCRETE WALLS, PROVIDE COMMERCIAL GRADE HIGH LOAD EXPANSION ANCHORS SUCH AS TOGGLER 'ALLIGATOR' SOLID-WALL ANCHORS WITH STAINLESS STEEL FASTENERS.
3. AT METAL SOFFIT OR FASCIA CONSTRUCTION PROVIDE STAINLESS STEEL THRU BOLTS ALL THE WAY THRU SOFFIT OR FASCIA FRAMING. PROVIDE SUPPLEMENTARY FRAMING ON INTERIOR AS REQUIRED FOR SECURE MOUNTING.
4. FASTENERS SHALL BE FULL SIZE OF FASTENER HOLES/OPENING IN EQUIPMENT TO BE SECURED (ALLOWING FOR STANDARD CLEARANCES – FASTENERS SIZE 1/16" LESS THAN HOLE SIZE).



CALL SWITCH LOCATION NOTE:

COORDINATE FINAL MOUNTING LOCATION OF EACH CALL SWITCH WITH OWNER'S PROJECT MANAGER PRIOR TO DEVICE BOX ROUGH-IN. IN CLASSROOMS LOCATE AT TEACHER STATION FOR EASY ACCESS BY TEACHER AND PROTECTED FROM STUDENTS. DO NOT PROCEED WITHOUT OWNER LOCATE.

TYPICAL TALKBACK SPEAKER/CALL SWITCH STATION MOUNTING DETAIL

NOT TO SCALE

INTERCOM/PA GENERAL NOTES

1. RUN CABLING CONTINUOUSLY IN CONDUIT IN ALL AREAS WITH NO CEILING AND EXPOSED ROOF STRUCTURE TO ACCESSIBLE LAY-IN CEILING SPACE. WORK WITH CC TO ROUTE CONDUITS THRU AREA FOR LOWEST POSSIBLE VISIBILITY. RUN WITH OTHER TRADES WHEREVER POSSIBLE. PREP, PRIME AND PAINT ALL EXPOSED CONDUIT TO MATCH ADJACENT SURFACES.
2. PROVIDE CONDUIT FOR EXTERIOR SPEAKERS EXTENDING INTO THE BUILDING TO ACCESSIBLE LAY-IN CEILING SPACE.
6. PROVIDE CONDUIT SLEEVES WITH INSULATING BUSHING EACH END TURNING DOWN INTO SERVING CCs FOR ENTRY OF FREE ROUTED CABLES INTO CCs. SIZE SLEEVES FOR 30% FILL.
7. IDENTIFY ALL INDOOR INTERCOM/PA, SLEEVES, CONDUIT AND PULLBOXES ABOVE LAY-IN CEILINGS, AT ACCESS DOORS, IN ROOF SPACE, AND IN ALL EXPOSED LOCATIONS (EXCEPT WITHIN CER/CCs) WITH YELLOW PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER).
8. ALL HORIZONTAL INTERCOM/PA (NETWORK) CABLES TO TALKBACK SPEAKERS SHALL BE FOUR PAIR 24 AWG UTP CATEGORY 6 RISER (CMR) RATED JACKET WITH YELLOW JACKET SHALL BE FREE ROUTED FROM THE SERVING CC TO EACH TALKBACK SPEAKER AS INDICATED ON THE SINGLE LINE DIAGRAM. IN NO CASE SHALL CABLES BE DAISY-CHAINED BETWEEN MULTIPLE TALKBACK SPEAKERS OR ANY OTHER INTERCOM/PA DEVICE EXCEPT AS INDICATED FROM CALL SWITCH TO ASSOCIATED TALKBACK SPEAKER IN SAME ROOM. PUNCH CABLES DOWN ON PATCH PANELS IN CC AND DIRECT CONNECTORIZE AT SPEAKERS USING CATEGORY 6 PLUG PER SINGLE LINE DIAGRAM.
9. ALL HORIZONTAL INTERCOM/PA (SPEAKER SIGNAL AND POWER) CABLES TO ONE-WAY SPEAKERS SHALL BE FOUR PAIR 24 AWG UTP CATEGORY 6 RISER (CMR) RATED JACKET WITH YELLOW JACKET AND SHALL BE FREE ROUTED FROM THE CC TO THE NEAREST ONE-WAY SPEAKER ON THAT ZONE, THEN DAISY-CHAINED TO OTHER ONE-WAY SPEAKERS ON THE SAME ZONE AND IN CLOSE PROXIMITY TO THE FIRST ONE-WAY SPEAKER. PUNCH CABLES DOWN ON 110 WIRING BLOCKS IN CC AND DIRECT TERMINATE ON WIRING TERMINALS AT ONE-WAY SPEAKERS. SEE INTERCOM SINGLE LINE WIRING DIAGRAMS FOR MAXIMUM SPEAKER QUANTITIES PER DAISY-CHAIN.
10. MAKE ALL NON-NETWORK WIRING CONNECTIONS ON FACTORY WIRING TERMINALS OF SPEAKERS AND CALL SWITCHES. WHERE FACTORY WIRE LEADS ONLY ARE PROVIDED AT SPEAKERS MAKE CONNECTIONS USING SCOTCHLOK 'UR2' SEALANT FILLED CONNECTORS USING ONLY 3M FACTORY TERMINATION TOOLS. WHERE WIRE-TO-WIRE CONNECTIONS ARE REQUIRED MAKE CONNECTIONS USING SCOTCHLOK 'UR2' CONNECTORS.
11. CEILING MOUNT SPEAKER LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE EXACT SPEAKER LOCATIONS WITHIN CEILING GRID WITH LIGHT FIXTURES, HVAC AIR DISTRIBUTION DEVICES, FIRE ALARM DEVICES, AND ANY OTHER CEILING MOUNTED DEVICES TO AVOID CONFLICTS. PLACE AS NEAR TO LOCATION INDICATED AS POSSIBLE IN SYMMETRICAL PATTERN. MOUNT TALKBACK SPEAKERS IN CLASSROOMS FOR EASE OF USE BY TEACHER (TALKBACK/CALLOUT) WHILE MAINTAINING ADEQUATE SOUND DISTRIBUTION THROUGHOUT CLASSROOM SPACE.

DIRECT CONNECT NOTE

DIRECT TERMINATE CATEGORY 6 CABLES FOR INTERCOM/PA TALKBACK SPEAKERS WITH PLATINUM TOOLS EZEX-RJ45 TERMINATION SYSTEM WITH EZEX44 OR EZEX48 CONNECTOR AS REQUIRED TO SUIT CABLE CONDUCTOR AND OVERALL JACKET DIAMETERS. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS USING FACTORY EXO CRIMP FRAME WITH EXO-EX DIE (100061C). CABLE JACKET MUST BE EXTENDED INTO THE CONNECTOR FOR STRAIN RELIEF.

INTERCOM/PA SYSTEM HORIZONTAL CABLING CONDUIT SLEEVES NOTE:

CONDUIT SLEEVES FOR INTERCOM/PA SYSTEM HORIZONTAL CABLING: FINAL ROUTING PATHS FOR HORIZONTAL CABLING SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR IN THE FIELD. FOR THIS REASON CONDUIT SLEEVES ARE NOT INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE EMT CONDUIT SLEEVES IN THE QUANTITIES AND LOCATIONS REQUIRED TO SUIT THE CONTRACTOR SELECTED HORIZONTAL CABLE ROUTING AND AS REQUIRED FOR A COMPLETE INSTALLATION, REGARDLESS OF WHETHER THOSE SLEEVES ARE INDICATED ON THE DRAWINGS OR NOT, AND AT NO ADDITIONAL COST TO THE OWNER. AT ALL LOCATIONS WHERE HORIZONTAL CABLING RUNS THRU MECHANICAL OR ELECTRICAL EQUIPMENT ROOMS, STORAGE ROOMS, OR ANY OTHER TYPE OF ROOM WITH EXPOSED STRUCTURE CEILING, ALL SUCH CABLING SHALL BE RUN IN CONTINUOUS CONDUIT SLEEVES EXTENDING TO THE NEAREST ACCESSIBLE LAY-IN CEILING AT BOTH ENDS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE CONDUIT SLEEVES TRAVERSING INACCESSIBLE (HARD) CEILING OR SOFFIT AREAS AND EXTENDING TO THE NEAREST ACCESSIBLE LAY-IN CEILING AT BOTH ENDS FOR CABLE PASS-THRU. SLEEVES SHALL BE SIZED FOR MAXIMUM 30 PERCENT CABLE FILL AND SHALL BE CONSTRUCTED PER THE GENERAL ABOVEGROUND CONDUIT NOTES. GENERAL CONTRACTOR PAINT EXPOSED CONDUIT SLEEVES IN ALL FINISHED/OCCUPIED SPACES WITH EXPOSED STRUCTURE TO MATCH ADJACENT SURFACES. ALL SLEEVES SHALL BE NEW AND SHALL BE USED FOR INTERCOM/PA SYSTEM CABLING ONLY. STRUCTURED CABLING SYSTEM SLEEVES SHALL NOT BE USED UNDER ANY CIRCUMSTANCES.

INTERCOM/PA SYSTEM HORIZONTAL CABLE ROUTING NOTE

ALL INTERCOM/PA SYSTEM CABLING NOT SHOWN TO BE INSTALLED IN CONDUIT SHALL BE RUN ABOVE CEILINGS AND SHALL BE ROUTED UP HIGH DIRECTLY UNDER THE BUILDING ROOF STRUCTURE AND PROPERLY SUPPORTED WITH APPROVED HANGERS AT 4'-0" ON CENTER, BUT DO NOT RUN CABLES CLOSER THAN 6" BELOW ROOF DECK (TO AVOID DAMAGE FROM LONG SCREWS USED IN FUTURE ROOF REPLACEMENTS). RUN ALL CABLING ABOVE DUCTWORK, PIPING, CONDUITS AND ALL OTHER WORK BY OTHER TRADES AND PLACE FOR MAXIMUM PHYSICAL PROTECTION. BUNDLE INTERCOM/PA CABLES TOGETHER AND ROUTE PARALLEL AND PERPENDICULAR TO BUILDING LINES. HANGERS SHALL BE ERICO CADDY "CABLECAT" CATEGORY-5 WITH WIDE BASE LOOP. BUNDLE CABLES AT 4'-0" O.C. WITH PLENUM RATED VELCRO, COLOR YELLOW. ATTACH HANGERS TO THE BUILDING STRUCTURE. DO NOT ATTACH HANGERS TO CEILING GRID OR SUPPORT WIRES, CONDUITS, DUCTWORK, PIPING, OR ANY OTHER SYSTEM COMPONENT OR WORK OF OTHER TRADES. INSTALL CABLES TO AVOID ELECTROMAGNETIC INTERFERENCE FROM MOTORS, TRANSFORMERS, GENERATORS, ELEVATORS, POWER CABLES/CONDUITS, LIGHTING FIXTURES, ETC. DO NOT ROUTE CABLE THRU FIRE DAMPERS, HVAC DUCTS, VENTILATING SHAFTS, OR GRATES. DO NOT BLOCK ACCESS TO PULL/JUNCTION BOXES, HATCHES, DOORS, UTILITY ACCESS PANELS, MECHANICAL SERVICE AREAS, ELECTRICAL SERVICE AREAS, OR ANY OTHER SPACE ASSOCIATED WITH SERVICE OR ACCESS OF ANY TYPE. ALL HANGERS, SUPPORTS AND VELCRO WRAPS SHALL BE NEW AND SHALL BE USED FOR INTERCOM/PA SYSTEM CABLING ONLY. STRUCTURED CABLING SYSTEM CABLE HANGERS SHALL NOT BE USED UNDER ANY CIRCUMSTANCES.

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100% CONSTRUCTION DOCUMENTS

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI Gregory A. Cook BICSI ID # 104998 EXPIRES 12-31-27 RCDD

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1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

INTERCOM/PA SYSTEM NOTES & LABELING DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

T305

FIBER PATCH CORD NOTE:
FIBER PATCH CORDS CONNECTING TO OWNER FURNISHED EQUIPMENT SHALL HAVE ENDS TO SUIT THE EQUIPMENT. THE CONTRACTOR SHALL CONTACT THE OWNER'S PROJECT MANAGER PRIOR TO PURCHASING FIBER PATCH CORDS TO DETERMINE THE TYPES OF FIBER PATCH CORD ENDS REQUIRED.

FIBER OPTIC BACKBONE CABLE NOMENCLATURE

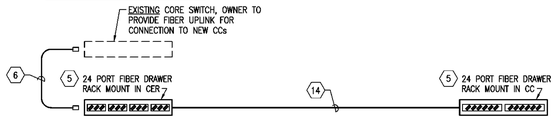
CER.1.131 / CC.X.114
- CER.1.131 — TELCOM ROOM NUMBER POINT OF ORIGIN
- CC.X.114 — TELCOM ROOM NUMBER POINT OF ENDING

FIBER OPTIC CABLE LABELING
LABEL ALL FIBER OPTIC CABLES AS INDICATED WITH PERMANENT MYLAR WRAP WRITE-ON MARKERS

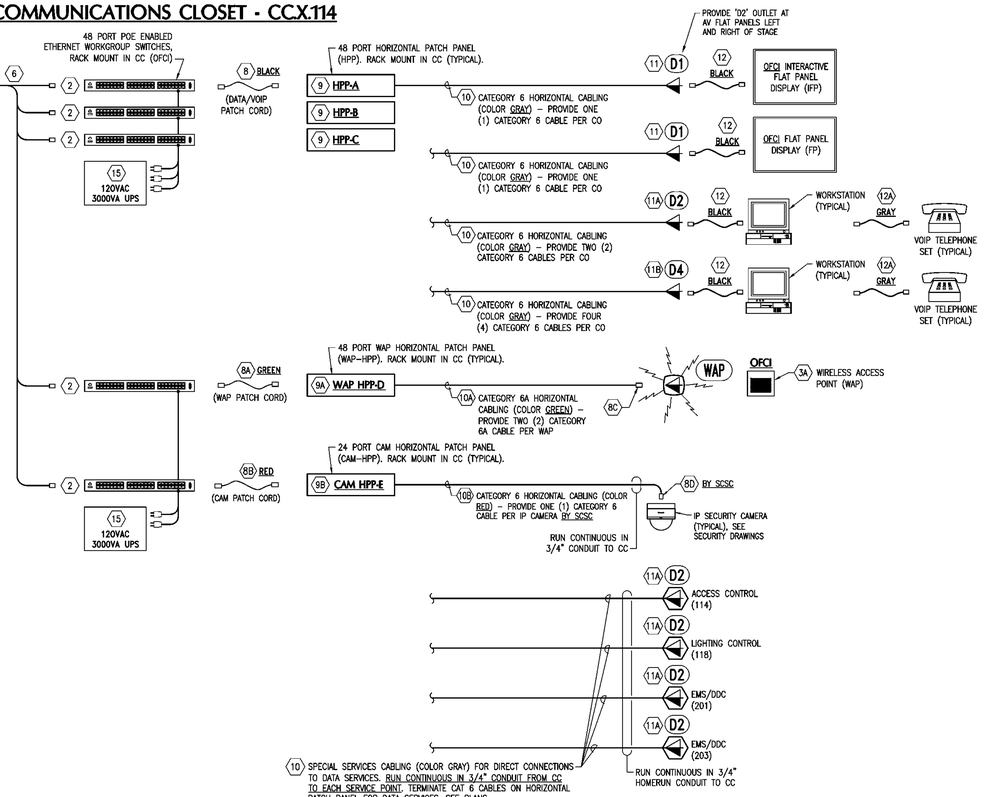
USER/SERVICE COLOR SCHEDULE

SERVICE	EQUIPMENT ROOM PATCH CORDS	PATCH PANEL JACK COLOR	HORIZONTAL CABLING	'CO' MODULAR JACKS	WORK AREA PATCH CORDS
DATA	CAT 6 – BLACK	CAT 6 JACK – BLACK	CAT 6 – GRAY	CAT 6 – MATCH FACEPLATE	CAT 6 – BLACK
VOIP	CAT 6 – BLACK	CAT 6 JACK – BLACK	CAT 6 – GRAY	CAT 6 – MATCH FACEPLATE	CAT 6 – GRAY
WAP	CAT 6A – GREEN	CAT 6A JACK – GREEN	CAT 6A – GREEN	N/A	N/A
CAM	CAT 6A – RED	CAT 6A JACK – RED	CAT 6A – RED	N/A	N/A
INTERCOM/PA	CAT 6 – YELLOW	CAT 6 JACK – YELLOW	CAT 6 – YELLOW	N/A	N/A

EXISTING CER.1.131



COMMUNICATIONS CLOSET - CC.X.114



DATA SYSTEM SINGLE LINE KEY NOTES:

(2) OWNER FURNISHED CONTRACTOR INSTALLED (OFCI): 24 OR 48 PORT POE ENABLED ETHERNET WORKGROUP SWITCH WITH FIBER UPLINK. MOUNT IN RACK AS DIRECTED BY OWNER'S PROJECT MANAGER AND COMPLETE ALL PATCHING – SEE SPECIFICATIONS.

(3A) OWNER FURNISHED CONTRACTOR INSTALLED (OFCI): WIRELESS ACCESS POINT.

(5) FIBER DRAWER FOR OS2 SINGLEMODE BACKBONE CABLING, SPECIFICATION GRADE, 24 FIBER (12 DUPLEX PORTS), RACK MOUNT 1U. BELDEN FX ECX-01U. PROVIDE WITH TWO (2) 12 FIBER (6 DUPLEX PORTS) 'LC' SHUTTERED SINGLEMODE FIBER FUSION SPLICE CASSETTES, COLOR BLUE. BELDEN FCSX06LCPP. SPLICE CASSETTES SHALL BE FACTORY PRE-LOADED AND SHALL INCLUDE FACTORY 250 MICRON AND 900 MICRON PIGTAILS WITH HEAT SHRINK SLEEVES READY FOR FIELD FUSION SPLICING. SECURE FIBER OPTIC CABLE ASSEMBLY TO FIBER DRAWER USING FACTORY STRAIN RELIEF ATTACHMENTS. LABEL PORTS WITH SOURCE (CER), DESTINATION (MINI-CPS) AND NUMERICAL PORT NUMBER.

(6) FIBER OPTIC PATCH CORD, DUPLEX FIBER, SINGLEMODE, DUAL 'LC' CONNECTORS BOTH ENDS. BELDEN, COLOR YELLOW. PROVIDE QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. FOR FIBER PATCH CORDS CONNECTING OWNER FURNISHED EQUIPMENT, PROVIDE 'LC' X OTHER END AS REQUIRED TO SUIT EQUIPMENT. VERIFY END CONNECTORS REQUIRED PRIOR TO PURCHASING, SEE "FIBER PATCH CORD NOTE" THIS SHEET.

(8) EQUIPMENT ROOM DATA/VOIP PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6+ MODULAR PATCH CORD (UTP) 4-PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR BLACK. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C6011xxxxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

(8A) EQUIPMENT ROOM WAP PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6A MODULAR PATCH CORD (UTP) 4-PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR GREEN. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C601100xxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

(8B) EQUIPMENT ROOM CAM PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6+ MODULAR PATCH CORD (UTP) 4-PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR RED. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C6011xxxxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

(8C) DIRECT TERMINATE CATEGORY 6A CABLES FOR WAPS WITH MALE CATEGORY 6A MODULAR PLUG, 8P8C, GOLD PLATED CONTACTS WITH INTEGRAL STRAIN RELIEF BOOT, BELDEN REVConnect 'RVAFPUBK' WITH CABLE DIAMETER RANGE MATCHING CATEGORY 6A CABLE PROVIDED. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS USING FACTORY FURNISHED DIE SET AND HAND CRIMP TOOL. CABLE JACKET MUST BE EXTENDED THRU THE STAIN RELIEF BOOT AND INTO THE CABLE JACKET STRAIN RELIEF CRIMP TABS AND PROPERLY SECURED.

(8D) DIRECT TERMINATE CATEGORY 6 CABLES FOR IP SECURITY CAMERAS WITH PLATINUM TOOLS ezEX-RJ45 TERMINATION SYSTEM WITH ezEX44 OR ezEX48 CONNECTOR AS REQUIRED TO SUIT CABLE CONDUCTOR AND OVERALL JACKET DIAMETERS. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS USING FACTORY EXO CRIMP FRAME WITH EXO-EX DIE (100061C). CABLE JACKET MUST BE EXTENDED INTO THE CONNECTOR FOR STRAIN RELIEF.

(9) HORIZONTAL UN-LOADED PATCH PANEL, 48 PORT, TIA 568A PINOUT, BELDEN RVMPPF2U48BK-P. PROVIDE WITH FACTORY PLASTIC LABELING WINDOWS AND BELDEN AX107527 ACCESSORY NON-ADHESIVE LABEL SHEETS, FACTORY CABLE MANAGEMENT BAR, AND MOUNTING HARDWARE. PROVIDE WITH TIA CATEGORY 6+ 8-PIN MODULAR JACKS IN ALL PORTS, BELDEN REVCONNECT RVBMJKUBK COLOR BLACK TO MATCH THE USER/SERVICE COLOR SCHEDULE.

(9A) HORIZONTAL UN-LOADED WAP PATCH PANEL, 48 PORT, TIA 568A PINOUT, BELDEN RVMPPF2U48BK-P. PROVIDE WITH FACTORY PLASTIC LABELING WINDOWS AND BELDEN AX107527 ACCESSORY NON-ADHESIVE LABEL SHEETS, FACTORY CABLE MANAGEMENT BAR, AND MOUNTING HARDWARE. PROVIDE WITH TIA CATEGORY 6A 10GX 8-PIN MODULAR JACKS IN ALL PORTS, BELDEN RVAMJKUGN COLOR GREEN TO MATCH THE USER/SERVICE COLOR SCHEDULE.

(9B) HORIZONTAL UN-LOADED CAM PATCH PANEL, 24 PORT, TIA 568A PINOUT, BELDEN RVMPPF1U24BK-P. PROVIDE WITH FACTORY PLASTIC LABELING WINDOWS AND BELDEN AX107527 ACCESSORY NON-ADHESIVE LABEL SHEETS, FACTORY CABLE MANAGEMENT BAR, AND MOUNTING HARDWARE. PROVIDE WITH TIA CATEGORY 6+ 8-PIN MODULAR JACKS IN ALL PORTS, BELDEN REVCONNECT RVBMJKURD COLOR RED TO MATCH THE USER/SERVICE COLOR SCHEDULE.

(10) TIA CATEGORY 6 DATA/VOIP HORIZONTAL CABLING, 4 PAIR UTP, 23 GAGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMR (RISER) JACKET, COLOR GREY. SEE SCHEDULE THIS SHEET FOR APPROVED CABLES.

(10A) TIA CATEGORY 6A WAP HORIZONTAL CABLING, 4 PAIR UTP, 23 GAGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMR (RISER) JACKET, COLOR GREEN. SEE SCHEDULE THIS SHEET FOR APPROVED CABLES.

(10B) TIA CATEGORY 6 CAM HORIZONTAL CABLING, 4 PAIR UTP, 23 GAGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMR (RISER) JACKET, COLOR RED. SEE SCHEDULE THIS SHEET FOR APPROVED CABLES.

(11) TYPE "D1" COMMUNICATIONS OUTLET (CO) WITH ONE (1) CATEGORY 6 8-PIN MODULAR JACK. SEE PLANS AND DETAILS.

(11A) TYPE "D2" COMMUNICATIONS OUTLET (CO) WITH TWO (2) CATEGORY 6 8-PIN MODULAR JACKS. SEE PLANS AND DETAILS.

(11B) TYPE "D4" COMMUNICATIONS OUTLET (CO) WITH FOUR (4) CATEGORY 6 8-PIN MODULAR JACKS. SEE PLANS AND DETAILS.

(12) WORKSTATION DATA PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6+ MODULAR PATCH CORD (UTP) 4-PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR BLACK. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C60110xxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

(12A) WORKSTATION VOIP PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6+ MODULAR PATCH CORD (UTP) 4-PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR GRAY. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C6011xxxxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

(14) FIBER OPTIC BACKBONE 'BLACK' CABLE, LOOSE TUBE PE JACKET DIRECT BURIAL GRADE OUTSIDE PLANT, DRY WATER BLOCK CABLE CORE, GEL FILLED BUFFER TUBES. 24 FIBER COUNT, 24 STRANDS SINGLEMODE (0.40 dB/km @ 1310nm, 0.30 dB/km @ 1550 nm). GENERAL CABLE AQ0244MA-DWB OR ENGINEER APPROVED EQUAL BY CORNING, BELDEN OR SUPERIOR ESSEX. AT BOTH ENDS PROVIDE SLACK IN CABLE BEHIND FIBER DRAWER TO ALLOW DRAWER PULL-OUT. SECURE FIBER OPTIC CABLE ASSEMBLY TO FIBER DRAWER USING FACTORY STRAIN RELIEF ATTACHMENTS. AT BOTH ENDS PROVIDE SLACK IN CABLE BEHIND FIBER DRAWER TO ALLOW DRAWER PULL-OUT. SECURE FIBER OPTIC CABLE ASSEMBLY TO FIBER DRAWER USING FACTORY STRAIN RELIEF ATTACHMENTS. AT BOTH ENDS TERMINATE FIBERS ON FUSION SPLICE PIGTAILS WITH HEAT SHRINK SLEEVES IN BELDEN UNLOADED CASSETTES USING FIELD FUSION SPLICER IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. NEATLY ORGANIZE TERMINATED FIBER WITHIN FIBER DRAWER AND SECURE. RUN CABLE CONTINUOUS FROM SOURCE TO DESTINATION WITH NO SPLICES OR TERMINATIONS.

(15) UNINTERRUPTIBLE POWER SUPPLY (UPS), 3000 VA, PROVIDED BY SCSC. RACK MOUNT IN CC. SEE RACK ELEVATIONS.

DATA SYSTEM SINGLE LINE CONFIGURATION DIAGRAM

NOT TO SCALE

NOTE: RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

APPROVED CATEGORY 6 & CATEGORY 6A HORIZONTAL CABLES

APPLICATION	MANUFACTURER	PART NUMBER	UL JACKET	JACKET COLOR
RISER CAT 6 (DATA/VOIP)	MOHAWK	ADVANCENET 6E M57196	CMR	GRAY
	BERK-TEK	LANMARK 2000 11098648	CMR	GRAY
	GENERAL	GENSPEED 6500 7133933	CMR	GRAY
	BELDEN	3600 SERIES 3613008x1000	CMR	GRAY
RISER CAT 6 (CAMERAS)	MOHAWK	ADVANCENET M57207	CMR	RED
	BERK-TEK	LANMARK 2000 10170693	CMR	RED
	GENERAL	GENSPEED 6500 7133934	CMR	RED
	BELDEN	3600 SERIES 3612xxx	CMR	RED
RISER CAT 6A (WAP)	MOHAWK	GIGALAN10 SD M59151	CMR	GREEN
	BERK-TEK	LANMARK-SST 11091203	CMR	GREEN
	GENERAL	GENSPEED 10MTP 7143854	CMR	GREEN
	BELDEN	10GXS13002	CMR	GREEN
RISER CAT 6 (INTERCOM/PA)	MOHAWK	6 LAN M58294	CMR	YELLOW
	BERK-TEK	LANMARK 2000 10170693	CMR	YELLOW
	GENERAL	GENSPEED 6000 7133982	CMR	YELLOW
	BELDEN	2400 SERIES 2412004	CMR	YELLOW
OSP BURIAL GRADE CAT 6	BERK-TEK	LANMARK-1000 OSP 11072213	NOT RATED	BLACK PE
	GENERAL	GENSPEED OSP 7136100	NOT RATED	BLACK PE
	BELDEN	OSP6U 010	NOT RATED	BLACK PE
OSP BURIAL GRADE CAT 6A	BERK-TEK	LANMARK-10G OSP 11094458	NOT RATED	BLACK PE
	GENERAL	GENSPEED OSP 8136100	NOT RATED	BLACK PE
	BELDEN	OSP6AU 010	NOT RATED	BLACK PE

DATA PATCH CORD SCHEDULE

TYPE	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY	LENGTH/QTY
(6) FIBER	1M / 5	2M / 10	3M / 8	10M / 6	-- / --	-- / --	-- / --	-- / --	-- / --
(8) DATA/VOIP	1' / 125	3' / 50	5' / 25	-- / --	-- / --	-- / --	-- / --	-- / --	-- / --
(8A) WAP	1' / 30	3' / 15	5' / 5	-- / --	-- / --	-- / --	-- / --	-- / --	-- / --
(8B) CAM	1' / 20	3' / 10	5' / 5	-- / --	-- / --	-- / --	-- / --	-- / --	-- / --
(12) DATA	-- / --	3' / 25	5' / 50	7' / 75	10' / 25	-- / --	-- / --	-- / --	-- / --
(12A) VOIP	-- / --	-- / --	5' / 10	7' / 15	10' / 10	-- / --	-- / --	-- / --	-- / --

DATA PATCH CORD SCHEDULE NOTES:

1) FURNISH PATCH CORDS TO OWNER LOOSE PRIOR TO INSTALLATION. VERIFY ALL QUANTITIES AND LENGTHS WITH THE OWNER'S PROJECT MANAGER AND PROVIDE SIGNED COPY OF RECEIPT TO ENGINEER AT PROJECT SUBSTANTIAL COMPLETION.

2) SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS FOR PATCH CORD DELIVERY AND INSTALLATION. ALL PATCH CORDS SHALL BE NEATLY ROUTED, BUNDLED AND SECURED AT 6" ON CENTER WITH BLACK VELCRO STRAPS. BUNDLE DATA PATCH CORDS SEPARATELY. DO NOT BUNDLE WITH VOICE PATCH CORDS. BUNDLE FIBER OPTIC PATCH CORDS SEPARATELY FROM COPPER PATCH CORDS.

3) PROVIDE EXCEL SPREADSHEET IDENTIFYING CONNECTIONS MADE, SEE SPECIFICATIONS.

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100% CONSTRUCTION DOCUMENTS

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EXPIRES 12-31-27
RCDD

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REVISIONS:

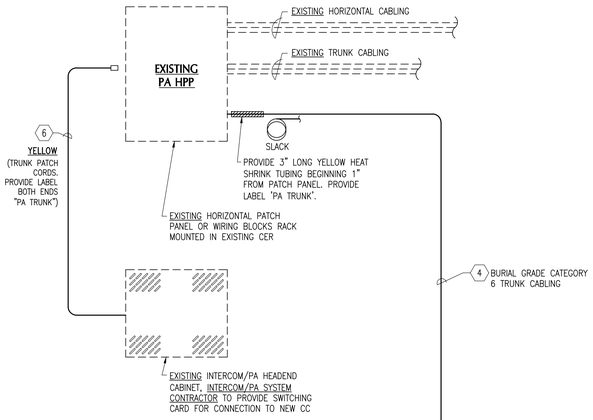
No.	Description	Date

DATA SYSTEM SINGLE LINE DIAGRAM

PROJECT NUMBER 22019
DATED 01/31/2025

T401

EXISTING CER.1.131



INTERCOM/PA SYSTEM SINGLE LINE KEY NOTES:

(2) BY INTERCOM/PA SYSTEM CONTRACTOR: DISPLAY ADMINISTRATIVE CONSOLE, CAREHAWK DA1. EXACT LOCATIONS ANYWHERE AS DIRECTED BY SCHOOL – ELECTRICAL CONTRACTOR AND CM COORDINATE WITH PRINCIPAL FOR LOCATION PRIOR TO ROUGH–IN. PROVIDE WALL PLATE AND PATCH CORD FOR EACH LOCATION WITHIN 24" OF LOCATION DIRECTED BY PRINCIPAL.

(3) BY INTERCOM/PA SYSTEM CONTRACTOR: 32 PORT SWITCHING MODULE, CAREHAWK SS32. PROVIDES ANNUNCIATION CALL–IN AND BIDIRECTIONAL COMMUNICATIONS WITH DISPLAY ADMIN CONSOLES. RACK MOUNT USING CAREHAWK PART #84103 RACK MOUNT KIT, QUANTITY AS REQUIRED. BOND DIRECTLY TO CC GROUNDING BUSBAR WITH #10 AWG INSULATED GROUNDING CONDUCTOR (GREEN) AND HEAVY DUTY COMPRESSION RING CONNECTORS, MATCH RING SIZE TO FASTENER SIZE, ATTACH TO SS32 AT FACTORY DESIGNATED AND MASKED OFF POINT AT CASING MOUNTING FLANGE FOR CLEAN METAL–TO–METAL CONTACT, ROUTE GROUNDING CONDUCTOR ALONG AND SECURE TO BACK OF RACK USING SCSC PROVIDED NYLON CABLE STANDOFF BRACKETS, UP TO CABLE RUNWAY AND IN A DIRECT PATH PARALLEL TO RUNWAY LINES OVER TO BACKBOARD AND DOWN TO BUSBAR, ROUTE WITH AND SECURE SAME AS OTHER GROUNDING CONDUCTORS BY SCSC.

(4) BY INTERCOM/PA SYSTEM CONTRACTOR: SIX OSP BURIAL GRADE CATEGORY 6 CABLES, BELDEN '0SP6U' (NO EQUAL). PULL IN ALONG WITH FIBER OPTIC BACKBONE CABLING TO CC. TWO CABLES ARE SPARE, TERMINATE, TEST, LABEL AND COIL 20 FEET SLACK EACH END ON BACK OF VERTICAL CABLE RUNWAY AT UNDERGROUND CONDUIT ENTRY. PROVIDE INDUSTRIAL GRADE SURGE PROTECTION AT EACH END, DITEK OR ENGINEER APPROVED EQUAL – INSTALL AND BOND TO GROUND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

(6) BY INTERCOM/PA SYSTEM CONTRACTOR: EQUIPMENT ROOM INTERCOM/PA PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY 6 MODULAR PATCH CORD (UTP) 4–PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR YELLOW. PROVIDE WITH 8–PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C6011xxxxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS REQUIRED PLUS 25% SPARE. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

(7) BY INTERCOM/PA SYSTEM CONTRACTOR: HORIZONTAL UN–LOADED PATCH PANEL, 48 PORT, TIA 568A PINOUT, BELDEN RVMPPF2U48BK–P. PROVIDE WITH FACTORY PLASTIC LABELING WINDOWS AND BELDEN AX107527 ACCESSORY NON–ADHESIVE LABEL SHEETS, FACTORY CABLE MANAGEMENT BAR, AND MOUNTING HARDWARE. PROVIDE WITH TIA CATEGORY 6+ 8–PIN MODULAR JACKS IN ALL PORTS, BELDEN REVCONNECT RV6MJKUYL COLOR YELLOW TO MATCH THE USER/SERVICE COLOR SCHEDULE. SEE SCHEDULE ON SHEET T401. SEE CATEGORY 6 CABLE NOTE BELOW FOR PINOUT.

(8) BY INTERCOM/PA SYSTEM CONTRACTOR: TIA CATEGORY 6 INTERCOM/PA HORIZONTAL CABLING, 4 PAIR UTP, 23 GAGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMR (RISER) JACKET, COLOR YELLOW. SEE SCHEDULE ON SHEET T401 FOR APPROVED CABLES. PINOUT FOR THE CAREHAWK SYSTEM IS NOT TIA 568A OR 568B BUT IS CUSTOM FOR THE CAREHAWK SYSTEM, PUNCH DOWN ACCORDINGLY.

(9) BY INTERCOM/PA SYSTEM CONTRACTOR: WORKSTATION PATCH CORDS FOR INTERCOM/PA ADMIN HANDSET, FACTORY TERMINATED AND TESTED CATEGORY 6 MODULAR PATCH CORD (UTP) 4–PAIR UNSHIELDED CABLE WITH 23 GAGE SOLID COPPER CONDUCTORS, COLOR BLACK. PROVIDE WITH 8–PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, BELDEN C601100xxx (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS REQUIRED PLUS 25% SPARE. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.

ALLOWANCE FOR INTERCOM/PA SYSTEM

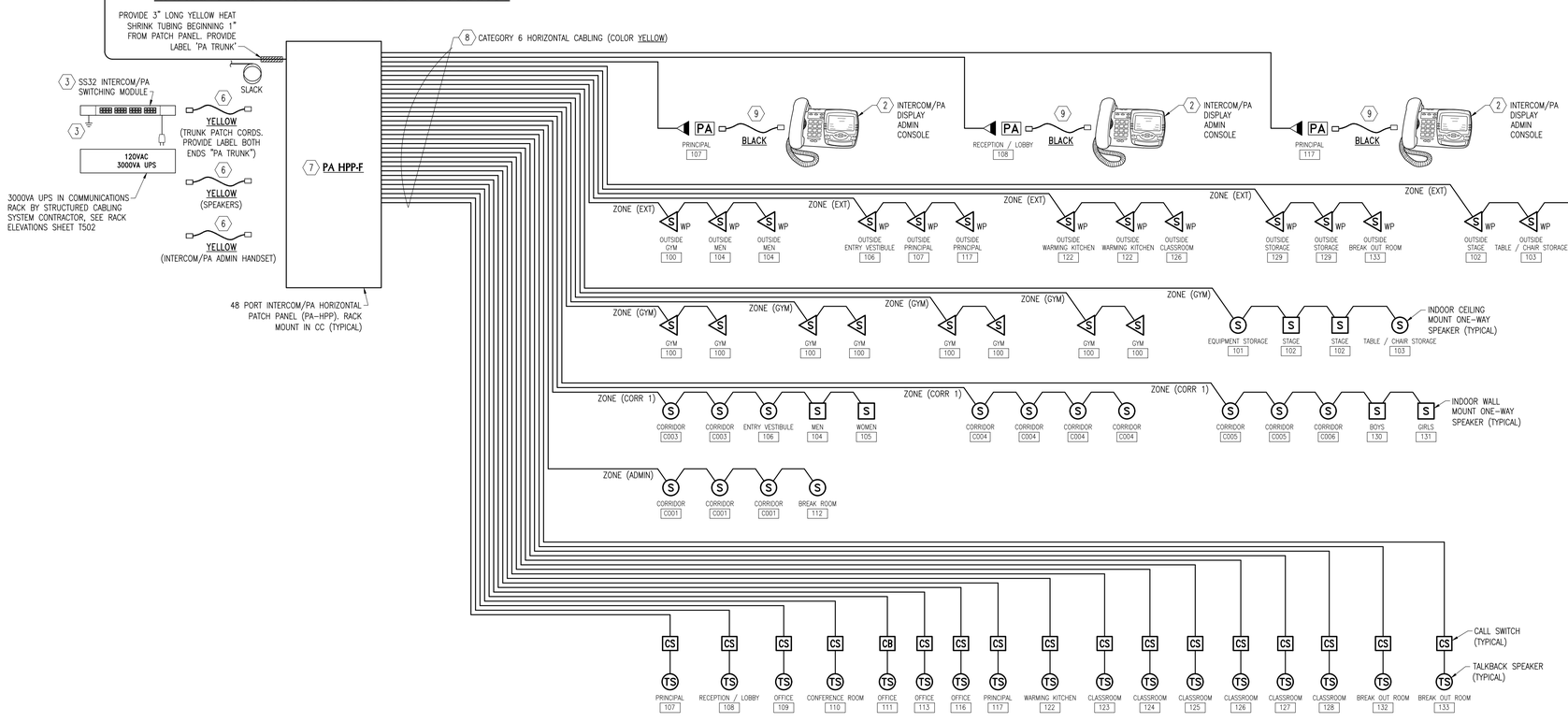
THE GENERAL CONTRACTOR SHALL INCLUDE AN ALLOWANCE FOR THE PROVISION OF A COMPLETE INTERCOM/PA SYSTEM FOR THIS PROJECT IN THE BASE BID. ALL REFERENCES TO MATERIALS AND LABOR ASSOCIATED WITH THE INTERCOM/PA SYSTEM WITHIN THE CONTRACT DOCUMENTS SHALL BE INCLUDED IN THIS ALLOWANCE UNLESS SPECIFICALLY INDICATED OTHERWISE. THE AMOUNT OF THE ALLOWANCE SHALL BE ISSUED AS AN ADDENDUM PRIOR TO THE BID DATE. THE SCOPE OF WORK FOR THE ALLOWANCE SHALL INCLUDE:

1. THE INTERCOM/PA SYSTEM COMPLETE WITH ALL DEVICES AND EQUIPMENT DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS, TO INCLUDE A FULL INTERFACE TO THE EXISTING SCHOOL CAREHAWK INTERCOM/PA SYSTEM AND THREE NEW ADMIN CONSOLES.
2. ALL DEVICES AND EQUIPMENT IN THE INTERCOM/PA SYSTEM PROVIDER'S COST PROPOSAL AND ASSOCIATED STATEMENT OF WORK.
3. ALL OTHER DEVICES AND EQUIPMENT REQUIRED FOR A COMPLETE SYSTEM.
4. ALL ASSOCIATED CABLING.
5. ALL WIRING AND CABLING, ALL CABINETS AND ENCLOSURES AND ALL PROGRAMMING AND SETUP REQUIRED TO MAKE THE SYSTEM FULLY OPERATIONAL AND FUNCTIONAL TO THE SATISFACTION OF THE OWNER.
6. AN INTERFACE TO THE TELEPHONE SYSTEM TO ALLOW INTERCOM/PA CALLS TO BE MADE THRU ANY VOIP TELEPHONE SET ANYWHERE ON CAMPUS.

RELATED WORK TO BE PROVIDED BY OTHERS UNDER THE BASE BID BUT NOT INCLUDED IN THE SCOPE OF THE ALLOWANCE SHALL INCLUDE A '0Z' SPECIAL SERVICES COMMUNICATIONS OUTLET AT THE INTERCOM/PA SYSTEM FOR CONNECTION TO THE VOIP TELEPHONE SYSTEM (BY THE STRUCTURED CABLING SYSTEM CONTRACTOR), CONDUIT FOR ALL INTERCOM/PA SYSTEM WIRING AND CABLING (BY THE ELECTRICAL CONTRACTOR), AND ALL POWER AND GROUNDING REQUIRED FOR THE SYSTEM (BY THE ELECTRICAL CONTRACTOR). EACH ELECTRICAL CONTRACTOR PROVIDING A BID FOR THIS PROJECT SHALL BE RESPONSIBLE FOR COORDINATING THE ASSOCIATED CONDUIT, POWER AND GROUNDING WORK WITH THE SYSTEM PROVIDER PRIOR TO BIDS – BUT THE SCOPE OF CONDUIT AND POWER WORK SHALL NOT BE LESS THAN THAT DESCRIBED ON THE DRAWINGS.

THE INTERCOM/PA SYSTEM CONTRACTOR SHALL BE JACKSONVILLE SOUND & COMMUNICATIONS, TALLAHASSEE FL. CONTACT JAMIE BAKER AT J.BAKER@JSCSYSTEMS.NET.

COMMUNICATIONS CLOSET - CC.X.114



INTERCOM/PA SYSTEM SINGLE LINE CONFIGURATION DIAGRAM

NOT TO SCALE

NOTE

SEE FLOOR PLAN FOR SPEAKER AND CALL BUTTON QUANTITIES IF GREATER THAN THE QUANTITY SHOWN ON THE SINGLE LINE.

NOTE: RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

DAG ARCHITECTS

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455 Harrison Ave., Panama City, FL 32401
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100% CONSTRUCTION DOCUMENTS

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI Gregory A. Cook BICSI ID # 104998 EXPIRES 12-31-27 RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

INTERCOM/PA SYSTEM SINGLE LINE DIAGRAM

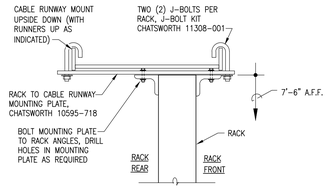
PROJECT NUMBER	22019
DATED	01/31/2025

T402

Premier Engineering Group, LLC
2425 W. Nine Mile Road, Suite 2- Pensacola, Florida 32534
Florida Certificate of Authorization #9308
Phone: (850) 469-0465 Fax: (850) 432-0935
Premier Project #22024

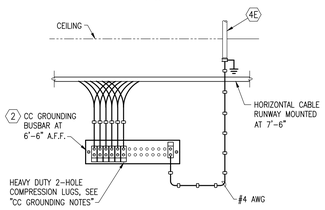
CABLE RUNWAY MOUNTING HEIGHT NOTE

BOTTOM OF CABLE RUNWAY MUST BE MOUNTED AT EXACTLY 7'-6" ABOVE THE FINSHED FLOOR TO ALLOW INSTALLATION OF 7'-6" HIGH RACKS. RACKS ARE 7'-6" HIGH TO ALLOW CABLE RUNWAY TO CLEAR DOOR FRAMES.



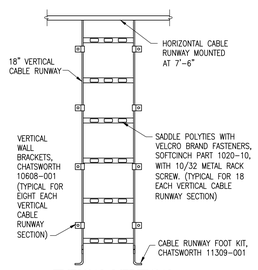
TYPICAL CABLE RUNWAY RACK SUPPORT DETAIL

NOT TO SCALE



TYPICAL CC GROUNDING BUSBAR DETAIL

NOT TO SCALE



7G TYPICAL VERTICAL CABLE RUNWAY DETAIL

NOT TO SCALE

CC ENLARGED FLOOR PLAN KEY NOTES:

1. PLYWOOD BACKBOARD, 8'-0" HIGH X FULL WIDTH OF WALL AS INDICATED, MOUNT WITH BOTTOM AT 6" ABOVE FINISH FLOOR. ROUGH ALL ELECTRICAL OUTLETS INTO WALL BEHIND BACKBOARD AND BACKBOARD FOR FLUSH MOUNT INSTALLATION OF FACEPLATES. COORDINATE WORK WITH ELECTRICAL CONTRACTOR TO ENSURE THAT POWER RECEPTACLES ARE PROPERLY LOCATED. POWER CONDUITS ARE RECESSED INTO WALL AND BACKBOARD, AND FACEPLATES ARE FLUSH ON FACE OF BACKBOARD. FILL AND SAND SMOOTH ALL SEAMS, COUNTERSUNK SCREW HOLES AND VOIDS. PRIME WITH TWO COATS PRIMER, SANDING SMOOTH AFTER EACH COAT. PRETREAT BARE PLYWOOD WITH FLAMECHECK M-111 AND ALLOW TO DRY BEFORE PAINTING. APPLY FIRST COAT WITH FIRE RETARDANT PAINT – ADD 8 OUNCES OF FLAMECHECK M-111PA TO ONE GALLON OF ACRYLIC PAINT, THOROUGHLY MIX AND APPLY TWO FULL COATS FOR 2 MIL THICKNESS PER MANUFACTURER'S PRINTED RECOMMENDATIONS. FINISH WITH THICK COAT OF SEMI-GLOSS ACRYLIC PAINT, COLOR BATTLESHIP GREY. FINAL SURFACE SHALL BE UNIFORMLY SMOOTH AND EVEN. TOUCH UP AT END OF PROJECT.

   SPECIAL BACKBOARD DUST CONTROL NOTE: COMPLETE ALL BACKBOARD WORK INCLUDING FINISH PAINTING PRIOR TO INSTALLATION OF RACKS AND BACKBOARD MOUNTED EQUIPMENT AND PRIOR TO PULLING CABLING INTO CC.

2. CC GROUNDING BUSBAR, HARGER GBI-14420G WITH TWO ROWS OF 7/16"ø HOLES AT 1" SPACING EACH WAY. MAKE ALL CONNECTIONS WITH TWO HOLE LONG BARREL COMPRESSION LUGS (HARGER GECLB4-2C FOR #4 AWG, GECLB6-2C FOR #6 AWG) AND BOND TO BUSBAR WITH TWO 3/8"ø SS HEX HEAD CAP SCREWS WITH SS LOCKING NUTS. SEE "CC GROUNDING NOTES" AND "VOICE SYSTEM SINGLE LINE CONFIGURATION DIAGRAM".

3. BY ELECTRICAL CONTRACTOR: 120 VAC 20 AMP DOUBLE DUPLEX POWER RECEPTACLE. ROUGH-IN WALL BOX FLUSH WITH FACE OF BACKBOARD. EXTEND EMT CONDUIT FROM BOX CONCEALED BEHIND BACKBOARD. SEE ELECTRICAL DRAWINGS.

3A. BY ELECTRICAL CONTRACTOR: 120 VAC 20 AMP DOUBLE DUPLEX POWER RECEPTACLE. MOUNT DIRECTLY UNDER CCTV ENCLOSURE CHASE NIPPLE FOR POWER CORD PASS-THRU. ROUGH-IN WALL BOX FLUSH WITH FACE OF BACKBOARD. EXTEND EMT CONDUIT FROM BOX CONCEALED BEHIND BACKBOARD. SEE ELECTRICAL DRAWINGS.

3B. BY ELECTRICAL CONTRACTOR: 120 VAC 20 AMP SIMPLEX POWER RECEPTACLE WITH DEDICATED 120 VAC 20 AMP CIRCUIT. MOUNT ON BACKSIDE OF CABLE RUNWAY IN NON-METALLIC SINGLE GANG BOX TO SERVE RACK MOUNTED POWER SURGE SUPPRESSOR. PROVIDE 1/2" PVC ELECTRICAL CONDUIT FROM BACKBOARD ALONG UNDERSIDE OF CABLE RUNWAY, SAME AS REQUIRED FOR 30 AMP POWER OUTLET. PAINT FLAT BLACK. SEE ELECTRICAL DRAWINGS.

3C. ELECTRICAL CONTRACTOR: 120 VAC L5-30 30 AMP POWER RECEPTACLE WITH DEDICATED 120 VAC 30 AMP CIRCUIT. MOUNT ON HEAVY DUTY (3/16" THICK) BLANK FILLER PLATE ON REAR OF RACK AS INDICATED TO SERVE 3000 VA UPS. RUN POWER CIRCUIT FROM BACKBOARD IN PVC ELECTRICAL CONDUIT UNDER CABLE RUNWAY AND IN FLEXIBLE NON-METALLIC CONDUIT INSIDE OF RACK CHANNEL CONCEALED – MAINTAIN MINIMUM SEPARATION FROM DATA CABLING. PAINT ALL FLAT BLACK. SEE "TYPICAL POWER CONDUIT TO UPS 30 AMP POWER OUTLET DETAIL", "TYPICAL 3000 VA UPS 30 AMP POWER OUTLET MOUNTING DETAIL" AND "TYPICAL RACK POWER DISTRIBUTION DIAGRAM" DETAILS, SHEET T6.2. SEE ELECTRICAL DRAWINGS.

4. UNDERGROUND BACKBONE CONDUIT. SEE "COMMUNICATIONS SITE PLAN" FOR CONDUIT REQUIREMENTS AND ROUTING. SEE SINGLE LINE CONFIGURATION DIAGRAMS SHEETS FOR CABLE REQUIREMENTS. TURN UP WITH CONDUIT CENTERLINE AT 6" FROM BACKBOARD AND TERMINATE AT 4" A.F.F WITH PVC END BELL PRIOR TO INSTALLING CABLING.

4B. 3/4" HOMERUN CONDUITS FOR DIRECT CONNECTIONS TO SPECIAL SERVICES. SEE "SPECIAL SERVICES NOTE" SHEET T201. STUB CONDUITS THRU CEILING TILE (TRIM TILE CLOSE AROUND CONDUIT) AND TERMINATE AT 8" ABOVE CABLE RUNWAY.

4C. EMT CONDUIT SLEEVES (CAT 6 & CAT 6A) UP INTO CEILING SPACE, SIZE AS INDICATED. STUB CONDUIT SLEEVE THRU CEILING TILE (TRIM TILE CLOSE AROUND CONDUIT) AND TERMINATE AT 8" ABOVE CABLE RUNWAY. SECURE EACH SLEEVE ABOVE AND BELOW CEILING – PROVIDE SUPPORTS AS REQUIRED. CONNECTORIZE EACH END OF CONDUIT AND INSTALL PLASTIC INSULATING BUSHINGS ON CONNECTORS BEFORE PULLING CABLING. LOCATE SLACK CABLE ABOVE CEILING (NOT IN CC CABLE RUNWAY), COIL SLACK CABLE IN NEAT "U BENDS" BUNDLED WITH VELCRO AND SECURED TO ROOF STRUCTURE. BOND STRUT TO GROUNDING BUSBAR.

4D. EMT CONDUIT SLEEVES (INTERCOM/PA) UP THRU CEILING AND INTO PULL BOX ABOVE, SIZE AS INDICATED, QUANTITY AS INDICATED OR PROVIDE ADDITIONAL SLEEVES IF SO DIRECTED BY INTERCOM/PA SYSTEM PROVIDER. STUB CONDUIT SLEEVE THRU CEILING TILE (TRIM TILE CLOSE AROUND CONDUIT) AND TERMINATE AT 8" ABOVE CABLE RUNWAY. SECURE EACH SLEEVE ABOVE AND BELOW CEILING – PROVIDE SUPPORTS AS REQUIRED. CONNECTORIZE EACH END OF CONDUIT AND INSTALL PLASTIC INSULATING BUSHINGS ON CONNECTORS BEFORE PULLING CABLING. LOCATE SLACK CABLE IN PULL BOX ABOVE CEILING, COIL SLACK CABLE IN NEAT "U BENDS" BUNDLED WITH VELCRO. BOND STRUT TO GROUNDING BUSBAR.

4E. BY ELECTRICAL CONTRACTOR: 3/4" EMT CONDUIT TO BUILDING MAIN ELECTRICAL PANEL FOR GROUNDING CONDUCTOR. PROVIDE WITH INSULATED GROUNDING BUSHING – MALLEABLE IRON, STEEL CITY #BG-80Z.

5. FLOOR MOUNT EQUIPMENT RACK. REFER TO RACK ELEVATION DETAILS.

7. 18" WIDE CABLE RUNWAY, CHATSWORTH 10250-718, COLOR BLACK. PROVIDE BUTT-SPLICE KIT, CHATSWORTH 11301-001 TO BUTT-SPLICE SECTIONS OF CABLE RUNWAY (PAINT BEFORE INSTALLING AND TOUCH UP AFTER INSTALLATION). INSTALL ALL CABLE RUNWAY, FITTINGS, AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.

7F. CABLE RUNWAY WALL ANGLE SUPPORT KIT, CHATSWORTH 11421-718.

7G. 18" WIDE CABLE RUNWAY, MOUNTED VERTICALLY FROM CONDUIT ENTRANCE IN FLOOR TO 7'-6". SEE "TYPICAL VERTICAL CABLE RUNWAY DETAIL".

8. 1" UNDERGROUND HOMERUN CONDUIT FROM COs, WAPS, INTERCOM/PA SPEAKERS, SECURITY CAMERAS, SECURE DOORS AND MONITORED DOORS SHOWN TO HAVE CABLES RUN BELOW GRADE. SEE COMMUNICATIONS FLOOR PLANS, IP SECURITY CAMERA PLANS AND ACCESS CONTROL PLANS FOR CONDUIT REQUIREMENTS. SEE SINGLE LINE DIAGRAMS SHEETS FOR CABLE REQUIREMENTS. TURN UP WITH CONDUITS GROUPED TIGHT TOGETHER BY APPLICATION AND TERMINATE AT 4" A.F.F WITH PVC END BELL PRIOR TO INSTALLING CABLING.

CC GENERAL NOTES:

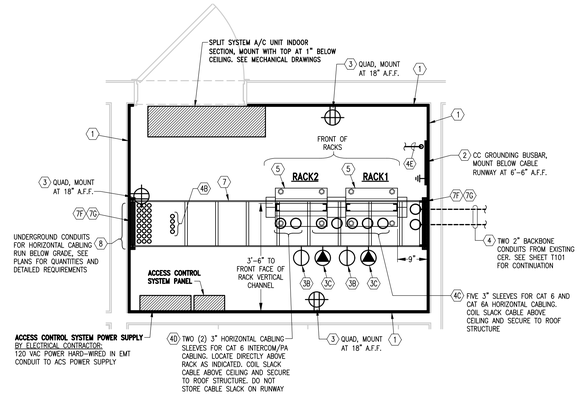
CABLE ROUTING: ROUTE CABLING IN CABLE RUNWAY. BUNDLE FIBER OPTIC, VOICE BACKBONE AND HORIZONTAL CABLING SEPARATELY. SECURE BUNDLES WITH BLACK VELCRO AT MINIMUM OF 12" ON CENTER IN CABLE RUNWAY AND AT MINIMUM OF 6" ON CENTER IN RACK VERTICAL CABLING SECTIONS. THE FINISHED INSTALLATION SHALL MEET THE APPROVAL OF THE ENGINEER FOR OVERALL QUALITY, ORGANIZATION, AND NEATNESS OF APPEARANCE. SEE SINGLE LINE CONFIGURATION DIAGRAMS FOR CABLE TYPES AND QUANTITIES.

BACKBOARD LAYOUT: BACKBOARD AND RACK ARRANGEMENT AND EQUIPMENT LOCATIONS INDICATED ARE DRAWN TO SCALE. DO NOT MODIFY LAYOUT WITHOUT PRIOR APPROVAL OF ENGINEER. USE ALL BLACK HARDWARE ON FACE OF RACKS.

CC FASTENERS: ALL ATTACHMENTS MADE TO CABLE TRAY OR RACKS SHALL HAVE SCREWS, BOLTS OR ANY OTHER MOUNTING HARDWARE INSTALLED IN DIRECTION AWAY FROM ANY COMMUNICATIONS CABLING. SELF TAPPING SCREWS ARE NOT ACCEPTABLE. ALL MOUNTING SCREWS SHALL BE BLACK.

CC PAINTING: TOUCH-UP PAINT ALL NICKS AND SCRATCHES ON ALL RACKS, CABLE RUNWAY, BACKBOARDS, ETC. AFTER INSTALLATION IS COMPLETE. TOUCH-UP SHALL BE DONE USING MANUFACTURER PROVIDED PAINT TO MATCH. ALL SCREWS, NUTS, AND BOLTS SHALL BE PAINTED TO MATCH HARDWARE.

CATEGORY 6 TERMINATIONS: MAKE ALL TERMINATIONS IN STRICT ACCORDANCE WITH TIA GUIDELINES AS WELL AS THE MANUFACTURER'S PRINTED INSTRUCTIONS FOR BOTH THE CABLE AND THE TERMINATION DEVICE FOR ALL FIELD CONNECTIONS IN THE "HORIZONTAL TELECOMMUNICATIONS LINK". STRIP CABLE JACKET BACK A MAXIMUM OF 1 INCH FROM THE POINT OF TERMINATION. MAINTAIN FACTORY SYMMETRICAL CABLE TWISTS TO WITHIN 0.5 INCHES (13 MM MAXIMUM) OF THE POINT OF TERMINATION. PROVIDE CABLE SLACK AT EACH END TO ALLOW MINIMUM OF FIVE (5) FUTURE RETERMINATIONS WITHOUT RE-ROUTING CABLE. SEE CO MOUNTING DETAILS, BACKBOARD ELEVATIONS, AND CC DETAILS.



CC.X.114 - ENLARGED FLOOR PLAN

SCALE: 1/2" =1'-0"

NORTH

ELECTRICAL CONTRACTOR NOTE

IN CC, RECESS ALL POWER CONDUITS AND DEVICE BOXES INTO WALLS BEHIND BACKBOARD TO ALLOW FLUSH MOUNTING OF POWER OUTLET FACE PLATES. DO NOT SURFACE MOUNT CONDUITS ON BACKBOARDS

CC LIGHT FIXTURE NOTE

LOCATE LIGHT FIXTURES TO CLEAR CABLE RUNWAY FOR LAMP CHANGE/FIXTURE MAINTENANCE, REGARLESS OF FIXTURE LAYOUT INDICATED ON ELECTRICAL DRAWINGS. PROVIDE UNIFORM 50 FOOTCANDLE LIGHT LEVEL AT 48" A.F.F.

CC GROUNDING NOTES

1. ALL GROUND CONNECTIONS SHALL BE MADE WITH HEAVY DUTY 2 HOLE COMPRESSION LUGS (HARGER GECLB4-2C FOR #4AWG, GECLB6-2C FOR #6AWG) AND 3/8"ø SS HEX HEAD CAP SCREWS WITH SS LOCKING NUTS (TWO SCREWS AND NUTS PER 2 HOLE LUG).
2. PROVIDE GROUNDING BUSBAR IN "CC" AS INDICATED. ELECTRICAL CONTRACTOR GROUND MAIN BUSBAR TO BUILDING MAIN ELECTRICAL SERVICE GROUND (BUILDING IN WHICH CC IS LOCATED) WITH #4 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR. RUN CONDUCTOR FROM BUSBAR LOCATION TO BUILDING MAIN ELECTRICAL SERVICE GROUND IN EMT CONDUIT. PROVIDE UL LISTED RIGID CONDUIT THREADED MALLEABLE IRON INSULATED GROUNDING BUSHING WITH BRONZE LUG (O-Z/GEDNEY TYPE IBC-L-BC) AT BOTH CONDUIT ENDS AND GROUND EACH END PER NEC. GROUNDING TO BUILDING STRUCTURE, CONDUITS, UTILITY PIPING, OR ELECTRICAL SUBPANELS IN LIEU OF BONDING TO BUILDING MAIN ELECTRICAL SERVICE GROUND IS NOT ACCEPTABLE.
3. GROUND ALL COMMUNICATION RACKS WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO MAIN GROUNDING BUSBAR. GROUND RACKS INDIVIDUALLY TO BUSBAR (DO NOT LOOP GROUNDS). ROUTE CONDUCTOR ALONG RACK REAR AND IN CABLE RUNWAY TO GROUNDING BUSBAR.
4. GROUND EACH CONDUIT AND CONDUIT SUPPORT STRUT WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO GROUNDING BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.
5. GROUND CABLE RUNWAY WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO GROUNDING BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.
6. PROVIDE UL LISTED RIGID CONDUIT THREADED MALLEABLE IRON INSULATED GROUNDING BUSHING WITH BRONZE LUG (O-Z/GEDNEY TYPE IBC-L-BC) ON END OF BACKBONE CONDUITS AND GROUND TO BUSBAR WITH #6 AWG INSULATED (GREEN) COPPER GROUNDING CONDUCTOR. PLASTIC INSULATING BUSHING IS ALSO REQUIRED.

Graphic Scale

2 1 0 2FT 4FT

SCALE: 1/2" = 1'-0"

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100% CONSTRUCTION DOCUMENTS

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER BICSI Gregory A. Cook BICSI ID # 104998 EXPIRES 12-31-27 RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

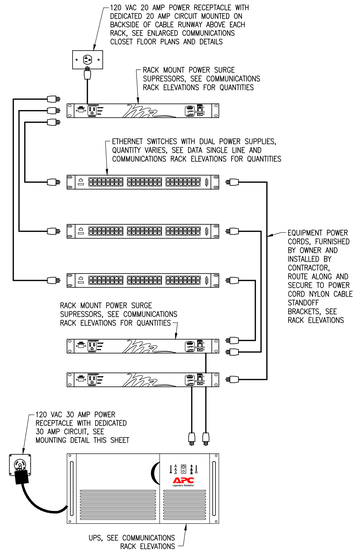
No.	Description	Date

COMMUNICATIONS CLOSET ENLARGED FLOOR PLAN

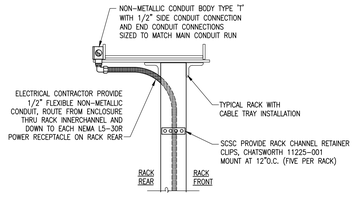
PROJECT NUMBER 22019

DATED 01/31/2025

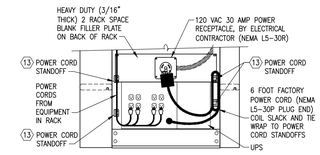
T501



TYPICAL RACK POWER DISTRIBUTION DIAGRAM
NOT TO SCALE



TYPICAL POWER CONDUIT TO UPS 30 AMP POWER OUTLET DETAIL



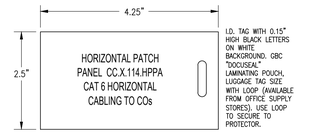
POWER CORD ROUTING DETAIL AT UPS PARTIAL RACK REAR ELEVATIONS

ENGRAVED PLASTIC TAG WITH 1/2" HIGH WHITE LETTER ON BLACK BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH, SECURE TAG WITH DOUBLE SIDED TAPE ON FAR RIGHT SIDE OF PATCH PANEL FRONT FACE

A

TYPICAL HORIZONTAL PATCH PANEL ENGRAVED TAG DETAIL
NOT TO SCALE

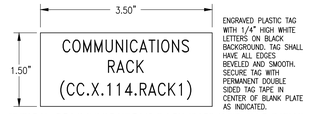
SEE "COMMUNICATIONS TYPICAL LABELING DETAILS"



I.D. TAG WITH 0.15" HIGH BLACK LETTERS ON WHITE BACKGROUND. GBC "DOCUSEAL" LAMINATING POUCH, LUGGAGE TAG SIZE WITH LOOP (AVAILABLE FROM OFFICE SUPPLY STORES). USE LOOP TO SECURE TO PROTECTOR.

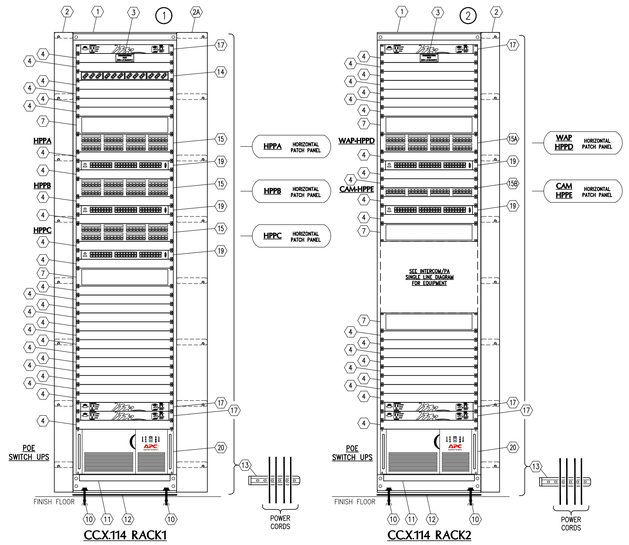
TYPICAL HORIZONTAL PATCH PANEL LAMINATED I.D. TAG DETAIL
NOT TO SCALE

SEE "COMMUNICATIONS TYPICAL LABELING DETAILS"



ENGRAVED PLASTIC TAG WITH 1/4" HIGH WHITE LETTERS ON BLACK BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH. SECURE TAG WITH PERMANENT DOUBLE SIDED TAG TAPE IN CENTER OF BLANK PLATE AS INDICATED.

TYPICAL COMMUNICATIONS RACK ENGRAVED TAG DETAIL
FULL SIZE



COMMUNICATIONS RACK ELEVATIONS
SCALE: 1"= 1'-0"

COMMUNICATIONS RACK ELEVATION KEY NOTES:

1. UNIVERSAL 7'-6" HIGH x 19" WIDE ALUMINUM FLOOR MOUNT RACK WITH UNIVERSAL 5/8", 5/8", 1/2" ALTERNATING HOLE PATTERN FRONT AND BACK, AND BLACK BAKED ENAMEL FINISH, CHATSWORTH 46353-705. PROVIDE WITH GROUND TERMINAL BLOCK, CHATSWORTH 08009-001.
2. DOUBLE SIDED VERTICAL CABLE MANAGER WITH INTEGRAL HINGED FRONT DOOR/COVER, SIZE 3.65" x 7'-6", COLOR BLACK, CHATSWORTH "CCS" 30161-705.
2A. DOUBLE SIDED VERTICAL CABLE MANAGER WITH INTEGRAL HINGED FRONT DOOR/COVER, SIZE 6" x 7'-6", COLOR BLACK, CHATSWORTH "CCS" 30162-705.
3. IDENTIFICATION TAG AT TOP OF RACK, SEE "TYPICAL COMMUNICATIONS RACK ENGRAVED TAG DETAIL".
4. ONE RACK SPACE BLANK FILLER PLATE, COLOR BLACK, CHATSWORTH 30026-701.
7. TWO RACK SPACE HINGED HORIZONTAL CABLE MANAGER ON FRONT SIDE OF RACK, PANDUIT WMPHF2E.
10. CONCRETE FLOOR RACK MOUNTING KIT, CHATSWORTH 40604-001.
11. RACK BASE DUST COVER, BLACK ENAMEL FINISH, CHATSWORTH 41050-719.
12. RACK ISOLATION KIT, CHATSWORTH 10605-019.
13. NYLON CABLE STANDOFF BRACKET, CHATSWORTH 10001-001. MOUNT ON BACK LEFT SIDE OF ALL RACKS AT 12" ON CENTER FOR ROUTING GROUNDING CONDUCTORS AND POWER EXTENSION CORDS UP AND DOWN RACKS. TYWRAP EACH CONDUCTOR AND CORD INDIVIDUALLY ON STANDOFF. (NOT SHOWN ON ELEVATIONS)
14. FIBER DRAWER FOR BACKBONE CABLES, 24 PORT, RACK MOUNT. SEE "DATA SINGLE LINE CONFIGURATION DIAGRAM".
15. 48 PORT CATEGORY 6 HORIZONTAL PATCH PANEL (HPP), SEE "DATA SINGLE LINE CONFIGURATION DIAGRAM".
15A. 48 PORT CATEGORY 6A WAP HORIZONTAL PATCH PANEL (WAP-HPP), SEE "DATA SINGLE LINE CONFIGURATION DIAGRAM".
15B. 24 PORT CATEGORY 6 HORIZONTAL PATCH PANEL (CAM-HPP), SEE "DATA SINGLE LINE CONFIGURATION DIAGRAM".
17. RACKMOUNT POWER POWER STRIP/SURGE SUPPRESSOR, MIDDLE ATLANTIC PDX-920R-SP, COLOR BLACK, SERIES SURGE PROTECTION WITH 9 YEAR WARRANTY, WITH EIGHT 120 VAC POWER RECEPTACLES ON BACK OF UNIT, ONE 120 VAC CONVENIENCE OUTLET ON FRONT, FRONT POWER SWITCH, AND 10' POWER CORD.
19. OWNER FURNISHED CONTRACTOR INSTALLED (OFCI): 48 PORT POE ETHERNET WORKGROUP SWITCH FOR DATA, VOIP, IP SECURITY CAMERAS AND WAP CONNECTIONS. SEE "DATA SYSTEM SINGLE LINE CONFIGURATION DIAGRAM". WHERE EQUIPMENT VARIES IN SIZE OR QUANTITY FROM THAT INDICATED, PROVIDE BLANK FILLER PLATES TO COVER ALL UNUSED RACK SPACES.
20. SCSC PROVIDE: AMERICAN POWER CONVERSION SMX3000LVNC (4 RACK UNITS HIGH - 2 POST MOUNTING) 3000 VA RACK MOUNT UPS, (QUANTITY TWO - FOR POE ETHERNET WORKGROUP SWITCHES), PROVIDE WITH FACTORY NETWORK CARD. ELECTRICAL CONTRACTOR PROVIDE RACK MOUNT 120 VAC L5-30R 30 AMP DEDICATED CIRCUIT RECEPTACLE FOR EACH UPS. SEE "TYPICAL POWER CONDUIT TO UPS 30 AMP POWER OUTLET DETAIL", "POWER CORD ROUTING DETAIL AT UPS PARTIAL RACK REAR ELEVATIONS" AND TYPICAL RACK POWER DISTRIBUTION DIAGRAM" DETAILS, THIS SHEET.

Graphic Scale

1 .5 0 1FT 2FT

SCALE: 1" = 1'-0"

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EXPIRES 12-31-27
RCDD

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

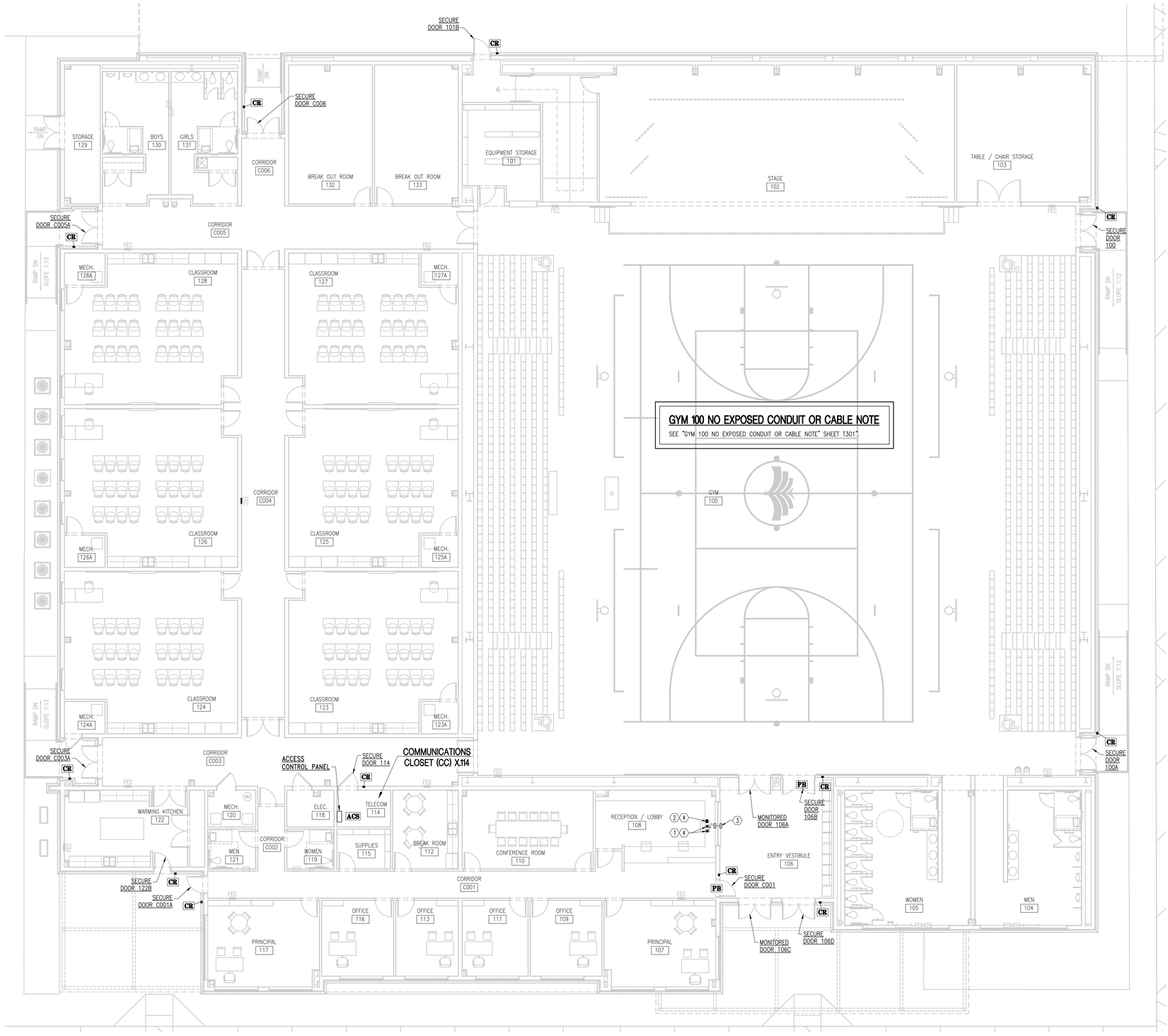
REVISIONS:

No.	Description	Date

COMMUNICATIONS RACK ELEVATIONS

PROJECT NUMBER 22019
DATED 01/31/2025

T502



GYM 100 NO EXPOSED CONDUIT OR CABLE NOTE

SEE "GYM 100 NO EXPOSED CONDUIT OR CABLE NOTE" SHEET T301"

CR LOCATION NOTE

CARD READER LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND INTENDED ONLY TO SHOW DOOR SERVED AND UNSECURE SIDE MOUNTING. THE OWNER'S PROJECT MANAGER WILL LOCATE ALL LISTED DEVICES IN THE FIELD ANYWHERE IN THE GENERAL VICINITY OF THE DOOR SERVED OR AREA INDICATED AT NO ADDITIONAL COST TO THE OWNER. CC/CM, ACSC AND EC COORDINATE FINAL LOCATIONS WITH OWNER AND ARCHITECT PRIOR TO BEGINNING ROUGH-IN. DEVICE HEIGHTS SHALL BE AS DIRECTED BY THE ARCHITECT.

STOREFRONT NOTE

MOUNT ALL CARD READERS FLUSH IN WALL. MOUNT CARD READERS IN STOREFRONT FRAMING ONLY WHERE SPECIFICALLY DIRECTED BY THE OWNER AND ACSC. GENERAL CONTRACTOR REQUEST DIRECTION FROM THE OWNER AND ACSC PRIOR TO COMMENCEMENT OF ANY RELATED WORK AND REVIEW EACH SECURE DOOR INSTALLATION. WHERE STOREFRONT MOUNTING IS REQUIRED SEE "GENERAL CONDUIT NOTES – ACCESS CONTROL SYSTEM" NOTE 3 SHEET ACS301 AND ACSC PROVIDE NARROW STILE CARD READER. THE GENERAL CONTRACTOR AND STOREFRONT SYSTEM INSTALLER SHALL PROVIDE THE ELECTRICAL CONTRACTOR ACCESS TO THE FRAMING TO RUN THE WIRING AS EACH DOOR IS INSTALLED.

ACCESS CONTROL SYSTEM FLOOR PLAN KEY NOTES

1. ACSC PROVIDE PUSHBUTTONS FOR TIMED UNLOCK OF SECURE DOORS INDICATED C001 AND 106B). PROVIDE TWO PUSHBUTTONS LOCATED AT KNEE SPACE OF RECEPTION CASEWORK. MOUNT CONCEALED UNDER RECEPTION COUNTER IN EXACT LOCATION AS DIRECTED BY OWNER'S PROJECT MANAGER IN THE FIELD FOR CONVENIENT ACCESS BY RECEPTION STAFF. WHERE DRAWER OR KEYBOARD TRAYS EXIST AT KNEE SPACES MOUNT PUSHBUTTONS ON SIDE OF KNEE SPACE JUST BELOW DRAWER OR KEYBOARD TRAYS. EXTEND ARMORED CABLE ACCORDINGLY. PUSHBUTTONS SHALL BE ALLEGION 660-PB. SET TIME DELAY FOR DELAYED DOOR RE-LOCKING IN COORDINATION WITH OWNER USING SDC "10TD MINI-TIMER" ADJUSTABLE TIME DELAY MODULE. PROVIDE END-OF-LINE MOV FOR EACH DOOR. RUN 3/4" EMT CONDUIT FOR EACH SET OF PUSHBUTTONS FROM BELOW COUNTER INTO KNEE WALL AND UP CONCEALED IN WALL AND ABOVE CEILING TO MAIN JUNCTION BOX FOR EACH SECURE DOOR – SEE KEY NOTE 4 FOR CONDUIT CONTINUATION BELOW COUNTER. PROVIDE ENGRAVED PLASTIC TAGS ON LIP OF COUNTER TO IDENTIFY DOOR SERVED BY EACH PUSHBUTTON AS DIRECTED BY OWNER.
2. ACSC PROVIDE LOCKDOWN/PANIC SWITCH LOCATED AT KNEE SPACE OF RECEPTION CASEWORK. MOUNT CONCEALED UNDER RECEPTION COUNTER IN EXACT LOCATION AS DIRECTED BY OWNER'S PROJECT MANAGER IN THE FIELD FOR CONVENIENT ACCESS BY RECEPTION STAFF. WHERE DRAWER OR KEYBOARD TRAYS EXIST AT KNEE SPACES MOUNT LOCKDOWN SWITCHES ON SIDE OF KNEE SPACE JUST BELOW DRAWER OR KEYBOARD TRAYS. EXTEND ARMORED CABLE ACCORDINGLY. LOCKDOWN SWITCHES SHALL BE MAGNASPHERE MK-3045T (PREVIOUSLY INTERLOGIX 3045-W). RUN 3/4" EMT CONDUIT FOR EACH LOCKDOWN SWITCH FROM UNDER COUNTER INTO KNEE WALL AND UP CONCEALED IN WALL AND HOMERUNNED ABOVE CEILING TO ACCESS CONTROL SYSTEM ENCLOSURE IN SERVING CC – SEE KEY NOTE 4 FOR CONDUIT CONTINUATION BELOW COUNTER. PROVIDE ENGRAVED PLASTIC TAGS ON LIP OF COUNTER TO IDENTIFY EACH LOCKDOWN SWITCH AS DIRECTED BY OWNER.
3. ACSC PROVIDE TALK-THRU DEVICE, NORCON TTU-3X-NC WITH NOISE CANCELLING OPTION. ADJUST SETTINGS FOR BEST SOUND QUALITY AND TRAIN SCHOOL STAFF IN USE OF SYSTEM. ELECTRICAL CONTRACTOR PROVIDE CONCEALED 120 VAC ELECTRICAL POWER CONNECTION AND INSTALL CONNECTING WIRING USING SMALL STAINLESS STEEL FLEX ARMORED CABLE CONCEALED BELOW COUNTER AND IN KNEE WALL. LOCATION IS TO BE DETERMINED IN THE FIELD – LOCATE ANYWHERE ALONG ADMIN RECEPTION COUNTER AS DIRECTED BY OWNER'S PROJECT MANAGER.
4. AT EACH SET OF PUSHBUTTONS AND AT EACH LOCKDOWN/PANIC SWITCH PROVIDE WIREMOLD V5748S SHALLOW METAL RACEWAY SURFACE JUNCTION BOX WITH STAINLESS STEEL BLANK PLATE AND TERMINATE 3/4" CONDUIT DESCRIBED IN KEY NOTES 1 AND 2 ON EACH BOX. DRILL HOLE IN JUNCTION BOX FOR CONNECTION OF STAINLESS STEEL ARMORED CABLE (ONE ARMORED CABLE FOR EACH PUSHBUTTON AND ONE FOR EACH LOCKDOWN SWITCH) AND CONNECT EACH ARMORED CABLE TO BOX WITH FITTING INTENDED FOR PURPOSE. FROM BOX RUN ARMORED CABLE CONCEALED ALONG UNDERSIDE OF COUNTERTOP AND SECURE TO COUNTERTOP AT MINIMUM OF 8" ON CENTER USING STAINLESS STEEL CUSHIONED CLAMPS. TERMINATE ARMORED CABLE AT EACH PUSHBUTTON AND LOCKDOWN SWITCH WITH CUSHIONED CLAMP.

NO EXPOSED CONDUIT OR CABLE NOTE

SEE T SHEET FLOOR PLANS FOR NOTES PROHIBITING EXPOSED CONDUIT OR CABLING AT AREAS WITH EXPOSED ROOF STRUCTURE IN AND AROUND THE GYM. PROVIDE BURIAL GRADE CABLES IN ALL UNDERGROUND CONDUITS.

ACCESS CONTROL SYSTEM LEGEND

- CLASSROOM 127 — ARCHITECT'S ROOM NUMBER, SEE "GENERAL LABELING NOTE"
- ACS — ACCESS CONTROL SYSTEM PANEL
- CR — CARD READER
- PB — DOOR CONTROLLED BY UNLOCK PUSHBUTTON
- LD — LOCKDOWN SWITCH
- TT — TALK-THRU DEVICE

ABBREVIATIONS

CC	COMMUNICATIONS CLOSET
CP	COMMUNICATIONS PANEL
ACS	ACCESS CONTROL SYSTEM
ACSC	ACCESS CONTROL SYSTEM CONTRACTOR
SCSC	STRUCTURED CABLING SYSTEM CONTRACTOR
EC	ELECTRICAL CONTRACTOR
CM/GC	CONSTRUCTION MANAGER

SECURE SIDE MOUNTING

ALL CONDUIT AT SECURE DOORS SHALL BE INSTALLED ON THE SECURE SIDE (SIDE OPPOSITE CARD READER).

ACCESS CONTROL SYSTEM FLOOR PLAN

SCALE: 1/8" = 1'-0"

PROJECT NOTE (ALL SHEETS):

ALL MATERIALS AND EQUIPMENT INDICATED AND REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION SHALL BE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNDER THIS PROJECT UNLESS SPECIFICALLY INDICATED TO BE EXISTING OR PROVIDED BY OTHERS.

Graphic Scale

8 4 0 8FT 16FT

SCALE: 1/8" = 1'-0"

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REVISIONS:

No.	Description	Date

ACCESS CONTROL SYSTEM FLOOR PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

ACS101

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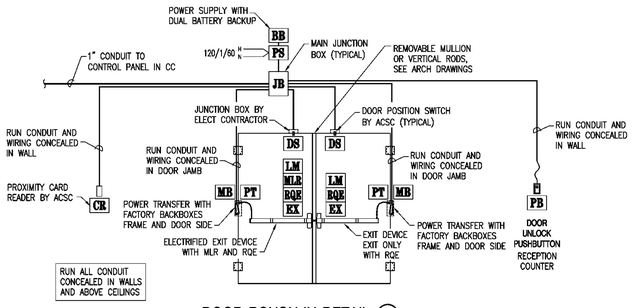
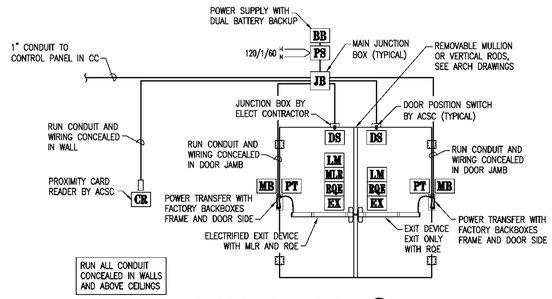


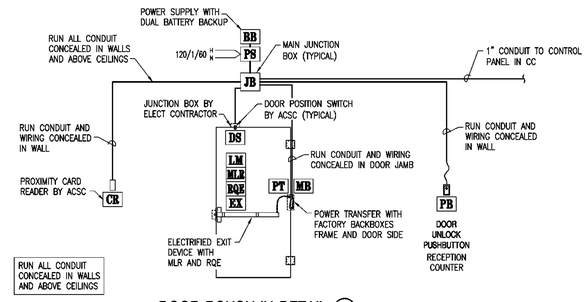
DOOR ROUGH-IN DETAIL (1)
N.T.S.

DOOR 106B | #10



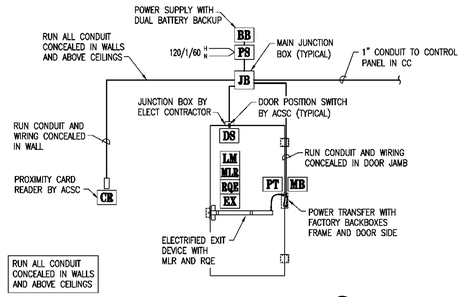
DOOR ROUGH-IN DETAIL (2)
N.T.S.

DOORS 100, 100A, C003A, C005A, C006, 106D | #01 | #03



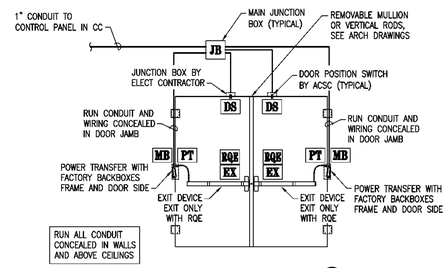
DOOR ROUGH-IN DETAIL (3)
N.T.S.

DOOR C001 | #12



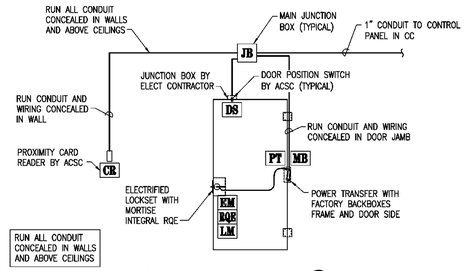
DOOR ROUGH-IN DETAIL (4)
N.T.S.

DOORS 101B, 122B, C001A | #04 | #05



DOOR ROUGH-IN DETAIL (5)
N.T.S.

DOORS 106A & 106C - MONITORED ONLY | #02 | #11



DOOR ROUGH-IN DETAIL (6)
N.T.S.

DOORS 114, 122B | #??

INTRUSION ALARM NOTES

THE ACS CONTRACTOR SHALL SETUP THE INTRUSION ALARM SYSTEM AS AN EXTENSION OF AND FULLY INTEGRATED INTO THE OWNER'S MONITORCAST ACCESS CONTROL SYSTEM FOR A SEAMLESS USER INTERFACE.

ALL SECURE DOORS ARE MECHANICAL FREE EGRESS AT ALL TIMES. ALL SECURE DOORS SHALL FAIL SECURE (LOCKED) UPON A POWER FAILURE. A FIRE ALARM EVENT SHALL NOT UNLOCK ANY SECURE DOOR.

ALL SECURE DOORS SHALL HAVE REQUEST TO EXIT INTEGRAL TO THE DOOR HARDWARE SUCH THAT EGRESS THRU A SECURE DOOR FROM THE SECURE SIDE SHALL NOT GENERATE AN INTRUSION ALARM.

THE INTRUSION ALARM SHALL OPERATE ON AN ARMED/DISARMED MODE BASIS, WITH THE MODE BASED ON TIME OF DAY.

IN ADDITION THE OWNER SHALL HAVE THE ABILITY TO INDEX THE SYSTEM TO MULTIPLE SPECIAL EVENT MODES.

ARMED MODE – GENERAL:
IN THE ARMED MODE ALL SECURE DOORS ARE ELECTRICALLY LOCKED AND MAY BE ENTERED ONLY BY INDIVIDUALS WITH VALID CARD READER CREDENTIAL AND PERMISSION TO ENTER THE BUILDING DURING THE TIME WHEN THE SYSTEM IS ARMED.

UNARMED MODE – GENERAL:
IN THE UNARMED MODE ALL SECURE DOORS ARE ELECTRICALLY LOCKED AND MAY BE ENTERED ONLY BY INDIVIDUALS WITH VALID CARD READER CREDENTIAL AND PERMISSION TO ENTER THE BUILDING DURING THE TIME WHEN THE SYSTEM IS UNARMED. ALTERNATELY THE OWNER MAY CHOOSE TO HAVE ONE OR MORE SECURE DOORS ELECTRICALLY UNLOCKED DURING THE TIME WHEN THE SYSTEM IS UNARMED.

THE OWNER MAY ELECT TO SET SYSTEM ARMED AND UNARMED MODES BASED ON TIME OF DAY ONLY, OR TO KEEP THE SYSTEM IN ARMED MODE AT ALL TIMES.

AN INTRUSION ALARM SHALL BE GENERATED ANYTIME A SECURE DOOR IS ELECTRICALLY LOCKED AND IS FORCED OPEN AS SENSED BY THE DOOR POSITION SWITCH, EXCEPT FOR EXCEPTIONS ON A DOOR-BY-DOOR AND TIME-OF-DAY BASIS AS DIRECTED BY THE OWNER. IN ARMED MODE A DOOR-HELD-OPEN NOTIFICATION MAY BE GENERATED FIRST, FOLLOWED BY AN INTRUSION ALARM, AS DIRECTED BY THE OWNER.

AN INTRUSION ALARM SHALL AUTOMATICALLY INITIATE A LOCKDOWN, UNLESS OTHERWISE DIRECTED BY THE OWNER.

SEE "EMERGENCY NOTIFICATION NOTE" FOR REQUIREMENTS RELATED TO EMERGENCY NOTIFICATION OF INTRUSION ALARMS. THE OWNER MAY ELECT TO HAVE UP TO FIVE DIFFERENT LEVELS OR TYPES OF ALARM NOTIFICATION FOR INTRUSION ALARMS.

THESE MODES OF OPERATION MAY VARY AT THE OWNER'S DIRECTION AND NO ADDITIONAL COST TO THE OWNER.

THESE OPERATING NOTES ARE FOR GENERAL INFORMATION ONLY AND ARE NOT INTENDED TO CONVEY THE FULL SCOPE OF ACS CONTRACTOR WORK. IT SHALL BE THE SOLE RESPONSIBILITY OF THE ACS CONTRACTOR TO COORDINATE ALL REQUIRED DETAILS OF BUILDING OPERATIONAL MODES ALONG WITH DETAILS OF SYSTEM OPERATION WITH THE OWNER'S PROJECT MANAGER AND OTHER OWNER PERSONNEL, AND SHALL INCORPORATE RELATED DETAILS IN THE CONTRACTOR'S AS-BUILT DRAWINGS. INTENDED SYSTEM OPERATION SHALL BE APPROVED BY THE OWNER'S PROJECT MANAGER PRIOR TO SYSTEM SETUP AND PROGRAMMING. PROVIDE A MINIMUM OF 4 HOURS TRAINING TO STAFF ACROSS THE FIRST YEAR OF OPERATION, WITH TIMES AND DURATION SET BY THE OWNER'S PROJECT MANAGER. FOLLOWING OCCUPANCY OF THE SCHOOL THE ACSC SHALL CONTINUE TO FINE TUNE OPERATING MODES WITH THE INVOLVEMENT OF THE SCHOOL PRINCIPAL AND THE OWNER'S PROJECT MANAGER FOR THE FIRST YEAR OF OPERATION.

EMERGENCY NOTIFICATION NOTE

THE ACS CONTRACTOR SHALL WORK CLOSELY WITH THE OWNER, OWNER'S SERVICE PROVIDERS, AND STRUCTURED CABLING SYSTEM CONTRACTOR TO PROVIDE EITHER A DIALUP OR DATA CONNECTION TO BOTH THE INTRUSION ALARM SYSTEM AND THE LOCKDOWN/PANIC SYSTEM AND SHALL PROVIDE ALL HARDWARE, PROGRAMMING AND SETUP AS REQUIRED TO IMMEDIATELY SEND EMERGENCY NOTIFICATION TO OWNER DESIGNATED RECEIVING STATIONS OF AN ALARM EVENT GENERATED FROM EITHER SYSTEM. LOCKDOWN/PANIC AND INTRUSION ALARM EVENTS SHALL BE REPORTED SEPARATELY UNLESS OTHERWISE DIRECTED BY THE OWNER. IN ADDITION THE ACSC SHALL REPORT ALARM EVENTS TO OWNER DESIGNATED DISTINCT EMPLOYEES OR OTHER INDIVIDUALS OR COMPANIES BY ANY COMBINATION OF TEXT, EMAIL OR OTHER NOTIFICATION METHOD AS DIRECTED BY THE OWNER.

ALARM REPORTING

TYPICAL SECURE DOOR OPERATION

PRESENTING VALID CREDENTIAL TO CARD READER SIGNALS TIMED ELECTRIC RETRACTION OF THE EXIT DEVICE LATCH BOLT ON ACTIVE LEAF (RIGHT HAND RETURN LEAF). ELECTRIC LOCKING MECHANISM IN ACTIVE LEAF SHALL ALWAYS FAIL SECURE (LOCKS ON LOSS OF POWER). INACTIVE LEAF IS FOR EXIT ONLY. DOOR POSITION SWITCHES TOGETHER WITH LATCH MONITORS INTEGRAL TO EACH EXIT DEVICE AND LOCKSET TIED TO INTRUSION ALARM SYSTEM MONITOR STATUS OF EACH DOOR LEAF FOR DOOR HELD OPEN OR UNAUTHORIZED ENTRY. REQUEST-TO-EXIT SWITCHES INTERNAL TO BOTH EXIT DEVICES ARE ACTIVATED UPON EXITING THROUGH EITHER LEAF SIGNALING AUTHORIZED EXITING. MECHANICAL FREE EGRESS SHALL ALWAYS BE POSSIBLE THROUGH EITHER LEAF.

DOOR POSITION SWITCH NORMALLY OPEN

DOOR POSITION SWITCHES SHALL BE NORMALLY OPEN. EACH DPS SHALL BE HELD IN CLOSED POSITION BY MAGNET WHEN DOOR IS CLOSED AND MAGNET IS WITHIN MANUFACTURER'S SPECIFIED GAP DISTANCE FROM SWITCH. DPS SHALL MOVE TO OPEN POSITION WHEN DOOR IS OPENED (CIRCUIT IS OPENED AND CURRENT DOES NOT FLOW). CIRCUIT IS ALSO OPENED IF WIRE IS CUT. OPEN CIRCUIT SHALL GENERATE ALARM STATE UNLESS RQE IS SIGNALED.

CARD READER NOTES

CARD READERS SHALL BE HID 'SIGNO 40NKS' OR CARD READER STANDARD WITH THE SCHOOL DISTRICT AT THE TIME OF PROJECT MATERIAL SUBMITTALS. THE OWNER WILL PROVIDE FINAL DIRECTION ON THE CARD READER PART NUMBER TO USE. ALL CARD READERS SHALL BE INSTALLED USING OPTIONAL GASKET HID PART NUMBER IP65GSKT TO MAKE THE INSTALLATION WATERTIGHT TO IP66 STANDARDS.

PROVIDE SINGLE GANG DEEP WALL BOX FOR ALL CARD READERS UNLESS OTHERWISE DIRECTED BY ACCESS CONTROL SYSTEM CONTRACTOR. PROVIDE MASONRY BOX WHERE MOUNTED IN BRICK. UNDER NO CIRCUMSTANCES SHALL OVERSIZE OPENINGS BE COVERED WITH PLATES AND THE DEVICES MOUNTED ON THE PLATES. BRICK OPENING SHALL BE COMPLETELY COVERED AND CONCEALED BY THE CARD READER. MAKE INSTALLATION WATERTIGHT.

LOCKDOWN/PANIC NOTES

PROVIDE LOCKDOWN/PANIC SWITCH AT UNDERCOUNTER LOCATION AT RECEPTION COUNTER AS INDICATED ON THE PLANS. HARD-WIRE TO ACS CONTROL PANEL IN HOMERUN CONDUIT. LOCKDOWN/PANIC SWITCH SHALL BE MAGNASPHERE MK-3045T (PREVIOUSLY INTERLOCK 3045-W) WITH ACTUATING LEVER. PULLING LEVER OPENS THE CIRCUIT AND LOCKS ALL DOORS WITH ELECTRIC LOCKING DEVICE. CLOSING LEVER CLOSES THE CIRCUIT AND RETURNS THE DOOR LOCKS TO THE STATE DETERMINED BY THE ACCESS CONTROL SYSTEM. MOUNT CONCEALED UNDER COUNTER ANYWHERE AT AS DIRECTED BY THE OWNER – LOCATE FOR READY ACCESS BY SCHOOL STAFF SEATED IN A NORMAL WORK POSITION. GC/CM REQUEST EXACT LOCKDOWN/PANIC SWITCH LOCATIONS FROM OWNER PRIOR TO COMMENCEMENT OF ROUGH-IN.

THE ACCESS CONTROL SYSTEM SHALL IMMEDIATELY ELECTRICALLY LOCK ALL SECURE DOORS UPON ACTIVATION OF LOCKDOWN/PANIC SWITCH BY SCHOOL PERSONNEL. THE ACCESS CONTROL SYSTEM SHALL ALSO IMMEDIATELY LOCK ALL SECURE DOORS UPON A FORCED ENTRY ALARM FROM THE INTRUSION ALARM SYSTEM. THE LOCKDOWN SHALL BE RELEASED AND SECURE DOORS PLACED IN NORMAL STATUS FOR THE CURRENT TIME ONLY WHEN LOCKDOWN/PANIC SWITCH IS RETURNED TO NORMAL POSITION. ALL SECURE DOORS WITH ELECTRIC LOCKING DEVICES SHALL FAIL SECURE UPON LOSS OF POWER FOR ANY REASON. FREE EGRESS SHALL ALWAYS BE AVAILABLE AT ALL SECURE DOORS.

SECURE SIDE MOUNTING

ALL CONDUIT AT SECURE SHALL BE INSTALLED ON THE SECURE SIDE (SIDE OPPOSITE CARD READER).

ACCESS CONTROL SYSTEM LEGEND

BB	BATTERY BACKUP	LD	LOCKDOWN SWITCH
CR	CARD READER	LM	LATCH MONITOR
DS	DOOR POSITION SWITCH	MB	MORTAR BOX
EX	RIM EXIT DEVICE	PB	PUSHBUTTON UNLOCK
EM	ELECTRIFIED LOCKSET	PS	POWER SUPPLY
IC	SECURITY INTERCOM	PT	POWER TRANSFER
JB	JUNCTION BOX	RQE	REQUEST TO EXIT
		(1)	DOOR DETAIL NUMBER
		#1	DOOR HARDWARE SPEC NUMBER

DOOR ORIENTATION NOTE:

RIGHT HAND/LEFT HAND ORIENTATION FOR EACH DOOR SHALL BE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS – DOOR LAYOUTS INDICATED ON THIS SHEET ARE DIAGRAMMATIC AND NOT INTENDED TO PROVIDE CORRECT ORIENTATION.

ACS ABBREVIATIONS

ACS	ACCESS CONTROL SYSTEM
GC/CM	GENERAL CONTRACTOR / CONSTRUCTION MANAGER
EC	ELECTRICAL CONTRACTOR
ACSC	ACCESS CONTROL SYSTEM CONTRACTOR
SCSC	STRUCTURED CABLING SYSTEM CONTRACTOR

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PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

ACCESS CONTROL SYSTEM DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

ACS201

GENERAL CONDUIT NOTES - ACCESS CONTROL SYSTEM

1. RUN ALL ACCESS CONTROL SYSTEM CABLING CONTINUOUSLY IN CONDUIT. ALL INTERIOR CONDUIT SHALL BE EMT WITH STEEL COMPRESSION FITTINGS (SCREW FITTINGS AND DIE CAST FITTINGS ARE NOT ALLOWABLE). CONDUIT SIZE SHALL BE 1" MINIMUM OR LARGER AS INDICATED, EXCEPT WHERE 1/2" CONDUIT IS SPECIFICALLY ALLOWED AT LOCAL DOOR DEVICES. WHERE CONDUIT SIZE IS NOT SPECIFICALLY INDICATED PROVIDE SIZE AS REQUIRED FOR EACH CONDUIT RUN WITH MAXIMUM 30% CONDUIT FILL RATE.
2. ELECTRICAL CONTRACTOR PROVIDE ALL CONDUIT AS INDICATED AND ALL ADDITIONAL CONDUIT AS REQUIRED FOR A COMPLETE SYSTEM. THE ACS IS TO BE PROVIDED UNDER AN ALLOWANCE AND THE SYSTEM PROVIDER IS IDENTIFIED (SEE "ALLOWANCE FOR ACCESS CONTROL SYSTEM" THIS SHEET). PRIOR TO BIDS EACH BIDDER FOR ELECTRICAL WORK SHALL CONTACT THE ACS PROVIDER, SHALL OBTAIN A SCOPE OF WORK FOR ASSOCIATED CONDUIT WORK TO INCLUDE ANY CONDUIT REQUIRED BY THE PROVIDER IN ADDITION TO THAT INDICATED ON THE DRAWINGS ALONG WITH ALL CONDUIT INDICATED ON THE DRAWINGS, AND SHALL INCLUDE AS PART OF THE BASE BID ALL SUCH CONDUIT WORK.
3. WHERE DOORS ARE MOUNTED IN A STOREFRONT SYSTEM AND THE OWNER DIRECTS THE ACSC TO MOUNT THE ASSOCIATED CARD READERS IN THE STOREFRONT SYSTEM RUN ALL WIRING IN CONDUIT PROVIDED BY THE ELECTRICAL CONTRACTOR CONCEALED IN STOREFRONT SYSTEM FRAMING. AT CONTRACTOR'S OPTION WIRING WITHIN THE STOREFRONT MAY BE RUN CONTINUOUSLY IN STAINLESS STEEL ARMORED FLEXIBLE CONDUIT, SIZE AS REQUIRED, CONNECTING TO THE EMT WITH A FITTING MADE FOR THAT PURPOSE CONCEALED IN A JUNCTION BOX ABOVE THE CEILING, BUT UNDER NO CIRCUMSTANCES SHALL ANY WIRING BE RUN WITHIN STOREFRONT FRAMING WITHOUT CONDUIT. CLOSELY COORDINATE REQUIREMENTS WITH GENERAL CONTRACTOR AND STOREFRONT SUPPLIER PRIOR TO MANUFACTURER OF STOREFRONT SYSTEM. DO NOT MOUNT CARD READERS IN STOREFRONT FRAMING UNLESS SPECIFICALLY DIRECTED TO DO SO BY THE OWNER.
4. RUN 1" HOMERUN CONDUIT FROM ACCESS CONTROL SYSTEM PANEL TO EACH SECURE DOOR JUNCTION BOX 'JB'. RUN 1/2" CONDUIT FROM 'JB' CONTINUOUS TO EACH POWER TRANSFER BACKBOX, EACH DOOR POSITION SWITCH JUNCTION BOX AND EACH CARD READER JUNCTION BOX. PROVIDE OTHER CONDUITS AS INDICATED IN DOOR DETAILS AND ELSEWHERE ON THE DRAWINGS AND AS REQUIRED BY THE ACSC.
5. RUN CONDUIT AND MOUNT MAIN JUNCTION BOXES FOR EACH SECURE DOOR ON THE SECURE SIDE OF THE DOOR SERVED IN AN ACCESSIBLE/SERVICABLE LOCATION ABOVE A LAY-IN CEILING AS CLOSE TO THE DOOR AS POSSIBLE OR IN A NEARBY ELECTRICAL EQUIPMENT ROOM. MOUNT ACS PANELS AND ASSOCIATED POWER SUPPLIES IN COMM ROOMS ONLY. MOUNT POWER SUPPLIES NEXT TO OR INSIDE OF ACS PANELS.
6. FIRE WALLS: FIRESTOP ALL FLOOR PENETRATIONS AND ALL PENETRATIONS OF FIRE RATED WALLS. FIRESTOP USING ASSEMBLY UL LISTED FOR THE SPECIFIC APPLICATION AND FLOOR OR WALL RATING. INSTALL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE CONDITIONS OF THE UL LISTING.
7. SMOKE WALL PENETRATIONS AND PENETRATIONS OF WALLS EXTENDING UP TO THE STRUCTURE ABOVE: ALL CONDUIT PENETRATIONS OF ALL WALLS INDICATED ON THE ARCHITECTURAL DRAWINGS AS SMOKE WALLS/BARRIERS/PARTITIONS AND ALL WALLS INDICATED ON THE ARCHITECTURAL DRAWINGS AS EXTENDING UP TO THE STRUCTURE ABOVE SHALL BE SEALED SMOKETIGHT WITH STI SMOKE 'N' SOUND SEALANT WITH UL LISTED 'L' SMOKE RATING AND 'ST' ACOUSTICAL RATING OF 62. SEALANT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS FOR ¼" SEALANT CAULK ON BOTH SIDES OF THE WALL. SEALANT INSTALLATION ON ONLY ONE SIDE OF THE WALL IS NOT ACCEPTABLE. AT THE CONTRACTOR'S OPTION PROVIDE AN ALTERNATE ACOUSTICAL SEALANT WITH EQUAL 'ST' RATING AT THRU PENETRATIONS OF NON-SMOKE WALLS THAT EXTEND UP TO THE STRUCTURE ABOVE FOR SOUND ISOLATION. INSTALL SAME AS INDICATED FOR STI SMOKE 'N' SOUND ABOVE.
8. RUN ALL CONDUIT CONCEALED ABOVE CEILINGS AND IN WALLS. EXPOSED WIRING, SURFACE RACEWAY AND ARMORED DOOR LOOPS AND CABLES ARE NOT ALLOWED.
9. EC PROVIDE HEAVY DUTY PULL STRINGS IN ALL CONDUITS SERVING SECURE DOORS AND DEVICES AND PROVIDE PULL TAPE IN ALL BACKBONE CONDUITS BETWEEN ACS PANELS FOR USE BY CABLING INSTALLER – RUN CONTINUOUS FROM PULL POINT TO PULL POINT WITH NOT LESS THAN 10 FEET SLACK COILED AT EACH END.
10. LOCATION AND ROUTING OF ABOVEGROUND CONDUITS IS APPROXIMATE AND DEPICTS GENERAL DESIGN INTENT ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING FINAL CONDUIT ROUTING IN THE FIELD. THE CONTRACTOR SHALL COORDINATE THE FINAL ROUTING OF CONDUITS TO AVOID CONFLICTS WITH OTHER TRADES, WHILE MINIMIZING CHANGES IN DIRECTION AND OVERALL CONDUIT LENGTH.
11. CONDUITS SHALL BE RUN CONCEALED OVERHEAD ABOVE CEILINGS UNLESS LOCATED IN SPACES WITHOUT CEILINGS OR IN AN UNFINISHED SPACE SUCH AS EQUIPMENT ROOMS. SUPPORT EXPOSED CONDUIT AT A MINIMUM OF 4'-0" ON CENTER WITH 2-HOLE HEAVY DUTY GALVANIZED STEEL HARDWARE.
12. SUPPORT CONDUIT DIRECTLY FROM BUILDING STRUCTURE USING APPROVED HARDWARE. DO NOT SUPPORT CONDUIT FROM OTHER SYSTEMS COMPONENTS OR SUPPORTS. ROUTE ALL CONDUITS AS HIGH AS POSSIBLE. WHERE CONDUIT IS EXPOSED RUN HARD AGAINST WALL OR UNDERSIDE OF ROOF/FLOOR DECK. RUN ALL CONDUITS PARALLEL/PERPENDICULAR AND PLUMB WITH BUILDING LINES.
13. CONDUIT BODIES SUCH AS 'LB' FITTINGS ARE NOT ALLOWABLE.
14. PROVIDE PULLBOXES OF THE SAME TYPE AND SIZE AS THOSE INDICATED ON DRAWINGS FOR EACH RUN OF CONDUIT AT EVERY 100 FEET ON CENTER AND AT EACH END OF CONDUIT RUNS CONTAINING A TOTAL OF TWO 90 deg BENDS OR A COMBINATION OF LESSER BENDS TOTALING 180 deg (MINIMUM REQUIREMENTS – PROVIDE WHETHER SPECIFICALLY INDICATED OR NOT). CONDUIT RUNS CONTAINING MORE THAN TWO 90 deg BENDS WITHOUT A PULLBOX ARE NOT ALLOWABLE. FACTORY CONDUIT ELBOWS AND ALL OTHER BENDS SHALL HAVE A MINIMUM RADIUS OF SIX TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT OFFSETS AND PULLBOXES REQUIRED TO SUIT FIELD CONDITIONS AND TO CONFORM TO THESE REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
15. PULL BOXES SHALL BE 4" WIDE x 4" LONG x 2-1/8" DEEP NEMA 1 GALVANIZED STEEL WITH SCREW COVER. WHERE CONDUITS ARE TIGHTLY RACKED WITH UNIFORM SPACING, WIDER PULL BOXES MAY BE PROVIDED TO SERVE MULTIPLE CONDUITS. TERMINATE CONDUITS AT OPPOSITE ENDS OF PULLBOXES. DO NOT TERMINATE CONDUITS IN PULLBOXES AT RIGHT ANGLES TO EACH OTHER. HOMERUN CONDUITS SHALL NOT BE COMBINED INTO LARGER CONDUITS SERVING MULTIPLE DOORS OR DEVICES.
16. TERMINATE ALL CONDUIT ENDS WITH THREADED PLASTIC INSULATING BUSHINGS (PUSH-ON NOT ALLOWABLE). BUSHINGS MUST FIT TIGHTLY ON CONDUIT CONNECTOR THREADS. INSTALL ALL BUSHINGS PRIOR TO PULLING CABLE.
17. IDENTIFICATION: IDENTIFY ALL INDOOR ACS CONDUITS AND PULLBOXES ABOVE LAY-IN CEILINGS AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER) WITH GREEN PAINT. DO NOT PAINT CONDUIT COUPLERS AND ENCLOSURES IN EQUIPMENT ROOMS. CONDUIT IN FINISHED SPACES WITH EXPOSED STRUCTURE CEILING SHALL BE PAINTED BY THE GENERAL CONTRACTOR TO MATCH ADJACENT FINISHES AND OTHER EXPOSED UTILITIES.

ACCESS CONTROL SYSTEM CABLING REQUIREMENTS

1. PROVIDE JACKETED WIRE FOR ALL APPLICATIONS.
2. PROVIDE SHIELDED CABLE WHERE RECOMMENDED BY THE CONNECTED EQUIPMENT MANUFACTURER. TERMINATE SHIELD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. HOMERUN CARD READER CABLE FROM READER TO SERVING ACCESS CONTROL SYSTEM PANEL. PROVIDE SLACK IN CABLE AT MAIN PULL BOX AT EACH SECURE DOOR. MAKE ALL WIRING CONNECTIONS TO CABLE IN MAIN PULL BOX AT EACH SECURE DOOR.
4. FOR PURPOSES OF BIDS THE ACS CONTRACTOR SHALL PROVIDE THE FOLLOWING WIRING FOR THE ACS AND OTHER SECURITY SYSTEMS. FOLLOWING BIDS THE ACSC SHALL SHALL PROVIDE WIRING AS REQUIRED FOR EACH APPLICATION AT NO ADDITIONAL COST TO THE OWNER.
5. PROVIDE THE FOLLOWING WIRING TO EACH CARD READER:
   4-CONDUCTOR/18 AWG, 3-PAIR/22 AWG, 2-CONDUCTOR/22 AWG, 4-CONDUCTOR/22 AWG
6. PROVIDE WIRING AS REQUIRED TO ALL OTHER ACCESS CONTROL AND INTRUSION ALARM SYSTEM DEVICES AND POWER SUPPLIES.
7. CONDUCTOR QUANTITIES AND GAUGES ARE MINIMUM, PROVIDE HIGHER CONDUCTOR COUNT AND LARGER GAUGES AS REQUIRED FOR EACH WIRED DEVICE PER MANUFACTURER'S INSTRUCTIONS.

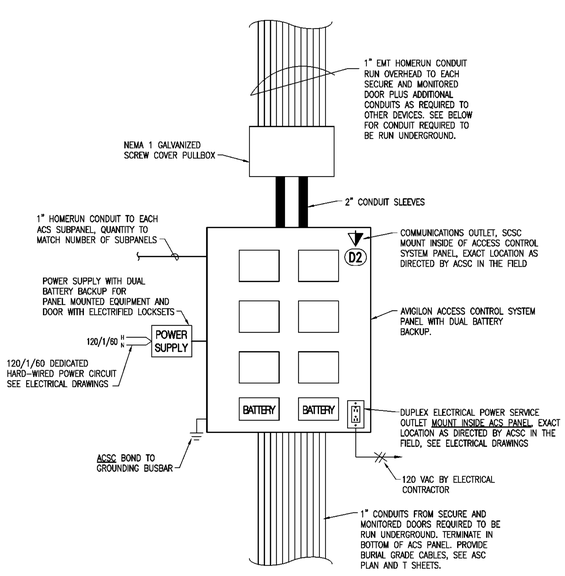
ALLOWANCE FOR ACCESS CONTROL SYSTEM

THE GENERAL CONTRACTOR SHALL INCLUDE AN ALLOWANCE FOR THE PROVISION OF A COMPLETE ACCESS CONTROL SYSTEM WITH INTEGRATED INTRUSION ALARM FOR THIS PROJECT IN THE BASE BID. ALL REFERENCES TO MATERIALS AND LABOR ASSOCIATED WITH THE ACCESS CONTROL SYSTEM WITHIN THE CONTRACT DOCUMENTS SHALL BE INCLUDED IN THIS ALLOWANCE UNLESS SPECIFICALLY INDICATED OTHERWISE. THE AMOUNT OF THE ALLOWANCE SHALL BE ISSUED AS AN ADDENDUM PRIOR TO THE BID DATE.

THE SCOPE OF WORK SHALL INCLUDE THE ACCESS CONTROL SYSTEM COMPLETE WITH ALL WORK INDICATED ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS, ALL DEVICES, EQUIPMENT AND WORK DESCRIBED IN THE INTEGRATOR'S COST PROPOSAL AND ASSOCIATED STATEMENT OF WORK, ALL OTHER DEVICES, EQUIPMENT AND WORK REQUIRED FOR A COMPLETE SYSTEM, ALL WIRING AND CABLING (EXCEPT AS INDICATED BELOW FOR CATEGORY 6 CABLING BY THE SCSC), AND ALL PROGRAMMING AND SETUP REQUIRED TO MAKE THE SYSTEM FULLY OPERATIONAL AND FUNCTIONAL TO THE SATISFACTION OF THE OWNER.

RELATED WORK TO BE PROVIDED BY OTHERS UNDER THE BASE BID BUT NOT INCLUDED IN THE SCOPE OF THE ALLOWANCE SHALL INCLUDE CONDUIT FOR ALL ACCESS CONTROL SYSTEM WIRING AND CABLING AND ALL POWER AND GROUNDING REQUIRED FOR THE ACCESS CONTROL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE ASSOCIATED CONDUIT, POWER AND GROUNDING WORK WITH THE ACCESS CONTROL SYSTEM CONTRACTOR – BUT THE SCOPE OF CONDUIT, POWER AND GROUNDING WORK SHALL NOT BE LESS THAN THAT DESCRIBED ON THE DRAWINGS. THE SCSC SHALL PROVIDE CATEGORY 6 CABLING TO EACH ACCESS CONTROL SYSTEM PANEL AS INDICATED ON THE DRAWINGS.

THE ACCESS CONTROL SYSTEM PROVIDER SHALL BE UNDER MULTI-YEAR CONTRACT WITH THE OWNER, SHALL BE AVIGILON CERTIFIED AND SHALL BE MCA (CONTACT TONY COOPER – EMAIL TONYCOOPER@CALLMC.COM).



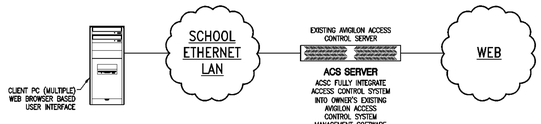
TYPICAL ACCESS CONTROL SYSTEM PANEL DETAIL
NOT TO SCALE

ACSC, EC, SCSC AND GC/CM COORDINATION NOTES

1. THE ACSC SHALL PROVIDE THE ACCESS CONTROL SYSTEM NOTIFICATION OF ALARMS TO OWNER IDENTIFIED CENTRAL RECEIVING STATIONS, OTHER WORK SHOWN TO BE BY THE ACSC IN THE DRAWINGS AND SPECIFICATIONS, AND ALL OTHER WORK REQUIRED FOR COMPLETE AND FULLY FUNCTIONAL SYSTEMS.
2. THE ACSC WILL FULLY INTEGRATE THE ACCESS CONTROL SYSTEM INTO THE OWNER'S EXISTING DSX ACCESS CONTROL SYSTEM SOFTWARE FOR MANAGEMENT OF THE ACCESS CONTROL SYSTEM TO INCLUDE INTRUSION, LOCKDOWN AND PANIC.
3. THE ACSC SHALL PROVIDE ALL LOW VOLTAGE WIRING ASSOCIATED WITH THE SYSTEM LISTED ABOVE.
4. THE ACSC SHALL PROVIDE A DETAILED STATEMENT OF WORK WITH INCLUSIONS AND EXCLUSIONS TO THE GC/CM AND EC FOR FINAL COORDINATION, ALONG WITH WIRING DIAGRAMS, INSTALLATION, OPERATION AND MAINTENANCE MANUALS, AND OTHER INFORMATION REQUIRED FOR THE GC AND EC TO COMPLETE THEIR ASSOCIATED WORK IN A TIMELY MANNER IN ACCORDANCE WITH THE OVERALL PROJECT SCHEDULE.
5. THE GC/CM SHALL PROVIDE OVERALL COORDINATION AND SCHEDULING FOR THE SYSTEM LISTED ABOVE TO INCLUDE DIRECT COORDINATION BETWEEN THE ACSC AND EC FOR ROUGH-IN AND OTHER WORK ITEMS THAT ARE TIME CRITICAL. THE GC/CM SHALL ALSO PROVIDE OVERALL COORDINATION OF EQUIPMENT LOCATIONS WITH THE ARCHITECT, OWNER, EC AND ACSC.
6. THE EC AND ACSC SHALL COORDINATE PROJECT REQUIREMENTS AS SOON AS THE ACSC IS IDENTIFIED BY THE OWNER AND CONTINUALLY DURING THE COURSE OF THE PROJECT.
7. THE EC SHALL PROVIDE ALL CONDUIT, BOXES, ENCLOSURES, PULL STRINGS AND TAPES, SLEEVES, FIRESTOPPING, SMOKESTOPPING, POWER, GROUNDING, AND ALL OTHER WORK REQUIRED BY CODE OR FOR COMPLETE AND FULLY FUNCTIONAL SYSTEMS BUT NOT PROVIDED BY THE ACSC OR SPECIFICALLY IDENTIFIED AS PROVIDED BY OTHERS, WHETHER SPECIFICALLY SHOWN OR NOT.
8. THE EC SHALL WIRE AND MAKE ALL CONNECTIONS TO ALL ELECTRIFIED DOOR HARDWARE AND DOOR HARDWARE THAT REQUIRES ANY TYPE OF 120 VAC WIRING CONNECTION. SEE DOOR HARDWARE SPECIFICATION SECTION 087100 AND ARCHITECTURAL AND ELECTRICAL DRAWINGS.
9. ACCESS CONTROL SYSTEM PANELS – CATEGORY 6 OUTLET: CATEGORY 6 CABLING AND MODULAR OUTLETS FOR NETWORK CONNECTIONS TO ACSC PANELS SHALL BE PROVIDED BY THE STRUCTURED CABLING SYSTEM CONTRACTOR (SCSC) COMPLETE TO INCLUDE PATCH PANELS, TERMINATION, LABELING, TESTING, AND PATCHING TO ASSIGNED NETWORK CONNECTIONS. THE CATEGORY 6 CABLES SHALL BE TERMINATED ON A BISCUIT JACK BY THE SCSC INSIDE THE ACSC PANELS. SCSC AND ACSC COORDINATE FINAL OUTLET LOCATIONS WITHIN PANELS. THE SCSC SHALL ALSO PROVIDE CATEGORY 6 CABLING AND FACEPLATES FOR EACH SECURITY VIDEO INTERCOM SYSTEM OUTDOOR STATION AND INDOOR STATION.

ACCESS CONTROL SYSTEM GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 087100 – DOOR HARDWARE TO CROSS REFERENCE DOOR HARDWARE SET NUMBERS TO INDIVIDUAL DOOR NUMBERS ALONG WITH OTHER INFORMATION FOR SECURE DOORS TO INCLUDE OPERATION. DOOR HARDWARE INDICATED ON ACS DRAWINGS IS FOR INFORMATION ONLY. SEE DOOR HARDWARE SPECIFICATION FOR FINAL DOOR HARDWARE REQUIREMENTS. ALL DOOR HARDWARE COMPONENTS LISTED IN SPECIFICATION SECTION 087100 – DOOR HARDWARE SHALL BE PROVIDED BY THE DOOR HARDWARE PROVIDER UNLESS SPECIFICALLY INDICATED TO BE PROVIDED BY OTHERS. CARD READERS AND DOOR POSITION SWITCHES SHALL BE PROVIDED BY THE ACCESS CONTROL SYSTEM CONTRACTOR. POWER SUPPLIES AT ALL SECURE DOORS WITH EXIT DEVICES SHALL BE PROVIDED AS PART OF THE DOOR HARDWARE PACKAGE AND SHALL BE THE SAME MANUFACTURER AS THE EXIT DEVICE. POWER SUPPLIES SERVING ACCESS CONTROL SYSTEM PANELS AND DOORS WITH ELECTRIFIED LOCKSETS SHALL BE PROVIDED BY THE ACSC AND SHALL BE LOCATED IN OR DIRECTLY ADJACENT TO ACCESS CONTROL SYSTEM PANELS IN COMM ROOMS. ALL POWER SUPPLIES SHALL HAVE DUAL BATTERY BACKUP AND SHALL BE TURNED OVER TO THE ELECTRICAL CONTRACTOR FOR INSTALLATION. LOW VOLTAGE WIRING SHALL BE PROVIDED BY THE ACCESS CONTROL SYSTEM CONTRACTOR. ALL CONDUIT FOR LOW VOLTAGE WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. 120VAC POWER AND ALL CONDUIT FOR POWER SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
2. ALL DOORS SHALL FAIL SECURE UPON LOSS OF POWER TO LOCKING DEVICE FOR ANY REASON.
3. ALL DOORS SHALL HAVE MECHANICAL FREE EGRESS FROM SECURE SIDE TO UNSECURE SIDE UNLESS SPECIAL CIRCUMSTANCES DICTATE OTHERWISE AS SPECIFICALLY DESCRIBED IN THE DOOR HARDWARE SPECIFICATIONS.
4. ALL DOORS SHALL HAVE REQUEST TO EXIT SWITCH INTEGRAL TO THE ELECTRIFIED DOOR LOCKING DEVICES AS PART OF THE DOOR HARDWARE PACKAGE. REQUEST TO EXIT SWITCH SHALL INDICATE AUTHORIZED EGRESS FROM SECURE SIDE TO UNSECURE SIDE AND PREVENT ACTIVATION OF THE INTRUSION ALARM.
5. ALL SECURE DOOR MAIN JUNCTION BOXES SHALL BE 12"x12"x6" NEMA 1 SCREW COVER AND SHALL BE INSTALLED IN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING AS CLOSE TO DOOR OR GATE SERVED AS POSSIBLE.
6. MOUNT ALL CARD READERS FLUSH IN WALL. WHERE STOREFRONT MOUNTING IS REQUIRED BY THE OWNER SEE "GENERAL CONDUIT NOTES" NOTE 3 THIS SHEET AND ACSC PROVIDE NARROW STILE CARD READER.
7. PROVIDE WEATHERPROOF CARD READERS, ROUGH-IN AND MOUNTING AT ALL LOCATIONS.
8. CARD READER LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND INTENDED ONLY TO SHOW DOOR SERVED AND UNSECURE SIDE MOUNTING. THE OWNER'S PROJECT MANAGER AND ARCHITECT PROVIDE DIRECTION ON EXACT LOCATION OF ALL CARD READERS IN THE FIELD – WHICH MAY BE ANYWHERE IN THE VICINITY OF THE DOOR SERVED AT NO ADDITIONAL COST TO THE OWNER. THE GC SHALL REQUEST LOCATIONS WELL PRIOR TO COMMENCEMENT OF ROUGH-IN.
9. THE GC/CM SHALL PROVIDE OVERALL COORDINATION AND SCHEDULING FOR THE ACCESS CONTROL SYSTEM INCLUDING DIRECT COORDINATION BETWEEN THE ACSC AND EC FOR ROUGH-IN AND OTHER WORK ITEMS THAT ARE TIME CRITICAL. THE GC SHALL ALSO PROVIDE OVERALL COORDINATION OF EQUIPMENT LOCATIONS (CARD READERS AND KEYPADS) WITH THE ARCHITECT, OWNER, EC AND ACSC.
10. PROVIDE WALL/MORTAR/JUNCTION BOXES AT ALL POWER TRANSFERS, AND DOOR POSITION SWITCHES REGARDLESS OF WALL TYPE AND WHETHER DOOR FRAMES ARE MORTAR FILLED OR NOT. CONNECT CONDUIT TO BOXES WITH MORTAR TIGHT COMPRESSION FITTINGS. PROVIDE GROMMETS WHERE WIRING PASSES THRU OPENINGS IN METAL COMPONENTS. COMPLY WITH CODE FOR PROTECTION OF CONDUITS IN CONTACT WITH MORTAR OR CONCRETE.
11. FINAL DOOR NUMBERS SHALL BE BASIS FOR SYSTEM LABELING AND PROGRAMMING SHALL BE BASED ON FINAL ROOM NUMBERS USED FOR ROOM SIGNAGE. FINAL NUMBERING/LABELING SCHEME FOR DOORS OTHER SECURITY DEVICES SHALL BE WORKED OUT IN CLOSE COORDINATION WITH THE OWNER'S PROJECT MANAGER AND ARCHITECT.



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REVISIONS:

No.	Description	Date

ACCESS CONTROL SYSTEM DETAILS

PROJECT NUMBER	22019
DATED	01/31/2025

ACS301

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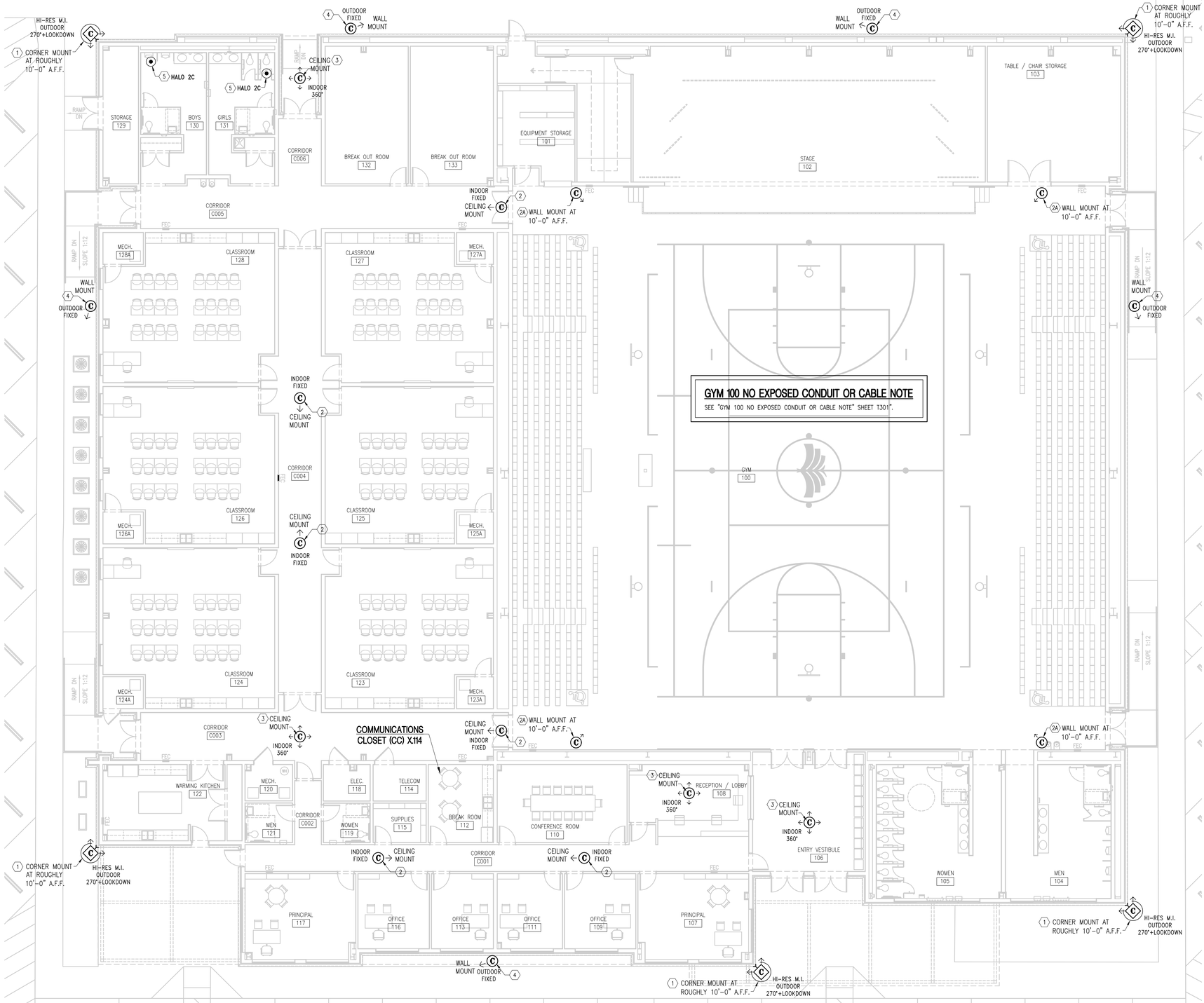


GYM 100 NO EXPOSED CONDUIT OR CABLE NOTE

SEE "GYM 100 NO EXPOSED CONDUIT OR CABLE NOTE" SHEET T301".

SECURITY DEVICE IDENTIFICATION NOTE:

ALL CAMERAS AND OTHER SECURITY DEVICES SHALL BE IDENTIFIED BASED ON FINAL FISH ROOM NUMBERS OR AS OTHERWISE DIRECTED BY THE OWNER DURING CONSRUCTION. OBTAIN FINAL ROOM NUMBERS FROM THE ARCHITECT PRIOR TO IDENTIFYING AND LABELING DEVICES.

PROJECT NOTE (ALL SHEETS):

ALL MATERIALS AND EQUIPMENT INDICATED AND REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION SHALL BE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNDER THIS PROJECT UNLESS SPECIFICALLY INDICATED TO BE PROVIDED BY OTHERS.

IP SECURITY CAMERA SYSTEM FLOOR PLAN

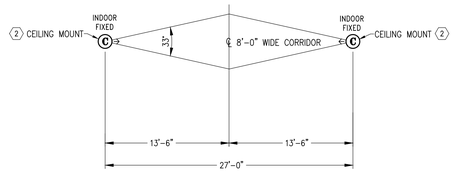
SCALE: 1/8" = 1'-0"

DIRECT CONNECT NOTE

DIRECT TERMINATE CATEGORY 6 CABLE FOR SECURITY CAMERAS WITH MALE MODULAR PLUG. ALL CATEGORY 6 DIRECT CONNECT PLUGS SHALL BE AS INDICATED ON THE DATA SINGLE LINE.

CAMERA FASTENER SIZE NOTE:

FASTENER SIZES INDICATED FOR CAMERA MOUNTS ARE APPROXIMATE AND MUST BE VERIFIED WITH THE ACTUAL HARDWARE RECEIVED. FASTENERS FOR THREADED CONNECTIONS SHALL BE SAME SIZE AS THREADED HOLE. FASTENERS FOR SMOOTH HOLES SHALL BE 1/16" SMALLER THAN HOLE DIAMETER. ALL FASTENERS SHALL BE STAINLESS STEEL.



CORRIDOR MODE

FOR INDOOR FIXED CAMERAS WITH OPPOSING VIEW IN 8'-0" WIDE CORRIDORS AND TAGGED WITH KEY NOTE 2 (IPRO MODEL WV-S22500-V3L), CONFIGURE FOR CORRIDOR VIEW AS FOLLOWS:

1. LOCATE CENTER OF CORRIDOR IN BOTH DIRECTIONS (CORRIDOR WIDTH AND LENGTH).
2. SET EACH CAMERA AT 13'-6" FROM CORRIDOR CENTER FOR TOTAL DISTANCE BETWEEN CAMERAS OF 27'-0".
3. SET CAMERA TO CORRIDOR MODE AT 3:4 ASPECT RATIO FOR 2304X3072 RESOLUTION (REVERSES 4:3 ASPECT RATIO).
4. SET CAMERA HORIZONTAL ANGULAR FIELD OF VIEW TO FACTORY MINIMUM OF 33 DEGREES NOTING THAT HORIZONTAL AND VERTICAL FIELDS OF VIEW ARE REVERSED WITH CAMERA SET FOR CORRIDOR MODE. ADJUST DISTANCE FOR ACTUAL MINIMUM ANGULAR FIELD OF VIEW FOR CAMERA FURNISHED.
5. WHERE CAMERA VIEWS MEET AT CENTER OF CORRIDOR HORIZONTAL FIELD OF VIEW SHOULD EQUAL WIDTH OF CORRIDOR.
6. SET VERTICAL ADJUSTING ANGLE TO MAXIMIZE VIEW OF FLOOR WITH MINIMUM VIEW OF CEILING AT END OF CORRIDOR.
7. FOR CORRIDOR C001 SPACE CAMERAS AT 38'-4".

CORRIDOR C004 CAMERA LAYOUT DIAGRAM

NOT TO SCALE

IP SECURITY CAMERA SYSTEM FLOOR PLAN KEY NOTES

1. iPRO WV-S8574L 33 MEGAPIXEL HI-RES 4 X 4K MULTI-IMAGER OUTDOOR FIXED IK10 VANDAL CAMERA WITH BUILT-IN IRLED (COLOR WHITE) – CORNER MOUNT, INSTALL AND SETUP FOR 270 DEGREE VIEW PLUS DOWNLOOK. VERIFY EXACT LOCATION WITH OWNER AND CAMERA INTEGRATOR PRIOR TO INSTALLATION. CORNER MOUNT USING iPRO WV-QSR503-W SHROUD, iPRO WV-QWL501-W OUTDOOR WALL MOUNT AND iPRO WV-QCN500-W CORNER MOUNT ADAPTER (ALL COLOR WHITE). LOCATE CORNER MOUNT AND DRILL HOLE THROUGH CORNER OF WALL IN EXACT LOCATION REQUIRED FOR CONDUIT TO EXTEND THRU FACTORY OPENING IN CORNER MOUNT AND TERMINATE IN FACTORY CONDUIT CONNECTOR IN WALL MOUNT. UNDER NO CIRCUMSTANCES WILL EXPOSED CONDUIT OR WIRING BE ALLOWED AT CAMERA MOUNTING. SET CORNER MOUNT IN FULL BED OF LEXEL CLEAR SEALANT/ADHESIVE AND SECURE TO STRUCTURE WITH EIGHT 3/8" DIAMETER STAINLESS STEEL BOLTS AND WASHERS. SECURE WALL MOUNT TO CORNER MOUNT WITH FOUR 3/8" DIAMETER STAINLESS STEEL BOLTS AND WASHERS. MAKE ALL PENETRATIONS OF WALL WATERTIGHT WITH LEXEL SEALANT. EXTEND CONDUIT TO 4"X4"X2-1/8" NEMA 1 PULL BOX MOUNTED INDOORS IN NEAREST ACCESSIBLE LOCATION ABOVE LAY-IN CEILING NEAR CAMERA, THEN RUN 3/4" CONDUIT FROM PULL BOX CONCEALED CONTINUOUS TO SERVING CC. SCSC PROVIDE CATEGORY 6 CABLE FOR NETWORK AND POE SERVICES CONTINUOUS FROM CAMERA TO SERVING CC.
2. iPRO WV-S22500-V3L 5MP INDOOR FIXED IK10 VANDAL CAMERA WITH BUILT-IN IRLED (COLOR WHITE)– CEILING MOUNT. VERIFY EXACT LOCATION WITH OWNER AND CAMERA INTEGRATOR PRIOR TO INSTALLATION. FLUSH MOUNT IN LAY-IN CEILING USING PANASONIC WV-QEM100-W EMBEDDED CEILING MOUNT BRACKET. SUPPORT MOUNTING BRACKET FROM ROOF STRUCTURE ABOVE. EXTEND CONDUIT TO 4"X4"X2-1/8" NEMA 1 PULL BOX MOUNTED INDOORS IN NEAREST ACCESSIBLE LOCATION ABOVE LAY-IN CEILING NEAR CAMERA, THEN RUN 3/4" CONDUIT FROM PULL BOX CONCEALED CONTINUOUS TO SERVING CC. SCSC PROVIDE CATEGORY 6 CABLE FOR NETWORK AND POE SERVICES CONTINUOUS FROM CAMERA TO SERVING CC.
2A. iPRO WV-S22700-V2L 5MP INDOOR FIXED IK10 VANDAL CAMERA WITH BUILT-IN IRLED (COLOR WHITE) – WALL MOUNT. VERIFY EXACT LOCATION WITH OWNER AND CAMERA INTEGRATOR PRIOR TO INSTALLATION. FLUSH WALL MOUNT ON COMPATIBLE OCTAGON RECESSED METAL GANG BOX (OR AS RECOMMENDED BY CAMERA INTEGRATOR) USING iPRO WV-QAT502-W (OR CURRENT MODEL) GANGBOX ADAPTER. EXTEND CONDUIT TO 4"X4"X2-1/8" NEMA 1 PULL BOX MOUNTED INDOORS IN NEAREST ACCESSIBLE LOCATION ABOVE LAY-IN CEILING NEAR CAMERA, THEN RUN 3/4" CONDUIT FROM PULL BOX CONCEALED CONTINUOUS TO SERVING CC. SCSC PROVIDE CATEGORY 6 CABLE FOR NETWORK AND POE SERVICES CONTINUOUS FROM CAMERA TO SERVING CC.
3. iPRO WV-S4176A 12 MEGAPIXEL INDOOR 360 DEGREE IK10 VANDAL CAMERA WITH BUILT-IN IRLED (COLOR WHITE) – CEILING MOUNT FOR 360 DEGREE VIEW. VERIFY EXACT LOCATION WITH OWNER AND CAMERA INTEGRATOR PRIOR TO INSTALLATION. MOUNT ON CEILING USING DOUBLE GANG ELECTRICAL BOX WITH DOUBLE GANG PLASTER RING (OR AS RECOMMENDED BY CAMERA INTEGRATOR) SUPPORTED CEILING SUPPORT STRUCTURE AND iPRO FACTORY PROVIDED CAMERA ATTACHMENT PLATE. EXTEND CONDUIT TO 4"X4"X2-1/8" NEMA 1 PULL BOX MOUNTED INDOORS IN NEAREST ACCESSIBLE LOCATION ABOVE LAY-IN CEILING NEAR CAMERA, THEN RUN 3/4" CONDUIT FROM PULL BOX CONCEALED CONTINUOUS TO SERVING CC. SCSC PROVIDE CATEGORY 6 CABLE FOR NETWORK AND POE SERVICES CONTINUOUS FROM CAMERA TO SERVING CC.
4. iPRO WV-S25700-V2LN 4K OUTDOOR FIXED IK10 VANDAL CAMERA WITH BUILT-IN IRLED (COLOR WHITE) – WALL MOUNT. VERIFY EXACT LOCATION WITH OWNER AND CAMERA INTEGRATOR PRIOR TO INSTALLATION. WALL MOUNT USING iPRO WV-QSR501-W SHROUD AND iPRO WV-QWL501-W OUTDOOR WALL MOUNT (ALL COLOR WHITE). LOCATE WALL MOUNT AND DRILL HOLE THROUGH WALL IN EXACT LOCATION REQUIRED FOR CONDUIT TO TERMINATE IN FACTORY CONDUIT CONNECTOR IN WALL MOUNT. UNDER NO CIRCUMSTANCES WILL EXPOSED CONDUIT OR WIRING BE ALLOWED AT CAMERA MOUNTING. SET WALL MOUNT IN FULL BED OF LEXEL CLEAR SEALANT/ADHESIVE AND SECURE TO STRUCTURE WITH FOUR 3/8" DIAMETER STAINLESS STEEL BOLTS. MAKE ALL PENETRATIONS OF WALL WATERTIGHT WITH LEXEL CLEAR SEALANT. SECURE WALL MOUNT TO CORNER MOUNT WITH FOUR 3/8" DIAMETER STAINLESS STEEL BOLTS AND WASHERS. MAKE ALL PENETRATIONS OF WALL WATERTIGHT WITH LEXEL SEALANT. EXTEND CONDUIT TO 4"X4"X2-1/8" NEMA 1 PULL BOX MOUNTED INDOORS IN NEAREST ACCESSIBLE LOCATION ABOVE LAY-IN CEILING NEAR CAMERA, THEN RUN 3/4" CONDUIT FROM PULL BOX CONCEALED CONTINUOUS TO SERVING CC. SCSC PROVIDE CATEGORY 6 CABLE FOR NETWORK AND POE SERVICES CONTINUOUS FROM CAMERA TO SERVING CC.
5. HALO 2C SMART DETECTOR, INSTALL IN CEILING IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. CAMERA INTEGRATOR SETUP IN VIDEO INSIGHT AS DIRECTED BY OWNER. EXTEND 3/4" CONDUIT TO 4"X4"X2-1/8" NEMA 1 PULL BOX MOUNTED INDOORS IN NEAREST ACCESSIBLE LOCATION ABOVE LAY-IN CEILING NEAR CAMERA, THEN RUN 3/4" CONDUIT FROM PULL BOX CONCEALED CONTINUOUS TO SERVING CC. SCSC PROVIDE CATEGORY 6 CABLE FOR NETWORK AND POE SERVICES CONTINUOUS FROM CAMERA TO SERVING CC.

BURIAL GRADE CABLE NOTE

RUN ALL ACS AND SECURITY CAMERA CONDUIT AND CABLING UNDERGROUND LOCATED ON THE NON CER SIDE OF THE BUILDING TO SERVING COMMUNICATIONS EQUIPMENT ROOM CER.107. IN ALL SUCH CASES THE ACS CONTRACTOR SHALL PROVIDE BURIAL GRADE CABLE. CABLE SHALL BE CONTINUOUS FROM EACH SECURE OR MONITORED DOOR TO THE ACCESS CONTROL SYSTEM PANEL PULL BOX AND FROM EACH SECURITY CAMERA TO THE RACK MOUNTED CATEGORY 6 PATCH PANEL WITH NO TERMINATIONS OR SPLICES. THE CONTRACTOR SHALL INCLUDE A SUBMITTAL FOR EACH TYPE OF BURIAL GRADE CABLE FOR ENGINEER APPROVAL IN THE SUBMITTAL PACKAGE.

NO EXPOSED CONDUIT OR CABLE NOTE

SEE 1 SHEET FLOOR PLANS FOR NOTES PROHIBITING EXPOSED CONDUIT OR CABLING AT AREAS WITH EXPOSED ROOF STRUCTURE IN AND AROUND THE GYM. PROVIDE BURIAL GRADE CABLES IN ALL UNDERGROUND CONDUITS.

SECURITY LEGEND

CLASSROOM 127 — ARCHITECT'S ROOM NUMBER, SEE "SECURITY DEVICE IDENTIFICATION NOTE."

- C — OUTDOOR WALL MOUNT FIXED SECURITY CAMERA
- C — INDOOR CEILING MOUNT FIXED SECURITY CAMERA
- C — INDOOR CEILING MOUNT 360 DEGREE FIXED SECURITY CAMERA.
- C — OUTDOOR CORNER MOUNT HI-RES MULTI-IMAGER (M.I.) 270 DEGREE FIXED SECURITY CAMERA.

ABBREVIATIONS

CER	COMMUNICATIONS EQUIPMENT ROOM
CC	COMMUNICATIONS CLOSET
SCSC	STRUCTURED CABLING SYSTEM CONTRACTOR
EC	ELECTRICAL CONTRACTOR
CM/GC	CONSTRUCTION MANAGER

Graphic Scale

8 4 0 8FT 16FT

SCALE: 1/8" = 1'-0"

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100% CONSTRUCTION DOCUMENTS

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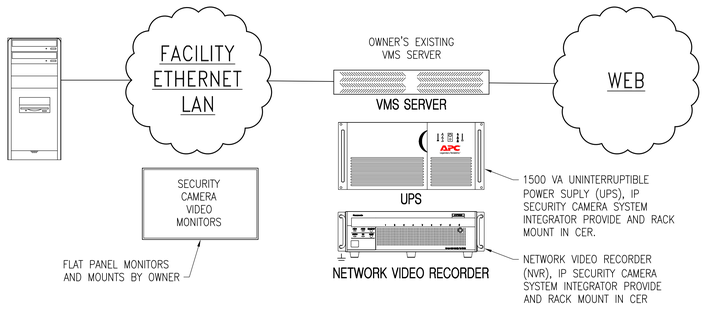
REVISIONS:

No.	Description	Date

IP SECURITY CAMERA SYSTEM FLOOR PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

SEC101



AVIGILON SOFTWARE

AVIGILON SOFTWARE VIDEO MANAGEMENT SOFTWARE (VMS) IS EXISTING FOR PALM BAY CHARTER SCHOOL. UNDER THIS PROJECT THE IP SECURITY CAMERA SYSTEM INTEGRATOR SHALL FULLY INTEGRATE THE SECURITY CAMERAS AND HALO DETECTORS PROVIDED UNDER THIS PROJECT INTO THE EXISTING SOFTWARE. PROVIDE EXPANSION, PROGRAMMING, SETUP, LICENSING, AND ALL OTHER WORK REQUIRED TO INTEGRATE THE CAMERAS INTO THE AVIGILON SYSTEM FOR THE FULL RANGE OF FUNCTIONS AVAILABLE FROM THE MANUFACTURER FOR EACH CAMERA AND DESIRABLE FOR THE VARIOUS CAMERA VIEWING AND RECORDING APPLICATIONS ENCOMPASSED BY THIS PROJECT.

NETWORK VIDEO RECORDER

THE IP SECURITY CAMERA SYSTEM INTEGRATOR SHALL PROVIDE A NETWORK VIDEO RECORDER (NVR) RACK MOUNTED IN THE CER WITH RAID 5 OR 6 STORAGE. HARD DRIVES SHALL BE VIDEO SURVEILLANCE GRADE (PURPLE). THE NVR SHALL HAVE SUFFICIENT UNUSED HARD DRIVE SLOTS TO ALLOW AT LEAST 50% EXPANSION OF STORAGE IN THE FUTURE, AFTER THE HARD DRIVES FOR THIS PROJECT ARE INSTALLED. SUFFICIENT STORAGE SHALL BE PROVIDED UNDER THIS PROJECT TO ARCHIVE 30 DAYS OF VIDEO WITH ALL CAMERAS RECORDING AT FULL RESOLUTION IN COLOR AND AT A MINIMUM OF 15 FRAMES PER SECOND. THE INTEGRATOR SHALL UTILIZE H.265 SMARTCODEC WHERE FACTORY INTEGRATED IN THE SPECIFIED CAMERAS (PREFERRED) OR H.264 SMARTCODEC WHERE H.265 IS NOT FACTORY INTEGRATED. SETUP TO OPTIMIZE STORAGE WITHOUT SACRIFICING STORED VIDEO QUALITY. IF SO DIRECTED BY THE OWNER THE CAMERA INTEGRATOR SHALL EXPAND THE STORAGE CAPACITY OF THE EXISTING NVR AS REQIRED TO MEET THESE REQUIREMENTS.

ALLOWANCE FOR IP SECURITY CAMERA SYSTEM INTEGRATOR

THE GENERAL CONTRACTOR SHALL INCLUDE AN ALLOWANCE FOR ALL WORK BY THE IP SECURITY CAMERA SYSTEM INTEGRATOR IN THE BASE BID.

THE IP SECURITY CAMERA SYSTEM INTEGRATOR SHALL ALSO BE THE ACCESS CONTROL SYSTEM CONTRACTOR AND THE INTRUSION ALARM SYSTEM CONTRACTOR FOR THIS PROJECT. SEE "ALLOWANCE FOR ACCESS CONTROL SYSTEM" NOTE SHEET ACS301.

THE IP SECURITY CAMERA SYSTEM INTEGRATOR SHALL PROVIDE WORK AS SPECIFICALLY INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS AND AS DESCRIBED IN THE IP SECURITY CAMERA SYSTEM INTEGRATOR ALLOWANCE COST PROPOSAL AND ASSOCIATED SCOPE OF WORK STATEMENT. **THE ALLOWANCE COST AND SCOPE OF WORK STATEMENT WILL BE ISSUED IN AN ADDENDUM PRIOR TO BIDS.**

THE IP SECURITY CAMERA SYSTEM INTEGRATOR SHALL PROVIDE ALL CAMERAS, LOCATE CAMERAS PRIOR TO ROUGH-IN, TEST THE OPERATION OF EACH INSTALLED CAMERA, SET FINAL CAMERA VIEWING ANGLES, FIELDS OF VIEW, LENS SETTINGS, COMPRESSION SETTINGS AND OTHER CAMERA SETTINGS FOR OPTIMUM PERFORMANCE, SHALL PROVIDE A NEW NVR WITH STORAGE CAPACITY AS REQUIRED OR SHALL EXPAND THE EXISTING NVR, SHALL PROVIDE SOFTWARE UPGRADES AND REGISTER CAMERA LICENSES, SHALL PROVIDE FINAL SETUP, PROGRAMMING, TESTING AND OWNER TRAINING FOR THE SYSTEM, AND SHALL MAKE THE SYSTEM FULLY OPERATIONAL AND FUNCTIONAL TO THE SATISFACTION OF THE OWNER.

RELATED WORK TO BE PROVIDED BY OTHERS UNDER THE BASE BID BUT NOT INCLUDED IN THE SCOPE OF THE ALLOWANCE SHALL INCLUDE WORK BY THE SCSC AS INDICATED ON THE DRAWINGS. THE SCSC SHALL PROVIDE ALL CATEGORY 6 CABLING, PATCH PANELS, TERMINATION AND TESTING, AND CLOSE COORDINATION WITH THE GC/CM, ELECTRICAL CONTRACTOR AND THE IP SECURITY CAMERA SYSTEM INTEGRATOR.

ADDITIONAL RELATED WORK TO BE PROVIDED BY OTHERS UNDER THE BASE BID BUT NOT INCLUDED IN THE SCOPE OF THE ALLOWANCE SHALL INCLUDE CONDUIT REQUIRED FOR WIRING AND CABLING, AND ALL POWER AND GROUNDING REQUIRED FOR THE IP SECURITY CAMERA SYSTEM. EACH ELECTRICAL CONTRACTOR PROVIDING A BID FOR THIS PROJECT SHALL BE RESPONSIBLE FOR COORDINATING THE ASSOCIATED CONDUIT, POWER AND GROUNDING WORK WITH THE SCSC – BUT THE SCOPE OF CONDUIT, POWER AND GROUNDING WORK SHALL NOT BE LESS THAN THAT DESCRIBED ON THE DRAWINGS.

THE IP SECURITY CAMERA SYSTEM INTEGRATOR SHALL BE UNDER CONTRACT WITH THE OWNER, SHALL BE AVIGILON CERTIFIED AND SHALL BE MCA (CONTACT TONY COOPER – EMAIL TONYCOOPER@CALLMC.COM).

IP SECURITY CAMERA LOCATION NOTES

MOUNTING LOCATIONS INDIATED FOR CAMERAS ARE APPROXIMATE AND SHALL BE COORDINATED IN DETAIL BEFORE ANY ROUGH-IN BEGINS. THE CM SHALL TAKE THE LEAD IN COORDINATING FINAL CAMERA LOCATIONS WITH THE ARCHITECT, DISTRICT SECURITY STAFF AND CAMERA INTEGRATOR. SEE SPECIFICATIONS. THE CM AND CAMERA INTEGRATOR SHALL COORDINATE ROUGH-IN REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR BASED ON THE CAMERA LOCATIONS DETERMINED BY THIS EFFORT.

THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL INDOOR CEILING MOUNTED CAMERAS WITH LIGHTING FIXTURES AND OTHER CEILING MOUNTED DEVICES THAT EXTEND BELOW THE CEILING ALONG WITH CEILING FEATURES INVOLVING CHANGES IN CEILING HEIGHT THAT WILL IMPEDE FULL CAMERA VIEWS.

THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL INDOOR WALL MOUNTED CAMERAS WITH ALL NEARBY WALL MOUNTED OR CEILING MOUNTED LIGHTING FIXTURES AND OTHER DEVICES THAT WILL IMPEDE FULL CAMERA VIEWS.

THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL OUTDOOR CAMERAS WITH LIGHT FIXTURES, CANOPIES, SOFFITS, GUTTER DOWNSPOUTS, POLES AND ANY OTHER OBSTRUCTION THAT WILL IMPEDE FULL CAMERA VIEWS.

WHERE GUTTER DOWNSPOUTS OR OTHER OBSTRUCTIONS INTERFERE WITH A CAMERAS FULL FIELD OF VIEW TIGHT TO THE BUILDING EXTERIOR, PROVIDE STANDOFF PADDING USING KING STARBOARD, 1-1/2" THICK, COLOR TO MATCH COLOR OF CAMERA MOUNT AS CLOSELY AS POSSIBLE. MAKE CUTS STRAIGHT AND SQUARE AND FILE EDGES SMOOTH. PROVIDE MULTIPLE STANDOFF PADS AS REQUIRED TO COMPLETELY CLEAR DOWNSPOUT OR OBSTRUCTION AND PROVIDE FULL CAMERA VIEW AS INDICATED.

ALL FINAL CAMERA LOCATIONS SHALL PROVIDE AN UNOBSTRUCTED VIEW OF THE AREA SERVED BY EACH CAMERA.

CAMERA COORDINATION NOTES

THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT, BOXES, ENCLOSURES, PULL STRINGS, FIRESTOPPING, SMOKESTOPPING, POWER, GROUNDING, AND ALL OTHER WORK REQUIRED BY CODE OR FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM BUT NOT SPECIFICALLY IDENTIFIED AS PROVIDED BY OTHERS,.

THE SCSC SHALL PROVIDE ALL CATEGORY 6 CABLING FOR NETWORK CONNECTIONS TO IP SECURITY CAMERAS COMPLETE TO INCLUDE PATCH PANELS, TERMINATION, LABELING, TESTING, AND PREPPING SLACK AT CAMERA LOCATIONS FOR FINAL CONNECTIONS TO CAMERAS.

THE IP CAMERA SYSTEM INTEGRATOR SHALL PROVIDE CAMERAS, MOUNTS, DIRECTION TO EC AND GC FOR EXACT LOCATION OF CAMERAS, NETWORK VIDEO RECORDER EXPANSION, SETTING OF CAMERA VIEWS, CAMERA SETUP, NETWORK VIDEO RECORDER SETUP, INTEGRATION OF SYSTEM INTO OWNER'S EXJISTING VMS, AND ALL OTHER WORK REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM.

RECORDING OF CAMERA IMAGES TO THE NETWORK VIDEO RECORDER SHALL BE MADE AT HIGHEST CAMERA RESOLUTION SETTINGS IN COLOR WHEN AMBIENT LIGHT LEVELS ALLOW AND IN BLACK AND WHITE DURING LOW LIGHT CONDITIONS. FRAMES PER SECOND SHALL BE AS DIRECTED BY COUNTY STAFF (15 FPS MINIMUM). ALL OTHER SETTINGS TO INCLUDE COMPRESSION SHALL BE MADE TO OPTIMIZE IMAGE QUALITY WHILE MINIMIZING STORAGE REQUIREMENTS.

IP SECURITY CAMERAS GENERAL ABOVEGROUND CONDUIT NOTES

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING FINAL CONDUIT ROUTING IN THE FIELD. THE CONTRACTOR SHALL COORDINATE THE FINAL ROUTING OF CONDUITS TO CONCEAL CONDUITS AND TO AVOID CONFLICTS WITH THE BUILDING STRUCTURE, OTHER UTILITIES AND OBSTACLES, WHILE MINIMIZING CHANGES IN DIRECTION AND OVERALL CONDUIT LENGTH. ALL CONDUIT SHALL BE RUN OVERHEAD AND CONCEALED EXCEPT AS SPECIFICALLY INDICATED. BEST ROUTING WITHIN BUILDINGS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR WITH THE LIMITATIONS SPECIFIED IN THESE NOTES AND THE CONTRACT DOCUMENTS IN GENERAL.
2. CONDUITS RUN INDOORS SHALL BE RUN CONCEALED OVERHEAD ABOVE CEILINGS UNLESS LOCATED IN SPACES WITHOUT CEILINGS, IN SPACES WITH EXPOSED ROOF STRUCTURE, OR AS OTHERWISE SPECIFICALLY INDICATED. INDOOR CONDUIT SHALL BE EMT WITH STEEL COMPRESSION FITTINGS. DIE CAST EMT FITTINGS ARE NOT ALLOWABLE. SUPPORT EXPOSED CONDUIT AT A MINIMUM OF 4'-0" ON CENTER WITH 2-HOLE HEAVY DUTY GALVANIZED STEEL HARDWARE.
3. SUPPORT CONDUIT DIRECTLY FROM BUILDING STRUCTURE USING APPROVED HARDWARE. DO NOT SUPPORT CONDUIT FROM OTHER SYSTEMS COMPONENTS OR SUPPORTS UNLESS SPECIFICALLY APPROVED BY THE ENGINEER. ROUTE ALL CONDUITS AS HIGH AS POSSIBLE, BUT DO NOT RUN CONDUITS CLOSER THAN 6" BELOW ROOF DECK (TO AVOID DAMAGE FROM LONG SCREWS USED IN FUTURE ROOF REPLACEMENTS). RUN ALL CONDUITS PARALLEL/PERPENDICULAR AND PLUMB WITH BUILDING LINES.
4. CONDUIT BODIES SUCH AS 'LB' FITTINGS ARE NOT ALLOWABLE.
5. HOMERUN CONDUITS FROM CCs SHALL BE A MAXIMUM OF 260 FEET LONG. PROVIDE PULLBOXES AT EVERY 100 FEET ON CENTER AND AT EACH END OF CONDUIT RUNS CONTAINING A TOTAL OF TWO 90 deg BENDS OR A COMBINATION OF LESSER BENDS TOTALING 180 deg (MINIMUM REQUIREMENTS – PROVIDE WHETHER SPECIFICALLY INDICATED OR NOT). CONDUIT RUNS CONTAINING MORE THAN TWO 90 deg BEND WITHOUT A PULLBOX ARE NOT ALLOWABLE. FACTORY CONDUIT ELBOWS AND ALL OTHER BENDS SHALL HAVE A MINIMUM RADIUS OF SIX TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT OFFSETS AND PULLBOXES REQUIRED TO SUIT FIELD CONDITIONS AND TO CONFORM TO THESE REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. PULL BOXES FOR 3/4" HOMERUN CONDUITS SHALL BE 4"x4"x2-1/8" WITH BLANK COVER.
6. TERMINATE CONDUITS AT OPPOSITE ENDS OF PULLBOXES. DO NOT TERMINATE CONDUITS AT RIGHT ANGLES TO EACH OTHER EXCEPT AS SPECIFICALLY INDICATED.
7. TERMINATE ALL CONDUIT ENDS WITH THREADED PLASTIC INSULATING BUSHINGS (PUSH-ON NOT ALLOWABLE). BUSHINGS MUST FIT TIGHTLY ON CONDUIT CONNECTOR THREADS. INSTALL ALL BUSHINGS PRIOR TO PULLING CABLE.
8. IDENTIFICATION: IDENTIFY ALL INDOOR IP CAMERA CONDUITS, PULLBOXES ABOVE LAY-IN CEILINGS, ACCESS DOORS, IN ROOF SPACE, AND IN ALL EXPOSED LOCATIONS WITH RED PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). IDENTIFY ALL CCTV CONDUIT PULLBOXES BY PAINTING WITH 1" TALL LETTER STENCIL (COLOR RED) THE WORDS "CCTV" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT CENTER OF PULLBOX COVER.

FIRESTOPPING NOTE:

THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF ALL FLOORS AND ALL WALLS WHICH EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE. FIRESTOPPING SHALL BE ACCOMPLISHED USING UL CLASSIFIED SYSTEMS WITH FIRE RATING EQUAL TO OR GREATER THAN THE FIRE RATING OF THE FLOOR OR WALL ASSEMBLY PENETRATED. FIRESTOP SYSTEMS SHALL BE 3M, NELSON OR ENGINEER APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S STANDARD DETAIL FOR EACH TYPE OF FLOOR AND WALL PENETRATION REQUIRED FOR THIS PROJECT. ALL OTHER PENETRATIONS OR OPENINGS IN NON-FIRE RATED WALLS SHALL BE REPAIRED AND SEALED WITH MATERIALS TO MATCH THE CONSTRUCTION OF THE WALL.

THE CONTRACTOR SHALL PROVIDE DETAILS FOR EACH DIFFERENT TYPE OF FIRESTOP ASSEMBLY REQUIRED TO THE BUILDING OFFICIAL FOR APPROVAL PRIOR TO INSTALLATION. EACH DETAIL SHALL INCLUDE THE TEST ASSEMBLY NUMBER AND A DESCRIPTION OF THE MATERIALS TO BE USED. HAVE APPROVED FIRESTOPPING DETAILS AVAILABLE AT PROJECT SITE AT TIME OF INSPECTION.

CAMERA ATTACHMENT NOTES:

ALL CAMERA ATTACHMENTS SHALL BE MADE VANDAL-RESISTANT WITH NON-REMOVEABLE FASTENERS. FASTENER SIZES SHALL BE FULL SIZE ACCOMMODATED BY EQUIPMENT HOLE SIZE.

FASTENER SIZES INDICATED FOR CAMERA MOUNTS ARE APPROXIMATE AND MUST BE VERIFIED WITH THE ACTUAL HARDWARE RECEIVED. FASTENERS FOR THREADED CONNECTIONS SHALL BE SAME SIZE AS THREADED HOLE. FASTENERS FOR SMOOTH HOLES SHALL BE 1/16" SMALLER THAN HOLE DIAMETER. ALL FASTENERS AND MISCELLANEOUS RELATED HARDWARE SHALL BE STAINLESS STEEL.

ATTACHMENTS AT VARIOUS WALL CONSTRUCTIONS SHALL BE AS FOLLOWS:

1. AT FRAMED WALLS AND AT OPEN CELLS OF CMU WALLS, PROVIDE STAINLESS STEEL "SNAP-TOGGLER" TOGGLE BOLTS. ATTACH TO FRAMING OF FRAMED WALLS.
2. AT METAL SOFFIT OR FASCIA CONSTRUCTION PROVIDE STAINLESS STEEL THRU BOLTS ALL THE WAY THRU SOFFIT OR FASCIA FRAMING. PROVIDE SUPPLEMENTARY FRAMING ON INTERIOR AS REQUIRED FOR SECURE MOUNTING.
3. AT BRICK WALLS, BLOCK WEBS AND FILLED CELLS OF CMU WALLS, AND AT CONCRETE WALLS, PROVIDE COMMERCIAL GRADE HIGH LOAD EXPANSION ANCHORS SUCH AS TOGGLER 'ALLIGATOR' SOLID-WALL ANCHORS WITH STAINLESS STEEL FASTENERS.

ABBREVIATIONS

CER	COMMUNICATIONS EQUIPMENT ROOM
CC	COMMUNICATIONS CLOSET
SCSC	STRUCTURED CABLING SYSTEM CONTRACTOR
EC	ELECTRICAL CONTRACTOR
CM/GC	CONSTRUCTION MANAGER / GENERAL CONTRACTOR

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REVISIONS:

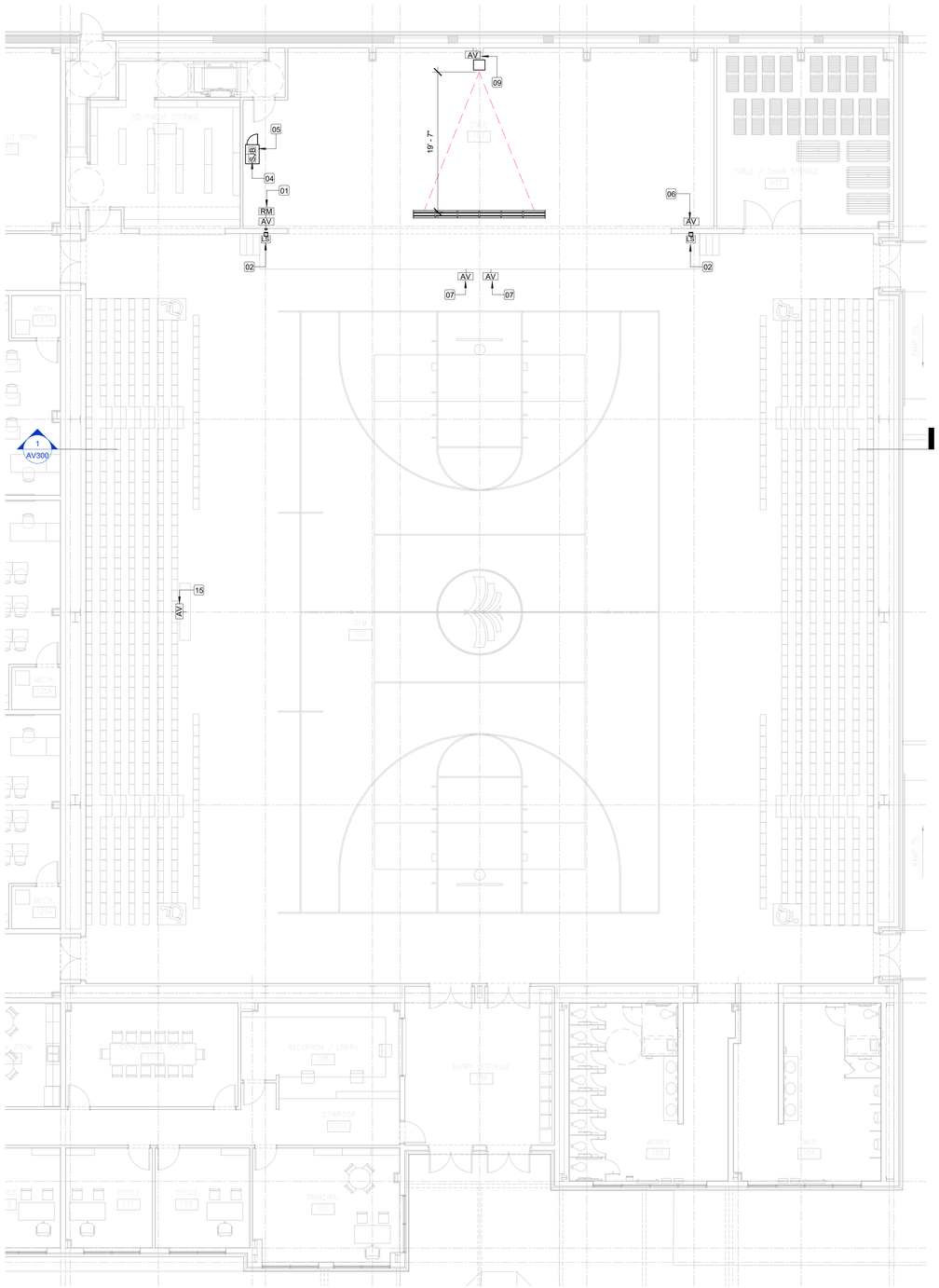
No.	Description	Date

IP SECURITY CAMERA SYSTEM DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

SEC200

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



1 AV FLOOR
SCALE: 1/8" = 1'-0"

AV Keynote Legend	
Key Value	Keynote Text
01	AV INPUT PLATE & AV WALL REMOTE. MOUNT 8 X 8 JUNCTION BOX [AV] @ 18" A.F.F. IN WALL AND 2 GANG BOX [RM] @ 60" A.F.F. WHERE SHOWN. CONNECT [RM] TO [AV] WITH 1" CONDUIT. ROUTE (3) 1" CONDUIT FROM [AV] TO [SJB] AT AV EQUIPMENT RACK ON STAGE. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. PROVIDE 120V 20A CIRCUIT ADJACENT TO [AV] FOR AV COMPONENT POWER.
02	LOUDSPEAKER JUNCTION BOX. MOUNT 1 GANG BOX @ 84" A.F.F. WHERE SHOWN. ROUTE 1" CONDUIT TO [SJB] AT AV EQUIPMENT RACK. PROVIDE 120V 20A CIRCUIT ADJACENT TO [AV] BOX @ 84" A.F.F. FOR LOUDSPEAKER POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
04	STAGE J-BOX MOUNTED AT 18" A.F.F. IN WALL WHERE SHOWN. SIZE JUNCTION BOX BASED ON QUANTITY AND SIZE OF CONDUIT TERMINATIONS. PROVIDE (2) 120V 20A CIRCUITS (RECEPTACLES) ADJACENT TO [SJB] FOR AV COMPONENT POWER. ROUTE 1" CONDUIT FROM [SJB] TO 'OVER STAGE' AREA FOR SUSPENDED MICROPHONE CABLES. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
05	AV EQUIPMENT RACK. PROVIDED BY AV CONTRACTOR.
06	AV JUNCTION BOX. MOUNT 8X8 BOX @ 18" A.F.F. IN WALL WHERE SHOWN. ROUTE (3) 1" CONDUIT TO [SJB] AT AV EQUIPMENT RACK. BOXES AND CONDUIT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR. PROVIDE 120V 20A CIRCUIT ADJACENT TO [AV] FOR AV COMPONENT POWER.
07	1 GANG BOX IN VERTICAL STEP RISER. ROUTE 1" CONDUIT TO [SJB] AT AV EQUIPMENT RACK. PROVIDE 120V 20A CIRCUIT ADJACENT TO [AV] FOR AV COMPONENT POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
09	VIDEO PROJECTOR. MOUNT 2 GANG BOX AT 9' A.A.F. ON BACK STAGE WALL WHERE SHOWN. ROUTE 1" CONDUIT TO [SJB] AT AV EQUIPMENT RACK. PROVIDE 120V 20A SHARED CIRCUIT FOR PROJECTOR AND SCREEN POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. WALL SHELF FOR PROJECTOR PROVIDED BY GENERAL CONTRACTOR. VERIFY SIZE WITH AV CONTRACTOR / CONSULTANT. PROJECTOR PROVIDED AND INSTALLED BY AV CONTRACTOR.
15	GYM AV INPUT AT SCORER'S DESK. ROUTE 1" CONDUIT FROM SCORER'S DESK FLOOR BOX TO AV EQUIPMENT RACK IN EQUIPMENT STORAGE. FLOOR BOX AND CONDUIT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. AV CONNECTOR PLATE PROVIDED AND INSTALLED BY AV CONTRACTOR.

OWNERSHIP OF SERVICE: ALL REPORTS, PLANS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY THE CONSULTANT AS AN INSTRUMENT OF SERVICES SHALL REMAIN THE PROPERTY OF THE CONSULTANT. THE CONSULTANT SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERETO. PURSUANT TO FLORIDA STATUTES, SECTION 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

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DOCUMENTS

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REVISIONS:

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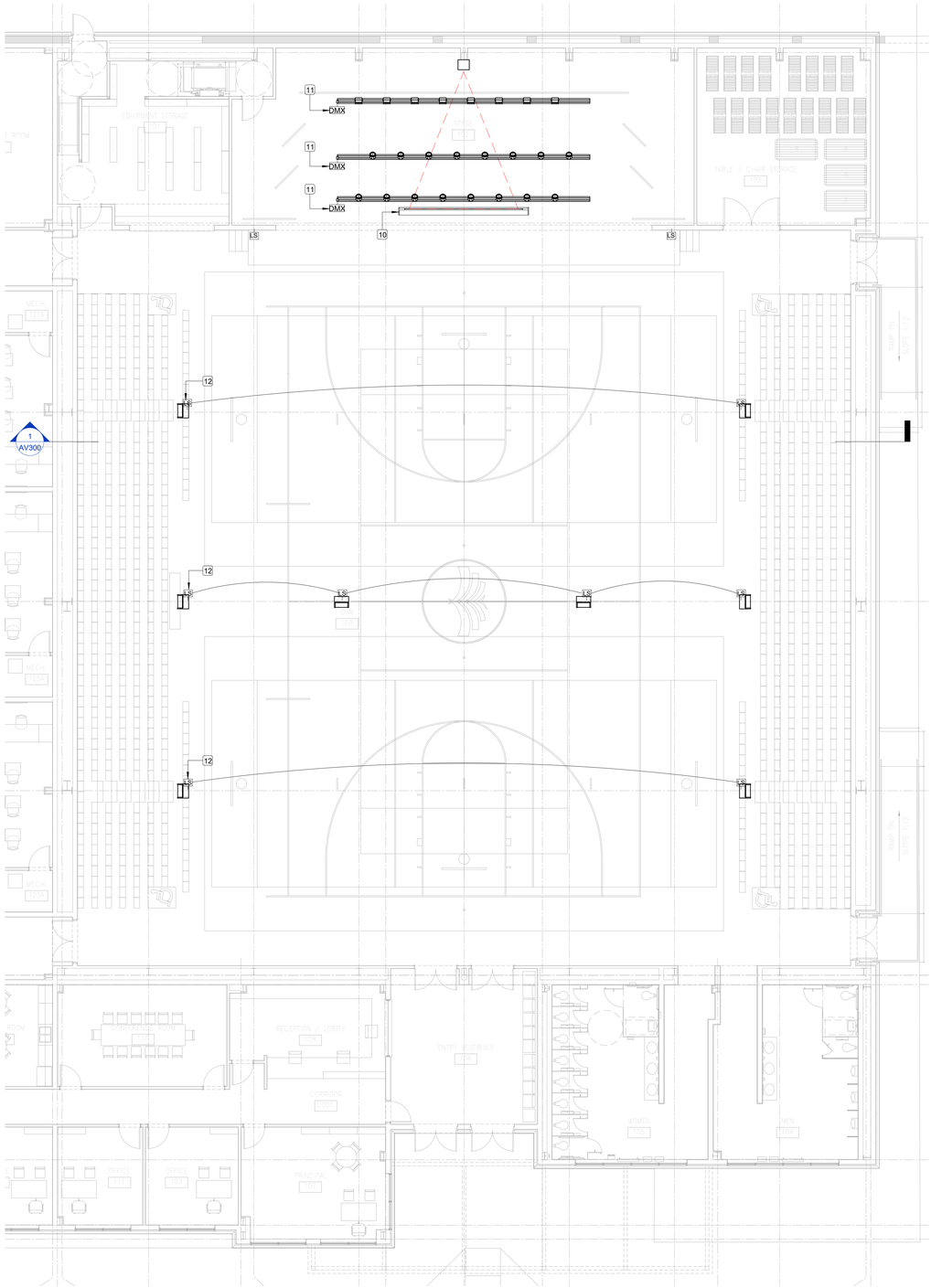
AV FLOOR PLAN

Project Number	22019
Dated	01/31/2025
Drawn By	Author
Approved By	Approver
PM	Designer

AV100

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



1 AV REFLECTED CEILING
SCALE: 1/8" = 1'-0"

AV Keynote Legend	
Key Value	Keynote Text
10	MOTORIZED PROJECTION SCREEN MOUNTED BEHIND MAIN DRAPE. PROVIDE 120V 20A SHARED CIRCUIT WITH PROJECTOR. ROUTE 1" CONDUIT TO [SJB] AT AV EQUIPMENT RACK FOR UP/DOWN CONTROL CABLE. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. PROJECTION SCREEN PROVIDED AND INSTALLED BY AV CONTRACTOR.
11	DMX AND STAGE LED LIGHTING FIXTURES. PROVIDE 1" CONDUIT TO FROM [DMX] 1 GANG BOX ON BATTEN TO [SJB] FOR DMX CABLING. PROVIDE (2) 120V 20A CIRCUIT (2 QUAD RECEPTACLE PER CIRCUIT DISTRIBUTED ALONG BATTEN) FOR FIXTURE POWER. CONDUIT, BOXES & POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. LED FIXTURES, 1.5" PIPE BATTEN & DMX CABLING PROVIDED AND INSTALLED BY AV CONTRACTOR.
12	GYMNASIUM LOUDSPEAKER [LS]. MOUNT 1 GANG BOX ON STEEL WHERE SHOWN. ROUTE 1" CONDUIT TO AV EQUIPMENT RACK IN EQUIPMENT STORAGE. CONNECT ADJACENT [LS] WITH 3/4" CONDUIT AS SHOWN. PROVIDE 120V 20A CIRCUIT PER ROW OF [LS] LOUDSPEAKERS. MOUNT RECEPTACLE ADJACENT TO [LS] BOX FOR LOUDSPEAKER POWER. BOXES, CONDUIT AND POWER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. LOUDSPEAKER PROVIDED AND INSTALLED BY AV CONTRACTOR.

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PURSUANT TO FLORIDA STATUTES, SECTION 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

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www.DAGarchitects.com

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DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

AV REFLECTED CEILING PLAN

Project Number	22019
Dated	01/31/2025
Drawn By	Author
Approved By	Approver
PM	Designer

AV200

22019
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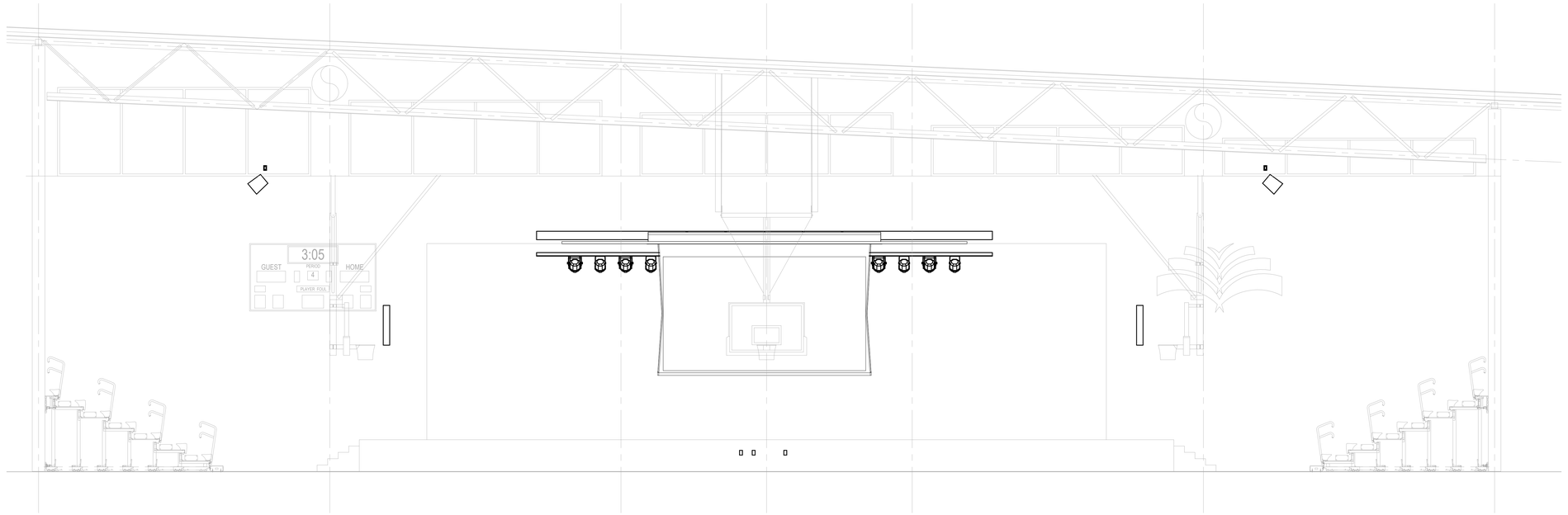
01/31/2025



1 AV STAGE ELEVATION

SCALE: 1/4" = 1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

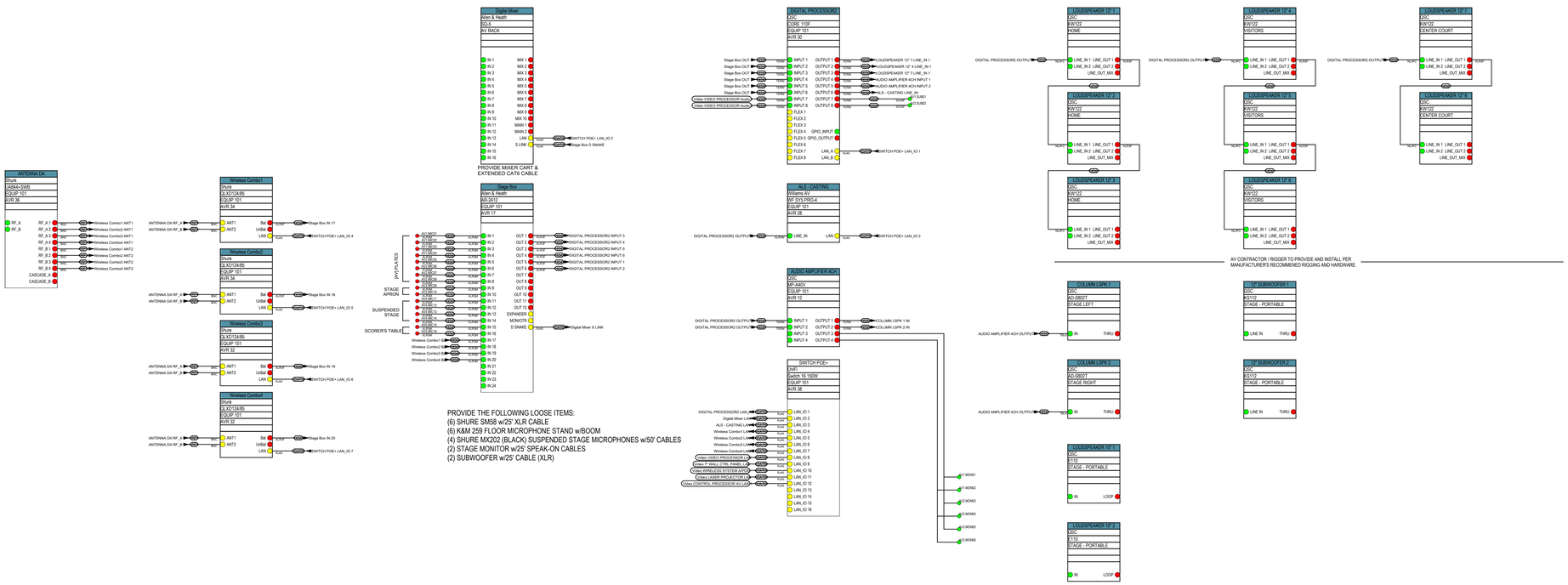
REVISIONS:

No.	Description	Date

AV SECTIONS & ELEVATIONS

Project Number	22019
Dated	01/31/2025
Drawn By	Author
Approved By	Approver
PM	Designer

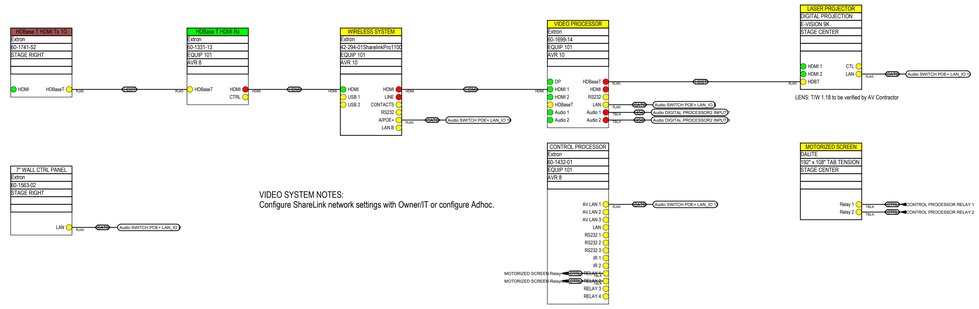
AV300



1 AUDIO SYSTEM SCHEMATIC

SCALE: 12" = 1'-0"

PROVIDE THE FOLLOWING LOOSE ITEMS:
(6) SHURE SM58 w/25' XLR CABLE
(6) K&M 259 FLOOR MICROPHONE STAND w/BOOM
(4) SHURE MX202 (BLACK) SUSPENDED STAGE MICROPHONES w/50' CABLES
(2) STAGE MONITOR w/25' SPEAK-ON CABLES
(2) SUBWOOFER w/25' CABLE (XLR)



VIDEO SYSTEM NOTES:
Configure ShareLink network settings with Owner/IT or configure Adhoc.

2 VIDEO SYSTEM SCHEMATIC

SCALE: 12" = 1'-0"

Provide DMX cabling and jumpers as requried.
Provide safety cables per fixture.
Provide programming & training as required.

3 STAGE LIGHTING SYSTEM SCHEMATIC

SCALE: 12" = 1'-0"

OWNERSHIP OF SERVICE: ALL REPORTS, PLANS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY THE CONSULTANT AS AN INSTRUMENT OF SERVICES SHALL REMAIN THE PROPERTY OF THE CONSULTANT. THE CONSULTANT SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERETO. PURSUANT TO FLORIDA STATUTES, SECTION 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

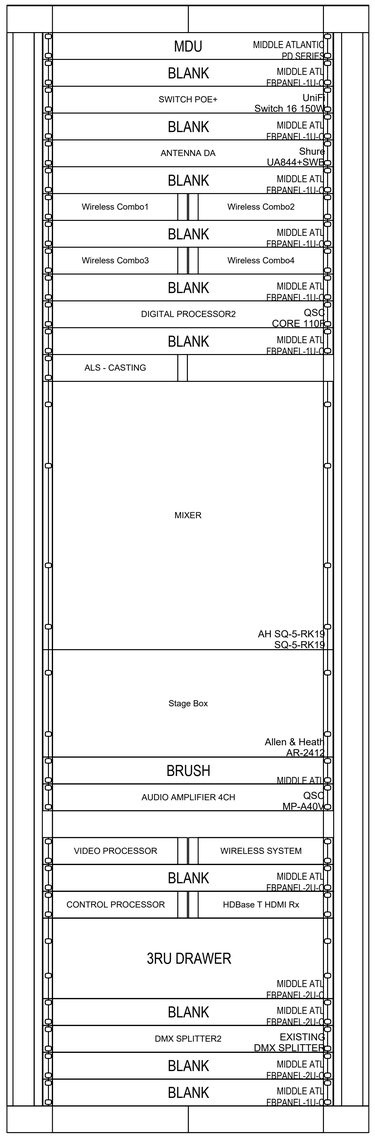
No.	Description	Date

AV SYSTEM SCHEMATIC - PART 1

Project Number	22019
Dated	01/31/2025
Drawn By	Author
Approved By	Approver
PM	Designer

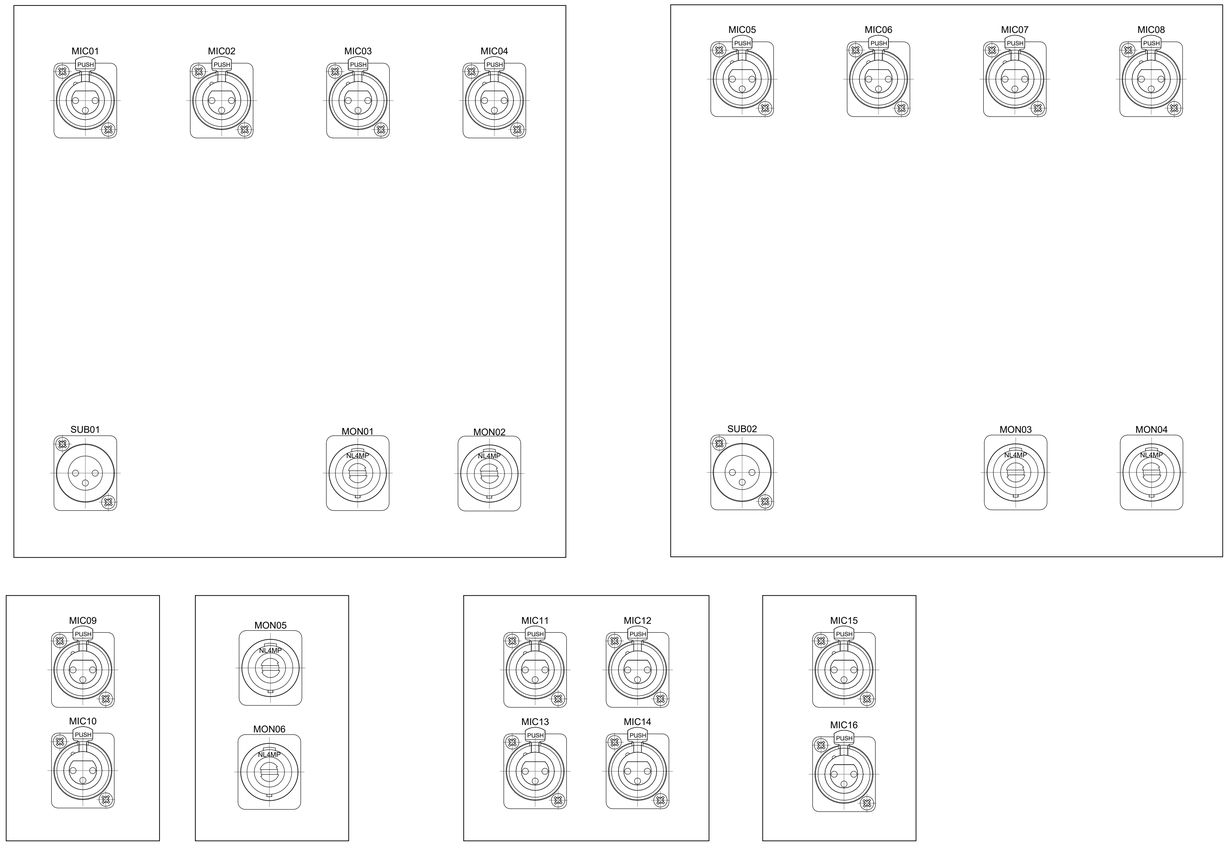
AV400

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



1 AV EQUIPMENT RACK

SCALE: 3" = 1'-0"



2 AV PLATE DETAILS

SCALE: 12" = 1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date

AV SYSTEM SCHEMATIC - PART 2

Project Number	22019
Dated	01/31/2025
Drawn By	Author
Approved By	Approver
PM	Designer

AV401

22019
PROJECT STATUS
Issue Date

SCALE: 1" = 20'

SCALE: 1" = 20'

SYMBOLS & ABBREVIATIONS:

- NUMBER
- LICENSED BUSINESS
- PROFESSIONAL SURVEYOR AND MAPPER
- INVERT
- POLY-VINYL CHLORIDE
- CORRUGATED PLASTIC PIPE
- REINFORCED CONCRETE PIPE
- TERRACOTTA CLAY
- MITERED END SECTION
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- FLAG POLE
- ELECTRIC BOX
- TELEPHONE BOX
- LAMP POLE
- TRAFFIC SIGN
- WATER VALVE
- WATER METER
- SANITARY SEWER VALVE
- CLEANOUT
- MAILBOX
- TEMPORARY BENCHMARK
- GUY ANCHOR
- UTILITY POLE
- YARD LIGHT
- EXISTING PALM TREE (DIAMETER SHOWN IN INCHES)
- EXISTING TREE, TYPE UNKNOWN (DIAMETER SHOWN IN INCHES)
- CONTOUR ELEVATION AT 1' INTERVALS
- OVERHEAD UTILITY LINE
- SPOT ELEVATION AT "X"
- = EXISTING CONCRETE TO REMAIN
- = EXISTING CONCRETE TO BE REMOVED
- = EXISTING ASPHALT TO REMAIN
- = EXISTING ASPHALT TO BE REMOVED
- = SILT FENCE
- = INLET SEDIMENT FILTER

NOTES:
1. CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT TREES.
2. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF DEMOLITION.
3. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF UNKNOWN UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL PROVIDE EROSION CONTROL FOR ALL EXISTING DRAINAGE STRUCTURES TO REMAIN UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL TAKE DUE CARE WHEN INSTALLING SILT FENCE AROUND EXISTING UNDERGROUND UTILITIES.
6. CONTRACTOR MAY ADJUST SILT FENCE LOCATIONS WITHIN INDICATED LIMITS OF CONSTRUCTION AS NEEDED TO PERFORM WORK.

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT TO RESTRICT ANY TURBID RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
2. CONTROL OF SEDIMENT-LADEN RUNOFF SHALL BE PROVIDED WITH HAY BALES AND/OR GEOTECH STYLE FABRICS. ALL CONTROL MEASURES SHALL BE PROPERLY LOCATED AND CONSTRUCTED TO PREVENT SEDIMENT TRANSPORT. THE MEANS FOR RETAINING THE SEDIMENTS WILL BE MAINTAINED BY THE CONTRACTOR UNTIL PERMANENT IMPROVEMENTS ARE COMPLETE.
3. THE CONTRACTOR IS RESPONSIBLE FOR TREATING ALL ONSITE STORMWATER DRAINAGE AS REQUIRED TO MEET THE CRITERIA OF 62-3 FLORIDA ADMINISTRATIVE CODE, F.A.C. PRIOR TO DISCHARGE.
4. ALL CATCH BASINS, INLETS AND ACCESSES TO UNDERGROUND STORMWATER SYSTEMS SHALL BE PROTECTED IN ACCORDANCE WITH THE ATTACHED DETAILS.
5. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF ANY STORMWATER PERMITS THAT MAY APPLY (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA DEPARTMENT OF TRANSPORTATION, BAY COUNTY, WATER MANAGEMENT DISTRICT, ETC.).

SURVEY PREPARED BY:
DEWBERRY ENGINEERS INC.
203 ABERDEEN PARKWAY
PANAMA CITY, FLORIDA 32405

SURVEY CONTROL POINTS:

Description	Northing	Easting	Elev. (NAVD 19
FOUND CONCRETE MONUMENT AND/REW RESET (NOT GRAPHICALLY SHOWN)	427795.46	1591835.70	38.02

BENCHMARKS:

1. SET NAIL & DISK IN LIGHT POLE L.B. 8011 – ELEVATION = 37.47'
2. SET NAIL & DISK IN ASPHALT L.B. 8011 – ELEVATION = 30.91'

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REDUCED CONCRETE REMOVAL	2025-07-03

EROSION CONTROL & DEMOLITION PLAN

Project Number	133407
Dated	01/31/2025
Drawn By	JNF
Approved By	JDC
PM	JDC

C1

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
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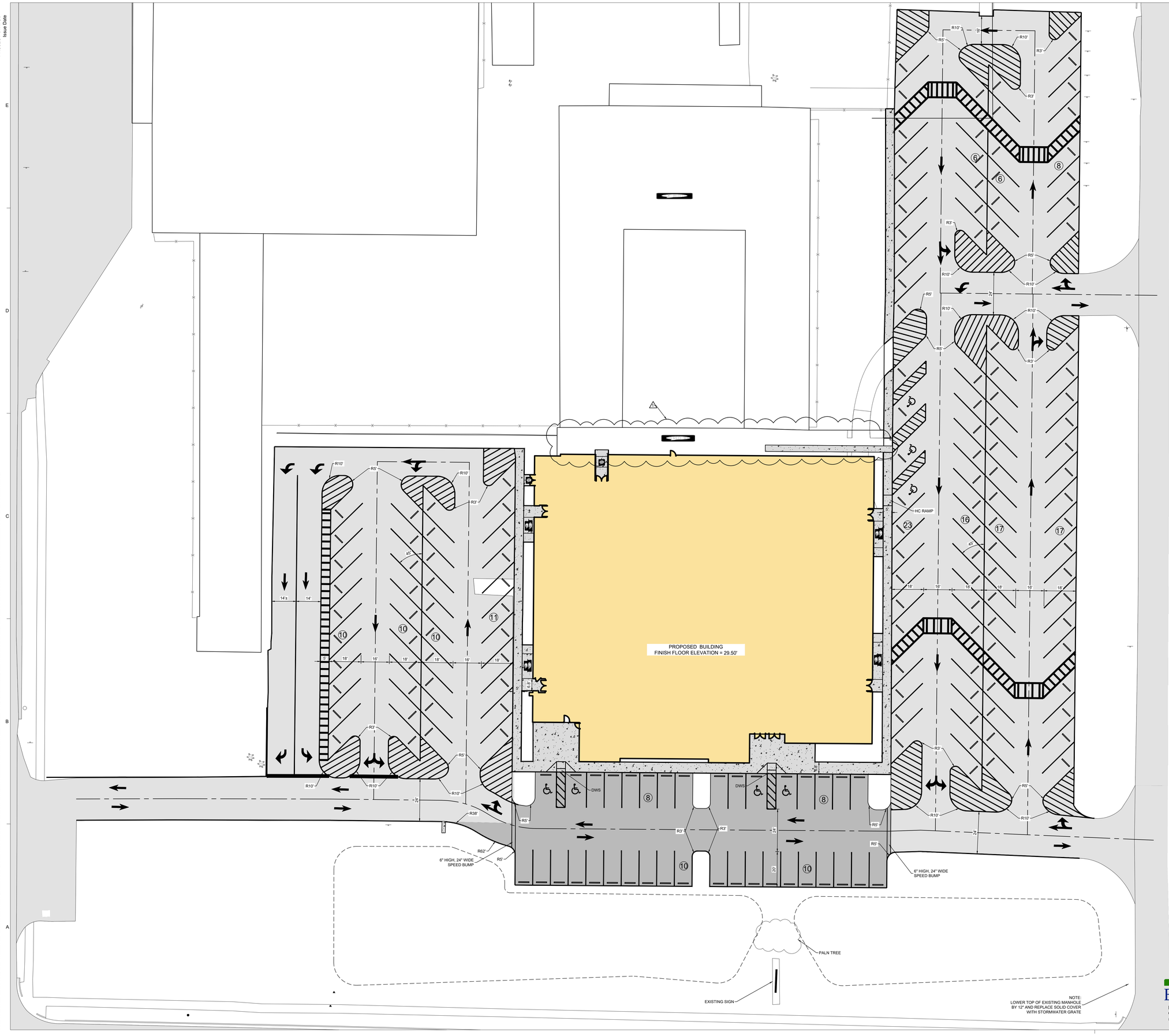
22019
PROJECT STATUS
Issue Date



SITE NOTES:

1. ABOVE GROUND STRUCTURES ARE SHOWN ON THIS SHEET.
2. ALL TRAFFIC STRIPING TO BE PAINT PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
3. CONTRACTOR TO FIELD VERIFY ALL UTILITIES AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
4. ALL DEMOLISHED MATERIALS (i.e. SIGNS, CONCRETE, ASPHALT, ETC.) TO BE REMOVED AND DISPOSED OF IN LEGAL MANNER.
5. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
6. SEED AND MULCH ALL DISTURBED AREAS, EXCEPT WHERE SOD IS SPECIFIED.
7. SOD ALL AREAS AS SHOWN OR AS REQUIRED FOR EROSION CONTROL.
8. SOD AND SEED SHALL BE BERMUDA.
9. ALL REGULATORY SIGNS SHALL BE INSTALLED PER FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LEGEND

- PROPOSED CONSTRUCTION
- EXISTING TO REMAIN
- SIGN
- HANDICAP PARKING
- PROPOSED ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING CONCRETE
- DETECTABLE WARNING SURFACE (DWS)
- (10) PARKING COUNT IN ROW

NOTES:
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2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

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(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for: PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	REDUCED CONCRETE REMOVAL	2025-07-03

SITE PLAN

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 Fax (850)763-5200 www.panhandleengineering.com

Project Number	133407
Dated	01/31/2025
Drawn By	JNF
Approved By	JDC
PM	JDC

C2

22019
PROJECT STATUS
Issue Date

BLOCK BUILDING

COVERED WALK

PROPOSED BUILDING
FINISH FLOOR ELEVATION = 29.50'

SIDEALK GRADE SAME AS ADJACENT PARKING LOT GRADE

SIDEALK GRADE SAME AS ADJACENT PARKING LOT GRADE

HC RAMP (RAMP DOWN TO EXISTING PARKING LOT GRADE)

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

SIDEWALK GRADE ELEVATED 6" ABOVE ADJACENT PARKING LOT GRADE

12" CLEANOUT INV= 25.00'

12" CLEANOUT

15" CLEANOUT INV= 24.00'

15" CLEANOUT INV= 24.00'

12" PVC ROOF DRAIN HEADER PIPE

12" PVC ROOF DRAIN HEADER PIPE

4" ROOF DOWNSPOUT CONNECTION (TYP)

WYE CONNECTION TO HEADER PIPE (TYP)

12" WIDE TRAFFIC RATED TRENCH DRAIN TO BE INSTALLED ALONG EDGE OF EXISTING ASPHALT TO REMAIN

8" PVC ROOF DRAIN HEADER PIPE

8" PVC ROOF DRAIN HEADER PIPE

15" PVC ROOF DRAIN HEADER PIPE

15" PVC ROOF DRAIN HEADER PIPE

28.50 TOC
28.00 EOP

28.50 TOC
28.00 EOP

28.50 TOC
28.00 EOP

29.10 TOC
28.60 EOP

28.60 TOC
28.10 EOP

28.60 TOC
28.10 EOP

29.10 TOC
28.60 EOP

27.87 TOC
27.37 EOP

MATCH EXISTING GRADE

MATCH EXISTING GRADE

CONTRACTOR TO INSTALL 2' WIDE CONCRETE FLUME AT OPEN END OF TRENCH DRAIN. FLUME TO EXTEND TO BOTTOM OF BYPASS SWALE.

SWALE TO CONVEY BYPASS FLOW

PROPOSED STORMWATER FACILITY (SEE DETAILS ON SHEET C8)

DS-12
FDOT TYPE C INLET CONTROL STRUCTURE GRATE EL = 26.75 S-INV. = 21.46 (18"RCP)

DP-11
EXTEND 18" RCP TO STRUCTURE DS-12

DP-01
35.0' OF 18" ADS HP @ 0.00%

DP-04
38.0' OF 18" ADS HP @ 0.00%

DS-01
4' DIA. STORM MANHOLE
RIM EL = 26.75
NE INV = 23.60 (15" PVC)
NW INV = 23.00' (15" PVC)
SE INV = 21.50' (18" ADS HP)
SW INV = 21.50' (18" ADS HP)

DS-07
INV=21.50

DS-07
INV=21.50

HAND AUGER HA-1

HAND AUGER HA-2

HAND AUGER HA-3

LOCATE EXISTING 12" WATER MAIN

NOTE:
LOWER TOP OF EXISTING MANHOLE BY 12" AND REPLACE SOLID COVER WITH STORMWATER GRATE

SEWER MANHOLE
TOP=32.40'
INV. S=PVC=23.55'

WOOD AVE

WOOD AVE

LEGEND

X 28.00	EXISTING GRADE
XX.XX	PROPOSED FINISH GRADE
28	PROPOSED GRADE CONTOUR
28	EXISTING GRADE CONTOUR
	STORMWATER FLOW ARROW
	PROPOSED MANHOLE (SANITARY OR STORM)
	PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
	PROPOSED STORM PIPE
OHU	EXISTING OVERHEAD UTILITIES
DS-1	STORM DRAIN STRUCTURE i.e #1
DP-1	STORM DRAIN PIPE i.e #1
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED ASPHALT PAVEMENT
	EXISTING ASPHALT PAVEMENT
	PROPOSED CONCRETE
	EXISTING CONCRETE
	DETECTABLE WARNING SURFACE (DWS)
DS	DOWNSPOUT
TOC	TOP OF CONCRETE
EOP	EDGE OF PAVEMENT

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

DRAINAGE STRUCTURE NOTES:
1. "C" and "E" INLETS PER FDOT STD. PLANS INDEX 425-052
2. ALL STORM STRUCTURES TO HAVE 1ft. SUMPS.
3. CONTRACTOR MAY UTILIZE ADS HP STORM PIPE WHERE COVER EXCEEDS MANUFACTURER'S MINIMUM CRITERIA FOR COVER AND FLOTATION RESISTANCE.

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

SCALE: 1" = 20'
0' 10' 20' 40'
SCALE: 1" = 20'

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

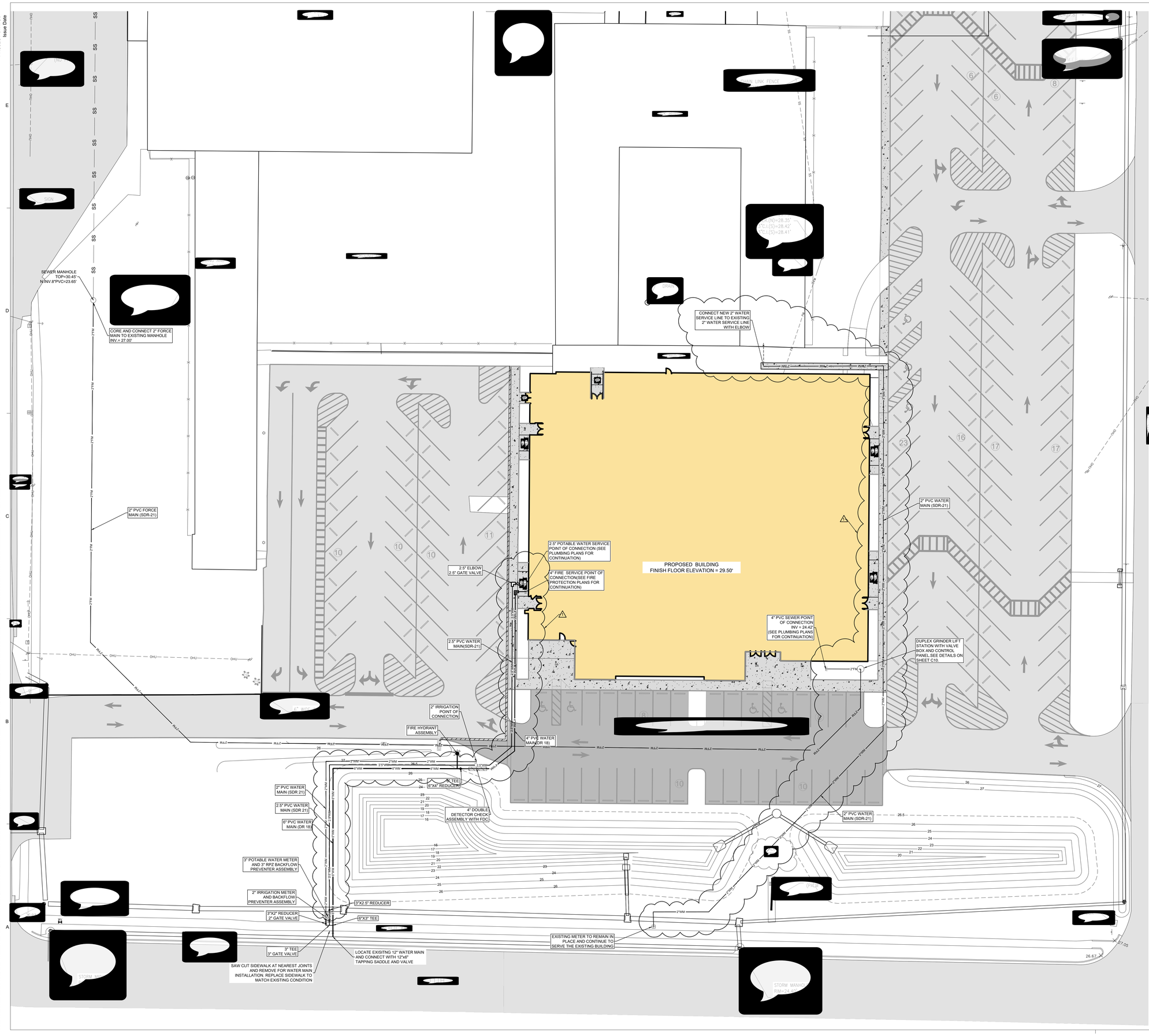
No.	Description	Date
1	ACCEI FINISH FLOOR ELEVATION	2025-07-03
1	REDUCED CONCRETE REMOVAL	2025-07-03

GRADING AND DRAINAGE PLAN

Project Number	133407
Dated	01/31/2025
Drawn By	JNF
Approved By	JDC
PM	JDC

C3

22019
PROJECT STATUS
Issue Date



LEGEND

- SS – EXISTING SANITARY SEWER LINE
- 4"SS – PROPOSED SANITARY SEWER LINE (SIZE AS NOTED)
- WM – EXISTING WATER LINE
- 2"WM – PROPOSED WATER LINE (SIZE AS NOTED)
- 2"FM – PROPOSED FORCE MAIN (SIZE AS NOTED)
- PROPOSED STORM PIPE
- OHW – EXISTING OVERHEAD UTILITIES
- PROPOSED ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING CONCRETE

NOTES:
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Sunshine811.com

0' 10' 20' 40'
SCALE: 1" = 20'

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850.387.1671
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100% CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION

(FOR REVIEW AND FINAL COORDINATION)

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	UTILITY REVISIONS	2025-07-03

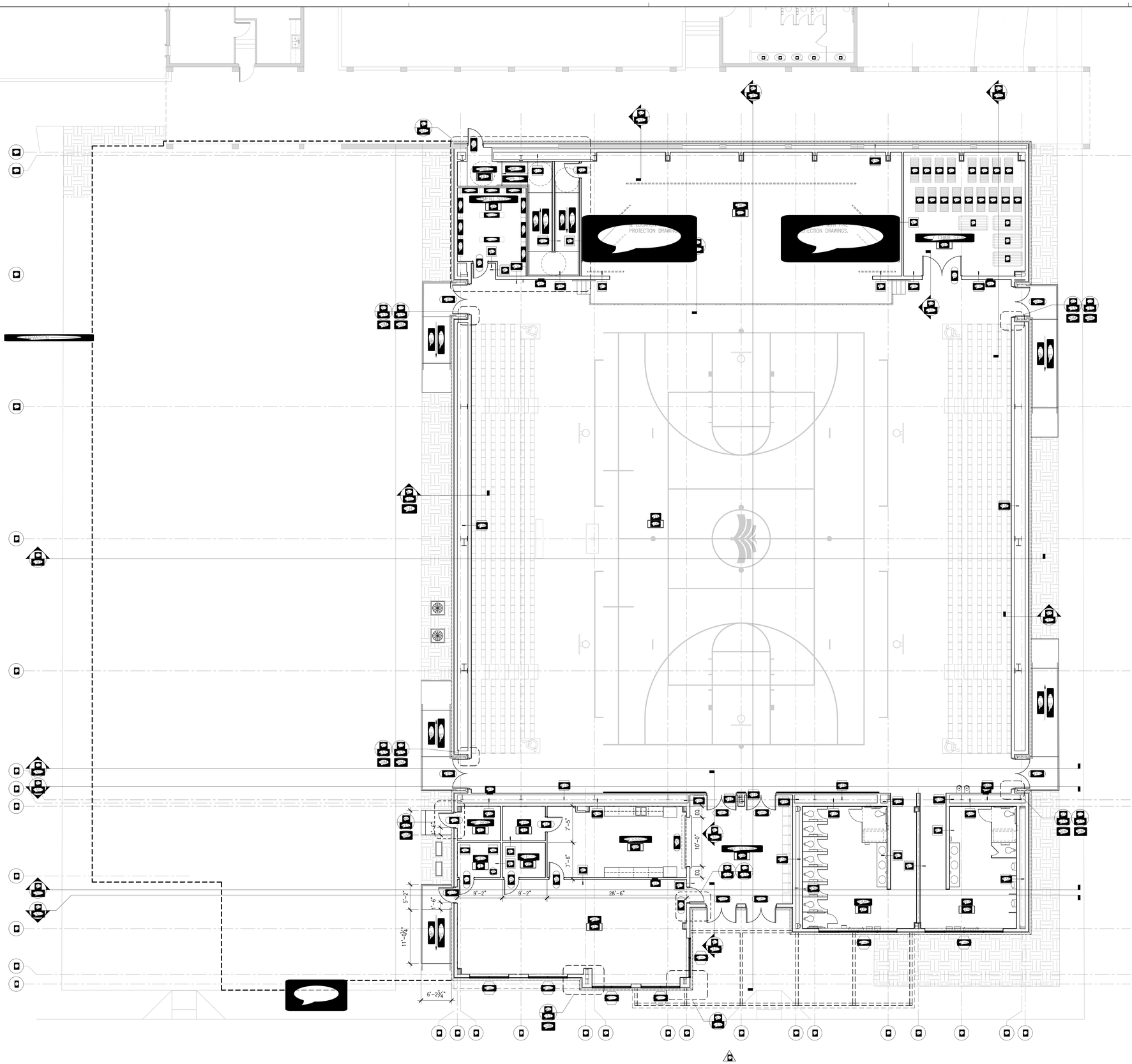
UTILITY PLAN

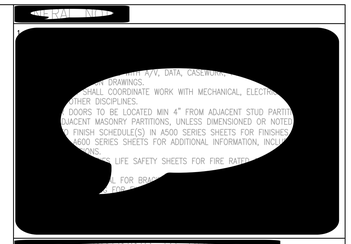
Project Number	133407
Dated	01/31/2025
Drawn By	JNF
Approved By	JDC
PM	JDC

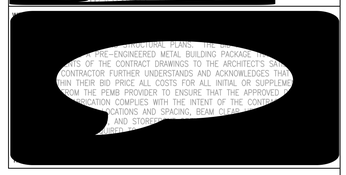
C4

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 Fax (850)763-5200 www.panhandleengineering.com

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025







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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
FLOOR PLAN

PROJECT NUMBER	22019
DATED	01/31/2025

A101.A

A1	FLOOR PLAN
SCALE: 1/8" = 1'-0"	

PLOT DATE: 2/5/2026 10:28:46 AM
DWG. LOCATION: G:\PC Harrison\Projects\2022 Projects\220219 Palm Bay Gymatorium\B-Design\B2Schematic Design\B2SWorkingDocs\A101.A First Floor Plan.dwg
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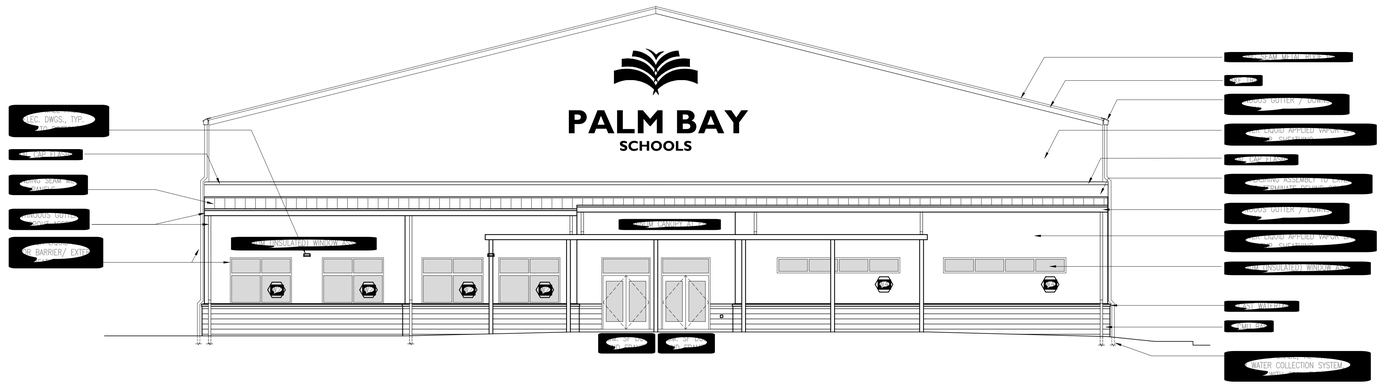
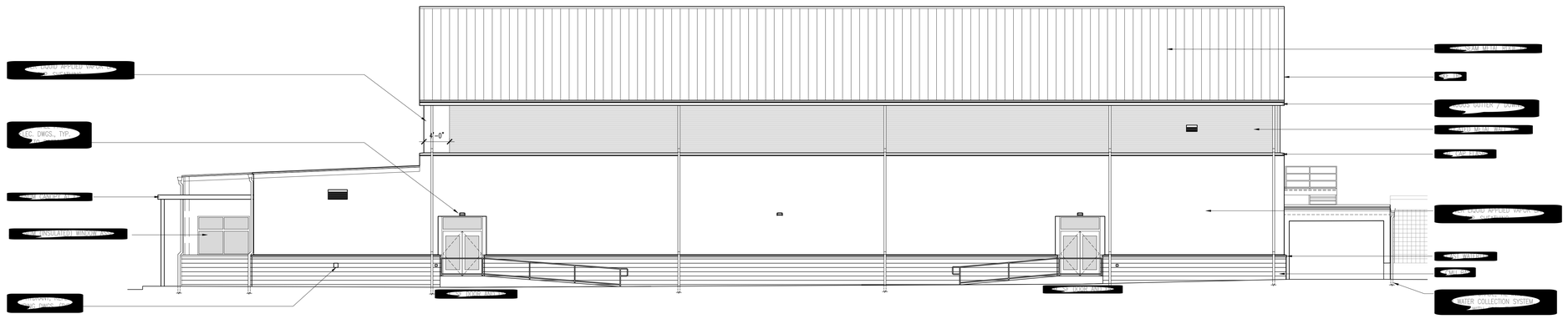
22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



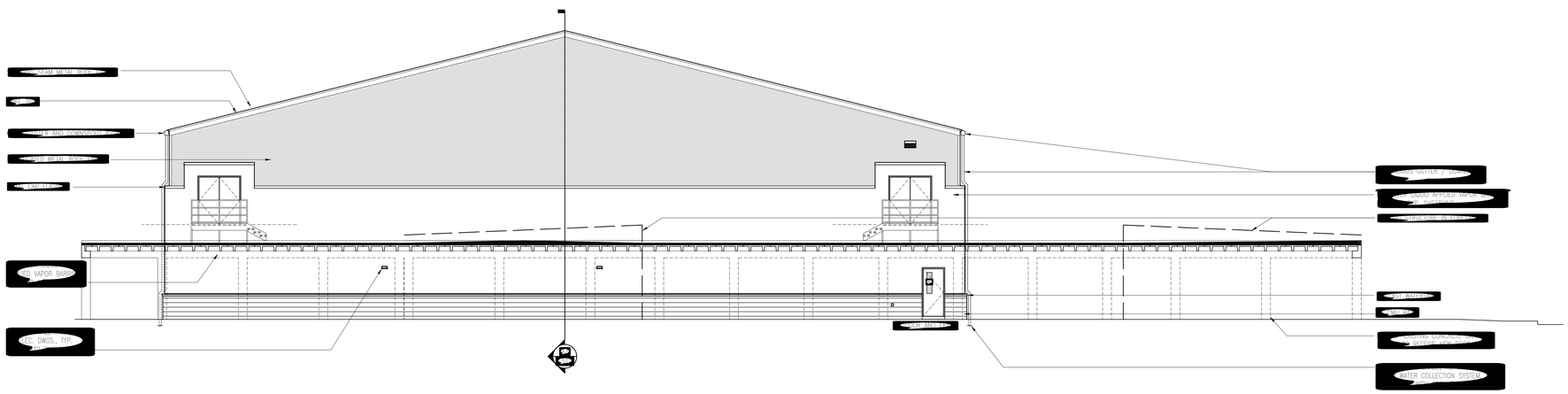
C1 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



B1 EAST ELEVATION

SCALE: 1/8" = 1'-0"



A1 NORTH ELEVATION

SCALE: 1/8" = 1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
EXTERIOR ELEVATIONS

PROJECT NUMBER	22019
DATED	01/31/2025

A201.A

PLOT DATE: 2/6/2026 10:29:22 AM
DWG. LOCATION: G:\PC\Harrison\Projects\2022 Projects\2019 Palm Bay Gymatorium\B-Design\BIS\Schematic\Design\B2\Working\Docs\A201.A Exterior Elevations.dwg
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22019
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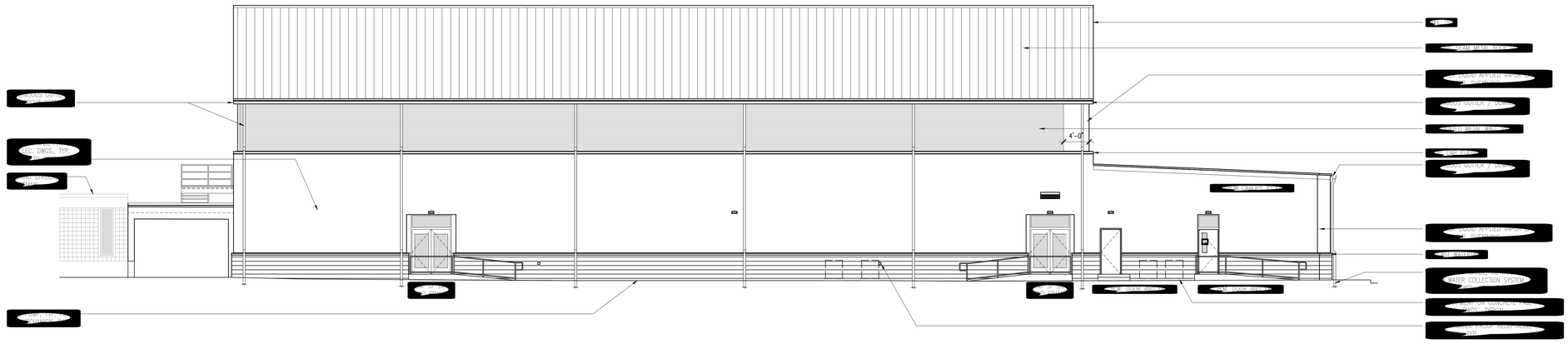
01/31/2025



C1 WEST ELEVATION

SCALE: 1/8" = 1'-0"

B1

SCALE:

A1

SCALE:

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
EXTERIOR ELEVATIONS

PROJECT NUMBER 22019
DATED 01/31/2025

A202.A

PLOT DATE: 2/6/2026 10:29:49 AM
DWG. LOCATION: G:\PC Harrison\Projects\2022 Projects\22019 Palm Bay Gymatorium\B-Design\B2Schematic Design\B2SWorking\Docs\A202.A Exterior Elevations.dwg
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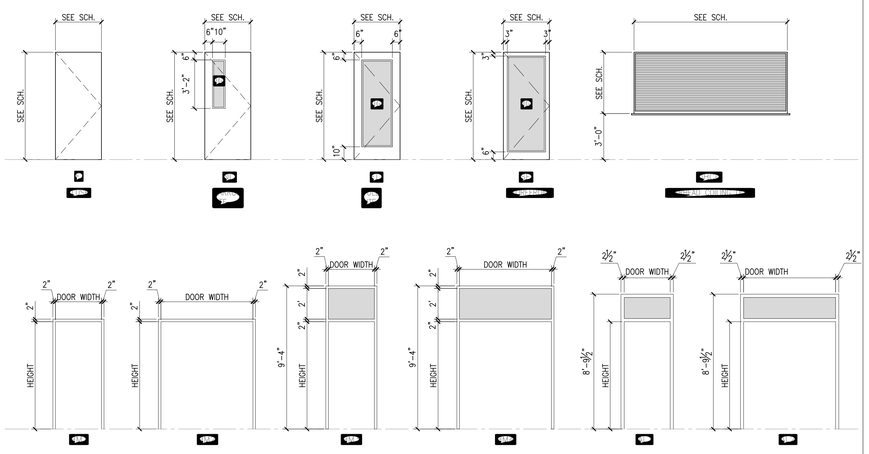
22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	DOOR MATERIAL	DOOR SIZE	FRAME TYPE	FRAME MATERIAL	FRAME: DOOR DETAILS ARE LABELED ON THE "TYPES" OF THIS SHEET — HEAD (DETAIL, LOCATED ON SHEET A501.2 & A501.3)	FRAME: JAMB	FRAME: SILL	FIRE RATING LABEL	REMARKS SEE SPECIFIC NOTES
C007	NL	GHM	3'-0"x7'-0"	HM1	GHM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100A	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100B	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100C	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
100D	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
101	NL	SCWD	3'-0"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A3 / 501.2	60 MIN	
102	NL	SCWD	3'-0"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	60 MIN	
103	NL	SCWD	PR 4'-0"x7'-0"	HM2	HM	E2 / 501.2	D2 / 501.2	A3 / 501.2	60 MIN	
106A	SF	SCWD	PR 3'-0"x7'-0"	AL2	HM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106B	SF	SCWD	PR 3'-0"x7'-0"	AL2	HM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106C	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
106D	SF	AL	PR 3'-0"x7'-0"	AL2	AL	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	
107	FL	SCWD	3'-0"x7'-0"	HM3	HM	E3 / 501.2	D2 / 501.2	A1 / 501.2	N/A	
107A	NL	GHM	3'-0"x7'-0"	HM3	GHM	C2 / 501.3	B1 & B2 / A501.3	A1 / 501.3	N/A	DOOR ADDED ON REV. 2
108	FL	SCWD	3'-0"x7'-0"	HM1	HM	C1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
108A	OHCD SEE SPECS		10'-0"Wx4'-0"H"	O.H. ROLLING COIL DOOR		E1 / 501.3 SIM	D1 / 501.3 SIM	C1 / 501.3 SIM	N/A	BASIS OF DESIGN - MANUF.: OVERHEAD DOOR / MODEL: 650 ROLLING COUNTER DOOR, FACE MOUNT / OPERATION: MANUAL PUSH UP RH
109	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
110	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
111	F	SCWD	3'-6"x7'-0"	HM1	HM	D1 / 501.2	B1 / 501.2	A1 / 501.2	N/A	
112	F	GHM	3'-0"x7'-0"	HM1	GHM	C3 / 501.2	B2 & B3 / A501.2	A2 / 501.2	N/A	
DOORS LISTED BELOW WERE DELETED OR RENUMBERED ON SCOPE REDUCTION										
101A										
113										
114										
115										
116										
117										
118										
119										
120										
121										
122										
122A										
122B										
123										
123A										
124										
124A										
125										
125A										
126										
126A										
127										
127A										
128										
128A										
129										
130A										
131A										
132										
133										
201										
203										
C001										
C001A										
C002										
C003										
C003A										
C004										
C004A										
C005										
C005A										
C006										

C3 DOOR AND FRAME SCHEDULE

SCALE: 1/4" = 1'-0"



B3 H.M. DOOR AND FRAME TYPES

SCALE: 1/4" = 1'-0"

DOOR SCHEDULE GENERAL NOTES

- ALUMINUM HOLLOW METAL
- SOLID CORE WOOD DOOR
- ALUMINUM STOREFRONT
- ALUMINUM
- PAIR
- ...D OTHERWISE NOTED
- ...ASSET SCHEDULE.
- STOREFRONT DOOR GLASS TO BE LAMINATED OR
- STOREFRONT TRANSOM GLASS TO BE INSULATED
- SPECIFICATIONS.
- WET AREA HOLLOW METAL ...
- ...FIED

A3 GENERAL NOTES

SCALE: NTS

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
DOOR & WINDOW
SCHEDULES

PROJECT NUMBER	22019
DATED	01/31/2025

A501.A

PLOT DATE: 2/6/2026 10:21:56 AM
DWG. LOCATION: G:\PC Harrison\Projects\2022 Projects\22019 Palm Bay Gymatorium\B-Design\B2Schematic\Design\B2SdWorking\Docs\A501.A Door & Frame Schedule.dwg
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PLOT DATE: 2/6/2026 10:32:19 AM
DWG. LOCATION: G:\PC Harrison\Projects\2022 Projects\22019 Palm Bay Gymatorium\B-Design\B2Schematic Design\B2Working\Docs\A502.A Finish Schedule.dwg
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22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

FIRST FLOOR FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	FLOOR BASE	WALLS								CEILING			REMARKS
		FINISH		NORTH		EAST		SOUTH		WEST		MATERIAL	FINISH	HEIGHT	
				MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH				
C007	CORRIDOR	CONC	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	10'-0"	
100	GYM	WD	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
101	EQ. STORAGE	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	10'-0"	
102	STAGE	WD	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	-	
103	TABLE/CHAIR STORAGE	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	10'-0"	
104	MEN	EPXF	-	CWT	-	CWT	-	CWT	-	CWT	-	GB	PTD	10'-0"	
105	WOMEN	EPXF	-	CWT	-	CWT	-	CWT	-	CWT	-	GB	PTD	10'-0"	
106	ENTRY VESTIBULE	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
107	OPEN	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
108	CONCESSIONS	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
109	TELECOM	CPT1	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	ACT	-	9'-4"	
110	ELECTRICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	9'-4"	
111	MECHANICAL	CONC	-	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GB	PTD	9'-4"	
112	FIRE RISER	LVT	RBR	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	GYP.BD.	PTD	-	-	9'-4"	
ROOMS BELOW WERE DELETED OR RENUMBERED ON SCOPE REDUCTION															
113	OFFICE														
114	TELECOM														
115	SUPPLIES														
116	OFFICE														
117	PRINCIPAL														
118	ELECTRICAL														
119	WOMEN														
120	MECHANICAL														
121	MEN														
122	WARMING KITCHEN														
122A	CLOSET														
123	CLASSROOM														
123A	MECHANICAL														
124	CLASSROOM														
124A	MECHANICAL														
125	CLASSROOM														
125A	MECHANICAL														
126	CLASSROOM														
126A	MECHANICAL														
127	CLASSROOM														
127A	MECHANICAL														
128	CLASSROOM														
128A	MECHANICAL														
129	STORAGE														
130	BOYS														
130A	STOR. CLOSET														
131	GIRLS														
131A	JANITOR CLOSET														
132	BREAK OUT ROOM														
133	BREAK OUT ROOM														
C001	CORRIDOR														
C002	CORRIDOR														
C003	CORRIDOR														
C004	CORRIDOR														
C005	CORRIDOR														
C006	CORRIDOR														

ABBREVIATIONS

[redacted]
LOORING WITH INTEGRAL BASE
ST STRUCTURE (PRIME AND PAINT)
M BOARD, CEILING/SOFFIT – TEXTURE: LEVEL 3, LIGHT TEXTURE, SEE SPECIFICATIO
DED GYPSUM BOARD CEILING SYSTEM – TEXTURE: LEVEL 3, LIGHT TEXTURE, SEE
WALL BOARD – ABUSE RESISTANT – TEXTURED FINISH, SEE SPECIFICATIONS.
POLISHED
OORING.

ROOM FINISH SCHEDULE GENERAL NOTES

[redacted]
GYP. BOARD WALLS FINISH SEE SPECIFICATIONS.
INSTALL BLINDS AT ALL EXTERIOR WINDOWS.

ROOM FINISH SCHEDULE SPECIFIC NOTES (REMARKS COLUMN)

[redacted]
ROOMS AND IT ROOM, INSTALL PAINTED FIRE RETARDED PLYWOOD
IONS.

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PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SCOPE REDUCTION	2/6/2026

ALTERNATE
FINISH SCHEDULE

PROJECT NUMBER	22019
DATED	01/31/2025

A502.A

A1 | ROOM FINISH SCHEDULE
SCALE: NTS

STRUCTURAL GENERAL NOTES

ABBREVIATIONS

AB	ANCHOR BOLT
ADDL	ADDITIONAL
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECTURAL or ARCHITECT
B/	BOTTOM OF
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOS	BOTTOM OF STEEL
BRG	BEARING
B/S	BOTTOM SIDE
BTM or (B)	BOTTOM, "BOT" SIM
BTW	BETWEEN
CB	CARRIAGE BOLT
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
C.J.	CONTROL JOINT
CL or (℄)	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
C.O.	CASED OPENING
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE or CONTINUOUS
CSJ	CONSTRUCTION JOINT
CTR	CENTERED, "CNTR'd" SIM
DET	DETAIL
DBL	DOUBLE
DIA or (ø)	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIR	DIRECTION
D.L.	DEAD LOAD
DN	DOWN
DWG	DRAWING
DWL	DOWEL
EA	EACH
E.E.	EACH END
E.F.	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMBED	EMBEDDED or EMBEDMENT
EOS	EDGE OF SLAB
E.G.	EXISTING GRADE
E.S.	EACH SIDE
EQ	EQUAL
E.W.	EACH WAY
EX	EXISTING
EXPB	EXPANSION BOLT
EXT	EXTERIOR
F.F.	FAR FACE
FFE	FINISHED FLOOR ELEVATION
F.G.	FINISHED GRADE
FIN	FINISH
FL	FLOOR
FLG	FLANGE
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FULL PENETRATION
F/S	FAR SIDE
FT	FOOT OR FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GDR	GIRDER
GP	GUSSET PLATE
HAS	HEADED ANCHOR STUD
HD	HOLDOWN
HDG	HOT DIP GALVANIZED
HDR	HEADER
HK	HOOK
HOR	HORIZONTAL
HSB	HIGH STRENGTH BOLT
H.S.S.	HEADED SHEAR or "NELSON" STUD
HSS	HOLLOW STL SECTION or TUBE
I.F.	INSIDE FACE
IN	INCH OR INCHES
INT.	INTERIOR
INV	INVERT
JST	JOIST
JT	JOINT
K	KIP (1,000 POUNDS)
LB	POUNDS
L.E.	LEFT END
L.L.	LIVE LOAD
LLD	LONG LEG DOWN
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LVL	LAMINATED VENEER LUMBER
LWC	LIGHT WEIGHT CONCRETE
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MFGR	MANUFACTURER
MID or (M)	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
M.R.D.	METAL ROOF DECK
MTL	METAL
MTRL	MATERIAL
N.F.	NEAR FACE
NOM	NOMINAL
NO.	NUMBER OR #
N/S	NEAR SIDE
NS	NON-SHRINK
N.T.S.	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
O.C.	ON CENTER, "C.C." SIM
O.D.	OVERALL DIM. "O/D" SIM
O.F.	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
PCC	PRECAST CONCRETE
PEN	PENETRATION
PERP	PERPENDICULAR
P.L.	POINT LOAD
PL	PLATE
PSL	PARALLEL STRAND LUMBER
PT	POINT
P.T.	PRESSURE TREATED or POST-TENSION
P.U.	RIGHT END
REINF	REINFORCING
REF	REFERENCE
RET	RETURN
REQ	REQUIRED
R.L.L.	ROOF LIVE LOAD
R.O.	ROUGH OPENING
SC	SLIP CRITICAL
SCHED	SCHEDULE
S.D.N.	STRUCTURAL DESIGN NOTES
SIM	SIMILAR
SOG	SLAB ON GRADE
S.E.	STUD PACK
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL, "S.S." SIM
STAG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURAL, "STRUCT" SIMILAR
S.W.	SHEAR WALL
SYM	SYMMETRICAL
T or (T)	TOP
T&B	TOP AND BOTTOM
T&S	TEMPERATURE & SHRINKAGE REINF.
T/	TOP OF
T/S	TOP SIDE
TDR	THREADED ROD
TEMP.	"T&S" FOR REINF
THK	THICK OR THICKNESS
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UWA	UNDER WALL ABOVE
VERT	VERTICAL
W/	WITH
WF	WIDE FLANGE
WP	WORKING POINT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

1. **GENERAL NOTES:**

1.1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

1.2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

1.3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.

1.4. DO NOT SCALE DRAWINGS.

1.5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, AND TIEDOWNS.

1.6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

1.7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.

1.8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

1.9. THE REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHOD, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

1.10. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF ATLAS ENGINEERING AND CONSULTING, LLC IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.

1.11. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFE SPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

1.12. STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED STEEL FRAMING, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

1.13. ALL CONSTRUCTION SHALL CONFORM TO THE FLORIDA BUILDING CODE 8TH EDITION (2023). REFERENCE TO OTHER CODES OR STANDARD SPECIFICATIONS REFER TO THE LATEST EDITION OF SUCH CODES OR SPECIFICATIONS, UNLESS STATED OTHERWISE.

1.14. NO PROVISIONS HAVE BEEN MADE FOR VERTICAL OR HORIZONTAL EXPANSION EXCEPT AS SHOWN ON CONTRACT DOCUMENTS.

1.15. FINISH FLOOR ELEVATION (FIRST FLOOR) OF 0'-0" IS USED AS A REFERENCE ELEVATION. SEE CIVIL DRAWINGS FOR ACTUAL ELEVATION.

1.16. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CAD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS IS PROHIBITED UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM ENGINEER OF RECORD.

1.17. IN THE EVENT THAT THE STRUCTURAL CONTRACTS DRAWINGS AND SPECIFICATIONS CONFLICT ON INFORMATION, THE STRUCTURAL CONTRACT DRAWINGS SHALL SUPERSEDE THE SPECIFICATIONS.

2. **CODE DESIGN:**

2.1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2023 FLORIDA BUILDING CODE.

2.2. GRAVITY LOADS

2.2.1. UNIFORM FLOOR LIVE LOADS (REDUCED AS ALLOWED BY THE BUILDING CODE):

CLASSROOMS	40 PSF
STAIRS/RAMPS	100 PSF
BLEACHERS	100 PSF
STAGE	150 PSF

2.2.2. UNIFORM ROOF LIVE LOADS (REDUCED AS ALLOWED BY THE BUILDING CODE):

ROOF	100 PSF

PONDING AND DRIFT EFFECTS HAVE BEEN INCLUDED IN DESIGN.

2.3. WIND LOADS (ASCE 7-22):

BASIC WIND SPEED = 170 MPH (INTERPOLATED VALUE)
STRUCTURAL RISK CATEGORY = III
WIND EXPOSURE CATEGORY = B
ENCLOSURE CLASSIFICATION = ENCLOSED
INTERNAL PRESSURE COEFFICIENT = 0.18 +/-

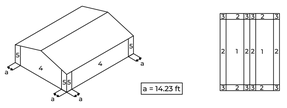
COMPONENTS AND CLADDING (PER ASD)

ROOF: (LOADING IN PSF)

	ZONE 1 (INTERIOR)		ZONE 2 (EDGE)		ZONE 3 (CORNER)	
TRIBUTARY AREA (SQFT)	(+)	(-)	(+)	(-)	(+)	(-)
10	21.23	59.32	21.23	78.37	21.23	102.86
20	19.34	51.00	19.34	67.67	19.34	88.12
100	14.95	31.69	14.95	42.81	14.95	53.88

WALLS: (LOADING IN PSF)

	ZONE 4 (INTERIOR)		ZONE 5 (EDGE/CORNER)	
TRIBUTARY AREA (SQFT)	(+)	(-)	(+)	(-)
10	32.11	34.83	32.11	42.99
20	30.66	33.38	30.66	40.10
100	27.30	30.03	27.30	33.38



2.4. FLOOD DESIGN DATA:

FLOOD ZONE = X
BFE = N/A
PANEL NO = 12005C0341J

2.5. ROOF RAIN LOAD DESIGN DATA:

RAIN LOAD = 5 PSF
RAIN INTENSITY (*I*) = 4.5 IN/HR

3. **FOUNDATIONS:**

3.1. THE FOUNDATIONS ARE DESIGNED FOR AN ANTICIPATED ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL IF GEOTECHNICAL INVESTIGATION HAS NOT BEEN CONDUCTED.

3.2. REGARDLESS OF WHETHER OR NOT A GEOTECHNICAL INVESTIGATION IS PERFORMED, NO WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY ATLAS ENGINEERING AND CONSULTING, LLC FOR THE PERFORMANCE OF THE FOUNDATION.

3.3. AT A MINIMUM, SITE PREPARATION WORK SHALL INCLUDE:
3.3.1. STRIPPING AND GRUBBING OF THE BUILDING FOOTPRINT PLUS A MARGIN OF 5 FEET AROUND THE BUILDING, REMOVING ALL ORGANIC MATERIALS.
3.3.2. PROOF ROLLING THE BUILDING SITE TO LOCATE ANY UNFORESEEN SOFT AREAS. ANY SOFT AREAS SHALL BE EXCAVATED AND REPLACED WITH CLEAN FILL. A DENSITY OF AT LEAST 95% FOR A DEPTH OF 2 FEET IS REQUIRED UNDER THE BUILDING FOOTPRINT.
3.3.3. ALL FILL SHALL BE CLEAN SAND AND FREE OF ORGANIC MATERIALS. COMPACT FILL IN 12 INCH (UNCOMPACTED THICKNESS) LIFTS TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE.
3.3.4. EXCAVATIONS FOR FOUNDATIONS SHALL BE COMPACTED TO 95% FOR A DEPTH OF AT LEAST 2 FEET BELOW THE BOTTOM OF THE FOUNDATION.
3.3.5. DEWATERING MAY BE REQUIRED TO ACHIEVE THE REQUIRED COMPACTION VALUES, AND IF USED, SHALL LOWER DOWN THE WATER LEVEL TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE EXCAVATION.

3.4. SLABS ON GRADE SHALL BE PLACED OVER A 15 MIL, CLASS "B" VAPOR RETARDER. VAPOR RETARDER SHALL BE LAPPED A MINIMUM OF 6", OR AS RECOMMENDED BY THE MANUFACTURER (WHICHEVER IS GREATER) AND TAPED AT ALL JOINTS. ALL PUNCTURES IN THE VAPOR RETARDER SHALL BE REPAIRED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ALL PENETRATIONS THROUGH THE VAPOR RETARDER (CONDUITS, PLUMBING, CONDUITS, ETC.) SHALL BE SEALED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. VAPOR RETARDER SHALL BE CONTINUOUS UNDER WALL FOUNDATIONS OR SEALED TO EXTERIOR WALLS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

4. **CONCRETE:**

4.1. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS.

4.2. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:

4.2.1. FOUNDATIONS & SLAB-ON-GRADE	3,000 PSI
4.2.2. STRUCTURAL SLABS	4,000 PSI
4.2.3. CIP BEAMS, COLUMNS & WALLS	4,000 PSI
4.2.4. EXTERIOR RETAINING WALLS	4,000 PSI

4.3. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE.

4.4. CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

4.5. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS, OR ANY READING THAT WILL CAUSE A DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE.

4.6. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

4.7. CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

4.8. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318, 20.6.

4.9. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA AS PER 26.4.4 OF ACI 318.

4.10. CONCRETE SLABS ON GRADE SHALL BE REINFORCED WITH 6x6 W1.4xW1.4 STEEL MESH OR SYNTHETIC FIBERS AT A MINIMUM RATE OF 3.0 LBS/CY, OR AS RECOMMENDED BY THE FIBER MANUFACTURER FOR CONTROL OF TEMPERATURE AND SHRINKAGE/CRACKING, WHICHEVER IS GREATER. UNLESS NOTED OTHERWISE.

4.11. WHEN WATER-BASED ADHESIVE ARE BEING USED ON CONCRETE SURFACES, THE CONTRACTOR SHALL VERIFY THAT THE WATER CONTENT OF THE CONCRETE IS WITHIN THE ALLOWABLE RANGE BEFORE INSTALLATION.

4.12. CHAMFER OR ROUND ALL EXPOSED CORNERS A MINIMUM OF 3/4".

5. **REINFORCING STEEL**

5.1. SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.

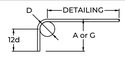
MINIMUM LAP SPLICE LENGTH (IN.) - 3000 PSI CONCRETE	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
FOOTINGS (HOR.)	21	23	29	37	50	-
VERT. DOWELS	22	29	36	43	63	72

MINIMUM LAP SPLICE LENGTH (IN.) - 4000 PSI CONCRETE	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
BEAMS/SLABS	-	-	-	-	-	-
- TOP BARS	22	29	36	43	63	72
- OTHER	21	21	26	31	39	51
COLUMNS	16	18	19	22	37	45
C.I.P. WALLS	-	-	-	-	-	-
- VERT. (1 MAT)	21	21	22	25	39	51
- VERT. (2 MATS)	16	18	19	22	34	43
- HORIZONTAL	16	19	27	37	60	74

MINIMUM LAP SPLICE LENGTH (IN.) - 1500 PSI NORMAL WEIGHT CMU	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
6-in CMU WALL	19	25	39	81	-	-
8-in CMU WALL	19	25	31	57	79	113
12-in CMU WALL	19	25	31	53	61	75

RECOMMENDED END HOOKS ANCHORAGE LENGTH (IN.) - 3000 PSI CONCRETE	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
D	2.25	3.00	3.75	4.50	5.25	6.00
A or G	6	8	10	12	14	16

RECOMMENDED END HOOKS ANCHORAGE LENGTH (IN.) - 4000 PSI CONCRETE	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
D	2.25	3.00	3.75	4.50	5.25	6.00
A or G	7	10	12	15	17	19



5.2. REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER UNO (PER ACI 318-05 PAR.7.7.1)

5.2.1. CONCRETE CAST AGAINST EARTH:	3"	
5.2.2. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:	2"	(#6 BARS & LARGER)
	1-1/2"	(#5 BARS & SMALLER)
5.2.3. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	3/4"	(SLABS)
	1"	(WALLS)
	1-1/2"	(STIRRUPS & TIES)

5.3. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

5.4. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF ALL TOP BARS.

5.5. WHERE REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORTS AND TOP BARS AT CENTER OF SPAN. ALL OTHER LAP SPLICES SHALL BE IN ACCORDANCE WITH SPLICE TABLES AND DETAILS SHOWN ON DRAWINGS.

5.6. PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH CLASS B TENSION LAP SPLICES, U.N.O.

5.7. WHERE HOOKS ARE SHOWN ON THE PLANS OR DETAILS, HOOKS SHALL BE DETAILED TO EXTEND DEEP ENOUGH INTO SUPPORTING STRUCTURE TO DEVELOP THE FULL STRENGTH OF THE HOOKED BAR. PROVIDE ADDITIONAL TIES OR STIRRUPS IN SUPPORTING STRUCTURE AS REQUIRED TO SATISFY ACI 318 HOOK DEVELOPMENT, CONFINEMENT, AND ANCHORAGE CRITERIA.

5.8. ALL REINFORCEMENT SHALL BE BENT COLD, UNLESS OTHERWISE APPROVED BY THE STRUCTURAL EOR.

5.9. SHOP DRAWINGS SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING REINFORCING STEEL IN MAT SLABS, CAST-IN-PLACE WALLS, AND STRUCTURAL SLABS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

5.10. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS FOR REINFORCED CONCRETE, "ACI 318" AND THE "MANUALS OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315 (LATEST EDITION).

5.11. ALL REINFORCING STEEL AND EMBEDMENTS SHALL BE SECURELY TIED AND SUFFICIENTLY SUPPORTED TO MAINTAIN THE POSITION WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "WET STICKING" DOWELS INTO CONCRETE IS NOT PERMITTED.

5.12. CONTINUOUS REINFORCEMENT SHALL BE PROVIDED WHEREVER POSSIBLE. REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN OR NOTED IN THE STRUCTURAL CONTRACT DOCUMENTS. STAGGER SPLICES WHERE POSSIBLE; USE FULL TENSION SPLICE (CLASS "B") UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH FULL TENSION SPLICES (CLASS "B") UNLESS NOTED OTHERWISE. TERMINATE BARS WITH STANDARD HOOKS.

5.13. REINFORCING STEEL SHALL NOT BE WELDED OR TACK WELDED UNLESS APPROVED BY THE STRUCTURAL EOR.

5.14. ALL STEEL REINFORCING USED IN SLAB-ON-GRADE CONSTRUCTION IS REQUIRED TO BE SUPPORTED IN THE CENTER TO UPPER ONE THIRD OF THE SLAB.

6. **WELDED WIRE FABRIC:**

6.1. SHALL CONFORM TO ASTM A-185, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.

6.2. MINIMUM LAP SHALL BE ONE SPACE PLUS TWO INCHES.

6.3. ALL WELD WIRE MESH USED IN SLAB-ON-GRADE CONSTRUCTION IS REQUIRED TO BE SUPPORTED IN THE CENTER TO UPPER ONE THIRD OF THE SLAB.

7. **WOOD:**

7.1. STRUCTURAL GLUED LAMINATED TIMBER SHALL BE PRODUCED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC). MINIMUM ALLOWABLE BENDING STRESS SHALL BE 2,400 PSI (DRY CONDITIONS).

7.2. PROVIDE DRESSED SEASONED LUMBER, S4S, WITH A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF DRESSING AS LISTED BELOW.

7.2.1. INTERIOR AND EXTERIOR LOAD-BEARING WALLS: SOUTHERN PINE, NO. 2 GRADE.

7.2.2. LINTELS, FLOOR JOISTS AND BEAMS: SOUTHERN PINE, NO. 2 GRADE.

7.2.3. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE FOUNDATION GRADE PRESSURE-TREATED. USE GALVANIZED NAILS IN PRESSURE-TREATED WOOD. THE PROTECTIVE COATING ON LIGHT GAUGE STEEL CONNECTIONS IN CONTACT WITH PRESSURE-TREATED WOOD SHALL BE IN ACCORDANCE WITH THE CONNECTOR MANUFACTURERS RECOMMENDATIONS.

7.3. ENGINEERED LUMBER PRODUCTS

7.3.1. PARALLEL STRAND LUMBER (PSL) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 2900 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 750 PSI
COMPRESSION PARALLEL TO GRAIN	F/C|| = 2900 PSI
HORIZONTAL SHEAR	F/V = 290 PSI
MODULUS OF ELASTICITY	E = 2,000,000 PSI

7.3.2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 2600 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 750 PSI
COMPRESSION PARALLEL TO GRAIN	F/C|| = 2510 PSI
HORIZONTAL SHEAR	F/V = 285 PSI
MODULUS OF ELASTICITY	E = 2,000,000 PSI

7.3.3. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 1700 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 710 PSI
COMPRESSION PARALLEL TO GRAIN	F/C|| = 1835 PSI
HORIZONTAL SHEAR	F/V = 425 PSI
MODULUS OF ELASTICITY	E = 1,300,000 PSI

7.3.4. GLULAM BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 3000 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 805 PSI
TENSION PARALLEL TO GRAIN	F/T|| = 1350 PSI
HORIZONTAL SHEAR	F/V = 300 PSI
MODULUS OF ELASTICITY	E = 2,100,000 PSI

7.3.5. PRESERVED GLULAM BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND PROPERTIES:

ALLOWABLE BENDING STRESS	F/B = 2400 PSI
COMPRESSION PERPENDICULAR TO GRAIN	F/C⊥ = 740 PSI
HORIZONTAL SHEAR	F/V = 300 PSI
MODULUS OF ELASTICITY	E = 1,800,000 PS

7.4. STRUCTURAL PANELS

7.4.1. FLOOR PANELS SHALL BE CONSTRUCTED WITH TONGUE AND GROOVE APA RATED, EXPOSURE 1, 23/32" PLYWOOD. FLOOR PANELS SHALL BE GLUED AND NAILED W/ 10d RING SHANK NAILS @ 4" O/C AT PANEL EDGES AND AT 6" O/C IN THE FIELD.

7.4.2. WALL PANELS SHALL BE CONSTRUCTED WITH APA RATED, EXPOSURE 1, 15/32" SHEATHING, SHEATHING SHALL BE ATTACHED WITH 10d COMMON NAILS @ 3" O/C AT PANEL EDGES AND 6" O/C IN THE FIELD. ALL PANEL EDGES SHALL BE B

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01/31/2025

PLAN LEGEND

- DENOTES THICKENED SLAB @ WALL BEARING & SLAB STEP DOWN LOCATIONS.
- DENOTES FOOTER OUTLINE BELOW.
- DENOTES SLAB TURNDOWN OUTLINE.
- DENOTES LOAD BEARING WALL BELOW.

TYP. C.I.P. PIER & FOOTING CALLOUT

FOOTING NOTES

1. TOPS OF ALL FOOTINGS (EXCEPT TURNDOWNS) MUST BE COVERED WITH A MINIMUM OF 12" OF FINISH GRADE MATERIAL (U.N.O.).
2. BOTTOMS OF ALL FOOTINGS MUST BEAR ATOP UNDISTURBED SOIL OR ENGINEERED FILL COMPACTED TO 95% MAXIMUM MODIFIED PROCTOR A MINIMUM OF 12" BELOW EXISTING GRADE UNLESS PROPER PROVISIONS HAVE BEEN MADE FOR THE USE OF ENGINEERED FILL BASED ON A SITE SPECIFIC GEOTECHNICAL EVALUATION (BY OTHERS).
3. ALL CONTINUOUS FOOTINGS & PEDESTALS MUST BE CENTERED ON THE WALL/PIER UNLESS SPECIFICALLY NOTED AS ECCENTRIC FOOTING.
4. VERTICAL DOWEL HOOKS SHOULD EXTEND 9" IN TO FTG'S, BELOW & RUNNING PERPENDICULAR TO FLEXURAL REINF.
5. NO "WET STICK" SETTING OF REINFORCING WILL BE APPROVED.
6. ALL VERTICAL REINFORCING MUST BE IN PLACE & TIED TO FOOTING REINF. PRIOR TO POUR.
7. COORDINATE ALL FOOTING LOCATIONS WITH CIVIL, PLUMBING, AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL PROVIDE PIPE SLEEVES BELOW OR ABOVE CONTINUOUS WALL FOOTINGS.
8. SEE ARCH. DRAWINGS FOR DIMENSIONS NOT SHOWN. IF A CONFLICT EXISTS, THE ARCH. DIMENSIONS SHALL GOVERN. BOTH ENGINEER AND ARCHITECT OF RECORD SHALL BE NOTIFIED IN WRITING OF ALL CONFLICTS.

PEMB BID NOTIFICATION TO CONTRACTOR:

WITH THE SUBMISSION OF THEIR BID, THE GENERAL CONTRACTOR CERTIFIES AND HAS CONFIRMED THAT THE PRE-ENGINEERED METAL BUILDING COMPANY WHOSE PRICE WAS USED TO GENERATE THIS BID HAS THOROUGHLY REVIEWED THE REQUIREMENTS OF THE CURRENT ARCHITECTURAL AND STRUCTURAL PLANS. THE BID PRICING REFLECTS THEIR ABILITY TO PROVIDE A PRE-ENGINEERED METAL BUILDING PACKAGE THAT COMPLIES WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS TO THE ARCHITECT'S SATISFACTION. THE BIDDING CONTRACTOR FURTHER UNDERSTANDS AND ACKNOWLEDGES THAT THEY HAVE INCLUDED WITHIN THEIR BID PRICE ALL COSTS FOR ALL INITIAL OR SUPPLEMENTAL DESIGN ENGINEERING FROM THE PEMB PROVIDER TO ENSURE THAT THE APPROVED DESIGN TO BE RELEASED FOR FABRICATION COMPLIES WITH THE INTENT OF THE CONTRACT DRAWINGS. THIS INCLUDES COLUMN LOCATIONS AND SPACING, BEAM CLEAR HEIGHTS AND SPANS, AS WELL AS WINDOWS, DOORS, AND STOREFRONT OPENING REQUIREMENTS. THE COST OF ANY STEEL MATERIAL REQUIRED TO COMPLY WITH THESE ARCHITECTURAL REQUIREMENTS IS INCLUDED IN THIS BID. ADDITIONALLY, THE PEMB PROVIDER HAS INCLUDED SUITABLE DESIGN AND SUPPLEMENTAL STEEL BRACING WITHIN THE GYM ROOF FRAMING TO SUPPORT THE SIX RETRACTING BASKETBALL BACKSTOP ASSEMBLIES.

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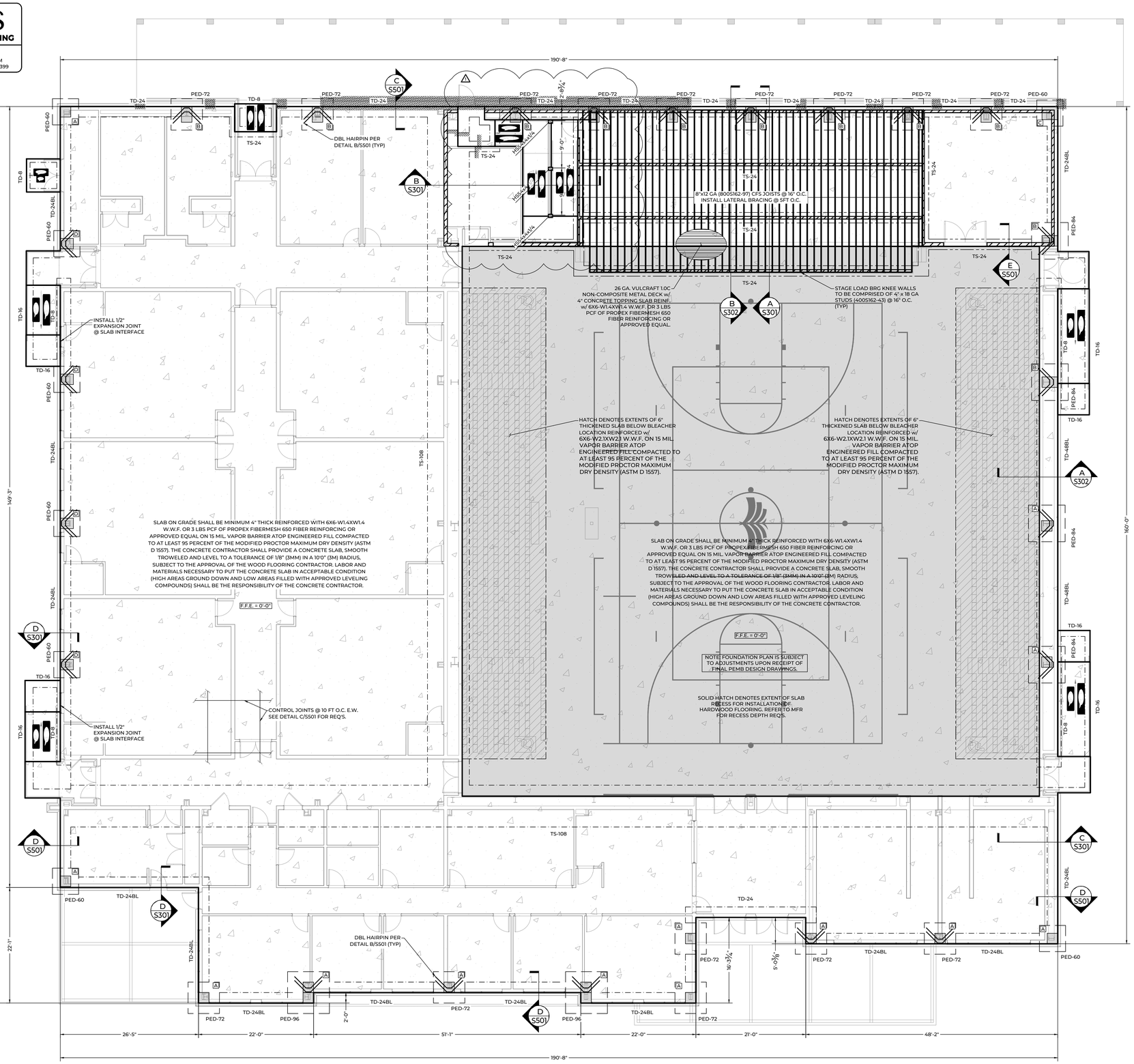

CONTINUOUS FOOTING SCHEDULE

DESIGNATION	TYPE	DIMENSIONS	CONTINUOUS REINF.	TRANSVERSE REINF.
TS-24	THICKENED SLAB	12" D x 24" W	(3) #5 BARS	#5 BARS x 18" @ 18" O.C.
TS-108	THICKENED SLAB	20" D x 108" W	(12) #5 BARS	#5 BARS x 102" @ 18" O.C.
TD-8	TURN DOWN	16" D x 8" W	(1) #5 BARS	N/A
TD-16	TURN DOWN	16" D x 16" W	(2) #5 BARS	#5 BARS x 10" @ 24" O.C.
TD-24	TURN DOWN	16" D x 24" W	(3) #5 BARS	#5 BARS x 1'-6" @ 24" O.C.
TD-24BL	TURN DOWN	16" D x 32" W	(4) #5 BARS	#5 BARS x 2'-2" @ 24" O.C.
TD-48BL	TURN DOWN	16" D x 56" W	(6) #5 BARS	#5 BARS x 4'-2" @ 24" O.C.

PEDESTAL FOOTING SCHEDULE

DESIGNATION	TYPE	DIMENSIONS	LONGITUDINAL REINF.	TRANSVERSE REINF.
PED-60	PEDESTAL FTG.	16" D x 60" SQR.	(7) #5 BARS EQ. SPACED	(7) #5 BARS EQ. SPACED
PED-72	PEDESTAL FTG.	20" D x 72" SQR.	(8) #5 BARS EQ. SPACED	(8) #5 BARS EQ. SPACED
PED-84	PEDESTAL FTG.	20" D x 84" SQR.	(9) #5 BARS EQ. SPACED	(9) #5 BARS EQ. SPACED
PED-96	PEDESTAL FTG.	20" D x 96" SQR.	(10) #5 BARS EQ. SPACED	(10) #5 BARS EQ. SPACED

A FOUNDATION PLAN
SCALE: 1/8"=1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	ASI #2 / RESPONSE TO RFI #2	8/8/25

FOUNDATION PLAN

PROJECT NUMBER 22019
DATED 01/31/2025

S101

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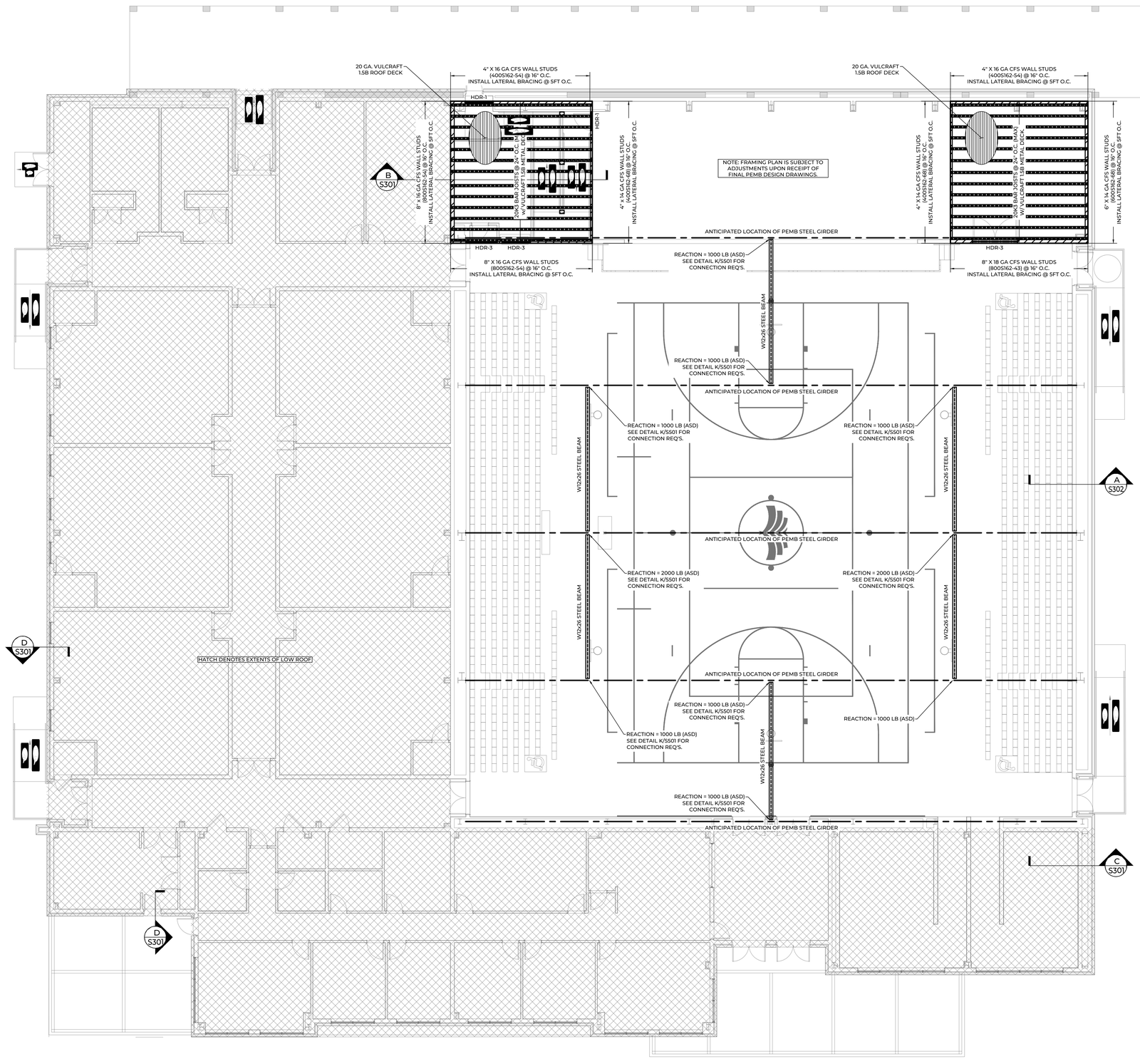
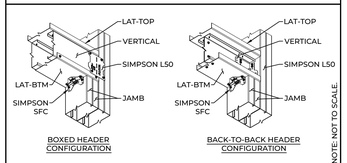


COLD FORMED STEEL HEADER SCHEDULE



CONCRETE BEAM SCHEDULE

DESIG.	VERTICAL	LAT-TOP	LAT-BTM	JAMB	HEADER SHAPE
HDR-1	800S162-54	400S162-33	400S162-33	(2) 400S162-54	BACK-TO-BACK
HDR-2	800S162-97	400S162-33	400S162-33	(2) 400S162-54	BACK-TO-BACK
HDR-3	800S162-54	800S162-33	800S162-33	(2) 800S162-54	BACK-TO-BACK

A MEZZANINE FRAMING PLAN
SCALE: 1/8"=1'-0"

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MEZZANINE FRAMING PLAN

PROJECT NUMBER 22019
DATED 01/31/2025

S102

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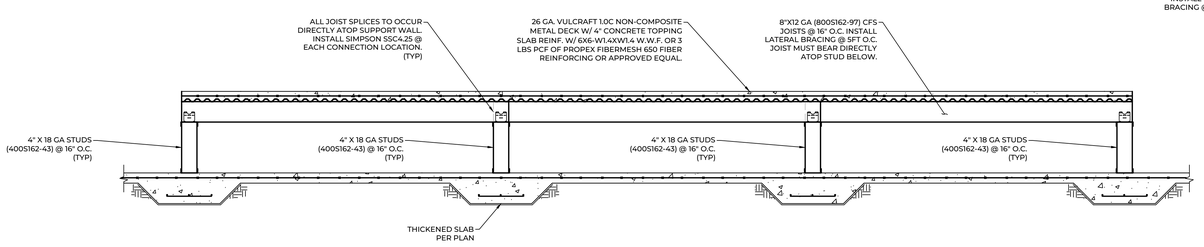
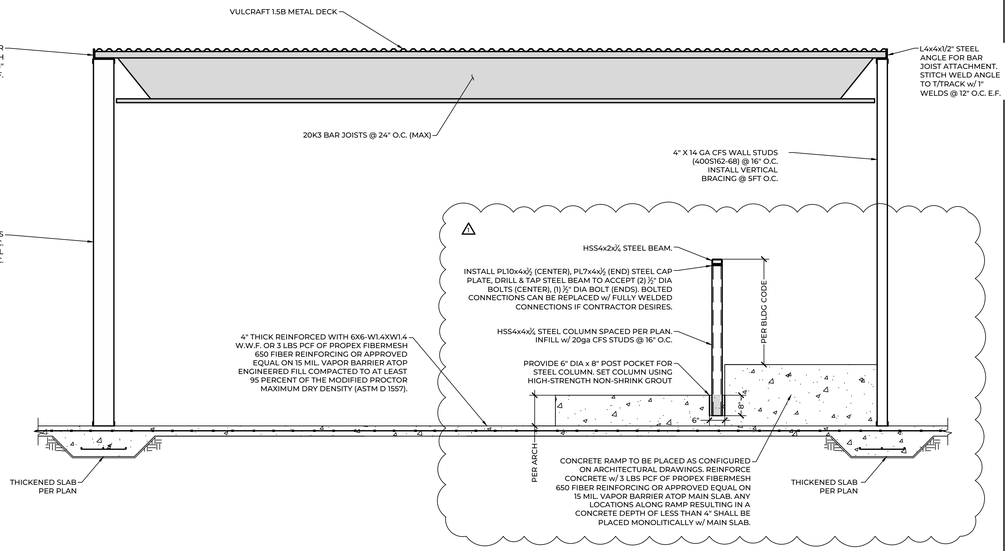
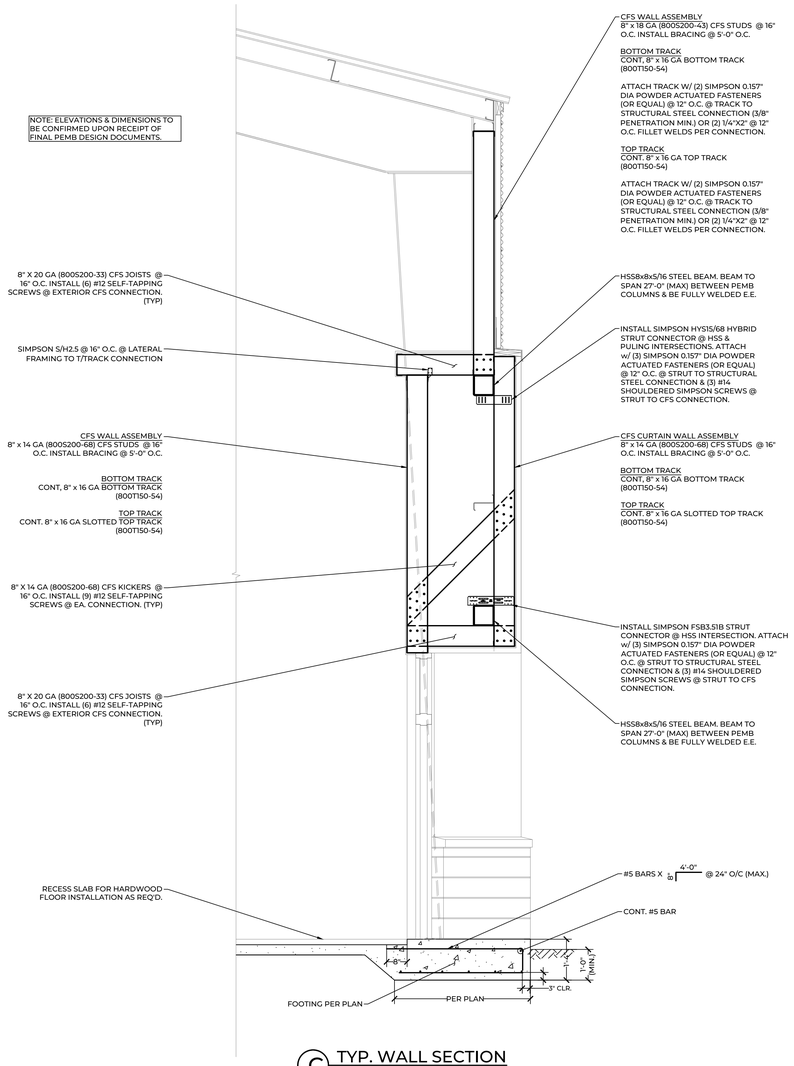


A SECTION @ STAGE
SCALE: 1/2"=1'-0"

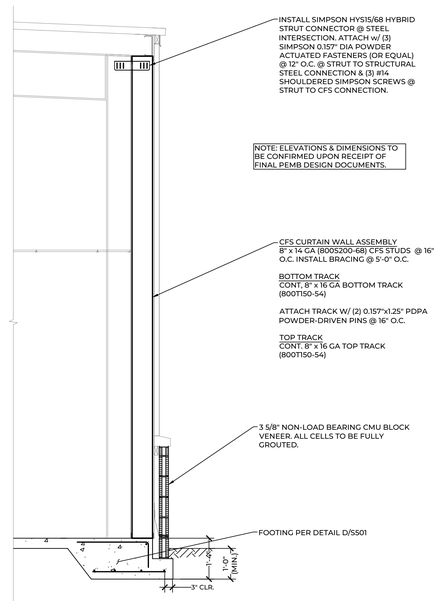


B SECTION @ MEZZANINE
SCALE: 1/2"=1'-0"

NOTE: ELEVATIONS & DIMENSIONS TO BE CONFIRMED UPON RECEIPT OF FINAL PEMB DESIGN DOCUMENTS.



C TYP. WALL SECTION
SCALE: 1/2"=1'-0"



D TYP. WALL SECTION
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STRUCTURAL SECTIONS

PROJECT NUMBER	22019
DATED	01/31/2025

S301

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01/31/2025

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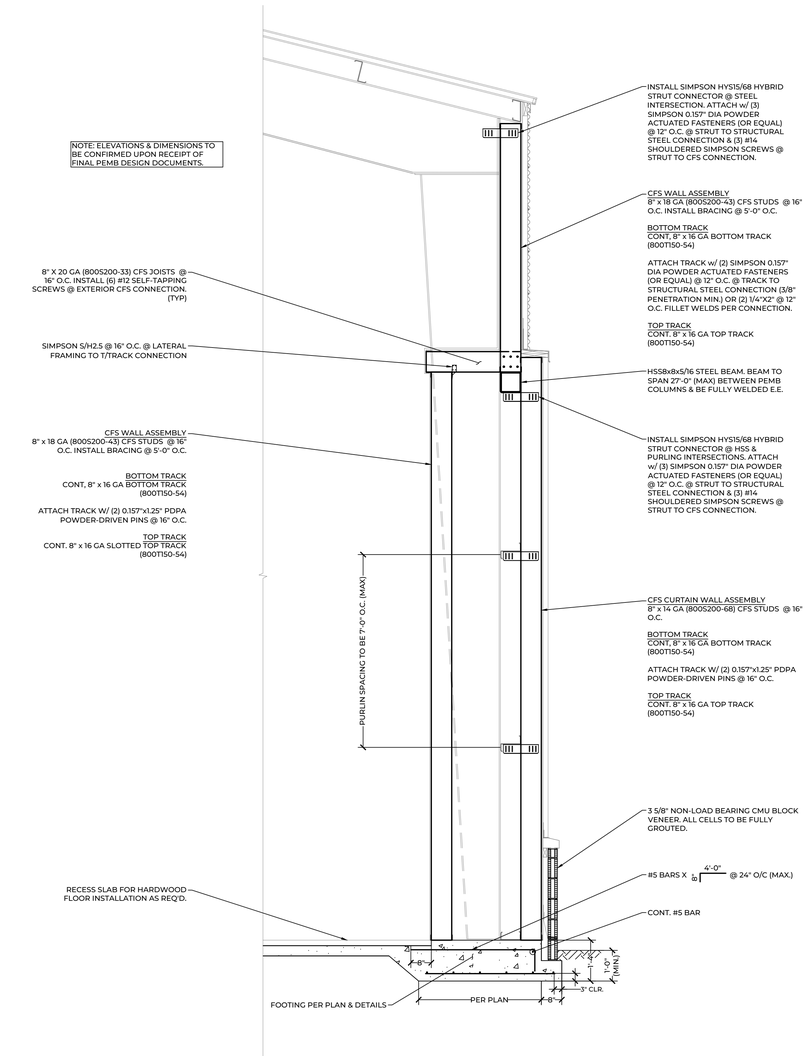

A TYP. WALL SECTION
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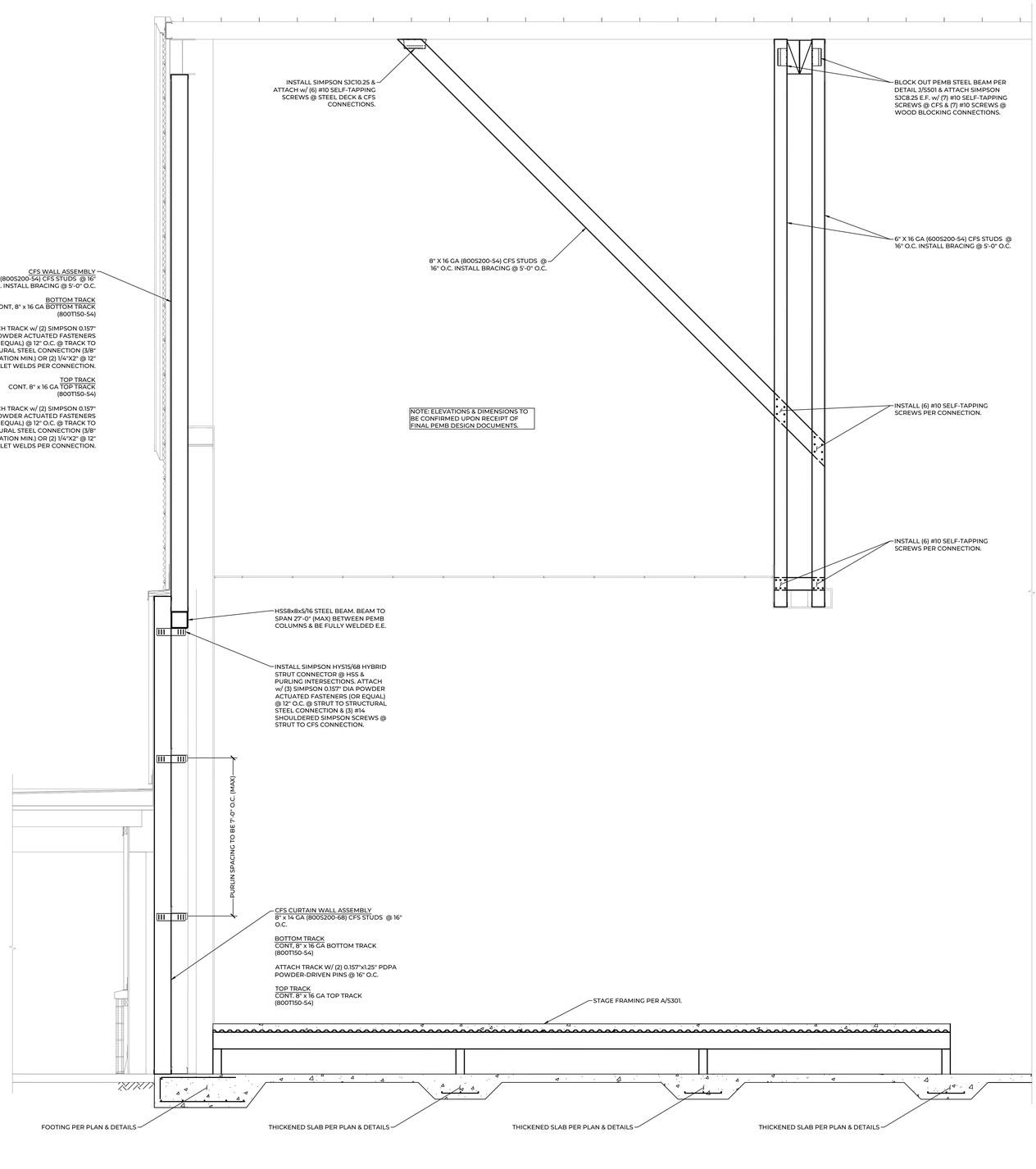

B TYP. WALL SECTION
SCALE: 1/2"=1'-0"

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REVISIONS:

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STRUCTURAL SECTIONS

PROJECT NUMBER	22019
DATED	01/31/2025

S302

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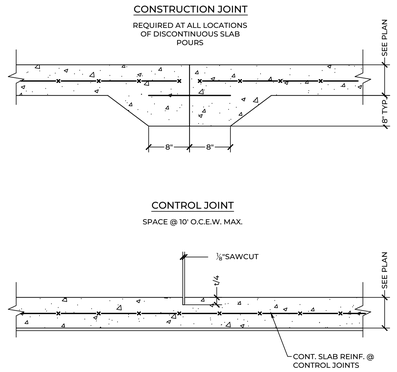
01/31/2025



A TYP. SLAB FINISHING DETAIL
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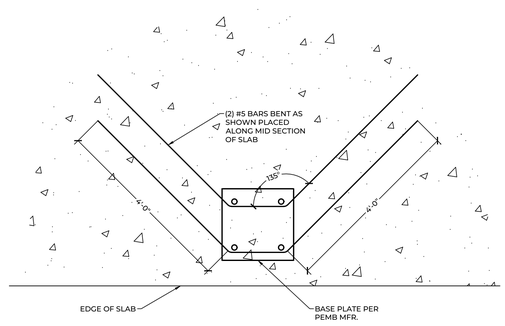

B TYP. HAIRPIN DETAIL
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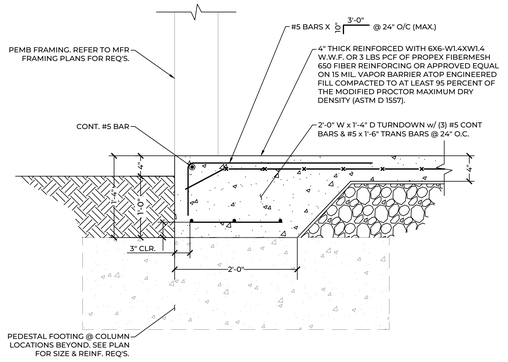

C TYP. TURNDOWN DETAIL
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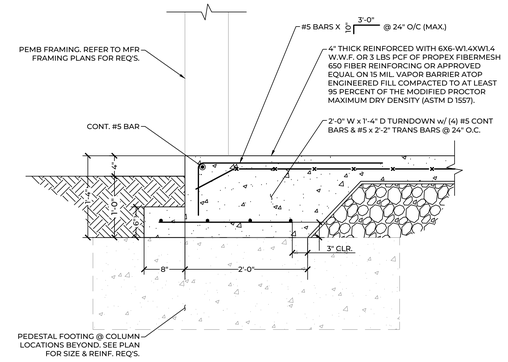
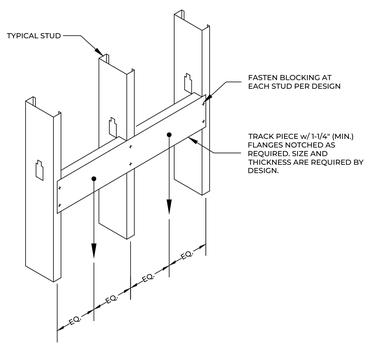


D TYP. TURNDOWN w/ BRICK LEDGE DETAIL
SCALE : 1" = 1'-0"

E TYP. THICKENED SLAB DETAIL
SCALE : 1" = 1'-0"

F TYP. CONCRETE PIER DETAIL
SCALE : 1" = 1'-0"

G TYP. BLOCK & STRAP BRIDGING DETAIL
SCALE : 1" = 1'-0"



H TYP. BACKING PLATE DETAIL
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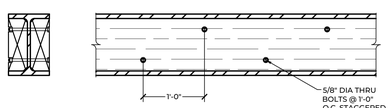

J TYP. STEEL BEAM WEB BLOCKING DETAIL
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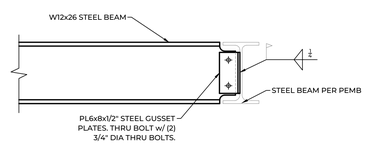

K TYP. STEEL BEAM TO BEAM CONNECTION
SCALE : 1" = 1'-0"

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A New Gymatorium for:
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REVISIONS:

No.	Description	Date
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STRUCTURAL
CONSTRUCTION DETAILS

PROJECT NUMBER 22019
DATED 01/31/2025

S501

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DDC SYSTEM GENERAL NOTES

1. THE DDC CONTRACTOR SHALL PROVIDE A COMPLETE NEW DDC SYSTEM TO PERFORM THE INDICATED SEQUENCES, ALL OTHER FUNCTIONS REQUIRED BY THE CONTRACT DOCUMENTS, AND ALL OTHER FUNCTIONS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM. 1
2. THE CONTROLS CONTRACTOR SHALL PROVIDE A DDC SYSTEM FOR THE NEW EQUIPMENT THAT MEETS ALL REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS. THIS SHALL INCLUDE ALL GRAPHICS, AREA CONTROL MEMBERS, TIME SCHEDULING, ETC. ALL WORK SHALL BE THE RESPONSIBILITY OF THIS CONTROLS CONTRACTOR.
3. ALL SEQUENCES ARE SUBJECT TO SAFETIES. DDC CONTRACTOR SHALL PROVIDE ALL NECESSARY AND CUSTOMARY SAFETIES.
4. ALL WIRING SHALL BE IN CONDUIT. ALL CONDUIT SHALL BE IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS, REQUIREMENTS FOR 120 VAC CIRCUITS.
5. ALL CONTROL TUBING SHALL BE RUN IN CONDUIT. ALL CONDUIT SHALL BE IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS, REQUIREMENTS FOR 120 VAC CIRCUITS.
6. CONDUIT SHALL BE RUN PERPENDICULAR AND PARALLEL TO BUILDING LINES IN A FIRST CLASS WORKMANSHIP LIKE MANNER.
7. NO EXPOSED CONDUIT SHALL BE USED IN FINISHED SPACES.
8. PROVIDE WIRE GUARD FOR THERMOSTATS AND TEMPERATURE SENSORS LOCATED IN MULTIPURPOSE ROOMS AND CORRIDORS.
9. THE DDC SYSTEM SHALL COMMUNICATE WITHIN THE BUILDING ON ITS OWN WIRING SYSTEM AND SHALL NOT UTILIZE THE OWNER'S LOCAL AREA NETWORK WITHIN THE BUILDING.

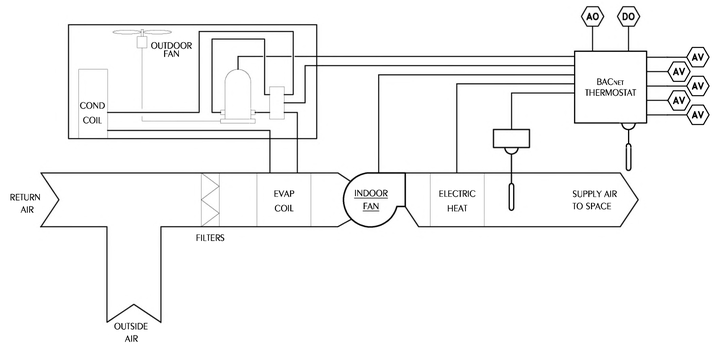
SEQUENCE OF OPERATION
HEAT PUMP-PRETREATED OA

GENERAL: THE UNIT SHALL BE STARTED AUTOMATICALLY BY THE BACnet THERMOSTAT. ALL CONTROLS ACTIVATED SUBJECT TO THE FIRE ALARM RELAY, SAFETIES AND OVERLOADS. THE DDC SYSTEM SHALL INCLUDE A GRAPHIC FOR EACH UNIT AND COMMUNICATE THE INDICATED VALUES AND SETPOINTS ON THE GRAPHIC. THE DDC SHALL POST AN ALARM WHEN THE RELATIVE HUMIDITY EXCEEDS 65% (ADJUSTABLE) AND TEMPERATURE EXCEEDS SETPOINT ±5°F FOR SPACE TEMPERATURE MORE THAN 1 HOUR AFTER OCCUPIED MODE BEGINS.

OCCUPIED MODE: THE INDOOR FAN SHALL RUN CONTINUALLY AND THE HEAT PUMP SHALL CYCLE WITH A CALL FOR HEATING AND COOLING. THE SET POINT FOR COOLING SHALL BE 75°F ADJUSTABLE. THE SET POINT FOR HEATING SHALL BE 70°F ADJUSTABLE. THE SUPPLEMENTAL ELECTRIC HEAT SHALL OPERATE AS A SECOND STAGE OF HEATING ENABLED ONLY DURING DEFROST OR WHEN THE OUTDOOR TEMPERATURE IS BELOW 35°F AND THE HEAT PUMP CAN NOT SATISFY THE CALL FOR HEATING AFTER 20 MINUTES OF RUN TIME.

UNOCCUPIED MODE: THE INDOOR FAN AND HP SHALL CYCLE TO MAINTAIN SET POINT TEMPERATURE. THE SET POINT FOR COOLING SHALL BE 80°F ADJUSTABLE. THE SET POINT FOR HEATING SHALL BE 65°F ADJUSTABLE.

OVERRIDE MODE: THE OVERRIDE MODE SHALL PLACE THE SYSTEM IN OCCUPIED MODE FOR 1 HR AND THE OUTSIDE AIR UNIT FOR THE UNIT IN OVERRIDE SHALL BE PLACED IN OCCUPIED MODE FOR 1 HR.



1 M301 **HEAT PUMP-PRETREATED OA CONTROL DIAGRAM**
SCALE: NONE

HEAT PUMP-PRETREATED OA POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	DI	DO	AV	DV	SCHED	TREND	ALARM	GRAPHIC
OCCUPIED/UNOCCUPIED SCHED				X						X
BMS TEMPERATURE SETPOINT		X								X
ZONE TEMP SETPOINT					X					X
ZONE TEMP					X				X	X
ZONE RELATIVE HUMIDITY					X				X	X
SUPPLY AIR TEMP					X					X

SEQUENCE OF OPERATION
100% OUTSIDE AIR UNIT

GENERAL: THE DDC CONTRACTOR SHALL INSTALL FIELD MOUNTED SENSORS PROVIDED BY THE UNIT MANUFACTURER. THE DDC SYSTEM SHALL CONNECT TO THE UNITS BACNET INTERFACE TO READ THE POINTS INDICATED. THE DDC SYSTEM SHALL PROVIDE OCCUPIED/UNOCCUPIED SIGNAL TO THE FACTORY MOUNTED UNIT CONTROLLER, MONITOR ALARM STATUS, AND MONITOR VALUES INDICATED. THE DDC SHALL MONITOR BUILDING RELATIVE HUMIDITY (BACnet POINTS FROM ROOM THERMOSTATS) AND OUTSIDE AIR SUPPLY AIR DEWPOINT TEMPERATURE. WHEN THE OA DEWPOINT SUPPLY AIR TEMPERATURE RISES ABOVE 60°F FOR MORE THAN 10 MINUTES (ADJUSTABLE), THE DDC SHALL POST AN ALARM AND SHUT DOWN THE OUTSIDE AIR UNIT.

THE FOLLOWING SEQUENCE OF OPERATIONS SHALL BE PROVIDED BY THE UNIT MANUFACTURER:

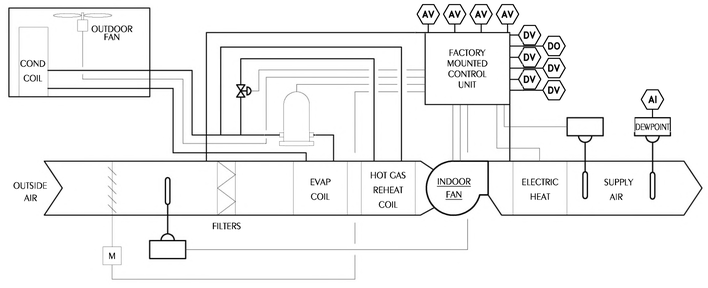
GENERAL: STARTING AND STOPPING OF EQUIPMENT SHALL BE BY A UNIT MOUNTED DIGITAL CONTROLLER. WITH THE DIGITAL CONTROLLER IN THE AUTO POSITION, THE UNIT SHALL BE STARTED AUTOMATICALLY BY THE ELECTRONIC CONTROL SYSTEM AND ALL CONTROLS ACTIVATED SUBJECT TO THE FIRE ALARM RELAY, SAFETIES AND OVERLOADS.

OCCUPIED MODE DEHUMIDIFICATION: THE MOTORIZED OA DAMPER SHALL OPEN TO THE BALANCED POSITION AND THE INDOOR FAN SHALL RUN CONTINUOUSLY. THE UNIT SHALL DEHUMIDIFY SUPPLY AIR ANYTIME THE OUTDOOR AIR DEWPOINT IS ABOVE 55°F. THE UNIT SHALL REHEAT SUPPLY AIR TO SPACE CONDITIONS WITH VARIABLE HOT GAS, MAINTAINING LEAVING AIR TEMPERATURE OF 72°F.

OCCUPIED MODE HEATING: WHEN THE OUTDOOR AIR TEMPERATURE FALLS BELOW 50°F, THE ELECTRIC HEAT SHALL OPERATE AS REQUIRED TO MAINTAIN 70°F LEAVING AIR TEMPERATURE. THE ELECTRIC HEAT SHALL BE LOCKED OUT DURING COOLING.

UNOCCUPIED MODE: THE MOTORIZED OA DAMPER SHALL CLOSE AND THE UNIT SHALL BE NOT OPERATE.

OVERRIDE MODE: THE OVERRIDE MODE SHALL PLACE THE SYSTEM IN OCCUPIED MODE AND THE OUTSIDE AIR DAMPER FOR THE UNIT IN OVERRIDE SHALL OPEN TO THE BALANCED POSITION.



2 M301 **100% OUTSIDE AIR UNIT CONTROL DIAGRAM**
SCALE: NONE

100% OUTSIDE AIR UNIT POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	DI	DO	AV	DV	SCHED	TREND	ALARM	GRAPHIC
SCHEDULE				X						X
FAULT						X			X	X
OUTSIDE AIR SUPPLY DEW POINT	X								X	X
OUTDOOR AIR TEMP					X					X
OUTSIDE AIR DEW POINT					X					X
SUPPLY AIR TEMP					X					X
ELECTRIC HEAT					X					X
OA DAMPER						X				X
COMPRESSOR						X				X
FAN START/STOP						X				X
FAN STATUS						X			X	X

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DAG Architects AR0009694
455 Harrison Ave Suite B Panama City, FL 32401
850.387.1671
www.DAGarchitects.com

100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	Addendum #2	04/28/25

HVAC CONTROLS

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27825
Keith A. Johnson, PE
Florida License Number: 89457
850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: SRS

PROJECT NUMBER	22019
DATED	01/31/2025

M301

22019
100% CONSTRUCTION DOCUMENTS
01/31/2025

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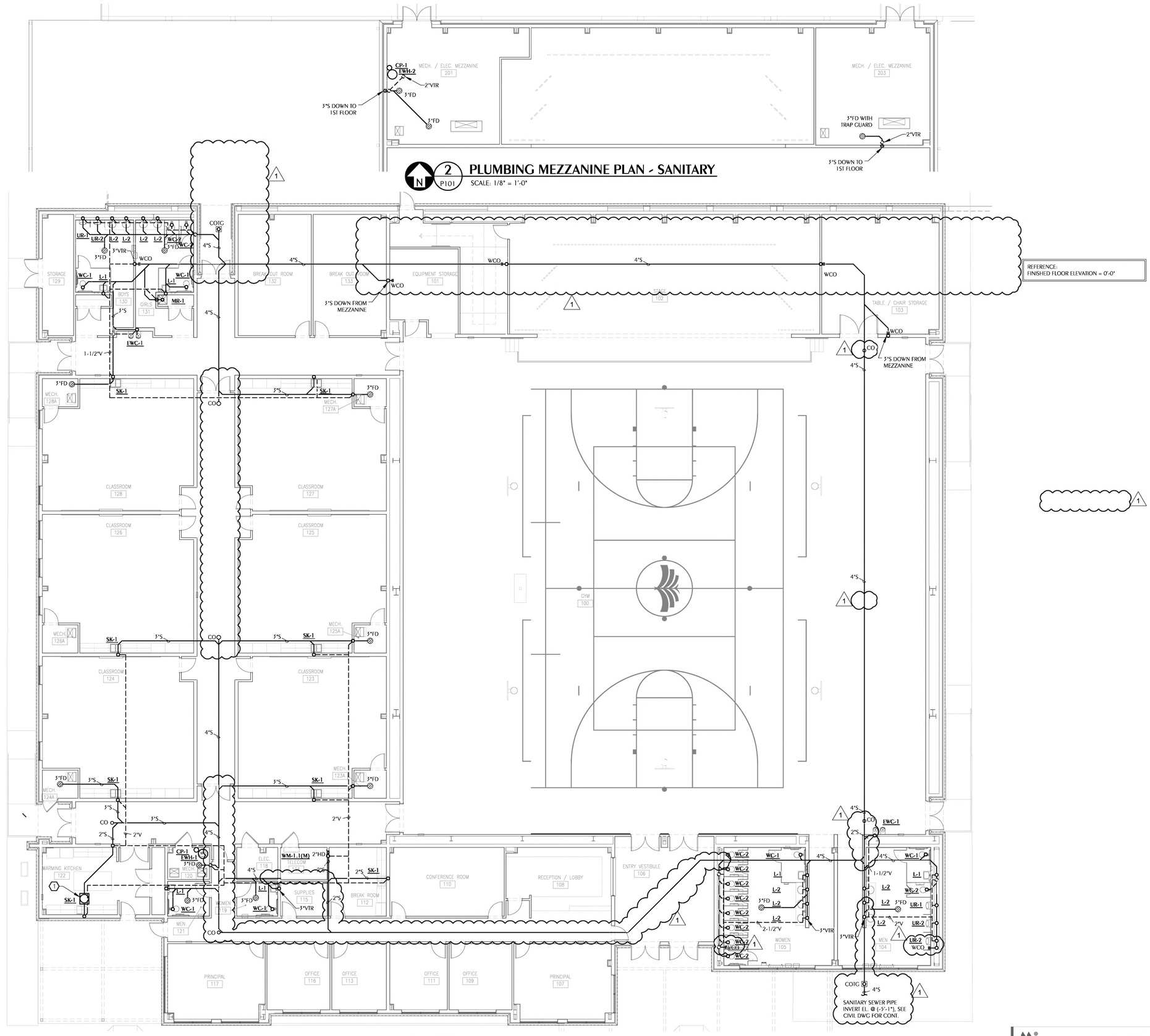
SHEET NOTES

1. GI-1 GREASE INTERCEPTOR:
SEAMLESS, ROTATIONALLY- MOLDED POLYETHYLENE GREASE INTERCEPTOR WITH A UNIFORM WALL THICKNESS OF 3/16". AVAILABLE FOR ABOVE OR BELOW GRADE INSTALLATION. INTERCEPTOR SHALL HAVE BUILT-IN FLOW CONTROL. FLOW RATE SHALL BE 20GPM AND HAVE A CAPACITY OF 70LBS OR A FLOW RATE SHALL BE 25GPM AND HAVE A CAPACITY OF 65LBS. THE SOLID CAPACITY IS 1.3CAL & LIQUID IS 1.0CAL. PEDESTRIAN RATED COVER SHALL BE WATER/GAS TIGHT SEAL WITH A MINIMUM OF 450LBS LOAD CAPACITY. 4"FPT INLET/OUTLET, WITH 2" & 3" PLAIN END FITTING ADAPTERS.

GREASE INTERCEPTOR SCHIER GB1



N 2 P101 **PLUMBING MEZZANINE PLAN - SANITARY**
SCALE: 1/8" = 1'-0"

N 1 P101 **PLUMBING PLAN - SANITARY**
SCALE: 1/8" = 1'-0"

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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SANITARY REVISION	07/01/2025

PLUMBING PLAN - SANITARY

PROJECT NUMBER	22019
DATED	01/31/2025

P101

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27925
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: TLC

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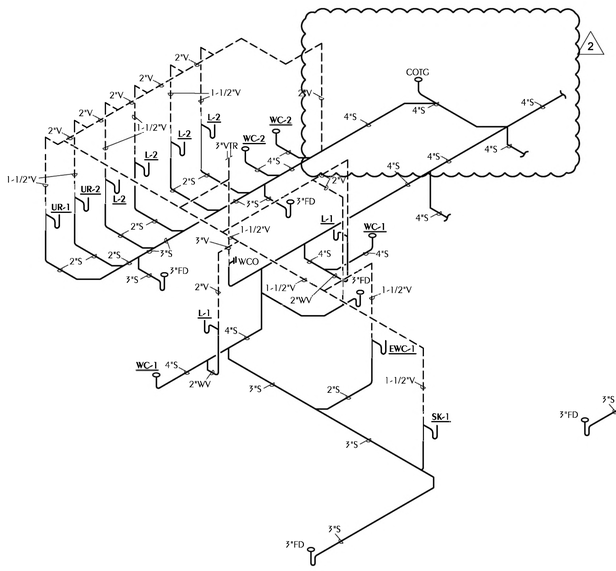
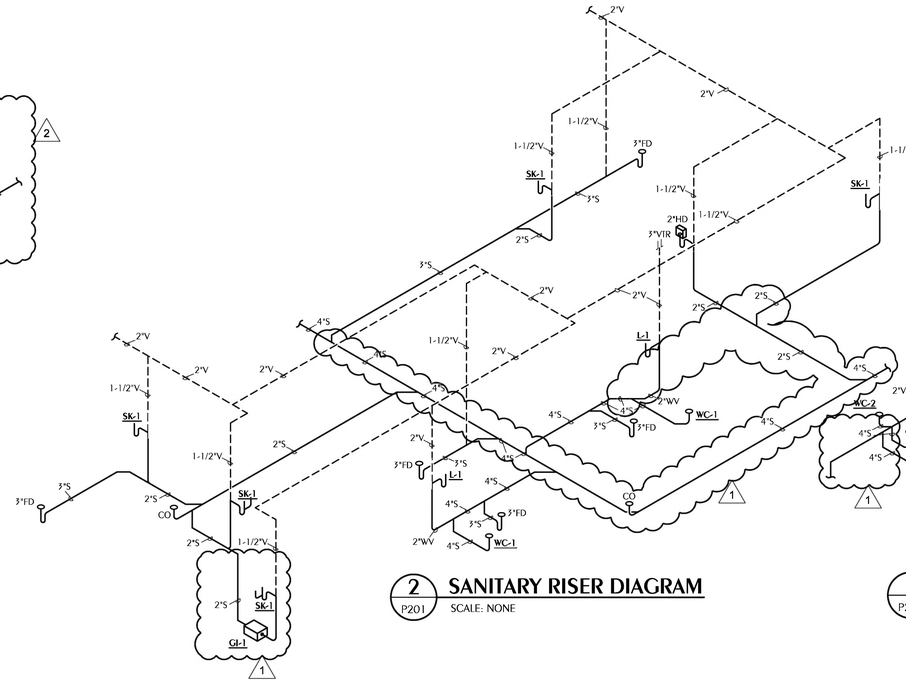
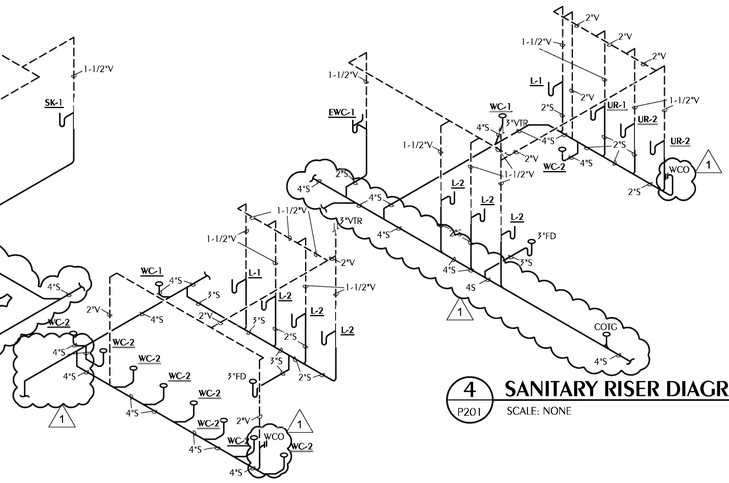
22019
100% CONSTRUCTION DOCUMENTS
01/31/2025



1 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE

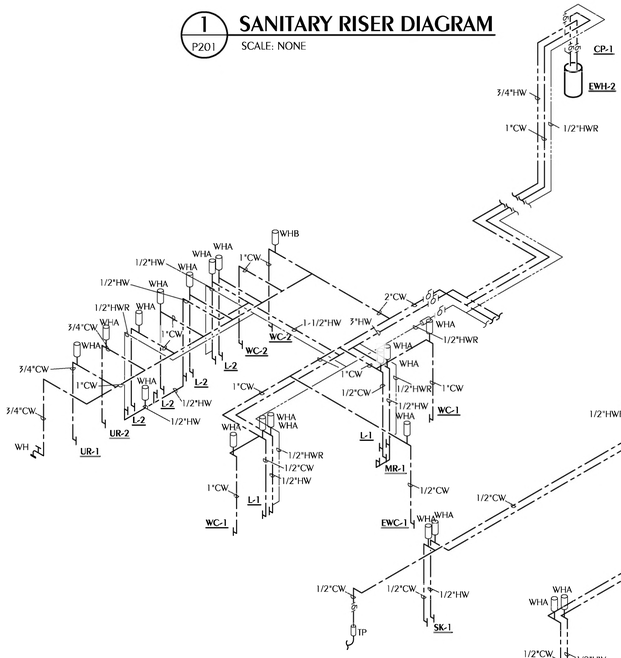


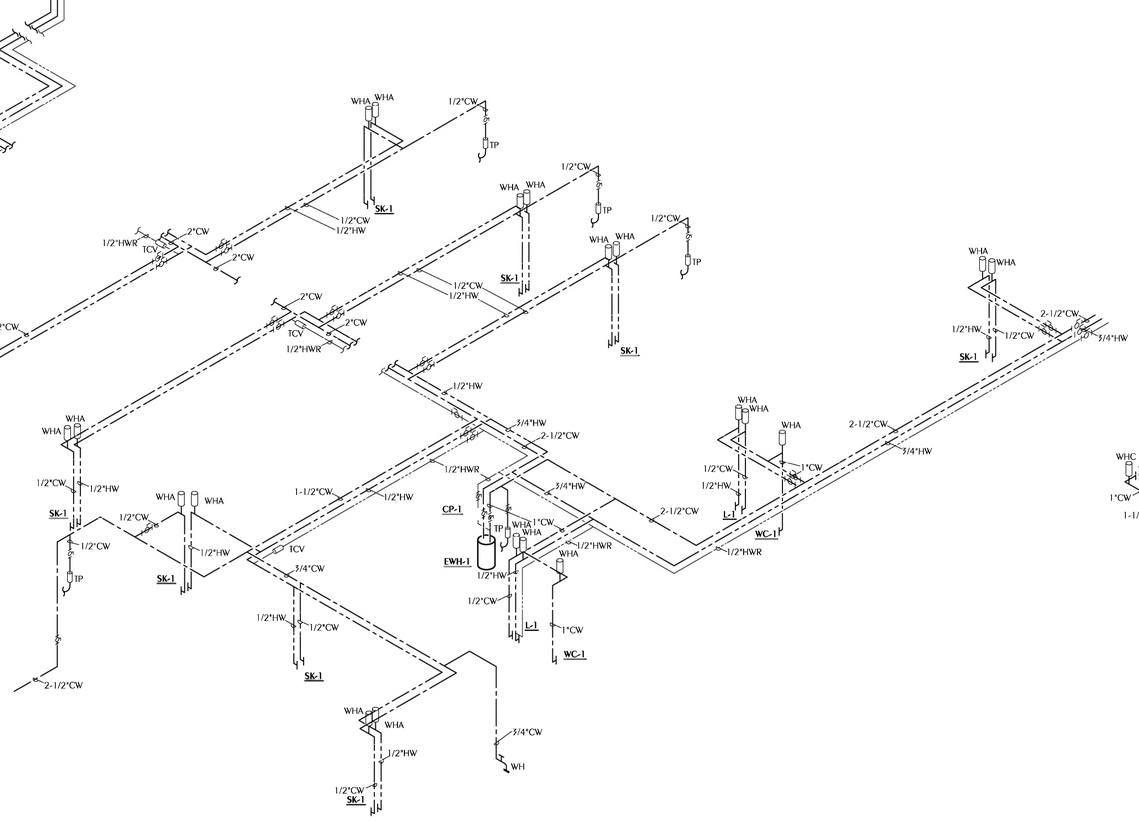
2 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE

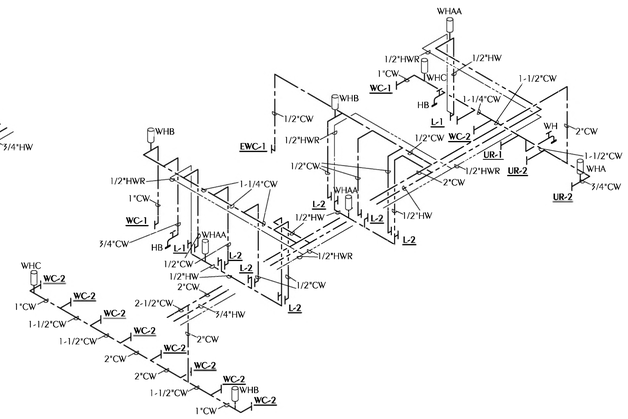


3 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE

4 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE







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A New Gymatorium for:
PALM BAY CHARTER SCHOOLS
1104 Balboa Avenue, Panama City, FL 32401

REVISIONS:

No.	Description	Date
1	SANITARY REVISION	07/01/2025

PLUMBING
RISER DIAGRAMS

PROJECT NUMBER	22019
DATED	01/31/2025

P201

WATFORD ENGINEERING
4452 Clinton Street Marianna, Florida 32446
Florida CA Number: 27825
Keith A. Johnson, PE
Florida License Number: 86457
850.526.3447
Project Number: 2022-039
Checked By: KAJ
Drawn By: TLC

22019
50% CONSTRUCTION DOCUMENTS
10/26/2022

LANDSCAPE NOTES:
1. ALL UTILITIES TO BE LOCATED PRIOR TO LANDSCAPE INSTALLATION.
2. ALL PLANT MATERIAL TO BE FLORIDA #1 OR BETTER.
3. ALL BED AREAS TO RECEIVE A 2" MINIMUM THICKNESS PINE STRAW MULCH APPLICATION.
4. ALL TREES, SHRUBS, AND GROUNDCOVERS TO RECEIVE A SLOW RELEASE FERTILIZER UPON INITIAL INSTALLATION.
5. QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY AND SHOULD BE VERIFIED BY THE CONTRACTOR.

NORTH

LANDSCAPE REQUIREMENT CHART
PER CITY OF PANAMA CITY CODE

FRONT SETBACK BUFFER
10' WIDE BUFFER WITH 2.5 CANOPY, 2 UNDERSTORY, 20 SHRUBS PER 100'

BOUNDARY	LENGTH	PROVIDED
NORTHERN	-	-
SOUTHERN	504'	13 CANOPY, 10 UNDERSTORY, 101 SHRUB
EASTERN	92'	2 CANOPY, 2 UNDERSTORY, 18 SHRUB
WESTERN	-	-

INTERIOR LANDSCAPE AREAS
1 TREE PER PARKING ISLAND/TERMINATION

PARKING ISLANDS & TERMINATIONS	PROVIDED
6	6

MISCELLANEOUS BUFFERS

DESCRIPTION
-
-
-
-

15 - SUPER BLUE LIRIOPE
1 GAL. 2' O.C.

6 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

70 - SUPER BLUE LIRIOPE
1 GAL. 2' O.C.

2 - OAKLEAF HOLLY
15 GAL.

9 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

6 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

10 - LITTLE JOHN BOTTLEBRUSH
3 GAL. 4' O.C.

21 - FLAX LILY
3 GAL. 2' O.C.

56 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

16 - PRINGLES DWARF JAPANESE YEW
3 GAL. 4' O.C.

72 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

69 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

56 - ANGYO ASIAN JASMINE
1 GAL. 2' O.C.

46 - SUPER BLUE LIRIOPE
1 GAL. 2' O.C.

6 - WINGED ELM
30 GAL.

1 - RED MAPLE
30 GAL.

1 - OAKLEAF HOLLY
15 GAL.

18 - CERISE CHARM LOROPETALUM
3 GAL. 4' O.C.

1 - SWEETBAY MAGNOLIA
30 GAL.

1 - RED MAPLE
30 GAL.

TIFTUF BERMUDA SOD
35,700 S.F. (FOR ENTIRE SITE)

136 - FLAX LILY
1 GAL. 2' O.C.

9 - RED MAPLE
30 GAL.

10 - MUHLY GRASS
3 GAL. 4' O.C.

9 - MUHLY GRASS
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

9 - MUHLY GRASS
3 GAL. 4' O.C.

9 - MUHLY GRASS
3 GAL. 4' O.C.

60 - FLAX LILY
1 GAL. 2' O.C.

7 - OAKLEAF HOLLY
15 GAL.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

88 - CHAPEL HILL LANTANA
1 GAL. 2' O.C.

4 - RED MAPLE
30 GAL.

48 - FLAX LILY
1 GAL. 2' O.C.

3 - OAKLEAF HOLLY
15 GAL.

9 - MUHLY GRASS
3 GAL. 4' O.C.

9 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

10 - DWARF YAUPON HOLLY
3 GAL. 4' O.C.

OHU

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LANDSCAPE DESIGN • CONSTRUCTION • MANAGEMENT • NURSERY
P.O. Box 1726 • Panama City, FL 32404
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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

STATE OF FLORIDA
01/09/23

REVISIONS:

No.	Description	Date
1	100% CD's	01/09/23

L1

LANDSCAPE PLAN

PROJECT NUMBER	22019
DATED	1/09/2023

22019
50% CONSTRUCTION DOCUMENTS
10/26/2022

NORTH

GENERAL IRRIGATION NOTES:

1. ALL UTILITIES TO BE LOCATED BEFORE COMMENCEMENT OF CONSTRUCTION. APPLY NECESSARY PROTECTIVE MEASURES TO REDUCE POSSIBILITY OF DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.
2. ALL CONTROL WIRE TO BE 14 GAUGE. INSTALL ONE (1) RED WIRE TO EACH CONTROL VALVE, ONE (1) COMMON WHITE TO LOOP CONTINUOUSLY THROUGHOUT THE WIRE PATH, AND ONE (1) EXTRA BLUE WIRE TO RUN PARALLEL WITH COMMON.
3. ALL LATERAL LINES TO MAINTAIN A 8" MINIMUM DEPTH. ALL MAINLINE TO MAINTAIN A MINIMUM 12" DEPTH.
4. ALL SPRAYS AND ROTORS TO BE MOUNTED FLUSH WITH FINAL GRADE.
5. ALL WATERING ARCS TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO ADJACENT BUILDINGS OR HARDSCAPE.

SYSTEM DESIGN NOTES:

WATER SOURCE: 2" IRRIGATION METER
DESIGN VOLUME: 50 GPM
DESIGN PRESSURE: 65 PSI

DRIP IRRIGATION NOTES:

REFERENCE THE FOLLOWING TABLE FOR DRIP EMITTER INSTALLATION PER PLANT:

PLANT SIZE	EMITTER QTY/FLOW
1 GAL. OR LESS	1 @ 0.5 GPH
3 GAL.	1 @ 2.0 GPH
7 GAL.	1 @ 5.0 GPH
15 GAL.	2 @ 5.0 GPH
30 GAL.	3 @ 5.0 GPH
45 GAL.	3 @ 10.0 GPH
65 GAL.	3 @ 10.0 GPH
100 GAL.	4 @ 10.0 GPH
PALMS	3 @ 10.0 GPH

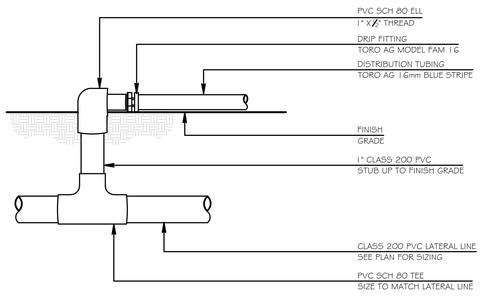
*XERI-SPRAYS MAY BE USED TO IRRIGATE ANNUAL PLANTING AREAS

PIPING LEGEND

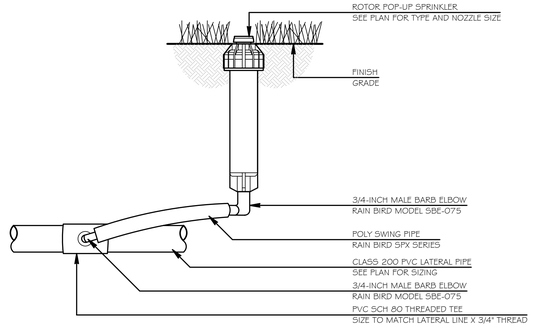
- 2" - CLASS 200 MAINLINE
- 1" - CLASS 200 LATERAL
- 1-1/4" - CLASS 200 LATERAL
- 1-1/2" - CLASS 200 LATERAL
- 2" - CLASS 200 LATERAL
- 4" SCH. 40 SLEEVE
- ZONE # / SIZE — CONTROL VALVE IDENTIFICATION TAG

IRRIGATION SCHEDULE

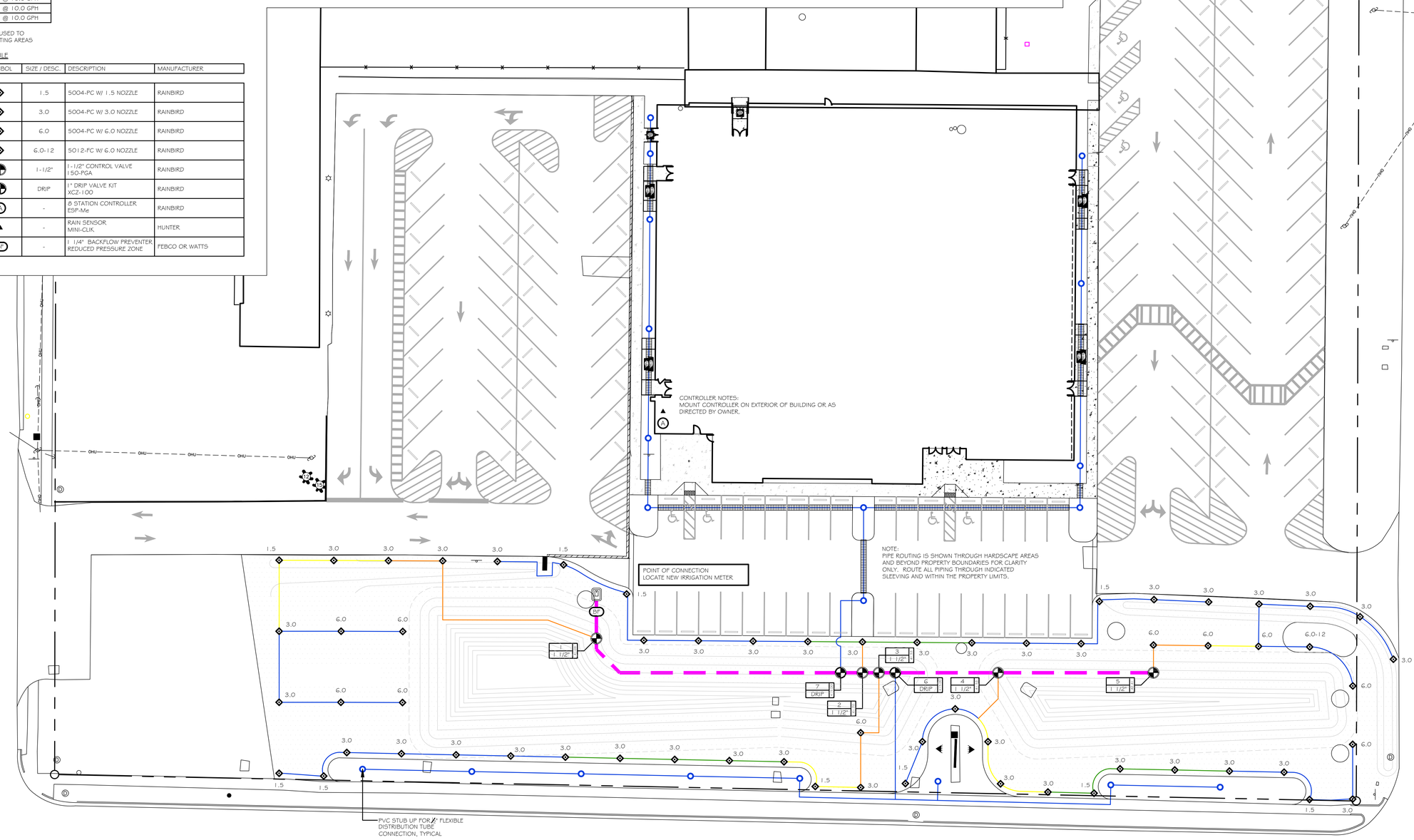
QUANTITY	SYMBOL	SIZE / DESC.	DESCRIPTION	MANUFACTURER
10	◆	1.5	5004-PC W/ 1.5 NOZZLE	RAINBIRD
41	◆	3.0	5004-PC W/ 3.0 NOZZLE	RAINBIRD
10	◆	6.0	5004-PC W/ 6.0 NOZZLE	RAINBIRD
1	◆	6.0-12	5012-PC W/ 6.0 NOZZLE	RAINBIRD
5	◔	1-1/2"	1-1/2" CONTROL VALVE 150-PGA	RAINBIRD
2	◔	DRIP	1" DRIP VALVE KIT XCZ-100	RAINBIRD
1	(A)	-	8 STATION CONTROLLER ESP-Me	RAINBIRD
1	▲	-	RAIN SENSOR MINI-CLIK	HUNTER
1	BF	-	1 1/4" BACKFLOW PREVENTER REDUCED PRESSURE ZONE	FEBCO OR WATTS



1 / L2 DRIP DISTRIBUTION LINE CONNECTION
NOT TO SCALE



2 / L2 POP-UP ROTOR INSTALLATION
NOT TO SCALE



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100% CONSTRUCTION DOCUMENTS

A New Gymatorium for:
PALM BAY CHARTER SCHOOLS

1104 Balboa Avenue, Panama City, FL 32401

01/09/23

REVISIONS:

No.	Description	Date
1	100% CD's	01/09/23

L2

IRRIGATION PLAN

PROJECT NUMBER	22019
DATED	1/09/2023

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BEST ROOF HATCHES

GALVANIZED STEEL DOUBLE DOOR ACOUSTICMAX™ 50 SMOKE VENT, LINEAR ACTUATOR WITH ELECTRICAL OPENING MECHANISM

CATEGORY: SMOKE VENTS

SKU: BSVY-D2A

babcockdavis

DETAILS

SOUND RATING(S) Independent third party tested to ASTM E90 and ASTM E1332
- BSVX: STC 48 - OITC 36
- BSVY: STC 50 - OITC 39

MATERIAL 14 gauge galvanneal steel; powder coat

FINISH High Reflectance White exterior cover with black interior liner and black curb

COVER Metal with liner, withstands a live load of 40psf with a max deflection of 1/150 the span

CURB Double wall curb with EZ tab counterflash and mounting flange

INSULATION Mineral wool and sound mat in cover and curb
- BSVX: Total R-10
- BSVY: Total R-14

GASKET Extruded EPDM adhesive backed gasket seals

HINGE Stainless steel heavy duty pintle hinge

72"x84".

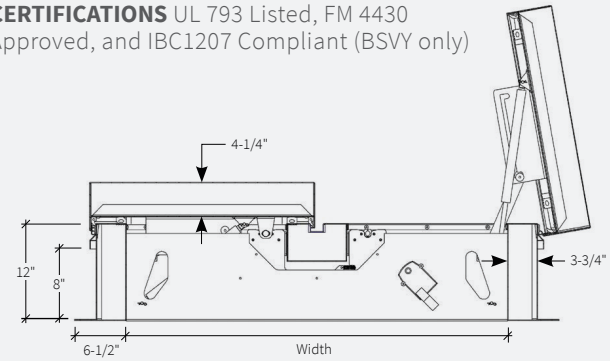
SPRING Gas spring with damper opens cover against 10psf snow load

HOLD OPEN ARM Zinc plated steel automatic hold open arm locks cover in open position

LATCH Zinc plated steel rotary latch designed to hold covers closed against 90psf wind uplift

OPERATION Opens automatically with a fusible link and manual pull handles

CERTIFICATIONS UL 793 Listed, FM 4430 Approved, and IBC1207 Compliant (BSVY only)



ORDER GUIDE

BASE	RATING	MATERIAL	WIDTH	X	LENGTH	DOOR	CURB	ELECTRIC	LINK TEMP (°F)	CLOSING	—	OPTIONS
BSV		**G**		**X**							**—**	
	X STC 48 **Y** STC 50	**G** Galvanneal Steel	**Standard Sizes** (W x L) 48" x 48" 48" x 72" 48" x 96" 60" x 60" 60" x 96" 60" x 120" 72" x 72" 72" x 96" *Additional size options also available.*			**D** Double Door **Q** Quad Door	**2** Double Wall **3** Curb Mount	**N** No Electrical **L** 24VDC/24VAC **H** 110VAC / 240VAC	**165** **350** **212** **360** **280** **450**	**R** Rooftop Close **W** Manual Winch **A** Linear Actuator* **Voids UL*		**SFM** FM Labeled **OP1** Door Position Sensor **B__** Burglar Bars

TOLL FREE PHONE:
1-800-431-8651

EMAIL:
info@bestroofhatches.com

FAX:
1-888-828-6021

www.BestRoofHatches.com

BID BOND

STATE OF FLORIDA
COUNTY OF _____

KNOW ALL MEN BY THESE PRESENTS, that we, _____ as Principal and as Surety are held and firmly bound unto the Palm Bay Education Group, Inc. (hereinafter "Palm Bay"), in the penal sum of _____ Dollars ($ _____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying Bid, dated _____, 20_____ for:

_____

NOW, THEREFORE,

(a) If said Bid shall be rejected, or in the alternate

(b) If said Bid shall be accepted and the Principal shall properly execute and deliver to said Palm Bay the appropriate Contract Documents, and shall in all respects fulfill all terms and conditions attributable to the acceptance of said Bid, then this obligation shall be void; otherwise, it shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby agrees that the obligations of the said Surety and its bond shall be in no way impaired or affected by any extension of time within which said Palm Bay may accept such Bid; and said Surety does hereby waive notice of any extension.

IN WITNESS WHEREOF, the above bonded parties have executed this instrument under their several seals this _____ day of _____, 20__ , the name and the corporate seal of each corporate party being hereto affixed and these presents being duly signed by its undersigned representative.

IN PRESENCE OF:

_____ _____
(Individual or Partnership Principal)

(SEAL)

_____ _____
(Business Address)

_____
(City/State/Zip)

_____
(Business Phone)

ATTEST:

_____ _____
Secretary (Corporate Principal)*

By:_____

_____
(Title)

ATTEST:

_____ _____
Secretary (Corporate Surety)*

By:_____

*Impress Corporate Seal

IMPORTANT Surety companies executing bonds must appear on the Treasury Department's most current list (circular 570 as amended) and be authorized to transact business in the State of Florida.

BID FORM FOR CONSTRUCTION OF GYMATORIUM
BID NO. 26-0001

SUBMITTED TO: Palm Bay Education Group, Inc.
1104 Balboa Avenue
Panama City, Florida 32401

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the Palm Bay Education Group, Inc. (hereinafter "Palm Bay") to perform all work as specified in the Bid Documents for the price(s) and within the time indicated in this Bid, and in accordance with the terms and conditions of the Bid Documents.

2. Bidder accepts and hereby incorporates by reference in this Bid Form all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those pertaining to the disposition of Bid Security.

3. Bidder has examined the site of the project and has become fully informed concerning the local conditions, and nature and extent of work. Bidder has examined the indemnification and liquidated damages provisions, if any, and the bond and insurance requirements of the bid, and accepts and agrees to abide by those terms and conditions without exception or limitation of any kind.

4. Bidder has given Palm Bay written notice of all conflicts, errors or discrepancies that it has discovered in the Bid and/or Contract documents and the written resolution thereof by Palm Bay is acceptable to Bidder.

5. Bidder proposes to furnish all labor, materials, equipment, machinery, tools, transportation, supplies, services, and supervision for the work described as follows:

CONSTRUCTION OF GYMATORIUM

The work of this Contract comprises the construction of the 19,175 sf Palm Bay Prep Academy Gymnatorium, Panama City. Florida. Work to be performed shall be in accordance with drawings and specifications prepared by DAG Architects, Inc. 455 Harrison Street, Panama City, FL 32401. The work includes but is not limited to new civil site work, structural foundations, floor slabs, roof structure, pre-engineered metal building, exterior impact EIFS system over GMS with brick veneer, weather barrier, aluminum storefront, standing seam metal roof, interior GMS and impact resistant GWB, new ACP, paint, HM doors and frames, wood doors, Interior and Exterior painting, finishes, telescopic seating, sports equipment, mechanical and electrical systems and other work as shown on the drawings.

6. Bidder will complete the work for the following price(s):

Description	Total
	$
	$
	$
	$
	$
	$
	$
	$
Base Bid Total	$

7. Bidder agrees that the work will be completed and ready for final payment within one hundred twenty (420) calendar days from the date of Contract Commencement as specified in the Notice to Proceed.

8. **All Bidders should submit the included Schedules of Values at the time of bid opening.**

. Acknowledgement is hereby made of the following Addenda (identified by number) received since issuance of the Invitation to Bid:

Addendum No._____ Date_____
Addendum No._____ Date_____
Addendum No._____ Date_____

10. PLEASE HAVE YOUR INSURANCE REPRESENTATIVE CAREFULLY REVIEW THE INSURANCE COVERAGE REQUIREMENTS CONTAINED IN THE INSTRUCTIONS TO BIDDERS PRIOR TO SUBMITTING YOUR BID TO ENSURE COMPLIANCE WITH ALL INSURANCE REQUIREMENTS.

11. Palm Bay reserves the right to award this contract on the basis of any combination of the above items, or all items, in which Palm Bay deems in its best interests.

12. Communications concerning this Bid shall be addressed to:

Name: _____

Address: _____

_____

Telephone No.: _____

Fax No.: _____

13. The following documents are attached to and made as a condition to this Bid:

(a) Bid Form and Bidder's certification
(b) Certified resolution (corporation, partnerships)
(c) Certificate(s) of insurance

(d) Non-collusive affidavit
(e) Bid Bond
(f) Bidder's Foreign (Non-Florida) corporate statement
(g) Key Subcontractor Listing
(h) Schedules of Values
(i) Addenda Cover Page

BIDDER'S CERTIFICATION

WHEN BIDDER IS AN INDIVIDUAL

In witness whereof, the Bidder has executed this Bid Form this _____ day of _____ _____, 20__.

By: _____
Signature of Individual/Title

_____ _____
Witness Printed Name of Individual

ACKNOWLEDGEMENT

State of _____
County of_____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____ who is personally known to me or who has produced _____ as identification and who did (did not) take an oath.

WITNESS my hand and official seal.

_____
NOTARY PUBLIC

_____
(Name of Notary Public: Print, Stamp, or type as Commissioned)

BIDDER'S CERTIFICATION

WHEN BIDDER IS A CORPORATION, PARTNERSHIP OR FIRM

In witness whereof, the Bidder has executed this Bid Form this _____ day of _____, 20____.

_____
Witness

_____
Signature of Owner

_____
Printed Name of Corporation,
Partnership, Firm

_____
Witness

_____
Printed Name of Owner

_____
Business Address

_____
City/State/Zip

(____) _____
Business Phone Number

ACKNOWLEDGEMENT

State of_____
County of _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____ (Name), _____ (Title) of ____ _____ (Name of Company) who is personally known to me or who has produced _____ as identification and who did (did not) take an oath.

WITNESS my hand and official seal.

_____
NOTARY PUBLIC

_____
(Name of Notary Public: Print, Stamp,
or type as Commissioned)

BID FORMS SUBMISSION CHECKLIST

Project Name: CONSTRUCTION OF GYMNATORIUM

Bid No. 26-0001

Bidders Company Name: _____

The following forms are to be completed and returned with the bid submittal on the above named project.

1. ☐ Bid submission checklist
2. ☐ Bid Form*
3. ☐ Foreign (non-Florida) Corp.
4. ☐ Certified Resolution
5. ☐ Non-Collusive Affidavit
6. ☐ Key Subcontractor Listing
7. ☐ Insurance Certificate
8. ☐ Bid Bond*
9. ☐ Addenda Cover Page
10. ☐ Schedules of Values

*Omission of this form with bid submittal will result in your bid being deemed non-responsive.

CERTIFIED RESOLUTION

I, _____ (Name), the duly elected Secretary of _____ _____ (Corporate Title), a corporation organized and existing under the laws of the State of ___ _____, do hereby certify that the following Resolution was unanimously adopted and passed by a quorum of the Board of Directors of the Said corporation at a meeting held in accordance with law and the by-laws of the said corporation.

"IT IS HEREBY RESOLVED THAT _____(Name)" the duly elected _____ (Title of Officer) of _____(Corporate Title) be and is hereby authorized to execute and submit a Bid and Bid Bond, if such bond is required, to Palm Bay Education Group, Inc. and such other instruments in writing as may be necessary on behalf of the said corporation; and that the Bid, Bid Bond, and other such instruments signed by him/her shall be binding upon the said corporation as its own acts and deeds. The secretary shall certify the names and signatures of those authorized to act by the foregoing resolution.

Palm Bay Education Group, Inc. shall be fully protected in relying upon such certification of the secretary and shall be indemnified and saved harmless from any and all claims, demands, expenses, loss or damage resulting from or growing out of honoring, the signature of any person so certified or for refusing to honor any signature not so certified.

I further certify that the above resolution is in force and effect and has not been revised, revoked or rescinded.

I further certify that the following are the name, titles and official signatures of those persons authorized to act by the foregoing resolution.

NAME	TITLE	SIGNATURE
_____	_____	_____
_____	_____	_____
_____	_____	_____

Given under my hand and the Seal of the said corporation this _____ day of _____ _____, 20__.

(SEAL)

By: _____
Secretary

_____
Corporate Title

NOTE:
The above is a suggested form of the type of Corporate Resolution desired. Such form need not be followed explicitly, but the Certified Resolution submitted must clearly show to the satisfaction of Palm Bay Education Group, Inc. that the person signing the Bid and Bid Bond for the corporation has been properly empowered by the corporation to do so in its behalf.

CONTRACT

THIS CONTRACT, made and entered into this _____ day of _____, 20___, by and between:

THE PALM BAY EDUCATION GROUP, INC.
1104 Balboa Avenue
Panama City, Florida 32401
(hereinafter referred to as "OWNER")

AND

(hereinafter referred to as "CONTRACTOR")

W I T N E S S E T H:

IN CONSIDERATION of the mutual covenants and conditions as herein expressed and of the faithful performance of all such covenants and conditions, the parties do mutually agree as follows:

ARTICLE 1

THE CONTRACT DOCUMENTS

1.1 The Contract Documents, attached hereto and made a part hereof, consist of the Invitation to Bid, Instructions to Bidders, Construction Services General Conditions, Drawings, Plans, Specifications, Bid Form, Bid Security, CONTRACTOR'S Bid (including documentation accompanying Bid and post Bid documentation submitted prior to the Notice of Award), Qualifications Statement, this Contract and all Exhibits attached hereto, Addenda, the record of the Contract award by OWNER'S Board, the Notice of Award, Notice to proceed, Payment and Performance Bonds, the Special Conditions, Supplementary Conditions, any additional documents which are required to be submitted under the Contract, and all amendments, modifications and supplements issued on or after the effective date of the Contract.

ARTICLE 2
SCOPE OF THE WORK

2.1 The CONTRACTOR shall furnish all of the labor, materials, equipment, transportation, supplies and services necessary to perform all of the work required by the Contract Documents and as provided for in Exhibit “A” attached hereto.

ARTICLE 3
CONTRACT TIME

3.1 **TIME IS OF THE ESSENCE OF THIS CONTRACT.** The work to be performed under this Contract shall be commenced upon the date of Contract Commencement specified in the Notice to Proceed and, subject to authorized adjustments, shall be substantially complete and ready for final payment within Four Hundred and twenty days (420) calendar days from the date of Contract Commencement. Final completion of the work will be thirty (30) calendar days after Substantial Completion. Failure to achieve timely final completion shall be regarded as a breach of this Contract and subject to the appropriate remedies including but not limited to, liability for liquidated damages in accordance with Paragraph 11.4 of the Construction Services General Conditions.

ARTICLE 4
CONTRACT SUM

4.1 The OWNER shall pay the CONTRACTOR in current funds for the performance of the work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Contract Sum of _____ DOLLARS ($_____).

ARTICLE 5
PROGRESS PAYMENTS

5.1 The CONTRACTOR may requisition payments for work completed during the project at intervals of not more than once a month in accordance with Article 13 of the Construction Services General Conditions. The CONTRACTOR's requisition shall show a complete breakdown of the project components, the quantities completed and the amount due, together with properly executed Releases of Liens by all subcontractors, suppliers and materialmen who were included in the CONTRACTOR's current and previous applications for payment and any other supporting documentation as may be required by the PROJECT MANAGER or Contract Documents. Each requisition shall be submitted in triplicate to the PROJECT MANAGER for approval. The OWNER shall make payment to the CONTRACTOR within thirty (30) calendar days after approval by the PROJECT MANAGER and ARCHITECT of the CONTRACTOR'S requisition for payment.

5.2 Ten percent (10%) of all monies earned by the CONTRACTOR shall be retained by the OWNER until the work is totally completed as specified and accepted by the OWNER except that after fifty percent (50%) of the work has been completed, the OWNER may reduce the retainage to five percent (5%) of all monies earned.

5.3 The OWNER may withhold in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

5.3.1 Defective work not remedied.

5.3.2 Claims filed or reasonable evidence indicating the probable filing of claims by other parties against the CONTRACTOR.

5.3.3 Failure of the CONTRACTOR to make payment to subcontractors or suppliers for materials or labor.

5.3.4 Damage to another contractor not remedied.

5.3.5 Liability for liquidated damages that has been incurred by the CONTRACTOR.

5.3.6 Reasonable evidence that the work cannot be completed for the unpaid balance of the Contract Sum.

5.3.7 Reasonable evidence that the work will not be completed within the Contract Time.

5.3.8 Persistent failure to carry out the work in accordance with the Contract Documents.

When the above grounds are removed or resolved or the CONTRACTOR provides a surety bond or consent of surety satisfactory to the OWNER, which will protect the OWNER in the amount withheld, payment may be made in whole or in part.

ARTICLE 6
FINAL PAYMENT

6.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be paid by the OWNER to the CONTRACTOR in accordance with the provisions of Article 13 of the Construction Services General Conditions when the work has been completed, the Contract fully performed, and a final Certificate for Payment has been issued by the PROJECT MANAGER and ARCHITECT.

ARTICLE 7
MISCELLANEOUS PROVISIONS

7.1 Terms used in this Agreement which are defined in the Construction Services General Conditions of the Contract shall have the meanings designated in those Conditions.

7.2 The validity, construction and effect of this Agreement shall be governed by the laws of the State of Florida. Any claim, objection or dispute arising out of this Agreement shall be litigated in the Fourteenth Judicial Circuit in and for Bay County, Florida.

7.3 Should any part, term or provision of this Agreement be by the courts decided to be invalid, illegal or in conflict with any law of the State, the validity of the remaining portion or provision shall not be affected thereby.

7.4 **OWNER reserves the right to issue separate Purchase Order for the procurement of material, supplies and equipment in connection with this project if it is beneficial to the OWNER. CONTRACTOR shall be responsible for all OWNER-Furnished equipment from date CONTRACTOR receives and takes possession of equipment furnished by the OWNER until items are installed and project is completed. CONTRACTOR shall be responsible for the installation of any OWNER-furnished equipment.**

7.5 CONTRACTOR shall not assign or transfer the Contract or its rights, title or interests therein without OWNER'S prior written approval. The obligations undertaken by CONTRACTOR pursuant to the Contract shall not be delegated or assigned to any other person or firm unless OWNER shall first consent in writing to the assignment. Violation of the terms of this Paragraph shall constitute a breach of Contract by CONTRACTOR and the OWNER may, at its discretion, cancel the Contract and all rights, title and interest of CONTRACTOR shall thereupon cease and terminate.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Contract in duplicate.

THIS AGREEMENT will be effective on _____, 20___.

THE PALM BAY EDUCATION GROUP, INC.

_____

ATTEST:

_____

CONTRACTOR

_____

State of: _____
County of: _____

On this, the _____ day of _____, 2026, before me, the undersigned Notary Public of the State of _____, the foregoing instrument was acknowledged by _____(name of corporate officer), _____(title), of _____ (name of corporation), a _____(state of corporation) corporation, on behalf of the corporation.

WITNESS my hand
and official seal

Notary Public, State of _____

_____
Printed, typed or stamped name of Notary Public exactly as commissioned
□ Personally known to me, or
□ Produced identification:

_____
(type of identification produced)

FOREIGN (NON-FLORIDA) CORPORATIONS MUST COMPLETE THIS FORM

DEPARTMENT OF STATE CORPORATE CHARTER NO. _____

If your corporation is exempt from the requirements of Section 607.1501, Florida Statutes, YOU MUST CHECK BELOW the reason(s) for the exemption. Please contact the Department of State, Division of Corporations at (850) 245-6051 for assistance with corporate registration or exemptions.

607.1501 Authority of foreign corporation to transact business required.

(1) A foreign corporation may not transact business in this state until it obtains a certificate of authority from the Department of State.

(2) The following activities, among others, do not constitute transacting business within the meaning of subsection (1):

_____(a) Maintaining, defending, or settling any proceeding.
_____(b) Holding meetings of the board of directors or shareholders or carrying on other activities concerning internal corporate affairs.
_____(c) Maintaining bank accounts.
_____(d) Maintaining officers or agencies for the transfer, exchange, and registration of the corporation's own securities or maintaining trustees or depositaries with respect to those securities.
_____(e) Selling through independent contractors.
_____(f) Soliciting or obtaining orders, whether by mail or through employees, agents, or otherwise, if the orders require acceptance outside this state before they become contracts.
_____(g) Creating or acquiring indebtedness, mortgages, and security interests in real or personal property.
_____(h) Securing or collecting debts or enforcing mortgages and security interests in property securing the debts.
_____(i) Transacting business in interstate commerce.
_____(j) Conducting an isolated transaction that is completed within 30 days and that is not one in the course of repeated transactions of a like nature.
_____(k) Owning and controlling a subsidiary corporation incorporated in or transacting business within this state or voting the stock of any corporation which it has lawfully acquired.
_____(l) Owning a limited partnership interest in a limited partnership that is doing business within this state, unless such limited partner manages or controls the partnership or exercises the powers and duties of a general partner.
_____(m) Owning, without more, real or personal property.

(3) The list of activities in subsection (2) is not exhaustive.

(4) This section has no application to the question of whether any foreign corporation is subject to service of process and suit in this state under any law of this state.

Please check one of the following if your firm is NOT a corporation:

(I) _____ Partnership, Joint Venture, Estate or Trust
(II) _____ Sole Proprietorship or Self-Employed

NOTE: This sheet MUST be enclosed with your bid if you claim an exemption or have checked I or II above. If you do not check I or II above, your firm will be considered a corporation and subject to all requirements listed herein.

_____
BIDDER'S CORRECT LEGAL NAME

_____
SIGNATURE OF AUTHORIZED AGENT OF BIDDER

BID 26-0001
CONSTRUCTION OF GYMNATORIUM

INSTRUCTIONS TO BIDDERS

1. PRE-BID CONFERENCE

1.1 A Pre-Bid Conference will be held on March 9, 2026 at 10:00 a.m. (CST) at 1104 Balboa Avenue, Panama City, Florida. The purpose of the Pre-Bid Conference is to discuss the contents of this Bid and Bidder's inquiries.

2. QUALIFICATIONS OF BIDDERS

2.1 Each Bidder shall complete the Qualifications Statement and shall submit the same with the Bid. Failure to submit the Qualifications Statement and all documents required thereunder together with the Bid may constitute grounds for rejection of the Bid.

2.2 Palm Bay Education Group, Inc. (hereinafter "Palm Bay") reserves the right to make a pre-award inspection of the Bidder's facilities and equipment prior to award of Agreement.

2.3 Palm Bay reserves the right to consider a Bidder's history of citations and/or violations of environmental regulations in determining a Bidder's responsibility, and further reserves the right to declare a Bidder not responsible if the history of violations warrant such determination. Bidder shall submit with Bid, a complete history of all citations and/or violations, notices and dispositions thereof. The nonsubmission of any such documentation shall be deemed to be an affirmation by the Bidder that there are no citations or violations. Bidder shall notify Palm Bay immediately of notice of any citation or violation that Bidder may receive after the Bid opening date and during the time of performance of any contract awarded to Bidder.

3. SPECIFICATIONS

3.1 Items shown on the Plans but not noted in the Specifications, and items noted in the Specifications but not shown on the Plans, are to be considered as both shown on the Plans and noted in the Specifications. Any errors or omissions in the Specifications or on the Plans, as to the standards of the work, shall not relieve the CONTRACTOR of the obligation to furnish a satisfactory first class job in strict conformity with the best practice found in structures or in the work of a similar type. The failure of the Bidder to inform Palm Bay concerning errors or discrepancies will not relieve the Bidder, should Bidder be awarded the Contract, of the responsibility of performing the work to the satisfaction of Palm Bay.

4. BID FORM

4.1 The Bid Form, together with the Invitation to Bid, the Instructions to Bidders, constitutes an offer from the Bidder. If any or all parts of the Bid are accepted by Palm Bay, an authorized officer of Palm Bay shall affix his/her signature hereto and this document, together with the Invitation to Bid, the Instructions to Bidders, any Drawings, Plans and Specifications issued prior to the execution of this Bid Form, and any Purchase Order issued by Palm Bay after execution of this Bid Form, shall constitute the written agreement between the parties and shall together comprise the Contract Documents. The Contract Documents are complimentary and what is required by one shall be as binding as if required by all.

5. AWARD OF CONTRACT

5.1 If the Contract is to be awarded, it will be awarded to the most responsible and responsive Bidder for the Bid whose evaluation by Palm Bay indicates to Palm Bay that the award will be in the best interests of Palm Bay, and not necessarily to the lowest Bidder.

5.2 Criteria utilized by Palm Bay for determining the most responsible and responsive Bidder includes, but is not limited to the following:

(a) Ability of Bidder to meet published specifications.

(b) Bidder's experience and references, including but not limited to, the reputation, integrity, character, efficiency, experience, skill, ability and business judgment of the Bidder, the quality of performance of Bidder under previous contracts, any sub-contractors and other persons providing labor or materials to Bidder. Payment history with sub-contractors under previous contracts.

(c) Bidder's qualifications and capabilities, including but not limited to, the size, financial history, strength and stability of the business to perform the work of the Contract, the possession of necessary facilities and equipment and the quality, availability and adaptability thereof to the particular use(s) required.

(d) Whether Bidder can perform the Contract promptly or within the time specified, without delay or interference.

(e) Previous and existing compliance by Bidder with laws, ordinances and regulations relating to the goods or services.

(f) Price.

5.3 The CONTRACTOR must execute the required contracts prior to award by Palm Bay. After Palm Bay awards the CONTRACTOR will be issued a Notice of Award. Within fifteen (15) days thereafter, the CONTRACTOR must deliver the

required bonds and certificate of insurance to Palm Bay. Within ten (10) days thereafter, Palm Bay shall deliver one (1) fully executed contract to CONTRACTOR along with a Notice to Proceed. The fully executed contract will be accompanied by a complete set of drawings (if required).

5.4 If applicable, the Bidder to whom award is being recommended shall execute a written contract prior to contract award. If the Bidder fails to enter into a Contract as herein provided, the recommended award will be let to the next lowest Bidder who is responsible and responsive in the opinion of Palm Bay. Such Bidder shall fulfill every stipulation embraced herein as if he were the original party to whom the award was made.

6. PUBLIC ENTITY CRIMES INFORMATION STATEMENT

6.1 A person or affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to public entity, may not be awarded or perform work as a contractor, supplier, subcontractor or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Florida State Statutes, Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

7. CONTRACT TIME

7.1 The work to be performed under the Contract shall be commenced upon issuance of Notice to Proceed and after all applicable permits are obtained by CONTRACTOR.

7.2 The number of days, which the work is to be completed or goods are to be provided, is one hundred twenty days (420) consecutive calendar days from the date of the commencement of the Contract time as established in the Notice to Proceed.

7.3 By virtue of the submission of his Bid, Bidder agrees and fully understands that the completion time of the work of the Contract is an essential and material condition of the contract and the time is of the essence. The Successful Bidder agrees that all work shall be prosecuted regularly, diligently and uninterrupted at such rate of progress as will ensure full completion thereof within the time specified. Failure to complete the work within the time period specified shall be considered a default.

8. LIQUIDATED DAMAGES FOR BREACH OF CONTRACT

See Construction Services General Conditions, Paragraph 11.4 for details.

9. SAFETY

9.1 The Successful Bidder shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. The Successful Bidder shall comply with the rules and regulations of the Florida Department of Commerce regarding industrial safety (Fla Statutes Section 440.56) and with the standards set forth in the Occupational Safety and Health Act of 1970 (OSHA) and its amendments.

9.2 The Successful Bidder shall take all reasonable precautions for the safety of and shall provide all reasonable protection to prevent damage, injury or loss to:

(a) All employees on the work site and all other persons who may be affected thereby.

(b) The work and all materials and equipment incorporated therein.

(c) Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, structures, irrigation systems and utilities not designated for removal, relocation or replacement in the course of the work.

10. WARRANTIES

10.1 Warranty of Title: The Successful Bidder warrants to Palm Bay that all goods and materials furnished under the Contract will be new unless otherwise specified and that Successful Bidder possess good, clear, and marketable title to said goods and there are no pending liens, claims or encumbrances whatsoever against said goods. All work not conforming to these requirements, including substitutions not properly approved and authorized may be considered defective.

10.2 Warranty of Specifications: The Successful Bidder warrants that all goods, materials and workmanship furnished, whether furnished by the Successful Bidder or its sub-contractors and suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted.

10.3 Warranty of Merchantability: The Successful Bidder warrants that the goods to be supplied pursuant to the Contract are merchantable, of good quality and free from defects, whether patent or latent in material or workmanship.

10.4 Warranty of Material and Workmanship: The Successful Bidder warrants all material and workmanship for a minimum of one (1) year from date of project completion and acceptance by Palm Bay. If within one (1) year after acceptance by Palm Bay, or within such larger period of time as may be prescribed by law any of the work is found to be defective or not in accordance with the Contract Documents, the Successful Bidder shall after receipt of a written notice from Palm Bay to do so, promptly correct the work unless Palm Bay has previously given the Successful Bidder a written acceptance of such condition.

10.5 The Successful Bidder warrants to Palm Bay that it will comply with all applicable federal, state and local laws, regulations and orders in carrying out its obligations under the Contract.

10.6 The Successful Bidder warrants to Palm Bay that it is not insolvent, it is not in bankruptcy proceedings or receivership, nor is it engaged in or threatened with any litigation, arbitration or other legal or administrative proceedings or investigations of any kind which would have an adverse effect on its ability to perform its obligations under the Contract.

10.7 The Successful Bidder warrants to Palm Bay that the consummation of the work provided for in the Contract Documents will not result in the breach of any term or provision of, or constitute a default under any indenture, mortgage, contract, or agreement to which the Successful Bidder is a party.

10.8 The Successful Bidder warrants that there has been no violation of copyrights or patent rights either in the United States of America or in foreign countries in connection with the work of the Contract.

10.9 All warranties made by the Successful Bidder together with service warranties and guarantees shall run to Palm Bay and the successors and assigns of Palm Bay.

11. RISK OF LOSS

11.1 The risk of loss, injury, or destruction, regardless of the cause of the casualty, shall be on the Successful Bidder until the completion of the project and inspection and acceptance of the project by Palm Bay.

12. PERMITS, FEES AND NOTICES

12.1 The Successful Bidder shall secure and be responsible to pay for any and all permits and licenses that may be required for the proper execution and completion of the work. The Successful Bidder shall use their best efforts to obtain all necessary permits as soon as possible after the date of Contract award. Any delays in obtaining permits must be brought to the attention of Palm Bay without delay.

12.2 The Successful bidder shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work. Palm Bay shall not be responsible for monitoring the Successful Bidder's compliance with any laws or regulations.

12.3 The Successful bidder shall secure, complete, and file with the Clerk of Courts of Bay County, a Certified Notice of Commencement required per chapter 96-838, Laws of Florida. This notice must be on file with the Panama City Building Division, and be displayed on the job site prior to the first inspection.

13. CLEANING UP

13.1 The Successful Bidder at all times shall keep the premises free from accumulation of waste materials or rubbish caused by Bidder's operations. At the completion of the work Bidder shall remove all waste materials and rubbish from and about the site as well as all tools, equipment, machinery and surplus materials and provide final cleaning and return the space to a condition suitable for use by Palm Bay.

14. DELAYS AND EXTENSIONS OF TIME

14.1 The Contract time may only be changed by a change order or a written amendment. Any claims for an extension or shortening of Contract time shall be based upon written notice delivered by the party making the claim to the other party not more than three (3) calendar days after the occurrence of the event giving rise to the claim and stating the general nature of the claim otherwise it shall be waived.

14.2 No claim for damages or any claim other than an extension of time shall be made or asserted against Palm Bay by reason of any delays.

15. DEFAULT

15.1 In the event the Successful Bidder shall default in any of the terms, obligations, restrictions, or conditions in the Contract Documents, Palm Bay shall give the Successful Bidder written notice by certified mail of the default and that such default shall be corrected or actions taken to correct such default shall be commenced within five (5) calendar days thereof. In the event the Successful Bidder has failed to correct the condition(s) of the default or the default is not remedied to the satisfaction and approval of Palm Bay, Palm Bay shall have all legal remedies available to it, including, but not limited to termination of the Contract in which case the Successful Bidder shall be liable for all procurement and reprocurement costs and any and all damages permitted by law arising from the default and breach of the Contract.

16. TERMINATION FOR CONVENIENCE OF PALM BAY

See Construction Services General Conditions, Paragraph 13.13 for details.

17. ASSIGNMENT

17.1 The Successful Bidder shall not assign or transfer its rights, title or interests in the Agreement nor shall Successful Bidder delegate any of the duties or obligations undertaken by Successful Bidder without Palm Bay’s prior written approval.

18. APPLICABLE LAWS, ORDINANCES, RULES, CODES AND REGULATIONS

18.1 Familiarity with Laws: Notice is hereby given that the Successful Bidder must be familiar with all federal, state and local laws, ordinances, rules, codes and

regulations that may affect the work. Ignorance on the part of the Bidder will in no way relieve him from the responsibility of compliance therewith.

19. EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENT INFORMATION:

19.1 A copy of Executive Order no. 11246, "Notice of Requirement for Affirmative Action to Insure Equal Employment Opportunity" is on file at Palm Bay, 1104 Balboa Avenue, Panama City, Florida 32401. All bidders must consider those requirements prior to submitting a bid. Those requirements shall be incorporated into and made a part of the Contract.

20. BID SECURITY

20.1 Each Bid must be accompanied by a certified or cashiers check or by a Bid Bond made payable to Palm Bay Education Group, Inc. on an approved form, duly executed by the Bidder as principal and having as surety thereon a surety company acceptable to Palm Bay and authorized to write such Bid Bond under the laws of the State of Florida, in an amount not less than five percent (5%) of the amount of the Bid.

20.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Contract and furnished the required payment and performance bonds, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Contract or furnish the required Bonds within fifteen (15) calendar days of the Notice of Award, Palm Bay may annul the Notice of Award and the entire sum of the Bid Security shall be forfeited. The Bid Security of the three (3) lowest bidders will be returned within seven (7) calendar days after Palm Bay and the Successful Bidder have executed the written Contract or if no such written Contract is executed within ninety (90) calendar days after the date of the Bid opening, upon the demand of any Bidder at anytime thereafter, provided that he has not been notified of the acceptance of his Bid. Bid Security of all other Bidders will be returned within seven (7) calendar days after the Bid opening. The attorney in fact or other officer who signs a Bid Bond for a surety company must file with such a Bond a certified copy of his power of attorney authorizing him to do so.

20.3 The Bid Security filed with the Bid shall be forfeited in its entirety to Palm Bay as liquidated damages if the Bidder to whom the Contract is awarded fails to execute the Contract Documents within fifteen (15) calendar days of written notice by Palm Bay.

21. PAYMENT AND PERFORMANCE BONDS

21.1 Within Fifteen (15) calendar days after the Contract Award, but in any event prior to commencing work, the Successful Bidder shall execute and furnish to Palm Bay a performance bond and a payment bond, each written by a corporate surety, having a resident agent in the State of Florida and having been in business with a record of successful continuous operation for at least five (5) years. The surety

shall hold a current certificate of authority from the Secretary of Treasury of the United States as an acceptable surety on federal bonds in accordance with United States Department of Treasury Circular No. 570. If the amount of the Bond exceeds the underwriting limitation set forth in the circular, in order to qualify, the net retention of the surety company shall not exceed the underwriting limitation in the circular and the excess risks must be protected by coinsurance, reinsurance, or other methods, in accordance with Treasury Circular 297, revised September 1, 1978 (31 DFR, Section 223.10, Section 223.11). Further, the surety company shall provide Palm Bay with evidence satisfactory to Palm Bay, that such excess risk has been protected in an acceptable manner. The surety company shall have at least the following minimum qualifications in accordance with the latest edition of A.M. Best's Insurance Guide, published by Alfred M. Best Company, Inc., Ambest Road, Oldwick, New Jersey 08858:

Financial Stability - A
Financial size - VIII

21.2 Two (2) separate bonds are required and both must be approved by Palm Bay. The penal sum stated in each bond shall be the amount equal to the total amount payable under the terms of the contract. The performance bond shall be conditioned that the Successful Bidder performs the contract in the time and manner prescribed in the contract. The payment bond shall be conditioned that the Successful Bidder promptly make payments to all persons who supply the Successful Bidder with labor, materials and supplies used directly or indirectly by the Successful Bidder in the prosecution of the work provided for in the Contract and shall provide that the surety shall pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the maximum rate allowed by law; and that they shall indemnify and save harmless Palm Bay to the extent of any and all payments in connection with the carrying out of said Contract which Palm Bay may be required to make under the law.

21.3 Such bonds shall continue in effect for one (1) year after final payment becomes due except as otherwise provided by law or regulation or by the Contract Documents with the final sum of said bonds reduced after final payment to an amount equal to twenty five percent (25%) of the Contract Price, or an additional bond shall be conditioned that the Successful Bidder correct any defective or faulty work or material which appear within one (1) year after final completion of the Contract, upon notification by Palm Bay.

22. INDEMNIFICATION

22.1 GENERAL INDEMNIFICATION: The parties agree that one percent (1%) of the total compensation paid to CONTRACTOR for the work of the Contract shall constitute specific consideration to CONTRACTOR for the indemnification to be provided under the Contract. To the fullest extent permitted by laws and regulations, CONTRACTOR shall indemnify, save and hold harmless Palm Bay, its officers, agents and employees, from or on account of all claims, damages, losses, liabilities and expenses, direct, or consequential, including, but not limited

to, fees and charges of engineer, architects, attorney's, consultants and other professionals and court and arbitration costs arising out of or resulting from the performance of the Work excluding the sole negligence of Palm Bay. Such indemnification shall specifically include but not be limited to claims, damages, losses and expenses arising out of or resulting from (a) any and all bodily injuries, sickness, death, disease; (b) injury to or destruction of tangible personal property, including the loss of use resulting therefrom; (c) other such damages, liabilities or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this project including the warranty period; (d) the use of any improper materials; (e) any construction defect including patent defects; (f) any act, omission or default of CONTRACTOR or his subcontractors, agents, servants or employees; (g) the violation of any federal, state, county or city laws, by-laws, ordinances or regulations by CONTRACTOR, his subcontractors, agents, servants or employees; (h) the breach or alleged breach by CONTRACTOR of any term of the Contract, including the breach or alleged breach of any warranty or guarantee.

22.2 PATENT AND COPYRIGHT INDEMNIFICATION: CONTRACTOR agrees to indemnify, save and hold harmless Palm Bay, its officers, agents and employees, from all such claims and fees, and from any and all sites and actions of every name and description that may be brought against Palm Bay, its officers, agents and employees, on account of any claims, fines, fees, royalties, or costs for any invention or patent, and from any and all suits and actions that may be brought against Palm Bay, its officers, agents and employees for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

22.3 Pursuant to the requirements of Florida Statute 752.06, as amended, the indemnification from liability for damages caused in whole or in part by any act, omission or default by Palm Bay as contained in Paragraph 22.1 above, shall be limited to the monetary amount of comprehensive general liability insurance, which CONTRACTOR is required to obtain under the Contract. All other indemnification required hereunder shall not be limited to the amount of required comprehensive general liability insurance or any required excess insurance.

22.4 CONTRACTOR shall pay all claims, losses, liens, settlements or judgments of any nature whatsoever, excluding only those in which the damages arose out of the sole negligence of Palm Bay, in connection with the foregoing indemnifications, including, but not limited to, reasonable attorney's fees and costs to defend all claims or suits in the name of Palm Bay when applicable.

22.5 Palm Bay reserves the right to select its own legal counsel to conduct any defense in any such proceeding and all costs and fees associated therewith shall be the responsibility of the CONTRACTOR under the indemnification agreement. Such indemnification shall not be limited to the amount of comprehensive general liability insurance that CONTRACTOR is required to obtain under the Contract. Nothing contained herein is intended nor shall it be construed to waive Palm Bay's rights and immunities under the common law or Florida Statute 768.28 as amended from time to time. This obligation shall not be construed to negate,

abridge, or otherwise reduce any other right or obligation of indemnity that would otherwise exist as to any party described in this Paragraph 22 and its subparts.

23. INSURANCE

See Construction Services General Conditions, Paragraph 16.4 for details.

24. ADDENDUM

An addendum, if needed, will be issued prior to the opening of bids. The intent of these addenda is to clarify, correct or change the scope of work and/or bidding documents.

It is the responsibility of the bidder to view the website to determine if any addenda have been issued, or to contact Palm Bay to determine if any addenda has been issued. In some cases, where the addendum has a direct effect on the scope of work or a change in the cost of the project, the omission of the signed addendum being returned with the bid submittal may cause the bid to be considered as non-responsive.

Palm Bay Education Group, Inc.

INVITATION TO BID

SUBMIT BID TO:

Palm Bay Education Group, Inc.
1104 Balboa Avenue
Panama City, Florida 32401

BIDDER ACKNOWLEDGMENT

- GENERAL CONDITIONS -

THESE INSTRUCTIONS ARE STANDARD FOR ALL BIDS FOR COMMODITIES/SERVICES ISSUED BY PALM BAY EDUCATION GROUP, INC. (HEREINAFTER "PALM BAY"). PALM BAY MAY DELETE, SUPERSEDE OR MODIFY ANY OF THESE STANDARD INSTRUCTIONS FOR A PARTICULAR CONTRACT BY INDICATING SUCH CHANGE IN SPECIAL INSTRUCTIONS TO BIDDERS OR IN THE BID SHEETS. ANY AND ALL SPECIAL CONDITIONS THAT MAY VARY FROM THE GENERAL CONDITIONS SHALL HAVE PRECEDENCE. BIDDER AGREES THAT THE PROVISIONS INCLUDED WITHIN THIS INVITATION FOR BID SHALL PREVAIL OVER ANY CONFLICTING PROVISION WITHIN ANY STANDARD FORM CONTRACT OF THE BIDDER REGARDLESS OF ANY LANGUAGE IN BIDDER'S CONTRACT TO THE CONTRARY.

BIDDER ACKNOWLEDGMENT MUST BE SIGNED AND RETURNED WITH YOUR BID

SEALED BIDS: This form must be executed and submitted with all Bid sheets in a sealed envelope. The face of the envelope shall contain the above address, the date and time of Bid opening and Bid number. Bids not submitted on attached Bid Form may be rejected. All Bids are subjected to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

BID TITLE: GYMNATORIUM CONSTRUCTION

BID NO.: 26-001

BIDS WILL BE OPENED at 2:00 P.M. (CST) on April 20, 2026 and may not be withdrawn during the 90 calendar days following such date and time.

PALM BAY AGENT (NAME & TELEPHONE NO.:)

Ron Danzey (850) 624-5374
****

_____
CORRECT LEGAL NAME OF BIDDER:

_____
(SIGNATURE OF BIDDER'S AUTHORIZED AGENT)

TITLE: _____

TYPED/PRINTED NAME OF
AUTHORIZED AGENT: _____

ADDRESS: _____
_____

PHONE NO: (_____)_____
FEDERAL ID NUMBER OR SOCIAL
SECURITY NUMBER OF BIDDER:
_____ I certify that this Bid acknowledgement is made without prior understanding, agreement or connection with any corporation, firm or person submitting a Bid for the same commodities/ services, and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this Bid and certify that I am authorized to sign this Bid for the Bidder. By signature on this form, Bidder acknowledges and accepts without limitation, pages 1 through 5 inclusive of the Invitation to Bid as well as any special instructions if applicable.

INSTRUCTIONS TO BIDDERS:

1. DEFINED TERMS

   1.1 Terms used in these Instructions to Bidders are defined and have the meanings assigned to them. The term "Bidder" means one who submits a Bid directly to Palm Bay, as distinct from a sub-bidder who submits a Bid to the Bidder. The term "Successful Bidder" means the most responsible and responsive Bidder to whom Palm Bay (on the basis of Palm Bay's evaluation as hereinafter provided) makes an award. The term "Palm Bay" refers to the Palm Bay Education Group, Inc.. The term "Bid Documents" includes the Invitation to Bid, Instructions to Bidders, Special Conditions, Bid Form, Non-Collusive Affidavit, Certificate(s) of Insurance, if required, Payment and Performance Bonds, if required, Corporate Resolution, Bid Security, if required, and the proposed Contract Documents, if any, including all Addenda issued prior to receipt of Bids.

2. COPIES OF BIDDING DOCUMENTS

   2.1 Complete sets of Bid Documents must be used in preparing Bids. Palm Bay does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents. Palm Bay, in making copies of Bid Documents available does so only for the purpose of obtaining Bids and does not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

   3.1 No Bid will be accepted from, nor will any contract be awarded to any person who is in arrears to Palm Bay, upon any debt or contract, or who is a defaulter,

as surety or otherwise, upon any obligation to Palm Bay, or who is deemed responsible or unreliable by Palm Bay.

3.2 As part of the Bid evaluation process, Palm Bay may conduct a background investigation including a record check by the Panama City Police Department. Bidder's submission of a Bid constitutes acknowledgment of the process and consent to such investigation. Palm Bay shall be the sole judge in determining Bidder's qualifications.

4. EXAMINATION OF BID DOCUMENTS

4.1 Before submitting a Bid, each Bidder must (a) examine the Bid Documents thoroughly; (b) consider federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress, performance, or provision of the commodities and/or services; (c) study and carefully correlate Bidder's observations with the Bid Documents, and (d) notify Palm Bay of all conflicts, errors and discrepancies in the Bid Documents.

4.2 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception, the Bid is premised upon performing the services and/or furnishing the commodities and materials and such means, methods, techniques, sequences or procedures as may be indicated in or required by the Bid Documents, and that the Bid Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions of performance and furnishing of the goods and/or services.

5. SPECIFICATIONS

5.1 The apparent silence of the Specifications as to any detail, or the apparent omission from the Specifications of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of the Specifications shall be made on the basis of this statement.

5.2 For the purpose of evaluation, the Bidder must indicate any variance or exceptions to the stated Specifications no matter how slight. Deviations should be explained in detail. Absence of variations and/or corrections will be interpreted to mean that the Bidder meets all the Specifications in every respect.

5.3 Any manufacturers' names, trade names, brand names, information and/or catalog numbers used herein are for the purpose of describing and establishing a general standard of quality, performance and characteristics and are not intended to limit or restrict competition. The Bidder may offer any brand which meets or exceeds the Specifications for any item(s). If Bids are based on equivalent products, indicate on the Bid Form the manufacturer's name and catalog number. Bidder shall submit with his Bid complete and descriptive literature and/or specifications. The Bidder should also explain in detail the reason(s) why and submit proof that the proposed equivalent will meet the Specifications and not be considered an exception thereto. The determination of equivalency shall rest solely with Palm Bay. If Bidder fails to name a substitute, it will be assumed that Bidder is bidding on and will be required to furnish commodities identical to Bid standards.

6. INTERPRETATIONS AND ADDENDA

6.1 To ensure fair consideration for all Bidders, Palm Bay prohibits communication to or with any department, officer or employee during the submission process except as provided in Paragraph 6.2 below.

6.2 If the Bidder should be in doubt as to the meaning of any of the Bid documents, or is of the opinion that the plans and/or specifications contain errors, contradictions or reflect omissions, Bidder shall submit a written request directed to Palm Bay to be forwarded to the appropriate person or department for interpretations or clarification. Interpretations or clarifications deemed necessary by Palm Bay in response to such questions will be issued in the form of written addenda, mailed to all parties recorded by Palm Bay as having received the Bid documents. The issuance of a written addendum by Palm Bay shall be the only official method whereby such an interpretation or clarification will be made.

7. PRICES BID

7.1 Prices shall be shown in both unit amounts and extensions whenever applicable. In the event of discrepancies existing between unit amounts and extension or totals, unit amounts shall govern.

7.2 Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

7.3 All applicable discounts shall be included in the Bid price for materials and services and will be considered as determining factors in recommending an award in case of tie Bids. Discounts extended to Palm Bay shall include but not be limited to those discounts normally extended to not-for-profit corporations.

7.4 Chain discounts are not acceptable and will not be considered in determining an award. Bidders may bid only one (1) discount for each item on the Bid Form. Firm discounts and prices are to be quoted for the term of the Contract.

7.5 Bidder warrants by virtue of bidding that prices, terms and conditions in the Bid will be firm for acceptance for a period of ninety (90) calendar days from the date of Bid opening unless otherwise stated by Palm Bay.

7.6 The Bid price shall include all permit fees, royalties, license fees and other costs arising from the use of such design, device or materials in any way involved

in the work as well as all costs of packaging, transporting and delivery to the designated location.

8. OCCUPATIONAL HEALTH & SAFETY

8.1 Bidder shall comply with all state and federal standards and requirements regarding the transport, use, installation, disposal, generation, and/or delivery of any toxic substance as defined therein.

9. SUBMISSION OF BIDS

9.1 Bids shall be submitted at or before the time and at the place indicated in the Invitation to Bid and shall be submitted in a sealed envelope. The envelope shall be clearly marked on the exterior "BID FOR GYMNATORIUM CONSTRUCTION", OPEN: March 24, 2026 at 2:00 P.M. (CST) and shall state the name and address of the Bidder and shall be accompanied by any other required documents. No responsibility will attach to Palm Bay for the premature opening of a Bid not properly addressed and identified.

9.2 Bids must be typed or printed in ink. Use of erasable ink is not permitted. All blanks on the Bid Form must be completed. Names must be typed or printed below the signature. Facsimile Bids will not be accepted.

9.3 In accordance with Chapter 119 of the Florida Statutes (Public Records Law), and except as may be provided by other applicable state and federal law, all Bidders should be aware that the Invitation to Bid and the responses thereto are in the public domain. However, the Bidders are requested to identify specifically any information contained in their Bids which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, citing specifically the applicable exempting law.

9.4 All Bids received from Bidders in response to the Invitation to Bid will become the property of Palm Bay and will not be returned to the Bidders. In the event of contract award, all documentation produced as part of the contract shall become the exclusive property of Palm Bay.

9.5 The submitted Bid shall constitute a firm offer on the part of the Bidder to furnish the commodities and/or services requested.

10 BID FORMS

10.1 The Bid Form is included with the Bid Documents and must be used by the Bidder. Failure to do so may cause the Bid to be rejected. The forms must be submitted in good order and all blanks must be completed.

10.2 The Bid must be signed by one duly authorized to do so and in cases where the Bid is signed by a deputy or subordinate, the principal's proper written authority to such deputy or subordinate must accompany the Bid.

10.3 Bids by corporations must be executed in the corporate name by the President or other corporate officers accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown below the signature.

10.4 Bids by partnerships must be executed in the partnership name and signed by a general partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

11 MODIFICATION AND WITHDRAWL OF BIDS

11.1 Bids must be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted at any time prior to the deadline for submitting Bids. A request for withdrawal or a modification must be in writing and signed by person duly authorized to do so and, in a case where signed by a deputy or subordinate, the principal's proper written authority to such deputy or subordinate must accompany the request for withdrawal or modification. Withdrawal of a Bid will not prejudice the rights of a Bidder to submit a new Bid prior to the Bid date and time. After expiration of the period for receiving Bids, no Bid may be withdrawn or modified.

11.2 If, within twenty-four (24) hours after Bids are opened, any Bidder files a duly signed written notice with Palm Bay and within five (5) calendar days thereafter demonstrates to the reasonable satisfaction of Palm Bay by clear and convincing evidence that there was a material and substantial mistake in the preparation of its Bid, or that the mistake is clearly evident on the face of the Bid but the intended correct Bid is not similarly evident, then Bidder may withdraw its Bid and the Bid Security will be returned.

12. REJECTION OF BIDS

12.1 To the extent permitted by applicable state and federal laws and regulations, Palm Bay reserves the right to reject any and all Bids, to waive any and all informalities, irregularities and technicalities not involving price, time or changes in the commodities and/or services, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional Bids. Bids will be considered irregular and may be rejected if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alterations or irregularities of any kind.

12.2 Palm Bay reserves the right to reject the Bid of any Bidder if Palm Bay believes that it would not be in the best interest of Palm Bay to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Palm Bay.

12.3 More than one Bid received for the same work from an individual, firm, partnership, corporation or association under the same or different names will not be considered. Reasonable grounds for

believing that any Bidder is interested in more than one Bid for the same work will cause the rejection of such Bids in which the Bidder is interested. If there are reasonable grounds for believing that collusion exists among the Bidders, the Bids of participants in such collusion will not be considered.

12.4 The foregoing reasons for rejection of Bids are not intended to be exhaustive.

13. OPENING OF BIDS

13.1 Bids will be opened publicly on the date and at the location and time specified in the Invitation to Bid. Bids will be read aloud and an abstract of the amount of the base Bids will be made available after the opening of the Bid.

14. BIDS TO REMAIN OPEN

14.1 All bids shall remain open for ninety (90) calendar days after the day of the Bid opening, but Palm Bay may, at its sole discretion, release any Bid and return the Bid Security prior to that date.

14.2 Extensions of time when Bids shall remain open beyond the ninety (90) day period may be made only by mutual written agreement between Palm Bay, the successful Bidder and the surety, if any, for the successful Bidder.

15. AWARD OF CONTRACT

15.1 If the contract is to be awarded, it will be awarded to the most responsible and responsive Bidder for the base Bid whose evaluation by Palm Bay indicates to Palm Bay that the award will be in the best interests of Palm Bay and not necessarily to the lowest Bidder.

15.2 Criteria utilized by Palm Bay for determining the most responsible and responsive Bidder includes, but is not limited to the following:

(a) Ability of Bidder to meet published specifications.

(b) Bidder's experience and references including, but not limited to, the reputation, integrity, character, efficiency, experience, skill, ability and business judgment of the Bidder, the quality of performance of Bidder under previous contracts, any sub-contractors and other persons providing labor or materials to Bidder.

(c) Bidder's qualifications and capabilities, including but not limited to, the size, financial history, strength and stability of the business to perform the work of the Contract, the possession of necessary facilities and equipment and the quality, availability and adaptability thereof to the particular use(s) required.

(d) Whether Bidder can perform the Contract promptly or within the time specified without delay or interference.

(e) Previous and existing compliance by Bidder with laws, ordinances, and regulations relating to the commodities or services.

(f) Price.

15.3 If applicable, the Bidder to whom award is made shall execute a written Contract prior to award by Palm Bay. If the Bidder to whom the first award is made fails to enter into a Contract as herein provided, the Contract may be let to the next lowest Bidder who is responsible and responsive in the opinion of Palm Bay.

16. OPEN-END CONTRACT

16.1 No guarantee is expressed or implied as to the total quantity of commodities/services to be purchased under any open end Contract. Estimated quantities will be used for Bid comparison purposes only. Palm Bay reserves the right to issue purchase orders as and when required, or, issues a blanket purchase order for individual agencies and release partial quantities or any combination of the proceeding.

16.2 ORDERING: Palm Bay reserves the right to purchase commodities/services specified herein through Contracts established by governmental agencies or through separate procurement actions due to unique or special needs. If an urgent delivery is required within a short period than the delivery time specified in the Contract, and if the seller is unable to comply therewith, Palm Bay reserves the right to obtain such delivery from others without penalty or prejudice to Palm Bay or to the Bidder.

16.3 CONTRACT PERIOD: The initial Contract period shall start with the expiration date of the previous Contract or date of award, whichever is latest, and shall terminate two (2) years from that date. Palm Bay may renew this Contract for two (2) two (2) year periods subject to Bidder acceptance, satisfactory performance, and determination that renewal will be in the best interest of Palm Bay. All prices, terms and conditions shall remain firm for the initial period of the Contract and for any renewal period unless subject to price adjustment specified as a "special condition" hereto.

17. INSURANCE

17.1 The insurance requirements contained in this Bid represent the minimal protection necessary for Palm Bay as determined by Palm Bay. The successful Bidder shall be required to provide proper proof of issuance to the Purchasing Division prior to award. No award will be recommended until a written determination is made by Palm Bay that the proof of insurance submitted by the Bidder is acceptable from a risk management perspective. Further modification of the requirements may be made at the sole discretion of Palm Bay if circumstances warrant.

18. TAXES

18.1 The successful Bidder shall pay all applicable sales, consumer use, and other similar taxes required by law.

19. AUDIT RIGHTS

19.1 Palm Bay reserves the right to audit the records of the successful Bidder for the commodities and/or services provided under the Contract at any time during the performance and term of the Contract and for a period of three (3) year after completion and acceptance by Palm Bay. If required by Palm Bay, the successful Bidder agrees to submit to an audit by an independent certified public accountant selected by Palm Bay. The successful Bidder shall allow Palm Bay to inspect, examine and review the records of the successful Bidder in relation to this contract at any and all times during normal business hours during the term of the Contract.

20. CONFLICT OF INTEREST

20.1 The award hereunder is subject to the provisions of Chapter 112, Florida Statutes. Bidders must disclose with their Bid the name of any officer, director, partner, proprietor, associate or agent who is also a public officer or employee of Palm Bay or any of its agencies. Further, all Bidders must disclose the name of any public officer or employee of Palm Bay who owns, directly or indirectly, an interest of five percent (5%) or more in the Bidder's firm or any of its branches or affiliate companies.

21. NON-COLLUSIVE AFFIDAVIT

21.1 Each Bidder shall complete the Non-Collusive Affidavit and include it with the Bid Form and shall submit this Form with the Bid. Failure of the Bidder to submit this document may be cause for rejection of the Bid.

22. SUMMARY OF DOCUMENTS TO BE SUBMITTED BY BIDDERS

22.1 The following is a summary of documents, copies of which may be included in the Bid documents, which are to be completed and submitted by Bidders:

(a) Bidder acknowledgement.
(b) Bid Form
(c) Non-Collusive Affidavit
(d) Certified Resolution or other duly executed document evidencing authority to sign on behalf of the Bidder.
(e) Qualification Statement, if required by the Special Conditions.
(f) Bid Security, if required by the Special Conditions.
(g) Certificate(s) of Insurance, if required by the Special Conditions.
(h) Certification of Non-Segregated Facilities, if required by the Special Conditions.

NON-COLLUSIVE AFFIDAVIT

State of _____)
)ss.
County of_____)

_____ being first duly sworn, deposes and says that:

(1) He/she is the _____, (Owner, Partner, Officer, Representative or Agent) of _____, the Bidder that has submitted the attached Bid;

(2) He/she is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm, or person to submit a collusive or sham Bid in connection with the Work for which the attached Bid has been submitted; or to refrain from bidding in connection with such Work; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit, or cost elements of the Bid price or the Bid price of any other Bidder, or to secure trough any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Work;

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any other of its agents, representatives, owners, employees or parties in interest, including this affiant.

Signed, sealed and delivered
in the presence of:

_____ By: _____

_____ _____
(Printed Name)

_____
(Title)

ACKNOWLEDGEMENT

State of _____
County of _____

The foregoing instrument was acknowledged before me this _____ day of _____ _____ 20___, by _____, who is personally known to me or who has produced _____ as identification and who did (did not) take an oath.

WITNESS my hand and official seal

_____
NOTARY PUBLIC

_____
(Name of Notary Public: Print,
Stamp, or Type as Commissioned.)

NOTICE OF AWARD

Dated _____

TO: _____
(Bidder - Use Full Name)

_____
(Street Address)

_____
(Town, State, Zip Code)

BID NAME: CONSTRUCTION OF GYMNATORIUM

BID NUMBER: 26-0001

DESCRIPTION OF WORK: _____
_____
_____

You are notified that your Bid dated _____ for the above work has been awarded by Palm Bay Education Group, Inc. on _____.

The Contract price is _____ Dollars ($_____).

1. Submit two (2) copies of the Performance and Payment Bonds within fifteen (15) calendar days to this office. Instructions to the Surety and the Principal for execution of the Bonds are as follows:

   Where the Contractor is a Corporation, the Agreement and any Bonds must be executed by the President or the Chairman of the Board of the Corporation. The Agreement, or Bond, is accompanied by a statement certified by a Secretary of the Corporation. The signatures of the persons executing the Bond on behalf of the Principal and of the surety, respectively, shall each be dated on the signature line. If the Bond is executed by an Attorney-in-Fact for the Surety, the accompanying Power of Attorney must be executed by persons whose authority to do so is plainly identified on the face of the Power of Attorney.

   Neither signatures nor the Corporate Seal may appear by facsimile unless the authority for them to appear in that form is plainly disclosed on the face of the document. The Secretary, or other properly authorized Officer, must certify and seal a statement declaring that the authority granted by the Power of Attorney remained in force on the date that the Bond was executed by the Attorney-in-Fact.

2. Include two (2) copies of you current Certificate of Insurance. The Certificate must name the OWNER (Palm Bay Education Group, Inc.) as an additional insured and the standard cancellation clause must read as follows:

> "Should any of the above described policies be canceled or changed by restricted amendment before the expiration date thereof, the issuing Company will give thirty (30) days written notice to the below named certificate holder".

Failure to comply with these conditions within the time specified will entitle Palm Bay to consider your Bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within fifteen (15) days after you comply with the above conditions, Palm Bay will return to you one fully signed counterpart of the Contract Documents.

If you have any questions, or if we can be of any further assistance, please do not hesitate to contact Palm Bay / Ron Danzey (850) 624-5374 or @ ron.danzey@palmbayschools.org.

NOTICE TO PROCEED

Dated _____, 20___

TO: _____
(Bidder)

PROJECT NO: _____

PROJECT: _____

OWNER'S CONTRACT NO:_____

CONTRACT FOR: _____

_____

_____

You are notified that the Contract time under the above Contract will commence to run on _____ _____, 20___. By that date, you are to start performing the work and your other obligations under the Contract Documents. The date of Substantial Completion is set forth in the Contract; it is _____, 20___. The date of Final Completion is thirty (30) calendar days after Substantial Completion.

Work at the site must be started by _____, 20___, as indicated in the Contract Documents.

_____
(Owner)

By:_____
(Authorized Signature)

_____
(Title)

FORM OF PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That, pursuant to the requirements of Florida Statute 255.05, we,_____ _____, as Principal, hereinafter called CONTRACTOR, and _____ _____, as Surety, are bound to the Palm Bay Education Group, Inc. as Obligee, hereinafter called OWNER, in the amount of _____ _____ Dollars ($_____) for the payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, CONTRACTOR has by written agreement entered into a Contract, Bid/Contract No._____, awarded the _____ day of _____ _____, 20__, with OWNER for _____ in accordance with drawings (plans) and specifications prepared by _____ which Contract is by reference made a part hereof, and is hereafter referred to as the Contract;

THE CONDITION OF THIS BOND IS THAT IF THE CONTRACTOR:

1. Indemnifies and pays OWNER all losses, damages (specifically including, but not limited to, damages for delay and other consequential damages caused by or arising out of the acts, omissions or negligence of CONTRACTOR), expenses, costs and attorney's fees including attorney's fees incurred in appellate proceedings, that OWNER sustains because of default by CONTRACTOR under the Contract; and

2. Promptly makes payments to all claimants as defined by Florida Statute 225.05(1) supplying CONTRACTOR with all labor, materials and supplies used directly or indirectly by CONTRACTOR in the prosecution of the Work provided for in the Contract, then his obligation shall be void; otherwise, it shall remain in full force and effect subject, however, to the following conditions:

    2.1 A claimant, except a laborer, who is not in privity with the CONTRACTOR and who has not received payment for his labor, materials, or supplies shall, within forty five (45) days after beginning to furnish labor, materials, or supplies for the prosecution of the work, furnish to the CONTRACTOR a notice that he intends to look to the Bond for protection.

    2.2 A claimant who is not in privity with the CONTRACTOR and who has not received payment for his labor, materials, or supplies shall, within ninety (90) days after performance of the labor or after complete delivery of the materials or supplies, deliver to the CONTRACTOR and to the Surety, written notice of the performance of the labor or delivery of the materials or supplies and of the non-payment.

    2.3 Any action under this Bond must be instituted in accordance with the Notice and Time Limitations provisions prescribed in Section 255.05(2), Florida Statutes.

The Surety hereby waives notice of and agrees that any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect the Surety's obligation under this Bond.

Signed and sealed this _____ day of _____, 20__.

WITNESS:

_____
Secretary

(CORPORATE SEAL)

_____
(Name of Corporation)

By:_____
(Signature and Title)

_____
(Type Name & Title signed above)

IN THE PRESENCE OF;

_____

_____

INSURANCE COMPANY:

By:_____
Agent and Attorney-in-Fact

Address:_____
(Street)

_____
(City/State/Zip Code)

Telephone No.: (___)_____

State of _____
County of _____

On this, the _____ day of _____, 20___, before me, the undersigned Notary Public of the State of _____, the foregoing instrument was acknowledged by _____(name of corporate officer), _____ (title), of ____ _____(name of corporation), a _____(state of corporation) corporation, on behalf of the corporation.

WITNESS my hand
and official seal

_____
Notary Public, State of _____

_____
Printed, typed or stamped name of Notary Public exactly as commissioned

☐ Personally known to me, or
☐ Produced identification:

_____

(type of identification produced)
☐ Did take an oath, or
☐ Did not take an oath

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the corporation named as Principal in the foregoing Payment Bond; that _____, who signed the Bond on behalf of the Principal, was then _____of said corporation; that I know his/her signature; and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and attested to on behalf of said corporation by authority of its governing body.

(CORPORATE SEAL)

_____
(Name of Corporation)

FORM OF PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That, pursuant to the requirement of Florida Statute 255.05, we,_____ _____, as Principal, hereinafter called CONTRACTOR, and _____ _____, as Surety, are bound to the Palm Bay Education Group, Inc., as Obligee, hereinafter called OWNER, in the amount of _____ Dollars ($_____ _____) for the payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, CONTRACTOR has by written agreement entered into a Contract, Bid/Contract No._____, awarded the _____ day of _____, 201__ _____with OWNER for _____in accordance with drawings (plans) and specifications prepared by _____which Contract is by reference made a part hereof, and is hereafter referred to as the Contract;

THE CONDITION OF THIS BOND IS THAT IF THE CONTRACTOR:

1. Fully performs the Contract between the CONTRACTOR and the OWNER for construction of _____, within _____ calendar days after the date of contract commencement as specified in the Notice to Proceed and in the manner prescribed in the Contract; and

2. Indemnifies and pays OWNER all losses, damages (specifically including, but not limited to, damages for delay and other consequential damages caused by or arising out of the acts, omissions or negligence of CONTRACTOR), expenses, costs and attorney's fees and costs, including attorney's fees incurred in appellate proceedings, that OWNER sustains because of default by CONTRACTOR under the Contract; and

3. Upon notification by the OWNER, corrects any and all defective or faulty work or materials which appear within one (1) year after final acceptance of the work.

4. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract, then this Bond is void, otherwise it remains in full force.

   Whenever CONTRACTOR shall be, and declared by OWNER to be, in default under the Contract, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

   4.1 Complete the Contract in accordance with its terms and conditions; or

   4.2 Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the best, lowest, qualified, responsible and responsive Bidder, or, if the OWNER elects, upon determination by the OWNER and Surety jointly of the best, lowest,

qualified, responsible and responsive Bidder, arrange for a contract between such Bidder and OWNER, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable by OWNER to CONTRACTOR under the Contract and any amendments thereto, less the amount properly paid by OWNER to CONTRACTOR.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the OWNER named herein and those persons or corporations provided for in Section 255.05, Florida Statutes, or their heirs, executors, administrators or successors.

Any action under this Bond must be instituted in accordance with the Notice and Time Limitations provisions prescribed in Section 255.05(2), Florida Statutes.

The Surety hereby waives notice of and agrees that any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

Signed and sealed this _____ day of _____, 20___.

WITNESSS:

_____
(Name of Corporation)

_____
Secretary

By:_____
(Signature and Title)

(CORPORATE SEAL)

_____
(Type Name & Title signed above)

IN THE PRESENCE OF:

INSURANCE COMPANY:

_____

By:_____
Agent and Attorney-in-Fact

_____

_____
Printed name

Address:_____
(Street)

_____
(City/State/Zip Code)

Telephone No._____

State of _____
County of _____

On this, the _____ day of _____, 20_, before me, the undersigned Notary Public of the State of _____, the foregoing instrument was acknowledged by _____(name of corporate officer), _____ _____(title), of _____(name of corporation), a _____ _____(state of corporation) corporation, on behalf of the corporation.

WITNESS my hand
and official seal

_____
Notary Public, State of _____

_____
Printed, typed or stamped name of Notary Public exactly as commissioned

☐ Personally known to me, or
☐ Produced identification:

_____
(type of identification produced)

☐ Did take an oath, or
☐ Did not take an oath

Bonded by:_____

CERTIFICATE AS TO CORPORATE PRINCIPAL

I,_____, certify that I am the Secretary of the Corporation named as Principal in the foregoing Performance Bond; that _____, who signed the Bond on behalf of the Principal, was then _____ of said corporation; that I know his/her signature; and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and attested to on behalf of said corporation by authority of its governing body.

(CORPORATE SEAL)

_____
(Name of Corporation)

REFERENCES

In order to receive Bid Award consideration on the proposed bid, this "References sheet" should be completed and returned with your bid. This information may be used in determining the Bid Award for this contract.

Bidder (company name):_____
Address:_____
Telephone No: (____)_____ Fax No.: (___)_____
Contact person:_____ Title: _____
Number of years in business:_____ Years
E-mail Address: _____
Address of nearest facility:_____
_____

List three (5) companies or governmental agencies where these products and services have been provided in the past 5 year:

1. Company Name:_____
   Address:_____
   Telephone No: ____(__)_____
   Contact Person:_____ Title:_____
   Date Products Sold:_____

2. Company Name:_____
   Address:_____
   Telephone No: ____(__)_____
   Contact Person:_____ Title:_____
   Date Products Sold:_____

3. Company Name:_____
   Address:_____
   Telephone No: ____(__)_____
   Contact Person:_____ Title:_____
   Date Products Sold:_____

4. Company Name:_____
   Address:_____
   Telephone No: ____(__)_____
   Contact Person:_____ Title:_____
   Date Products Sold:_____

5. Company Name:_____
   Address:_____
   Telephone No: ____(__)_____
   Contact Person:_____ Title:_____
   Date Products Sold:_____

CONSTRUCTION SERVICES
GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these Construction Services General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding Documents or the Contract Documents.

Agreement - The written agreement between OWNER and CONTRACTOR covering the Work to be performed including other Contract Documents that are attached to the Agreement or made a part thereof.

Application for Payment - The form accepted by PROJECT MANAGER which is to be used by CONTRACTOR in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

ARCHITECT – Song + Associates, Inc.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bonds - Bid, performance and payment bonds and other instruments of security.

Change Order - A document recommended by Contractor, PROJECT MANAGER, or Owner which is signed by CONTRACTOR, PROJECT MANAGER, ARCHITECT, and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

Contract Documents - The Contract Documents consist of the Drawings, Plans and Specifications, Bid Form, CONTRACTOR'S Bid, including documentation accompanying Bid and post Bid documentation submitted prior to the Notice of Award, Qualifications Statement, Contract and all Exhibits attached thereto, Addenda, and Notice of Award, Notice to Proceed, Payment and Performance Bonds, the Construction Services General Conditions, Supplementary Conditions, any additional documents which are required to be submitted under the Contract, and all amendments, modifications and supplements issued on or after the effective date of the contract.

Contract Price - The moneys payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement (subject to the provisions of the Contract in the case of Unit Price Work).

Contract Time - The date stated in the Agreement for the completion of the work.

CONTRACTOR - The person, firm or corporation with whom OWNER has entered into the Agreement.

Defective - An adjective which when modifying the Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to PROJECT MANAGER'S recommendation of final payment.

Drawings - The drawings which show the character and scope of the Work to be performed and which have been prepared by the ARCHITECT and are referred to in the Contract Documents.

Field Order - A written order issued by PROJECT MANAGER which orders minor changes in the Work but which does not involve a change in the Contract Price or the Contract Time.

Notice of Award - The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified OWNER will sign and deliver the Agreement.

Notice to Proceed - A written notice given by OWNER to CONTRACTOR (with a copy to PROJECT MANAGER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents. This written notice will also state the dates of substantial and final completion of the project.

OWNER - The Palm Bay Education Group, Inc. with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided. The OWNER'S representative shall be Ron Danzey or his designee unless otherwise specified in the Contract Documents.

PROJECT MANAGER - OWNER's Construction Project Manager.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and Workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual, firm or corporation having a direct Contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman or vendor.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television sewage and drainage removal, traffic or other control systems or water, and all irrigation systems on or contiguous to the worksite.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

Work Allowance: A pre-set amount of funds added to the bid form pricing page. These moneys are only to be used for additional work that may be needed due to change orders and unforeseen conditions that increase the submitted bid amount, as approved by OWNER. This work allowance will not be made part of the contract sum as shown in the contract documents.

Work Directive Change - A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by PROJECT MANAGER ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in Paragraph 4.2 or 4.3 or to emergencies under Paragraph 5.13. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in Paragraph 9.

Written Amendment - A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical aspects rather than strictly Work related aspects of the Contract Documents.

ARTICLE 2 - PRELIMINARY MATTERS

2.1 Delivery of Bonds and Insurance:

Prior to award of the Contract by OWNER, CONTRACTOR shall deliver to OWNER copies of the certificate(s) of insurance evidencing the coverages required hereunder and specifically providing that the Palm Bay Education Group, Inc. is an additional named insured or additional insured. Payment and performance bonds which CONTRACTOR is required to furnish in accordance with this Contract must be provided to OWNER within fifteen (15) days after issuance of Notice of Award.

2.2 Commencement of Contract Time; Notice to Proceed:

The Work shall commence subsequent to the execution of this Contract by all parties and upon a written Notice to Proceed from OWNER. No Work shall be done at the site prior to the date on which the Contract Time commences to run.

OWNER shall furnish to CONTRACTOR up to two (2) copies of the Contract Documents. Additional copies will be furnished upon request, at the cost of reproduction.

2.3 Preconstruction Conference:

Within twenty (20) days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, PROJECT MANAGER, and ARCHITECT and others as appropriate will be held to discuss the schedules referred to in Paragraph 2.4, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a Working understanding among the parties as to the Work.

2.4 Finalizing Schedules:

At least ten (10) days before submission of the first Application for Payment a conference attended by CONTRACTOR, PROJECT MANAGER, and ARCHITECT and others as appropriate will be held to finalize the schedules and procedures to establish a Working understanding among the parties. The finalized progress schedule will be acceptable to PROJECT MANAGER and ARCHITECT as providing an orderly progression of the Work to completion within the Contract time, but such acceptance will neither impose on PROJECT MANAGER'S OR ARCHITECT'S responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefor. The finalized schedule of Shop Drawing submissions will be acceptable to PROJECT MANAGER and ARCHITECT as providing a Workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to PROJECT MANAGER as to form and substance.

ARTICLE 3 - CONTRACT DOCUMENTS; INTENT, AMENDING, REUSE

3.1 Entire Agreement:

The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complimentary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the laws of the State of Florida.

3.2 Intent:

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as

being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR, or ARCHITECT, or any of their consultants, agents or employees from those set forth in the Contract Documents.

3.3 Conflict, Error or Discrepancy:

If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, interpretations will be based on the following priorities:

1. Change Orders.
2. The Contract and the Exhibits thereto.
3. Addenda, with those of later date having precedence over those of earlier date.
4. The General Conditions of the Contract for Construction
5. Division 1 of the Specifications.
6. Drawings and Divisions 2–49 of the Specifications
7. Other documents specifically enumerated in the Agreement as part of the Contract Documents.
8. Written interpretation or clarification from ARCHITECT.

3.4 Amending and Supplementing Contract Documents:

The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.4.1 A Change Order; or

3.4.2 A formal written amendment.

3.5 Supplements, Minor Variations or Deviations:

In addition, the requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized in one or more of the following ways:

3.5.1 ARCHITECT'S approval of a Shop Drawing or sample; or

3.5.2 PROJECT MANAGER'S written interpretation or clarification.

3.5.3 A field order.

3.6 Reuse of Documents:

Neither CONTRACTOR nor any subcontractors or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect Contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other Documents (or copies of any thereof) prepared by or bearing the seal of the ARCHITECT; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

4.1 Availability of Lands:

OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. CONTRACTOR shall provide at CONTRACTOR'S own expense and without liability to OWNER any and all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. CONTRACTOR shall furnish to OWNER copies of written permission that is obtained from the owners of such facilities. It is the responsibility of the CONTRACTOR to leave the additional lands in the same condition as prior to work startup. Any damages caused by CONTRACTOR will be remedied at CONTRACTOR'S expense.

4.2 Physical Conditions:

4.2.1 Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ARCHITECT by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.2.1.1 OWNER and ARCHITECT shall not be responsible for the accuracy or completeness of any such information or data; and

4.2.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the work with the owners of such Underground Facilities during construction, for the safety and

protection thereof and repairing any damage thereto resulting from the work, the costs of all of which will be considered as having been included in the Contract Price.

4.2.2 Not Shown or Indicated: If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any work affected thereby (except in an emergency as permitted by paragraph 5.13), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ARCHITECT. ARCHITECT will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility. CONTRACTOR shall be allowed an extension of the Contract Time to the extent that any delay is attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and of which existence CONTRACTOR could not reasonably have been expected to be aware. If the parties are unable to agree as to the appropriate length of delay, CONTRACTOR may make a claim therefore as provided in this Contract.

4.3 Reference Points:

OWNER shall provide engineering surveys to establish reference points for construction which in PROJECT MANAGER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work to protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to PROJECT MANAGER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 5 - CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision and Superintendence:

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Resident Superintendent

CONTRACTOR shall keep on the worksite at all times during its progress a competent resident superintendent and any necessary assistants who shall not be replaced without written notice to OWNER and ARCHITECT unless the superintendent proves to be unsatisfactory to CONTRACTOR and ceases to be in his employ. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.3 Labor, Materials and Equipment:

CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime Work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent given after prior written notice to PROJECT MANAGER.

5.3.1 Unless otherwise specified in the bid documents, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

5.3.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ARCHITECT, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ARCHITECT, or any of ARCHITECT'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Articles 8 and 9.

5.4 Substitutes or "Or Equal" Items

5.4.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular

Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ARCHITECT if sufficient information is submitted by CONTRACTOR to allow ARCHITECT to determine that the material or equipment proposed is equivalent or equal to that named. Requests for review of substitute items of material and equipment will not be accepted by ARCHITECT from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ARCHITECT for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application must state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct Contract with OWNER for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other CONTRACTORS affected by the resulting change, all of which shall be considered by ARCHITECT in evaluating the proposed substitute. ARCHITECT may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

5.4.2 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ARCHITECT, if CONTRACTOR submits sufficient information to allow ARCHITECT to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by ARCHITECT will be similar to that provided in Paragraph 5.4.1 as applied by ARCHITECT and as may be supplemented in the Contract Documents.

5.4.3 ARCHITECT will be allowed a reasonable time within which to evaluate each proposed substitute. ARCHITECT will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without ARCHITECT'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute.

5.5 Concerning Subcontractors, Suppliers and Others:

5.5.1 CONTRACTOR shall be fully responsible to OWNER and ARCHITECT for all acts and omissions of the Subcontractors, Suppliers and other persons directly or indirectly employed by his Subcontractors, Suppliers and of persons for whose acts any of them may be liable and any other persons and organizations performing or furnishing of the Work under a direct or indirect Contract with CONTRACTOR to the same extent that CONTRACTOR is responsible for the acts and omissions of persons directly employed by it. Nothing in the Contract Documents shall create any Contractual relationship between OWNER or ARCHITECT and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ARCHITECT to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by laws and regulations.

5.5.2 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ARCHITECT.

5.6 Patent Fees and Royalties:

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

5.7 Permits:

CONTRACTOR shall obtain and pay for all permits and licenses. CONTRACTOR shall pay all government charges and inspection fees as required by OWNER. OWNER reserves the right to waive as it deems appropriate all municipal permit and inspection fees related to this contract. However, OWNER shall require that CONTRACTOR to pay all fees relative to re-inspections, as they may be required from time to time.

5.8 Laws and Regulations:

5.8.1 CONTRACTOR shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the Work. Neither OWNER nor PROJECT MANAGER or ARCHITECT shall be responsible for monitoring CONTRACTOR'S compliance with any laws and regulations.

5.8.2 If CONTRACTOR observes that the Specifications or Drawings are at variance with any laws or regulations, CONTRACTOR shall give ARCHITECT prompt

written notice thereof, and any necessary changes will be authorized by one of the methods indicated in Paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such laws or regulations, and without such notice to ARCHITECT, CONTRACTOR shall bear all costs arising therefrom.

5.9 Taxes:

5.9.1 CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the laws and regulations of the State of Florida and its political subdivisions which are applicable during the performance of the Work.

5.10 Use of Premises:

5.10.1 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of Workers to the Project site and areas identified in and permitted by the Contract Documents and other land and areas permitted by laws and regulations, rights-of-way, permits and easements and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ARCHITECT by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim. The general indemnification provided elsewhere in this Contract specifically applies to claims arising out of CONTRACTOR'S use of the premises.

5.10.2 During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

5.10.3 CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

5.11 Record Documents:

CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record Documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to PROJECT MANAGER and ARCHITECT for reference. Upon completion of the Work, these record Documents, samples and Shop Drawings will be delivered to ARCHITECT for OWNER.

5.12 Safety and Protection:

5.12.1 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work to prevent damage, injury or loss to all employees on the worksite and other persons and organizations who may be affected thereby; all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, irrigation systems, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

5.12.2 CONTRACTOR shall furnish watchmen, flagmen, warning signs, cones, barricades, flashing lights and other necessary safeguards in sufficient numbers and at appropriate locations to protect and divert vehicular and pedestrian traffic from working areas closed to traffic, or to protect any new Work. Such watchmen and flagmen shall be furnished on a twenty-four (24) hour basis when conditions require. CONTRACTOR and all Subcontractors shall take all necessary precautions to guard against and eliminate all possible fire hazards and prevent injury to persons or fire damage to any construction, building materials, equipment, temporary field offices, storage sheds, and all other property, both public and private, particularly when gas or arc welding and cutting is taking place. Open flames including the use of flambeaux are strictly prohibited. No additional payment will be made for signs, barricades, lights, flags, watchmen, flagmen, required fire extinguishing apparatus and personnel, and other protective devices. CONTRACTOR shall not use explosives on the site, nor allow explosives of any type or nature to be brought upon the site of the construction, without the express written approval of OWNER and PROJECT MANAGER. When the use of explosives is authorized by OWNER and PROJECT MANAGER, CONTRACTOR shall exercise the utmost care in handling and usage of such explosives for the protection of life and property. All explosives shall be stored in a safe manner and storage places shall be clearly marked - "DANGEROUS - EXPLOSIVES" and placed in the care of competent watchmen. When such use of explosives becomes necessary, CONTRACTOR shall furnish to OWNER, proof of insurance coverage, adequately providing public liability and property damage insurance as a rider attached to CONTRACTOR'S policies unless otherwise included.

5.12.3 CONTRACTOR shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety or persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property caused directly or indirectly by workers employed by and of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR'S duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ARCHITECT has issued a notice to OWNER and CONTRACTOR in accordance with Paragraph 13.8 that the Work is acceptable (except as otherwise expressly provided in connection with substantial Completion).

5.12.4 CONTRACTOR shall designate a responsible representative at the worksite whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

5.13 Emergencies:

5.13.1 In emergencies affecting the safety or protection of persons or the Work or property at the worksite or adjacent thereto, CONTRACTOR, without special instruction or authorization from ARCHITECT to OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give PROJECT MANAGER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If PROJECT MANAGER determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Change Order will be issued or an amendment made through proper procedures to document the consequences of the changes or variations.

5.13.2 CONTRACTOR shall be required to remove all materials from the job site and provide safe storage for the same that may be blown about or become a hazard during a hurricane or windstorm. CONTRACTOR shall also take necessary precautions to remove bulkheads, dams or other structures blocking drains in the event of the threat of flooding condition. No extra pay will be allowed for this Work.

5.14 Shop Drawings and Samples:

5.14.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the Project Specifications or plans,

CONTRACTOR shall submit to ARCHITECT for review and approval in accordance with the accepted schedule of Shop Drawing submissions or for other appropriate action if so indicated, five (5) copies of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as ARCHITECT may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ARCHITECT to review the information as required.

5.14.2 CONTRACTOR shall also submit to ARCHITECT for review and approval with such promptness as to cause no delay in the Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

5.14.3 Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

5.14.4 At the time of each submission, CONTRACTOR shall give ARCHITECT specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ARCHITECT for review and approval of each such variation. Failure to point out such departures shall not relieve CONTRACTOR from his responsibility to comply with the Contract Documents.

5.15 Continuing the Work

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or as CONTRACTOR and OWNER may otherwise agree in writing.

5.16 Indemnification:

5.16.1 General Indemnification: The parties agree that one percent (1%) of the total compensation paid to CONTRACTOR for the work of the Contract shall

constitute specific consideration to CONTRACTOR for the indemnification to be provided under the Contract. To the fullest extent permitted by laws and regulations, CONTRACTOR shall indemnify, save and hold harmless OWNER, its officers, agents and employees, from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR and persons employed or utilized by the CONTRACTOR in the performance of the Work. Such indemnification shall specifically include but not be limited to claims, damages, losses and expenses arising out of or resulting from (a) any and all bodily injuries, sickness, death, disease; (b) injury to or destruction of tangible personal property, including the loss of use resulting therefrom; (c) other such damages, liabilities or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this project including the warranty period; (d) the use of any improper materials; (e) any construction defect including patent defects; (f) the violation of any federal, state, county or city laws, by-laws, ordinances or regulations by CONTRACTOR, his Subcontractors, agents, servants or employees; (g) the breach or alleged breach by CONTRACTOR of any term of the Contract, including the breach or alleged breach of any warranty or guarantee.

5.16.2 Patent and Copyright Indemnification: CONTRACTOR agrees to indemnify, save and hold harmless OWNER, its officers, agents and employees, from all such claims and fees, and from any and all sites and actions of every name and description that may be brought against OWNER, its officers, agents and employees, on account of any claims, fines, fees, royalties, or costs for any invention or patent, and from any and all suits and actions that may be brought against OWNER, its officers, agents and employees for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

5.16.3 CONTRACTOR shall pay all claims, losses, liens, settlements or judgments of any nature whatsoever, excluding only those in which the damages arose out of the sole negligence of OWNER, in connection with the foregoing indemnifications, including, but not limited to, reasonable attorney's fees and costs to defend all claims or suits in the name of OWNER when applicable.

5.16.4 OWNER reserves the right to select its own legal counsel to conduct any defense in any such proceeding and all costs and fees associated therewith including any costs or fees of an appeal shall be the responsibility of CONTRACTOR under the indemnification agreement. Such indemnification shall not be limited to the amount of comprehensive general liability insurance which CONTRACTOR is required to obtain under the Contract. Nothing contained herein is intended nor shall it be construed to waive OWNER'S rights and immunities under the common law or Florida Statute 768.28 as amended from time to time. This obligation shall not be construed to negate, abridge, or otherwise reduce any other

right or obligation of indemnity which would otherwise exist as to any party described in this Paragraph 5.16 and its subparts.

5.17 Liability for Use of Work for Intended Purposes:

As an inducement for OWNER'S Commission to enter into this agreement, CONTRACTOR has represented an expertise in the construction of and completion of like projects as described in these bid specs. In reliance upon those representations, OWNER hired CONTRACTOR for specified construction services and documents. CONTRACTOR understands and agrees that OWNER intends to utilize said plans for the stated purposes and therefore CONTRACTOR shall be liable for any defective or negligent design, whether patent or latent, as such may be found by a court of competent jurisdiction.

5.18 Design Responsibilities:

5.18.1 CONTRACTOR shall determine the general scope, extent and character of the work. CONTRACTOR shall prepare preliminary design documents consisting of final design criteria, preliminary drawings, outline specifications and written description of the work. CONTRACTOR shall submit the preliminary design documents to ARCHITECT for review and authorization to proceed with the final design preparation. Upon written authorization from ARCHITECT to proceed with the final design, CONTRACTOR shall prepare final drawings, plans, specifications, technical criteria, written descriptions and design data and submit the same to ARCHITECT for approval prior to commencing construction of the work. All final design documents, plans, reports, studies and other data prepared by CONTRACTOR shall bear the endorsement of a person in the full employ of CONTRACTOR and duly registered in the appropriate professional category.

5.18.2 After ARCHITECT'S acceptance of the final design documents, the original set of CONTRACTOR'S drawings, tracings, plans and maps shall be provided to ARCHITECT along with one (1) record set of full size prints. CONTRACTOR shall signify, by affixing an endorsement (seal/signature, as appropriate) on every sheet of the record set, that the work shown on the endorsed sheets was produced by CONTRACTOR. With the tracings and the record set of prints, CONTRACTOR shall submit a final set of design computations. The computations shall be bound in an 8-1/2" x 11" format and shall be endorsed (seal/signature as appropriate) by CONTRACTOR. Upon approval of the final design documents, ARCHITECT shall issue a written authorization to commence construction.

5.18.3 Work Property of OWNER: All tracings, plans, specifications, maps and/or reports prepared or obtained under this agreement shall be considered works made for hire and shall become the property of OWNER without restriction or limitation on their use.

5.18.4 Performance Standards: All services shall be performed by CONTRACTOR to the satisfaction of ARCHITECT who, upon making a determination of acceptance or satisfaction shall utilize generally accepted engineering standards as well as the design criteria found in the Florida Department of Transportation's, Broward County Engineering Division's and OWNER'S published and approved engineering standards. ARCHITECT shall decide all questions, and disputes of any nature whatsoever that may arise by reason of the execution of this Agreement and the prosecution and fulfillment of the services hereunder.

5.18.5 Operations Manuals: Training: CONTRACTOR shall provide OWNER with two (2) hard copies and one (1) electronic copy of operating, maintenance and training manuals for the Work and shall assist OWNER in training OWNER'S staff to operate and maintain the work.

ARTICLE 6 - OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 OWNER reserves the right to award separate contracts for, or to perform with its own forces, construction or operations related to the Work or other construction or operations at or affecting the project site, including portions of the Work which may have been deleted by Change Order. CONTRACTOR shall cooperate with OWNER'S forces and Separate Contractors, including TECHNOLOGY CONTRACTOR.

6.1.2 PROJECT MANAGER will provide coordination of the activities of OWNER'S forces and of each Separate Contractor with the Work of CONTRACTOR. CONTRACTOR shall participate with OWNER and Separate Contractors in joint review of construction schedules and project requirements when directed to do so.

6.1.3 The project, of which this Contract is a part, will include other contracts for work to be performed and work to be performed by the OWNER on the same site. By entering into this Contract, CONTRACTOR acknowledges that OWNER has the right to enter into other contracts with Separate Contractors, including TECHNOLOGY CONTRACTOR, and to perform work, and that the work of said contracts and OWNER may (i) be in close proximity to and/or performed contemporaneously with the Work of this Contract, and (ii) result in delays in or disruptions to CONTRACTOR'S Work.

6.1.4 CONTRACTOR further agrees as follows:

6.1.4.1 The OWNER shall afford CONTRACTOR, Separate Contractors or OWNER forces reasonable opportunity for the introduction and storage of their materials and the execution of their work. CONTRACTOR shall properly connect and coordinate its construction and operations with the construction and operations of Separate Contractors, including

TECHNOLOGY CONTRACTOR, and OWNER forces, as required by the Contract Documents.

6.1.4..2 CONTRACTOR shall cooperate with Separate Contractors, TECHNOLOGY CONTRACTOR, and OWNER on the project site and will do nothing to delay, hinder, disrupt, or interfere with the work of Separate Contractors, TECHNOLOGY CONTRACTOR or OWNER. CONTRACTOR shall coordinate its Work with the work of any Separate Contractor and TECNOLOGY CONTRACTOR and agrees to attend any coordination meetings scheduled for this purpose by the PROJECT MANAGER. Any dispute between the CONTRACTOR and any Separate Contractor, including TECHNOLOGY CONTRACTOR, over how the work of the various trades should be coordinated, shall be promptly submitted by CONTRACTOR to the PROJECT MANAGER. CONTRACTOR agrees to cooperate with the development of, and to be bound by, any reasonable coordination plan directed by PROJECT MANAGER to address the dispute, even if CONTRACTOR does not agree with the coordination plan so developed. CONTRACTOR agrees that if its work is delayed, hindered, disrupted or interfered with by a Separate Contractor, including TECHNOLOGY CONTRACTOR, to the extent such delays, hindrances, disruptions, and interferences result in CONTRACTOR working beyond the Contract Time, through no fault of the CONTRACTOR, the CONTRACTOR shall be subject to a time extension, but no compensation from the OWNER, provided the CONTRACTOR complies with the requirements of the Contract for seeking a time extension, including without limitation, the requirements set forth in these General Conditions.

6.1.4.3 Contractor agrees that its sole remedy for damage or loss, including delay damages, suffered as a result of actions by a Separate Contractor and/or TECHNOLOGY CONTRACTOR, other than that specified in this Article, shall be against such Separate Contractor and/or TECHNOLOGY CONTRACTOR, their officers, agents, employees, consultants, subcontractors and, if available, surety bonds. CONTRACTOR further agrees to indemnify Owner, their officers, agents, employees, consultants, or subcontractors for any damage or loss by a Separate Contractor, including TECHNOLOGY CONTRACTOR allegedly caused by with the work of the CONTRACTOR or Separate Contractor except as provided in this Article.

6.2 MUTUAL RESPONSIBILITY

6.2.1 CONTRACTOR shall afford OWNER and Separate Contractors, including TECHNOLOGY CONTRACTOR, opportunity for introduction and storage of their materials and equipment and performance of their activities.

CONTRACTOR shall connect, schedule, and coordinate its construction and operations with the construction and operations of OWNER and Separate Contractors, including TECHNOLOGY CONTRACTOR, in accordance with the direction of PROJECT MANAGER.

6.2.2 If a portion of the Work is dependent upon the proper execution or results of other construction or operations by OWNER or Separate Contractors, including TECHNOLOGY CONTRACTOR, CONTRACTOR shall inspect such other construction or operations before proceeding with that portion of the Work. CONTRACTOR shall promptly report to PROJECT MANAGER apparent discrepancies or defects which render the other construction or operations unsuitable to receive the Work. Unless otherwise directed by PROJECT MANAGER, CONTRACTOR shall not proceed with the portion of the Work affected until apparent discrepancies or defects have been corrected. Failure of CONTRACTOR to so report within a reasonable time after discovering such discrepancies or defects shall constitute an acknowledgment that the other construction or operations by OWNER or Separate Contractors, including TECHNOLOGY CONTRACTOR, is suitable to receive the Work, except as to defects not then reasonably discoverable.

6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises between CONTRACTOR and Separate Contractors, including TECHNOLOGY CONTRACTOR, as to the responsibility under their respective contracts for maintaining the project site and surrounding areas free from waste materials and rubbish, OWNER may clean up and allocate the cost between those firms it deems to be responsible.

ARTICLE 7 - OWNER'S RESPONSIBILITIES - GENERALLY

7.1 OWNER shall issue all communications to CONTRACTOR through PROJECT MANAGER.

7.2 OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR pursuant to Article 13.

7.3 OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Article 4. Article 4 also refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site which are known and readily available to OWNER.

7.4 OWNER is obligated to execute Change Orders as indicated in Articles 9, 10 & 11.

7.5 OWNER shall have such other responsibilities and rights as are expressed in the Contract Documents.

ARTICLE 8 - ARCHITECT'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative:

PROJECT MANAGER will be OWNER'S representative during the construction period and until final payment is due. The duties and responsibilities and the limitations of authority of PROJECT MANAGER as OWNER'S representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER.

8.2 Visits to Site:

PROJECT MANAGER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. PROJECT MANAGER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site inspections, PROJECT MANAGER shall keep OWNER informed of the progress of the Work and shall endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Technical Clarifications and Interpretations:

ARCHITECT will issue with reasonable promptness such written clarifications or interpretations of the technical requirements of the Contract Documents as ARCHITECT may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in this Contract. Should CONTRACTOR fail to request interpretation of questionable items in the Contract Documents neither OWNER nor ARCHITECT will thereafter entertain any excuse for failure to execute the Work in a satisfactory manner.

8.4 Authorized Variations in Work:

ARCHITECT may authorize minor variations in the Work from the technical requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a field order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a field order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount or

extent thereof, CONTRACTOR may make a claim therefor as provided elsewhere in this Contract.

8.5 Rejecting Defective Work:

ARCHITECT will have the authority to disapprove or reject Work which ARCHITECT believes to be defective, and will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

8.6 Decisions on Disputes:

ARCHITECT will be the initial interpreter of the technical requirements of the Contract Documents and the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to ARCHITECT in writing with a request for a formal decision in accordance with this Paragraph, which ARCHITECT will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ARCHITECT and OWNER promptly, but in no event later than three (3) days after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ARCHITECT and OWNER within seven (7) calendar days after such occurrence unless ARCHITECT allows an additional period of time to ascertain more accurate data in support of the claim. The rendering of a decision by ARCHITECT with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 13.8) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter.

8.7 Limitations on ARCHITECT'S Responsibilities:

8.7.1 Neither ARCHITECT'S authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by ARCHITECT in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ARCHITECT or CONTRACTOR, any Subcontractor, any supplier, or any other person or organization performing any of the Work, or to any surety for any of them except as such duties and responsibilities are included within the Contract Documents.

8.7.2 ARCHITECT will not be responsible for the acts or omissions of CONTRACTOR or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the Work. ARCHITECT shall not be responsible for safety measures on the project. This is the responsibility of the CONTRACTOR.

ARTICLE 9 - CHANGES IN THE WORK

9.1 OWNER, without invalidating the Agreement, may order changes in the work which do not materially alter the scope and character of the work of the Agreement or the completion date. All such changes in the work shall be authorized by a Change Order. Any individual Change Order which decreases the cost of the work to OWNER or increases the cost of the work by an amount not in excess of forty thousand and xx/100 dollars ($40,000.00) must be authorized and approved by OWNER'S Purchasing Administrator prior to their issuance. Such authorization for Change Order approvals has a cumulative limit of twenty percent (20%) of the original contract award amount. Any individual Change Order which increases the cost of the work to OWNER by an amount which exceeds forty thousand and xx/100 dollars ($40,000.00), or any Change Order submitted for approval after the cumulative twenty percent (20%) limit has been reached, must be formally authorized and approved by the OWNER'S Commission prior to their issuance and before work may begin. No claim against OWNER for extra work in furtherance of such Change Order shall be allowed unless prior approval has been obtained.

9.2 If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a claim may be made therefor as provided in Article 10 or Article 11.

9.3 CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented except in the case of an emergency and except in the case of uncovering Work as those situations are addressed herein.

9.4 OWNER and CONTRACTOR shall execute appropriate change orders or written amendments covering:

9.4.1 Changes in the Work which are ordered by OWNER pursuant to Paragraph 9.1, and/or are required to correct defective Work or are agreed to by the parties; and

9.4.2 Changes in the Contract Price or Contract Time which are agreed to by the parties.

Provided that, in lieu of executing any such change order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable laws and regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule. Proposed change orders shall be prepared by CONTRACTOR on forms approved by OWNER. All Change Order submissions shall carry the signatures of the

PROJECT MANAGER, ARCHITECT and CONTRACTOR and be submitted for approval in accordance with Article 9.1.

9.5 If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice shall be CONTRACTOR'S sole responsibility, and the amount of each applicable bond shall be adjusted accordingly.

ARTICLE 10 - CHANGE OF CONTRACT PRICE

10.1 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

10.2 The Contract Price may only be changed by a Change Order or by a written amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered to ARCHITECT promptly (but in no event later than three (3) days after the occurrence of the event giving rise to the amount of the claim with supporting data to be delivered within seven (7) days and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. No resolution of a claim for adjustment in the Contract Price shall be effective until approved by OWNER in writing. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph.

10.3 The value of any Work covered by a change order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

10.3.2 In accordance with the requirements of Article 9.1, by mutual acceptance of a lump sum (which may include an allowance for overhead and profit including any subcontractor fees) which shall not exceed 10% of the original contract price as defined herein or contract price as modified by an acceptable change order or written amendment executed by all parties.

10.3.3 On the basis of the cost of the Work (determined as provided in Paragraphs 10.4 and 10.5) plus a CONTRACTOR'S Fee for overhead and profit (determined as provided in Paragraphs 10.6 and 10.7).

10.4 Cost of the Work

The term "Cost of the Work" means the sum of all direct costs necessarily incurred and paid by CONTRACTOR in the proper performance of the work. Except as otherwise may be agreed to in writing by OWNER such costs shall be in amounts no higher than those prevailing in the locality of the project, shall include only the following items and shall not include any of the costs itemized in Paragraph 10.5:

10.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, Worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Saturday, Sunday or legal holidays, shall not be included in the above unless authorized in writing by OWNER.

10.4.2 Cost of all materials and equipment furnished and incorporated in the work, including costs of transportation and storage thereof, and suppliers field services required in connection therewith. All cast discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.4.3 Supplemental costs including the following:

10.4.3.1 Cost, including transportation and maintenance of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the brokers, which are consumed in the performance of the work.

10.4.3.2 Rentals of all construction equipment and machinery and the parts thereof, whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of PROJECT MANAGER, and the costs, of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the work.

10.4.3.3 Sales, consumer, use or similar taxes related to the work and for which CONTRACTOR is liable, imposed by laws and regulations.

10.4.3.4 Royalty payments and fees for permits and licenses.

10.4.3.5 The cost of utilities, fuel and sanitary facilities at the site.

10.4.3.6 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the work.

10.4.3.7 Cost of premiums for additional bonds and insurance required because of changes in the work.

10.5 Not Included in the Cost of the Work:

The term cost of the work shall not include any of the following.

10.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR'S principal or a branch office for general administration of the work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 - all of which are to be considered administrative costs covered by CONTRACTOR'S fee.

10.5.2 Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the site.

10.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the work and charges against CONTRACTOR for delinquent payments.

10.5.4 Costs due to the negligence of CONTRACTOR, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.5.5 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 10.4.

10.6 CONTRACTOR'S Fee:

CONTRACTOR'S fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 A mutually acceptable negotiated fee:

10.6.1.1 For costs incurred under Paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's fee on Change Orders shall be as follows:

(a) A mutually acceptable fixed fee, or if none can be agreed upon,

(b) A fee based upon a percentage of the net change to the Cost of the Work resulting from the Change Order not to exceed ten percent (10%).

Subcontractor's percentage markup on change orders for overhead and profit shall be reasonable, but in no event shall the aggregate of the subcontractor's overhead and profit markups exceed ten percent (10%). In the event subcontractor is affiliated with the CONTRACTOR by common ownership or management, or is effectively controlled by the CONTRACTOR, no fee will be allowed on the subcontractor costs. In the event there is more than one level of subcontractors such as second and third tier subcontractors, the sum of all of the subcontractor's percentage markups for overhead and profit shall not in the aggregate exceed twenty percent (20%).

In no event shall the total aggregate percentage of markups for overhead and profit, as provided for in this Article, exceed twenty five percent (25%).

10.6.1.2 No fee shall be payable on the basis of costs itemized under Paragraphs 10.4.3.1, 10.4.3.2, 10.4.3.3, 10.4.3.4, 10.4.3.5, 10.4.3.6, 10.4.3.7, 10.5, 10.5.1, 10.5.2, 10.5.3, 10.5.4, and 10.5.5.

10.6.1.3 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR'S fee by an amount equal to ten percent (10%) for the net decrease.

10.6.1.4 When both additions and credits are involved in any one change the combined overhead and profit shall be figured on the basis of net increase if any, however, profit will not be paid on any work not performed.

10.7 Cost Breakdown Required:

Whenever the cost of any work is to be determined pursuant to Paragraphs 10.4 or 10.5 CONTRACTOR will submit in a form acceptable to ARCHITECT an itemized cost breakdown together with supporting data.

ARTICLE 11 - CONTRACT TIME

11.1 Commencement:

The date of commencement of the Work is the date established in the Notice to Proceed.

11.2 Time of Substantial Completion:

The date of substantial completion of the Work or designated portion thereof is the date certified by ARCHITECT when construction is sufficiently complete, in accordance with the Contract Documents, so OWNER can occupy or utilize the Work or designated portion thereof for the purposes for which it is intended.

11.3 Change of Contract Time:

11.3.1 All time limits stated in the Contract Documents are of the essence of the Agreement. NO CLAIM FOR DAMAGES OR ANY CLAIM OTHER THAN FOR AN EXTENSION OF TIME SHALL BE MADE OR ASSERTED AGAINST THE OWNER BY REASON OF ANY DELAYS. CONTRACTOR shall not be entitled to an increase in the Contract Price or payment or compensation of any kind from OWNER for direct, indirect, consequential, impact or other costs, expenses or damages including but not limited to costs of acceleration or inefficiency, arising because of delay, disruption, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable; provided, however, that this provision shall not preclude recovery of damages by CONTRACTOR for hindrances or delays due solely to fraud, bad faith or active interference on the part of OWNER or its agents. Otherwise, CONTRACTOR shall be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to that extent specifically provided above. No extension of time shall be granted for delays resulting from normal weather conditions prevailing in the area as defined by the average of the last ten (10) years of weather data as recorded by the United States Department of Commerce, National Oceanic and Atmospheric Administration at the Fort Lauderdale Weather Station.

11.3.2 **NO RECOVERY FOR EARLY COMPLETION.** If the CONTRACTOR submits a schedule or expresses an intention to complete the Work earlier than any required milestone or completion date, the OWNER shall not be liable to the CONTRACTOR for any costs incurred because of delay or hindrance should the CONTRACTOR be unable to complete the Work before such milestone or completion date. The duties, obligations and warranties of the OWNER to the CONTRACTOR shall be consistent with and applicable only to the completion of the work and completion dates set forth in these Construction Services General Conditions.

11.3.3 The Contract Time may only be changed by a change order or a written amendment. Any claim for extension of time shall be made in writing to ARCHITECT not more than three (3) days after the detection or beginning of the occurrence of the event giving rise to the delay and stating the general nature of the claim; otherwise, it shall be waived. In the case of a continuing delay only one claim is necessary. CONTRACTOR shall provide an estimate of the probable effect of such delay on the progress of the Work.

11.4 Liquidated Damages:

Upon failure of CONTRACTOR to complete the Work within the time specified for final completion, (plus approved extensions if any) CONTRACTOR shall pay to OWNER the sum of One Thousand dollars ($1,000.00) for each calendar day that the substantial completion of the Work is delayed beyond the time specified in the Contract for substantial completion, as fixed and agreed liquidated damages and not as a penalty. After substantial completion, if CONTRACTOR neglects, fails or refuses to complete the remainder of the Work within the Contract Time or any approved extension thereof, CONTRACTOR shall pay to OWNER the sum of Two Hundred and Fifty dollars ($250.00) for each calendar day (plus approved extensions if any) after the time specified in the Contract for final completion and readiness for final payment as fixed and agreed liquidated damages and not as a penalty. Liquidated damages are hereby fixed and agreed upon between the parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by OWNER as a consequence of such delay and both parties desiring to obviate any question of dispute concerning the amount of said damages and the cost and effect of the failure of CONTRACTOR to complete the Contract on time. Regardless of whether or not a single Contract is involved, the above-stated liquidated damages shall apply separately to each portion of the Work for which a time of completion is given. OWNER shall have the right to deduct from and retain out of moneys which may be then due or which may become due and payable to CONTRACTOR, the amount of such liquidated damages and if the amount retained by OWNER is insufficient to pay in full such liquidated damages, the CONTRACTOR shall pay in full such liquidated damages. CONTRACTOR shall be responsible for reimbursing OWNER, in addition to liquidated damages or other per day damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the project beyond the completion date specified or beyond an approved extension of time granted to CONTRACTOR whichever is later.

ARTICLE 12 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

12.1 Warranty and Guarantee:

CONTRACTOR warrants and guarantees to OWNER and ARCHITECT that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or

not in place, may be rejected, corrected or accepted. CONTRACTOR warrants to OWNER that the consummation of the Work provided for in the Contract Documents will not result in the breach of any term or provisions of, or constitute a default under any indenture, mortgage, Contract, or agreement to which CONTRACTOR is a party. CONTRACTOR warrants that there has been no violation of copyrights or patent rights in connection with the Work of the Contract.

12.2 Access to Work:

ARCHITECT, PROJECT MANAGER and other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests shall have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspection:

12.3.1 CONTRACTOR shall give ARCHITECT, PROJECT MANAGER, or City Building Division Inspector timely notice of readiness of the Work for all required inspections, tests or approvals.

12.3.2 CONTRACTOR shall assume full responsibility, pay all costs in connection therewith and furnish ARCHITECT the required certificates of inspection, testing or approval for all materials, equipment or the Work or any part thereof unless otherwise specified herein.

12.3.3 If any Work (including the Work of others) that is to be inspected, tested or approved is covered without written concurrence of ARCHITECT, it must, if requested by ARCHITECT, be uncovered for examination and properly restored at CONTRACTOR'S expense. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ARCHITECT timely notice of CONTRACTOR'S intention to cover the same and ARCHITECT has not acted with reasonable promptness in response to such notice.

12.3.4 Neither observations by ARCHITECT nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the Contract Documents.

12.4 Uncovering the Work:

12.4.1 If any work is covered contrary to the written request of ARCHITECT, it must, if requested by ARCHITECT, be uncovered for ARCHITECT'S observation and replaced at CONTRACTOR'S expense.

12.4.2 If ARCHITECT considers it necessary or advisable that covered work be observed by ARCHITECT of inspected or tested by others, CONTRACTOR, at ARCHITECT'S request, shall uncover, expose or otherwise make available for

observation, inspection or testing as ARCHITECT may require, that portion of the work in question, furnishing all necessary labor, material and equipment. If it is found that such work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction (including but not limited to fees and charges of engineers, architects, attorneys and other professional(s)), and OWNER shall be entitled to an appropriate decrease in the contract price, and if the parties are unable to agree as to the amount thereof, may make a claim therefore as provided in the contract documents. If, however, such work is not found to be defective, CONTRACTOR shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in the contract documents.

12.5 OWNER May Stop the Work:

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled Workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

12.6 Correction or Removal of Defective Work:

If required by ARCHITECT, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ARCHITECT, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.7 One Year Correction Period:

If within one (1) year after the date of completion or such longer period of time as may be prescribed by laws or regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal

and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by written amendment.

ARTICLE 13 - PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values:

The schedule established as provided in Paragraph 2.4 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ARCHITECT.

13.2 Application for Progress Payment:

At least ten (10) days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ARCHITECT for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these Construction Services General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

13.3 CONTRACTOR'S Warranty of Title:

CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of final payment free and clear of all Liens.

13.4 Review of Applications for Progress Payments:

ARCHITECT will, within ten (10) days after receipt of each Application for Payment, either indicate in writing a recommendation of payment, or return the Application to CONTRACTOR indicating in writing ARCHITECT'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. OWNER shall make payment to

CONTRACTOR within thirty (30) calendar days after approval by the ARCHITECT of CONTRACTOR'S requisition for payment.

13.5 Grounds for Refusal:

ARCHITECT may refuse to recommend the whole or any part of any payment if, in ARCHITECT'S opinion, it would be incorrect to make such representation to OWNER. ARCHITECT may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ARCHITECT'S opinion to protect OWNER from loss because:

13.5.1 The Work is defective, or completed Work has been damaged requiring correction or replacement.

13.5.2 The Contract Price has been reduced by Written Amendment or Change Order.

13.5.3 Of ARCHITECT'S actual knowledge of the occurrence of any of the events outlined elsewhere in the Contract Documents that represent grounds for refusal of payment in whole or part. OWNER may refuse to make payment of the full amount recommended by ARCHITECT because claims have been made by OWNER on account of CONTRACTOR'S performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR written notice stating the reasons for such action within a reasonable time from receipt of ARCHITECT'S recommendation for payment on that matter.

13.6 Final Inspection:

Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ARCHITECT will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

13.7 Final Application for Payment:

After CONTRACTOR has completed all such corrections to the satisfaction of ARCHITECT and OWNER and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, marked up record Documents and other Documents - all as required by the Contract Documents, and after ARCHITECT has indicated that the Work is acceptable, CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory

to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a bond or other collateral satisfactory to OWNER to indemnify OWNER against any lien. In addition, CONTRACTOR shall also submit with the final application for payment, the completed set of "As-Built" prints for review and approval. Final payment to CONTRACTOR shall not be made until said prints have been reviewed and approved by ARCHITECT. Prior to approval, if necessary, the prints may be returned to CONTRACTOR for changes or modifications and if in the opinion of ARCHITECT they do not represent correct or accurate "AS-BUILTS".

13.8 Final Payment and Acceptance:

13.8.1 If, on the basis of ARCHITECT'S observation of the Work during construction and final inspection, and ARCHITECT'S review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ARCHITECT is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, ARCHITECT will, within ten (10) days after receipt of the final Application for Payment, indicate in writing ARCHITECT'S recommendation of payment and present the Application to OWNER for payment. Thereupon ARCHITECT will give written notice to OWNER and CONTRACTOR that the Work is acceptable. Otherwise, ARCHITECT will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty (30) days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with ARCHITECT'S recommendation and notice of acceptability, the amount recommended by ARCHITECT will become due and will be paid by OWNER to CONTRACTOR.

13.8.2 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ARCHITECT so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ARCHITECT, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ARCHITECT with the Application for such

payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.8.3 Any moneys not paid by OWNER when claimed to be due to CONTRACTOR under this Contract shall not be subject to interest, including but not limited to pre-judgment interest.

13.9 CONTRACTOR'S Continuing Obligation:

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ARCHITECT, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ARCHITECT, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents.

13.10 Waiver of Claims:

The acceptance of final payment shall constitute a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled as of the date of final payment.

13.11 OWNER May Suspend Work:

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety (90) days by notice in writing to CONTRACTOR and ARCHITECT which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in the Contract Documents.

13.12 OWNER May Terminate:

Upon the occurrence of any one or more of the following events:

13.12.1 If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency.

13.12.2 If a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency.

13.12.3 If CONTRACTOR makes a general assignment for the benefit of creditors.

13.12.4 If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under Contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors.

13.12.5 If CONTRACTOR admits in writing an inability to pay its debts generally as they become due.

13.12.6 If CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including but not limited to, failure to supply sufficient skilled Workers or suitable materials or equipment or failure to adhere to the progress schedule as same may be revised from time to time).

13.12.7 If CONTRACTOR disregards laws or regulations of any public body having jurisdiction.

13.12.8 If CONTRACTOR disregards the authority of ARCHITECT and/or PROJECT MANAGER.

13.12.9 If CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents.

OWNER may, after giving CONTRACTOR and the surety seven (7) days written notice and to the extent permitted by laws and regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the

Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ARCHITECT and incorporated in a Change Order, but when exercising any rights or remedies under this Paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

13.12.10 Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

13.13 Termination for Convenience of OWNER:

Upon seven (7) days written notice delivered by certified mail to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, terminate the agreement for OWNER'S convenience whenever OWNER determines that such termination is in the best interests of OWNER. Where the agreement is terminated for the convenience of OWNER, the notice of termination to CONTRACTOR must state that the Contract is being terminated for the convenience of the OWNER under the termination clause, the effective date of the termination and the extent of termination. Upon receipt of the notice of termination for convenience, CONTRACTOR shall promptly discontinue all Work at the time and to the extent indicated on the notice of termination, terminate all outstanding Subcontractors and purchase orders to the extent that they relate to the terminated portion of the Contract, and refrain from placing further orders and subcontracts, except as they may be necessary, and complete any continued portions of the work.

13.14 Termination by CONTRACTOR:

If the Work should be stopped under an order of any court of other public authority for a period of more than ninety (90) days through no act or fault of CONTRACTOR or of anyone employed by him, or if ARCHITECT fails to review and approve or state in writing reasons for non-approval of any application for payment within thirty (30) days after it is submitted or if OWNER fails to pay CONTRACTOR within thirty (30) days after presentation by ARCHITECT of any sum determined to be due, then CONTRACTOR may, upon ten (10) days written notice to OWNER and ARCHITECT stop Work or terminate this Contract and recover from OWNER, payment for all Work executed and any expense sustained. The provisions of this Paragraph shall not relieve CONTRACTOR of the obligations to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 14 - NOTICES & COMPUTATION OF TIME

14.1 Giving Notice:

All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

CONTRACTOR:

The business address of CONTRACTOR is: as stated in contract

OWNER: The Palm Bay Education Group

The business address of OWNER is: 1104 Balboa Avenue
Panama City, Florida 32401

14.2 Computation of Time:

When any period of time is referred to in the Contract Documents by days it will be calendar days and it will be computed to exclude the first and include the last day of such period. If the last day of the final amended contract time falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation. A calendar day of twenty-four (24) hours measured from midnight to the next midnight shall constitute a day.

ARTICLE 15 – MISCELLANEOUS

15.1 Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this Paragraph 15.1 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

15.2 The duties and obligations imposed by these Construction Services General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guaranties and obligations imposed upon CONTRACTOR and all of the rights and remedies available to OWNER and ARCHITECT thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents, and the provisions of this Paragraph will survive final payment and termination or completion of the Agreement.

15.3 CONTRACTOR shall not assign or transfer the Contract or its rights, title or interests therein without OWNER'S prior written approval. The obligations undertaken by CONTRACTOR pursuant to the Contract shall not be delegated or assigned to any other person or firm unless OWNER shall first consent in writing to the assignment. Violation of the terms of this Paragraph shall constitute a breach of Contract by CONTRACTOR and the OWNER may, at its discretion, cancel the Contract and all rights, title and interest of CONTRACTOR shall thereupon cease and terminate.

15.4 OWNER reserves the right to audit the records (pertaining to this project) of CONTRACTOR at any time during the performance and term of the Contract and for a period of three (3) years after completion and acceptance by OWNER. If required by OWNER, CONTRACTOR agrees to submit to an audit by an independent certified public accountant selected by OWNER. CONTRACTOR shall allow OWNER to inspect, examine and review the records of CONTRACTOR at any and all times during normal business hours during the term of the Contract.

15.5 Should any part, term or provision of the Contract Documents be by the courts decided to be invalid, illegal or in conflict with any law of this State, the validity of the remaining portions or provisions shall not be affected thereby.

15.6 The validity, construction and effect of the Contract Documents shall be governed by the laws of the State of Florida. Any claim, objection or dispute arising out of the terms of the Contract Documents shall be litigated in the Seventeenth Judicial Circuit in and for Broward County, Florida and the prevailing party to any resultant judgment shall be entitled to an award of all reasonable attorney's fees, interest and court costs incurred by such prevailing party against the losing party including reasonable appellate attorney's fees, interest and taxable costs.

15.7 CONTRACTOR understands, acknowledges and agrees that the CONTRACTOR shall, pursuant to Section 119.0701, Florida Statutes, as amended from time to time, do the following:

15.7.1 Keep and maintain public records that ordinarily and necessarily would be required by OWNER in order to perform the same service being rendered within the Contract Documents.

15.7.2 Provide the public with access to public records on the same terms and conditions that the public agency would provide the records and at a cost that does not exceed the cost provided within Chapter 119, Florida Statutes, as amended from time to time, or as otherwise provided by law.

15.7.3 Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

15.7.4 Meet all requirements for retaining public records and transfer, at no cost, to OWNER all public records in possession of CONTRACTOR upon termination of the Contract. Further, CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to OWNER in a format that is compatible with the then current OWNER computer systems.

15.7.5 CONTRACTOR understands, acknowledges and agrees that OWNER is required, pursuant to Section 119.0701, Florida Statutes, as amended from time to time, to ensure compliance with this section by enforcing the terms of this Article. As a result of the foregoing, any violation of this Article 15.7 shall be a material breach and the Contract may be terminated by OWNER without any penalty.

15.7.6 Prior to termination, OWNER shall give written notice to CONTRACTOR that CONTRACTOR is in violation of this section. CONTRACTOR shall have five (5) business days to cure a violation of this section.

15.7.7 Notwithstanding any other provisions in the Contract Documents to the contrary, CONTRACTOR shall be liable for any and all damages, including but not limited to, consequential and incidental damages that may arise out of breach of this Article 15.7.

ARTICLE 16 - BONDS AND INSURANCE

16.1 Construction, Payment and Performance Bonds:

Within fifteen (15) calendar days after issuance of Notice of Award, but in any event prior to commencing Work, CONTRACTOR shall execute and furnish to OWNER a performance bond and a payment bond, each written by a corporate surety authorized to do business in the State of Florida and having been in business with a record of successful continuous operation for at least five (5) years. The surety shall hold a current certificate of authority from the Secretary of Treasury of the United States as an acceptable surety on federal bonds in accordance with United States Department of Treasury Circular No. 570. If the amount of the Bond exceeds the underwriting limitation set forth in the circular, in order to qualify, the net retention of the surety company shall not exceed the underwriting limitation in the circular and the excess risks must be protected by coinsurance, reinsurance, or other methods, in accordance with Treasury Circular 297, revised September 1, 1978 (31 DFR, Section 223.10, Section 223.11). Further, the surety company shall provide OWNER with evidence satisfactory to OWNER, that such excess risk has been protected in an acceptable manner. The surety company shall have at least the following minimum qualifications in accordance with the latest edition of A.M. Best's Insurance Guide, published by Alfred M. Best Company, Inc., Ambest Road, Oldwick, New Jersey 08858:

Financial Stability A
Financial Size VIII

Two (2) separate bonds are required and both must be approved by OWNER's governing Board. The penal sum stated in each bond shall be the amount equal to the total amount payable under the Contract. The performance bond shall be conditioned that CONTRACTOR perform the Contract in the time and manner prescribed in the Contract. The payment bond shall be conditioned that CONTRACTOR promptly make payments to all persons who supply CONTRACTOR with labor, materials and supplies used directly or indirectly by CONTRACTOR in the prosecution of the Work provided for in the Contract and shall provide that the surety shall pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the maximum rate allowed by law; and that they shall indemnify and save and hold harmless OWNER to the extent of any and all payments in connection with the carrying out of said Contract which OWNER may be required to make under the law.

16.2 Bonds, Reduction After Final Payment:

Such bonds shall continue in effect for one (1) year after final payment becomes due except as otherwise provided by law or regulation or by the Contract Documents with the final sum of said bonds reduced after final payment to an amount equal to twenty five percent (25%) of the Contract Price, or an additional bond shall be conditioned that CONTRACTOR shall correct any defective or faulty Work or material which appears within one (1) year after final completion of the Contract, upon notification by the OWNER except in Contracts which are concerned solely with demolition Work, in which case the twenty five percent (25%) shall not be applicable.

16.3 Duty to Substitute Surety:

If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of other applicable laws or regulations, CONTRACTOR shall within five (5) days thereafter substitute another bond and surety, both of which must be acceptable to OWNER.

16.4 INSURANCE

16.4.1 Bidders must submit copies of their current certificate(s) of insurance together with the Bid. Failure to do so may cause rejection of the Bid.

16.4.2 PRIOR TO AWARD OF THE CONTRACT, THE SUCCESSFUL BIDDER SHALL SUBMIT CERTIFICATE(S) OF INSURANCE EVIDENCING THE REQUIRED COVERAGES AND SPECIFICALLY PROVIDING THAT PALM BAY EDUCATION GROUP, INC. IS AN ADDITIONAL NAMED INSURED OR ADDITIONAL INSURED WITH RESPECT TO THE REQUIRED COVERAGE AND THE OPERATIONS OF THE SUCCESSFUL BIDDER UNDER THE CONTRACT. Insurance Companies selected

must be acceptable the OWNER. All of the policies of insurance so required to be purchased and maintained shall contain a provision or endorsement that the coverage afforded shall not be canceled, materially changed or renewal refused until at least thirty (30) calendar days written notice has been given to OWNER by certified mail.

16.4.3 The Successful Bidder shall procure and maintain at its own expense and keep in effect during the full term of the Contract a policy or policies of insurance which must include the following coverage and minimum limits of liability:

(a) Worker's Compensation Insurance for statutory obligations imposed by Worker's Compensation or Occupational Disease Laws, including, where applicable, the United States Longshoremen's and Harbor Worker's Act, the Federal Employer's Liability Act and the Homes Act. Employer's Liability Insurance shall be provided with a minimum of Two Hundred Thousand and xx/100 dollars ($200,000.00) per accident. Successful Bidder shall agree to be responsible for the employment, conduct and control of its employees and for any injury sustained by such employees in the course of their employment.

(b) Comprehensive Automobile Liability Insurance for all owned, non-owned and hired automobiles and other vehicles used by the Successful Bidder in the performance of the work with the following minimum limits of liability:

$1,000,000.00	Combined Single Limit, Bodily Injury and Property Damage Liability per occurrence

(c) Comprehensive General Liability with the following minimum limits of liability:

$2,000,000.00	Combined Single Limit, Bodily Injury and Property Damage Liability per occurrence

(d) Umbrella/Excess Liability: CONTRACTOR shall provide umbrella/excess coverage with limits of no less than $5,000,000.00 excess of Commercial Liability, Automobile Liability, and Employer’s Liability.

(e) Builder’s Risk Insurance

The Contractor shall be required to purchase and maintain, throughout the life of the contract, and until the project is accepted by the OWNER, Builder's Risk Insurance on an All Risk of Loss form. Coverage shall include:

Accounts Receivable	Equipment Breakdown	Loss Adjustment Expenses	Server Backups
Aircraft	Errors and Omissions	Miscellaneous Unnamed Locations	Service Interruption
Builder's Risk and Builder's Risk Soft Costs	Explosion	Named Windstorm	Sewer Backup
Civil Commotion	Extended Period of Indemnification	Newly Acquired Property	Sinkhole
Civil or Military Authority	Extra or Expediting Expenses	Offsite Storage	Smoke
Claims Preparation Costs	Fine Arts	Ordinance or Law	Spoilage
Cold Testing	Fire	Ordinary Payroll	Temporary Storage
Collapse	Firefighter Charges	Physical Damage	Terrorism
Contract Penalty	Flood	Pollution and Contamination Cleanup Expenses	Theft
Contractor's Extra Expense	Fungus, Mold, Mildew	Prevention of Access	Time Element
Debris Removal	Hail	Professionals' Fees	Transit
Decontamination Costs	Hot Testing	Reclaiming, Restoring, or Repairing Land Improvements	Trees, Plants, & Landscaping
Delay for Completion	Ingress and Egress	Reward Reimbursement	Valuable Papers and Records
Earth Movement	Leased or Rented Equipment	Riot	Vehicles
Earthquake	Leasehold Interests	Royalties	Water Damage (interior and exterior)
Electronic Data and Media	Lock Replacement	Scaffolding and Temporary Structures	Windstorm

The policy limits shall be no less than the awarded bid amount plus any approved Change Orders and coverage shall be provided on a completed value basis. Property located on the construction premises, which is intended to become a permanent part of the building, shall be included as property covered. The policy shall be endorsed permitting the OWNER to occupy the building prior to completion without effecting the coverage. Palm Bay Education Group, Inc. shall be named as Additional Insured and Loss Payee. The Builder's Risk Insurance shall be provided on or before the issuance of a Notice to Proceed.

OWNER reserves the right to strike any line item cost for Builder's Risk Insurance.

16.4.4 CONTRACTOR shall maintain the Products/Completed Operations Liability Insurance for a period of at least two (2) years after final payment for the Work and furnish OWNER with evidence of continuation of such insurance at final payment.

16.4.5 The required insurance coverage shall be issued by an insurance company authorized and licensed to do business in the State of Florida, with the following minimum qualifications in accordance with the latest edition of A.M. Best's Insurance Guide:

Financial Stability B+ to A+

16.4.6 The Successful Bidder shall require each of its sub-contractors of any tier to maintain the insurance required herein (except as respects limits of coverage for employers and public liability insurance which may not be less than Two Million Dollars ($2,000,000) for each category), and the Successful Bidder shall provide verification thereof to OWNER upon request of OWNER.

16.4.7 All required insurance policies shall preclude any underwriter's rights of recovery or subrogation against OWNER with the express intention of the parties being that the required insurance coverage protect both parties as the primary coverage for any and all losses covered by the above described insurance.

16.4.8 The Successful Bidder shall ensure that any company issuing insurance to cover the requirements contained in this Contract agrees that they shall have no recourse against OWNER for payment or assessments in any form on any policy of insurance.

16.4.9 The clauses "other Insurance Provisions" and "Insurers Duties in the Event of an Occurrence, Claim or Suit" as it appears in any policy of insurance in which OWNER is named as an additional named insured shall not apply

to OWNER. OWNER shall provide written notice of occurrence within fifteen (15) working days of OWNER's actual notice of such an event.

16.4.10 The Successful Bidder shall not commence work under the Contract until after he has obtained all of the minimum insurance herein described.

6.4.11 The Successful Bidder agrees to perform the work under the Contract as an independent contractor, and not as a sub-contractor, agent or employee of OWNER.

16.4.12 Violation of the terms of this paragraph and its sub-parts shall constitute a breach of the Contract and OWNER, at its sole discretion, may cancel the Contract and all rights, title and interest of the Successful Bidder shall thereupon cease and terminate.

16.5 OWNER'S Liability and Insurance:

OWNER shall not be responsible for purchasing and maintaining any insurance to protect the interests of CONTRACTOR, subcontractors or others on the Work. OWNER specifically reserves all statutory and common law rights and immunities and nothing herein is intended to limit or waive same including, but not limited to, the procedural and substantive provisions of Florida Statute 768.28 and Florida Statute 95.11.

KEY SUBCONTRACTOR LISTING

The Bidder proposes that one (1) of the following subcontracting firms or businesses in each category will be awarded subcontracts for the following key portions of the work in the event the Contractor is awarded the Contract. If a subcontractor other than those listed is proposed for use after Award of Contract, Palm Bay Education Group, Inc. reserves the right of approval prior to commencing work.

Key Subcontractor Listing to be submitted within three (3) working days of bid opening date. Omission of any of the above items may be cause for disqualification of a firm's bid.

1. _____
(Portion of Work)

_____
(Name of Subcontractor) (Address) (Phone No.)

_____
(Name of Subcontractor) (Address) (Phone No.)

2. _____
(Portion of Work)

_____
(Name of Subcontractor) (Address) (Phone No.)

_____
(Name of Subcontractor) (Address) (Phone No.)

3. _____
(Portion of Work)

_____
(Name of Subcontractor) (Address) (Phone No.)

_____
(Name of Subcontractor) (Address) (Phone No.)

4. _____
(Portion of Work)

_____
(Name of Subcontractor) (Address) (Phone No.)

_____
(Name of Subcontractor) (Address) (Phone No.)

SECTION 012100 - ALLOWANCES

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Unit-cost allowances.
3. Quantity allowances.
4. Contingency allowances.
5. Testing and inspecting allowances.

C. Related Requirements:

1. Section 014000 "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.4 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.5 LUMP-SUM, UNIT-COST, AND ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.6 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.7 **SCHEDULE OF ALLOWANCES:**

A. **TESTING AND INSPECTING ALLOWANCES**

1. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results. Allowance to be included in bid pricing for Testing and Inspections shall be **$10,000**.

2. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.

3. Costs of services not required by the Contract Documents are not included in the allowance.

4. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

B. **FURNITURE, FIXTURES AND EQUIPMENT -** All Bidders are instructed to include a **$65,000** allowance in their base bids for the purchase of furniture, fixtures and equipment for this project.

C. **BUILDING DESIGN AND OWNER SCOPE CONTINGENCY –** All bidders are instructed to include a **$100,000** allowance in their base bids for the owner's use related to Building scope refinements that may become necessary during the construction process.

D. **HVAC COMMISSIONING ALLOWANCE –** All bidders are instructed to include a **$15,000** allowance in their base bids for hiring a third-party engineer to provide commissioning services on the HVAC systems.

E. **CIVIL DESIGN SCOPE CONTINGENCY -** All bidders are instructed to include a **$50,000** allowance in their base bids for the owner's use related to Civil Site work scope refinements that may become necessary during the construction process.

1.8 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. GC Overhead and profit shall be covered in the general conditions. Allowances are solely for the direct payment to vendor. Any unused allowances are retained by Owner.
5. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION 01 21 00

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Building with conscience.

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Sto Guide Specification 5200
StoTherm® ci

Section 07 24 19

This specification is intended for use by the design/construction professional and any user of Sto products to assist in developing project specifications and to provide guidance on the application of StoTherm ci to vertical above grade exterior wall construction. StoTherm ci is a water-drainage exterior insulation and finish system (EIFS) that includes StoGuard® air and water-resistive barrier beneath it. The full system consists of six components: air and water-resistive barrier, adhesive, continuous insulation, reinforcing mesh, base coat, and finish. Notes in italics, such as this one, are explanatory and intended to guide the design/construction professional and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.

Building with conscience.

Design Guidance

General Description

StoTherm ci is an exterior insulation and finish system (EIFS) for use on vertical above grade exterior walls. It incorporates an air and water-resistive barrier (AWRB), and continuous exterior insulation attached with vertical ribbons of adhesive to the AWRB, which forms a drainage cavity. An impact resistant reinforced base coat is installed over the continuous insulation, which serves as a base for Sto high performance textured finishes, StoCast finishes that simulate the look of wood, brick, stone, and other architectural finish materials, or Sto Specialty finishes that create unique architectural surfaces.

Structural Considerations

StoTherm ci is a non-structural exterior wall cladding. It is non-load bearing and does not provide racking resistance, nor is it to be used as a base for mechanical anchoring of attachments such as signage or light fixtures. The structural backup wall, typically concrete, concrete masonry, or a frame wall with sheathing, must be designed and built for these purposes in accordance with the applicable building code.

Wind Load Resistance: design deflection criteria for StoTherm ci is L/240. StoTherm ci transfers positive wind loads to the supporting wall construction and resists negative wind loads via adhesive attachment to a substrate.

Generally, StoTherm ci is not the determinant of ultimate wind load capacity on frame walls. The supporting frame wall construction, or sheathing attachment, typically dictates ultimate load capacity of the assembly. Consult ICC ESR-1748 for allowable wind loads (published values have a safety factor of 3 applied to ultimate loads). In some cases, such as painted wall substrates, where adhesion may not be possible, full mechanical attachment is necessary. Refer to ICC ESR-1030 for information on allowable wind loads of mechanically attached StoTherm ci systems.

Fire Protection

StoTherm ci uses combustible foam plastic insulation as its insulating component. Use of foam plastics on exterior walls is covered in Chapter 26 of the IBC (International Building Code), which requires certain tests to allow use of foam plastics on noncombustible construction. Based on testing of StoTherm ci in accordance with NFPA 285 and NFPA 268 (and other fire tests and criteria listed in the code), the system complies with requirements for use on noncombustible construction. The system may also be used on combustible (Type V) construction.

Where a fire resistance rating is required, in general, StoTherm ci does not add to nor detract from the rating of an hourly rated load bearing or non-load bearing concrete or concrete masonry wall, or non-load bearing steel frame base wall assembly, based on testing in accordance with ASTM E119.

Refer to ICC ESR-1748 for more information on tested assemblies. Note that certain assemblies may be extended beyond the recognition provided in the ICC evaluation report through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular product or assembly in question.

See Section 2.5 of this specification for fireblocking requirements of the 2022 New York City Building Code and other assemblies where fireblocking is required in StoTherm ci for use on noncombustible construction.

Moisture Protection and Problem Prevention

StoTherm ci has redundant built-in moisture protection with StoGuard®, the air and water-resistive barrier component in the assembly. StoGuard is applied to the structural backup wall and protects against water damage from rain during construction when the building is “closed-in,” and in the event of a breach in the wall cladding while in service. StoGuard is available as a vapor permeable or vapor impermeable fluid-applied membrane.

The system also has built-in drainage capability. When properly combined with flashing, the system effectively drains water, based on testing in accordance with ASTM E2273.

StoGuard is not intended to correct faulty design or workmanship, such as the absence or improper integration of flashing, roofing, copings, and sealants in the construction, which shed water and prevent water entry into wall construction. StoGuard is not intended to correct defective components of construction such as windows that leak into the wall assembly. Basic principles that should be followed in the design, detailing, and construction of the wall assembly are listed below:

- Flashing: provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly, including, above window and door heads, beneath window and door sills, at roof/wall intersections, decks, abutments of lower walls with higher walls, above projecting features, at floor lines, and at the base of the wall.

- Air Leakage Prevention: provide continuity of the air barrier assembly at foundation, roof, windows, doors, and other penetrations through the wall with connecting and compatible air barrier components, to minimize condensation caused by air movement. In most cases StoGuard Detail Components will facilitate detailing at these transitions. Take into account construction sequencing when designing an airtight assembly and the effects of airtightness on mechanical ventilation in the overall project design.

- Water Vapor Diffusion: perform a dew point analysis and/or dynamic hygrothermal modeling of the wall assembly to determine the potential for accumulation of moisture by diffusion of water vapor. Adjust insulation thickness and/or other wall assembly components accordingly to eliminate or minimize the risk of a dew point in the wall assembly. Avoid the use of vapor retarders on the interior side of the wall in hot, humid climates.

- Terminations and Sealants: Provide minimum 1/2 inch (13 mm) wide perimeter sealant joints at all penetrations through StoTherm ci (windows, doors, scuppers, mechanical, electrical, and plumbing penetrations, etc.).

- Size joints at terminations based on anticipated movement and specify sealant and backer rod that is compatible with StoTherm ci, supported by the sealant manufacturer's certificate of compatibility. Typically, sealant is adhered to the StoTherm ci reinforced base coat or primed base coat.

    - Arrange for field adhesion testing to verify adhesion compatibility and obtain the sealant manufacturer's adhesion data to the sealant substrate(s).

    - Maintain air barrier continuity across joints. Drain joints to the exterior or provide other means to prevent or control water infiltration at joints.

    - Grade Condition: Provide minimum 6-inch (152mm) clearance above grade or as required by code. Do not specify StoTherm ci for use below grade.

- Testing: conduct mock-up testing of the opaque wall-to-window assembly and other critical construction details to verify performance – air leakage resistance (ASTM E283), resistance to wind-driven rain (ASTM E331), and wind load resistance (ASTM E330).

Do not use StoTherm ci on surfaces subject to continuous or intermittent water immersion or hydrostatic pressure. Prevent the accumulation of water behind StoTherm ci, either by condensation or water leakage into the wall construction, in the design and detailing of the wall assembly, and with proper sequencing and protective measures during construction.

For further information see Sto Tech Hotline No. 0403-BSc, *Critical Detail Checklist for Wall Assemblies,* Sto Tech Hotline No. 0603-BSc, *Moisture Control Principles for Design and Construction of Wall Assemblies,* and Sto Tech Hotline No. 1001-BSc, *Effects of Temporary Heating on Construction Materials in Cold Weather*.

Impact Resistance
StoTherm ci meets standard, medium, high, and ultra-high impact resistance ratings, depending on the type of mesh reinforcement used with the base coat, when tested in accordance with ASTM E2458. Ultra-high impact resistance, achieved by embedding Sto Armor Mat 15oz or 20oz reinforcing mesh in Sto base coat, is recommended at ground floors to a minimum height of 6 ft (1.8m) and at any other areas of abnormal stress or impact.

The addition of Sto Strike Defense, StoArmat Classic Plus with Sto Mesh embedded over the ultra-high impact resistant base coat assembly, provides a fortification layer that is resistant to impact from both blunt and sharp objects and woodpeckers.

StoTherm ci MVES with adhered thin brick, stone, or tile is another available option to provide an impact resistant finished will surface. Refer to Sto Details.

The StoTherm ci system also meets FBC (Florida Building Code) and Miami-Dade County hurricane test protocols for large and small missile impact resistance (requires supplemental mesh reinforcement of the sheathing surface on frame walls with gypsum sheathing to achieve large missile impact resistance). Refer to Miami-Dade County NOAs (Notices of Acceptance).

Acoustics
Acoustical controls are achieved primarily in the base wall assembly, for example, in frame wall construction through the use of batt insulation in the stud wall cavity, gypsum sheathing, and wood or metal stud configuration. Refer to the *Gypsum Association Fire Resistance and Sound Control Design Manual* for technical data on performance of base wall assemblies.

Aesthetics
A wide variety of aesthetic choices and colors exist with Sto textured finishes, available in smooth, fine, medium, and coarse textures that are applied by trowel or spray application. Sto Specialty finishes offer unique architectural surfaces through the use of colored aggregate blends that are applied by trowel or spray application. StoCast finishes are factory made veneer units that achieve the look of wood, stone, brick, and other architectural finishes in a range of sizes, styles, and colors, with simplified application methods.

Dark colored finishes [LRV (Light Reflectance Value) less than 20] are not recommended unless reviewed by the design professional with regard to service temperature limitations of the foam plastic insulation [(limited to a maximum service temperature of 165°F (74.8°C)], and anticipated temperatures on the façade surface.

Architectural features – trim, sills, ledges, build-outs, reveals: all trim and projecting architectural features must have a minimum 1:2 [27°] slope along their top surface. All reveals must have minimum ¾ inch (19 mm) insulation thickness at the bottom of the reveal. All horizontal reveals must have a minimum 1:2 [27°] slope along their bottom surface. Increase slope for northern climates to prevent accumulation of ice/snow and water on sloped surfaces. Where trim/feature or bottom surface of reveals project more than 2 inches (51 mm) from the face of the EIFS wall plane, protect the top surface with waterproof base coat. Periodic inspections and increased maintenance may be required to maintain surface integrity of the finish on weather exposed sloped surfaces. Limit projecting features to easily accessible areas and limit total area to facilitate and minimize maintenance. Refer to Sto Details.

Do not use StoTherm ci on top of parapets or on large weather exposed projecting ledges, sills, or other projecting features unless supported by framing or other structural support and protected with metal coping or flashing.

Joints
Joints are required at:

- Joints in the supporting wall construction such as expansion joints, control joints, and cold joints

- Perimeters of windows, doors, scuppers, fixture attachments, and similar objects in the wall construction
- Changes in substrate or support construction (e.g., masonry to frame wall) or other junctures with dissimilar construction
- Floor lines in multi-story wood frame wall construction
- Floor line deflection joints
- Changes in building height and other areas of stress concentration
- Panel-to-panel joints in prefabricated panel wall construction

Do not bridge expansion joints, control joints, or cold joints in wall construction with StoTherm ci.

Regulatory Compliance

The StoTherm ci System complies with the weather resistance requirements of the 2021 IBC Chapter 14, the requirements of Chapter 26 for use on noncombustible construction, and Chapter 7 for use in fire-resistance rated wall construction. The system also complies with ASHRAE 90.1-2019 Section 5, Building Envelope, air barrier and continuous insulation requirements.

StoGuard complies with 2021 IBC, IRC, and IECC requirements as an air barrier material and water-resistive barrier. It meets requirements as an air barrier material based on testing in accordance with ASTM E2178 and as an air barrier assembly based on testing in accordance with ASTM E2357. Refer to ICC ESR-1233.

All Sto architectural coatings, textured and specialty finishes, primers, sealers, waterproofers, and underlayments comply with South Coast Air Quality Management District (South Coast AQMD) volatile organic compound (VOC) requirements.

Thermal Insulation

StoTherm ci uses expanded polystyrene (EPS) insulation board as the thermal insulating component. The insulation board is applied adhesively to StoGuard (the AWRB component of the system) on a supporting substrate to create a continuous exterior insulating thermal barrier. Thickness is limited based on structural considerations and fire testing. Minimum thickness is 1 inch (25mm). Maximum thickness is 12 inches (305mm) on noncombustible construction, and in some cases may be limited to six inches (152mm), depending on finish selection. Refer to ICC ESR-1748. If walls are required to have an hourly fire-resistance rating, maximum thickness is 6 inches (152mm), and in some cases may be limited to 4 inches (102mm). Refer to ICC ESR-1748. NOTE: certain assemblies may be extended beyond these limits through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the assembly in question.

Sto EPS Insulation conforms with ASTM E2430 and ASTM C578 Type I requirements. R-value is R-3.6 F·ft^2·h/Btu per inch thickness at 75°F (RSI-0.634 K·m^2/W per 25mm at 24°C).

Insulation material is flammable and must be kept away from flame, ignition sources, high heat and temperatures in excess of 165°F [74.8° C]).

Sustainability

StoTherm ci has high potential for LEED and other sustainability program credits based on efficient and effective use of a continuous air barrier, continuous exterior insulation, and the resulting energy savings and reductions in greenhouse gas emissions. The system also has positive impacts on life cycle energy use based on reduced dead load, which permits the use of lighter gage metal studs, and supporting structural members and foundation footings, when compared to other wall systems such as full thickness/weight masonry veneer walls. The use of light gage metal framing with recycled content and StoPanel prefabricated wall construction offers additional means to obtain credits. Refer to Sto Panel Technology information and ICC ESR-4500.

Additional Information

Refer to Sto product bulletins, guide specifications and guide details, technical hotlines, ICC Evaluation Reports, and other sources of information available at www.stocorp.com for more details on specific Sto products, features, benefits, and

limitations that apply to StoTherm ci wall systems and components.

References

1. American Society of Testing and Materials International (ASTM), *Standard Specification for Rigid Cellular Polystyrene Thermal Insulation,* ASTM C578.
2. American Society of Testing and Materials International (ASTM), *Standard Specification for Mineral Fiber Block and Board Thermal Insulation*, ASTM C612
3. American Society of Testing and Materials International (ASTM), *Standard Test Methods for Fire Tests of Building Construction and Materials*, ASTM E119.
4. American Society of Testing and Materials International (ASTM), *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen,* ASTM E283.
5. American Society of Testing and Materials International (ASTM), *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference,* ASTM E330.
6. American Society of Testing and Materials International (ASTM), *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference,* ASTM E331.
7. American Society of Testing and Materials International (ASTM), *Standard Test Method for Determining Rate of Air Leakage Rate and Calculation of Air Permeance of Building Materials,* ASTM E2178.
8. American Society of Testing and Materials International (ASTM), *Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish System (EIFS) Clad Wall Assemblies*, ASTM E2273.
9. American Society of Testing and Materials International (ASTM), *Standard Specification for Expanded Polystyrene ("EPS") Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems ("EIFS")*, ASTM E2430.
10. American Society of Testing and Materials International (ASTM), *Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies*, ASTM E2357.
11. American Society of Refrigeration and Air Conditioning Engineers (ASHRAE), *Energy Efficiency Standard for Buildings Except Low-Rise Residential Buildings,* ANSI/ASHRAE/IES Standard 90.1-2019.
12. Gypsum Association, *Fire Resistance and Sound Control Design Manual*, GA-600-2021.
13. International Code Council Evaluation Service, *Sto Rainscreen and Sto Rainscreen II Class PB Exterior Insulation and Finish Systems with Drainage*, ICC ESR-1030.
14. International Code Council Evaluation Service, *StoGuard with Sto Gold Coat*, *StoGuard with Sto EmeraldCoat, and StoGuard VaporSeal Air Barriers and Water-resistive Barriers, and StoEnergy Guard (StoGuard with Continuous Insulation)*, ICC ESR-1233.
15. International Code Council Evaluation Service, *StoTherm ci, StoTherm ci, and StoTherm ci with StoCast Finishes,* ICC ESR-1748.
16. International Code Council Evaluation Service, *StoPanel Classic ci, StoPanel Impact ci, StoPanel XPS, StoPanel Classic NExT ci, and StoPanel Backup*, ICC ESR-4500.
17. International Code Council, Inc., *2021 International Building Code* (IBC).
18. International Code Council, Inc., *2021 International Energy Conservation Code* (IECC).
19. International Code Council, Inc., *2021 International Residential Code* (IRC).
20. National Fire Protection Association (NFPA), *Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source*, NFPA 268.
21. National Fire Protection Association (NFPA), *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components*, NFPA 285.
22. New York City Department of Buildings, 2022 *New York City Building Code*
23. Sto Corp., *Critical Detail Checklist for Wall Assemblies*, TH-0403-BSc.
24. Sto Corp., *Moisture Control Principles for Design and Construction of Wall Assemblies*, TH-0603-BSc.
25. Sto Corp. *Effects of Temporary Heating on Construction Materials in Cold Weather*, TH-1001-BSc.

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PART 1 GENERAL

1.1 SUMMARY

A. Provide air and water-resistive barrier, and compatible EIFS for vertical above grade exterior walls

Add/delete Sections, depending on specific project requirements

B. Related Sections

1. Section 03 00 00: Concrete
2. Section 04 00 00: Unit Masonry
3. Section 05 10 00: Structural Metal Framing
4. Section 06 10 00: Rough Carpentry
5. Section 06 16 00: Sheathing
6. Section 07 26 00: Vapor Retarders
7. Section 07 27 00: Air Barriers
8. Section 07 50 00: Membrane Roofing
9. Section 07 62 00: Sheet Metal Flashing and Trim
10. Section 07 90 00: Joint Protection
11. Section 08 10 00: Doors and Frames
12. Section 08 40 00: Entrances, Storefronts, and Curtain Walls
13. Section 08 50 00: Windows

1.2 SUBMITTALS

A. Manufacturer's specifications, design guide and details, installation instructions, and product data

B. Manufacturer’s code compliance report

C. Manufacturer's standard warranty

D. Applicator's industry training credentials

E. Samples for approval as directed by architect or owner

F. Sealant manufacturer's certificate of compatibility

G. Prepare and submit project-specific details (when required by contract documents)

1.3 REFERENCES

A. ASTM Standards

1. C150, Standard Specification for Portland Cement
2. C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation

3. C920, Standard Specification for Elastomeric Joint Sealants
4. C1177, Specification for Glass Mat Gypsum for Use as Sheathing
5. ASTM C1325, Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units
6. C1382, Standard Method for Determining Tensile Adhesion Properties of Sealants When Use in Exterior Insulation and Finish Systems
7. D1970, Standard Specification for Self-Adhered Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
8. D4541, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
9. E84, Test Method for Surface Burning Characteristics of Building Materials
10. E96, Standard Test Methods for Water Vapor Transmission of Materials
11. E119, Method for Fire Tests of Building Construction and Materials
12. E283, Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under specified Pressure Differences Across the Specimen
13. E330, Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
14. E2178, Test Method for Air Permeance of Building Materials
15. E2273, Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish System (EIFS) Clad Wall Assemblies
16. E2430, Standard Specification for Expanded Polystyrene (“EPS”) Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems (“EIFS”)
17. E2486, Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
18. E2568, Standard Specification for PB Exterior Insulation and Finish Systems
19. E2570, Standard Test Methods for Evaluating Water-Resistive Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage

B. ICC-ES Acceptance Criteria, Building Code

1. AC235, Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (July 2020)
2. AC212, Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing
3. IBC-2021, International Building Code
4. IRC-2021, International Residential Code
5. IECC-2021, International Energy Conservation Code

C. National Fire Protection Association (NFPA) Standards

1. NFPA 268, Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source
2. NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components

D. 2022 New York City Building Code

E. South Coast AQMD (Air Quality Management District) Standards

1. Rule 1113, Architectural Coatings

F. Other Referenced Documents

1. APA Engineered Wood Association E30, Engineered Wood Construction Guide, Product Standard 2 (PS 2)
2. ICC ESR-1233, StoGuard Air Barrier and Water-Resistive Barrier System, StoEnergy Guard (StoGuard with Continuous Insulation), and StoPanel Backup
3. ICC-ESR-1748, StoTherm ci, StoTherm ci MVES, StoTherm ci with StoCast Finishes
4. StoTherm EIFS: Installation Guide
5. StoTherm EIFS Reference Guide: Repair and Maintenance
6. Sto RapidGuard: Installation Guide
7. StoGuard Conformable Membrane:Installation Guide
8. 52s.xx, StoTherm ci Design Guide and Detail Booklet
9. 52s.xx FB, StoTherm ci with Fireblocking, Compliance with 2022 New York City Building Code

1.4 DESIGN REQUIREMENTS

Consult StoTherm ci Design Guide and Detail Booklet, and the Design Guidance section in the front of this specification, for limits of system and guidance on design and design details. Coordinate this section with other material specification sections and detail drawings as applicable.

1.5 PERFORMANCE REQUIREMENTS

A. Air and Water-resistive Barrier

1. Air leakage less than 0.004 cfm/ft^2 (0.02 L/s·m^2) at 1.57 psf (75 Pa) when measured in accordance with ASTM E2178
2. Assembly air leakage less than 0.04 cfm/ft^2 (0.2 L/s·m^2) after conditioning protocol when measured in accordance with ASTM E2357
3. Vapor Permeable, water vapor permeance greater than 10 perms when measured in accordance with ASTM E96, Method B
4. Vapor Impermeable, water vapor permeance less than 0.1 perms when measured in accordance with ASTM E96, Method A
5. No water penetration when subjected to water spray at a minimum pressure difference of 2.86 psf (137 kPa) for 15 minutes in accordance with ASTM E331

B. EIFS

1. Meets or exceeds durability requirements of ASTM E2568
2. Drainage efficiency greater than 95% when measured in accordance with ASTM E2273

3. No water penetration when subjected to 75 minutes of water spray at 6.24 psf (299 Pa) and measured in accordance with ASTM E331
4. Flame spread and smoke development of lamina (base coat, reinforcing mesh, and finish) less than 25 and 450, respectively, when tested in accordance with ASTM E84
5. Meets acceptance criteria of NFPA 285 for use on non-combustible construction
6. No ignition when exposed to radiant heat in accordance with NFPA 268
7. Maintains hourly fire resistance rating of known, rated wall assembly when tested in accordance with ASTM E119
8. Meets standard impact resistance with Sto Mesh, meets Ultra-High impact resistance with Sto Mesh and Sto Armor Mat, when measured in accordance with ASTM E2486

1.6 COMPLIANCE

A. Air and Water-resistive Barrier

1. Meets ASHRAE 90.1-2019, Section 5, Building Envelope, air barrier requirements
2. Meets or exceeds maximum allowable material air leakage requirements of the 2021 IECC based on independent laboratory testing in accordance with ASTM E2178
3. Meets or exceeds maximum allowable assembly air leakage requirements of the 2021 IECC based on independent laboratory testing in accordance with ASTM E2357
4. Meets requirements of ICC AC212 for coatings used as WRBs over sheathing
5. Meets VOC emission standard of South Coast AQMD Rule 1113 for Building Envelope Coatings

B. EIFS Cladding

1. Meets ASHRAE 90.1-2019, Section 5, Building Envelope, continuous insulation requirements
2. Meets performance and weather resistance requirements of 2021 IBC Sections 1407.2 and 1407.4, the requirements of Chapter 26 for use on noncombustible construction, and Chapter 7 for use in fire-resistance rated wall construction. Complies with requirements for use on combustible (Type V) construction.
3. Meets performance and weather resistance requirements of 2021 IRC Sections R703.9.1 and R703.9.2
4. Meets requirements of ICC AC235 for EIFS clad drainage wall assembly
5. Textured finishes meet VOC emission standard of South Coast AQMD Rule 1113 for Architectural Coatings
6. Complies with 2022 New York City Building Code requirements for fireblocking (refer to Section 2.5 of this specification for fireblocking component and Sto details)

C. Joint Sealant for Use with EIFS

1. Conforms with ASTM C920: Type S, Grade NS, Use NT, A, M, Class 100/50
2. Tested in accordance with ASTM C1382
3. Meets Federal Specification TT-S-00230C Type II
4. Conforms with AAMA 808.3 (Type1) Exterior Perimeter Sealing

1.7 QUALITY ASSURANCE

A. Manufacturer Requirements

1. Member in good standing of the EIFS Industry Members Association (EIMA) for over thirty (30) years
2. Air and water-resistive barrier and EIFS manufacturer for a minimum thirty (30) years
3. Manufacturing facilities in compliance with ISO 9001 Certified Quality System and ISO 14001 Certified Environmental Management System

B. Contractor Requirements

1. Engaged in application of similar systems for a minimum of three (3) years
2. Knowledgeable in the proper use and handling of Sto materials
3. Employ skilled mechanics who are experienced and knowledgeable in air and water-resistive barrier and EIFS application, and familiar with the requirements of the specified work
4. Successful completion of minimum of three (3) projects of similar size and complexity compared to the specified project
5. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with Sto's published specifications and details and the project plans and specifications

C. Insulation Board Manufacturer Requirements

1. Expanded Polystyrene (EPS) insulation board listed by an approved agency and in compliance with the applicable building code
2. EPS board manufactured under Sto licensing agreement and EPS molder recognized by Sto as being capable of producing EPS insulation board to meet EIFS requirements

All substrates shall be in compliance with the applicable building code for strength, durability, resistance to weather, fire resistance, and other safety requirements

D. Substrate Requirements

1. All substrates shall be in compliance with the applicable building code for strength, durability, resistance to weather, fire resistance, and other safety requirements
2. Glass mat gypsum sheathing in conformance with ASTM C1177 attached with corrosion resistant fasteners at not less than 8 inches (203mm) on center to frame wall construction and at fastener spacing needed to resist design wind pressures with appropriate safety factor. Surface shall be clean, dry, and free of frost, damage, dust, dirt, oil or other contaminants that could interfere with adhesion.
3. Exterior or Exposure 1 wood sheathing - plywood or OSB – in conformance with Product Standard 2 (PS 2) and installed in accordance with the applicable building code to resist design wind pressures with appropriate safety factor. Surface shall be clean, dry, and free of frost, damage, dust, dirt, oil or other contaminants that could interfere with adhesion.
4. Cement Board in compliance with ASTM C1325 attached in accordance with manufacturer's recommendations or applicable building code evaluation report to resist design wind pressures with appropriate safety factor. Surface shall be clean, dry, and free of frost, damage, dust, dirt, oil or other contaminants that could interfere with adhesion.

5. Concrete: fully cured, structurally sound, clean, dry concrete free of frost, damage, and all bond-inhibiting materials, including dirt, dust, grease, efflorescence, form oil, curing compound, paints or coatings, salts, laitance, or other surface conditions that could interfere with adhesion. Form ties must be removed. Surface defects such as spalls or honeycombs must be repaired (Refer to Sto repair product bulletins: Sto Wall Leveler and Patch or Sto Leveler and Skim Coat).

6. Concrete Masonry (CMU): fully cured, structurally sound, clean, dry CMU free of frost, damage, and all bond-inhibiting materials, including dirt, dust, grease, efflorescence, paints or coatings, salts, laitance, or other surface conditions that could interfere with adhesion. Provide masonry units with flush joints and free of surface defects. Projecting mortar must be removed so it is even with the plane of the wall.

E. Mock-up Testing

1. Construct full-scale mock-up of typical air and water-resistive barrier and EIFS/window wall assembly with specified tools and materials and test air leakage, water infiltration and structural performance in accordance with ASTM E283, ASTM E331 and ASTM E330, respectively, through independent laboratory. Mock-up shall comply with requirements of project specifications. Where mock-up is tested at job site maintain approved mock-up at site as reference standard. If tested off-site accurately record construction detailing and sequencing of approved mock-up for replication during construction.

F. Inspections

1. Provide independent third-party inspection where required by code or contract documents

2. Conduct inspections in accordance with code requirements and contract documents

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials in their original sealed containers bearing manufacturer's name and identification of product

B. Protect coatings (pail products) from freezing and temperatures in excess of 90°F (32°C). Store away from direct sunlight

C. Protect portland cement-based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location

D. Store gun-grade air barrier component at temperatures between 40 and 80°F (4 and 26°C), and protect from freezing, moisture, direct sunlight, and keep away from sources of ignition

E. Insulation material is flammable. Keep away from flame or ignition sources, direct sun exposure, high heat, and temperatures in excess of 165°F (73.8°C)

1.9 PROJECT/SITE CONDITIONS

Weather conditions affect application and drying time of products. Hot or dry conditions limit working time and accelerate drying and may require adjustments in the scheduling of work to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing (Exception: gun-grade air barrier component dries faster in damp or high humidity conditions)

A. Maintain ambient and surface temperatures above 40°F (4°C) during application and drying period, minimum 24 hours after application of air and water-resistive barrier and EIFS products

B. Provide supplementary heat for installation in temperatures less than 40°F (4°C)

C. Provide protection of surrounding areas and adjacent surfaces from application of products

1.10 COORDINATION/SCHEDULING

The work in this section requires close coordination with related sections and trades. Sequence work to provide protection of construction materials from weather deterioration

A. Provide site grading such that the EIFS terminates above grade a minimum of 6 inches (150 mm) or as required by code

B. Provide roofing and protection at roof and floor levels to prevent excess water entry to the interior or into and behind the exterior wall during construction.

C. Coordinate installation of foundation waterproofing, roofing membrane, windows, doors and other wall penetrations to provide a continuously connected air and water-resistive barrier

D. Provide protection of rough openings before installing windows, doors, and other penetrations through the wall

E. Install window and door head flashing immediately after windows and doors are installed

F. Install diverter flashings wherever water can enter the wall assembly to direct water to the exterior

G. Install splices or tie-ins from air and water-resistive barrier over back leg of flashings, and similar details, to form a shingle lap that directs water to the exterior

H. Install copings and sealant immediately after installation of the EIFS when coatings are dry, and such that, where sealant is applied against the EIFS surface, it is applied against the base coat or primed base coat surface

I. Schedule work such that the air and water-resistive barrier is exposed to weather no longer than the period allowed by the manufacturer

J. Attach penetrations through the EIFS to structural support and provide watertight seal at penetrations

1.11 WARRANTY

A. Provide manufacturer's standard warranty

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide air and water-resistive barrier and EIFS cladding components from single source manufacturer or approved supplier

B. The following are acceptable manufacturers:

1. Sto Corp. – Air and water-resistive barrier, EIFS Cladding, EIFS Accessories, EIFS Fireblocking

   a. Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331
   Tel: 800 221 2397, www.stocorp.com

2. EPS Insulation Board – Sto licensed EPS Board molder (contact Sto Corp. for a list of licensed molders)

2.2 AIR AND WATER-RESISTIVE BARRIER

Refer to Sto Guide Details, Sto RapidGuard Installation Guide, and StoGuard Conformable Membrane Installation Guide to assist in selecting the proper detail components. Refer to Section 1.7E for testing.

A. StoGuard Detail Components for sheathing joint treatment, rough opening protection, counterflashing, and static joints and seams:

1. Sto Gold Coat, Sto AirSeal, or StoGuard VaporSeal coating: brush, spray or roller applied air and water-resistive barrier coatings used with StoGuard Fabric reinforcement
2. Sto RapidGuard: single component rapid drying gun-applied STPE detail component
3. Sto Gold Fill: trowel applied detail component used with StoGuard Mesh, glass fiber self-stick reinforcing mesh, then top coated with applicable Sto water-resistive barrier coating
4. StoGuard Conformable Membrane: self-adhered membrane flashing

B. Static and Dynamic Joints

1. StoGuard Conformable Membrane: self-adhered membrane

Choose one coating and select application by Substrate, Medium or High Build

C. Air and Water-resistive Barrier Coating

1. Sto Gold Coat: ready mixed vapor permeable air and water-resistive barrier coating applied

   a. By substrate as follows:
   - Glass Mat Gypsum: apply one coat at minimum 10 mils WFT
   - Plywood: apply one coat at minimum 10 mils WFT
   - Cement Board: apply one coat at minimum 10 mils WFT
   - OSB: apply one or two coats at minimum 20 mils WFT. If applied by roller, apply two coats. Touch up any bare spots and raised OSB strands.
   - CMU: apply two or three coats at minimum 20-60 mils WFT.
   - Concrete: apply one coat at minimum 10 mils WFT

   b. To a Medium-Build in one or two coats to achieve minimum 20 mils WFT (if applied by roller apply two coats to achieve minimum 20 mils WFT. For CMU substrates apply two or three coats to achieve 20-60 mils WFT).

   c. To a High-Build in two or three coats to achieve 40 mils WFT (if applied by roller apply three or more coats as needed. For CMU substrates apply multiple coats to achieve 40-60 mils WFT).

2. Sto AirSeal: ready mixed vapor permeable air and water-resistive barrier coating applied

   a. By substrate as follows:
   - Glass Mat Gypsum: apply one coat at minimum 20 mils WFT
   - Plywood: apply one coat at minimum 20 mils WFT

- Cement Board: apply one coat at minimum 20 mils WFT
- OSB: apply one or two coats at minimum 20 mils WFT. If applied by roller, apply two coats. Touch up any bare spots and raised OSB strands.
- CMU: apply two or three coats at minimum 20-65 mils WFT.
- Concrete: apply one coat at minimum 20 mils WFT

b. To a Medium-Build in one or two coats to achieve minimum 40 mils WFT (if applied by roller apply two coats to achieve minimum 40 mils WFT. For CMU substrates apply two or three coats to achieve 40-65 mils WFT).

c. To a High-Build in one, two or three coats to achieve minimum 65 mils WFT (if applied by roller apply minimum three coats to achieve minimum 65 mils WFT).

3. Sto GoldSeal STPE: vapor permeable moisture cure STPE coating air and water-resistive barrier coating

4. StoGuard VaporSeal: Class 1 high build vapor impermeable air and water-resistive barrier coating

Refer to Tables in Appendix for product names and combinations of products based on compliance with the 2021 IBC and 2021 IRC and select one in each category: Insulation Adhesive, Insulation Board, Base Coat, Reinforcing Meshes, Primer, and Finish. Consult Sto for any additional guidance on product selection.

2.3 INSULATION ADHESIVE

A. Sto one component polyurethane spray foam adhesive

B. Sto factory blended one-component polymer-modified portland cement-based adhesive

C. Sto factory blended latex additive for use with Type 1 portland cement

2.4 INSULATION BOARD

A. Expanded Polystyrene Insulation Board

1. Sto EPS Insulation Board: nominal 1.0 lb/ft^3 (16 kg/m^3) Expanded Polystyrene (EPS) rigid foam plastic insulation board in compliance with ASTM E2430 and ASTM C578 Type I requirements, R-3.6 per inch (RSI – 0.63 per 25mm), listed, labeled, and furnished in accordance with Section 1.7C.

The fireblocking specified below is applicable to buildings required to have fireblocking of exterior wall coverings in accordance with the 2022 New York City Building Code. It is also applicable as a component of StoTherm ci at the head of openings if Sto GoldSeal STPE is the air and water-resistive barrier

2.5 FIREBLOCKING

A. Sto Lamella

1. Nominal 8.5 lb/ft^3 (136 kg/m^3) noncombustible, semi-rigid mineral wool insulation in compliance with ASTM C612

2.6 BASE COAT

A. Cementitious Base Coat

1. Sto factory blended one-component polymer modified portland cement base coats: Sto Primer/Adhesive-B, Sto BTS Plus, Sto BTS Xtra
2. Sto factory blended latex admixture for use with Type 1 portland cement: Sto Primer/Adhesive

Use StoArmat Classic Plus non-cementitious base coat with Sto Mesh embedded as a woodpecker resistant fortification layer when applied over any Sto portland cement-base coat reinforced with Sto Armor Mat or Sto Armor Mat XX. It can also be uses as a standalone base coat with Sto Mesh embedded

B. Non-cementitious Base Coat

1. Sto high impact ready mixed acrylic base coat material: StoArmat Classic Plus
2. Sto ready mixed acrylic base coat material: Sto RFP

Use waterproof base coat with standard reinforcing mesh over standard base coats (A or B above) at splash zones or sloped surfaces that exceed 2 inches (51 mm) from the face plane of the wall

C. Waterproof Base Coat

1. Sto Flexyl: factory blended latex additive for use with Type 1 portland cement to form a waterproof base coat material
2. Sto Watertight Coat: two component kit consisting of factory blended latex additive and dry component that forms a waterproof base coat material (equivalent to Sto Flexyl)

2.7 REINFORCING MESHES

Designate areas with impact resistance other than "Standard" on architectural drawings. Ultra-high impact resistance is recommended to a minimum height of 6 ft (1.8m) at ground floors, areas exposed to heavy pedestrian traffic, and other areas exposed to high impact or abuse

A. Open weave glass fiber reinforcing meshes treated for compatibility with Sto materials

1. Sto Mesh – nominal 4.5 oz/yd^2 (153 g/m^2) for areas requiring standard impact resistance
2. Sto Mesh 6oz – nominal 6 oz/yd^2 (203 g/m^2) for areas requiring standard impact resistance and high build base coat
3. Sto Intermediate Mesh – nominal 11.2 oz/yd^2 (380 g/m^2) for areas requiring high impact resistance
4. Sto Armor Mat – nominal 15 oz/yd^2 (509 g/m^2) for areas requiring ultra-high impact resistance
5. Sto Armor Mat XX – nominal 20 oz/yd^2 (678 g/m^2) for areas requiring ultra-high impact resistance
6. Sto Detail Mesh – nominal 4.2 oz/yd^2 (143 g/m^2) for back wrapping, diagonal reinforcement at corners of openings, reveals, complex architectural features, and other areas of detail work

2.8 STRIKE DEFENSE

Sto Strike Defense is optional. It provides a fortification layer that is resistant to impact from both blunt and sharp objects and woodpeckers. It is installed only over ultra-high impact resistant base coat assemblies

A. StoArmat Classic Plus - cement-free high build acrylic-based plaster material used with Sto Mesh to form Sto Strike Defense

2.9 PRIMER

Primer is an optional component, except for some specialty finishes – refer to finish product bulletins

A. Sto brush, roller, or spray-applied primer as dictated by substrate condition or finish selection

2.10 FINISH

Refer to Tables in Appendix for guidance on product selection

A. Sto trowel applied decorative and protective textured finish

B. StoCast pre-formed decorative and protective finish with adhesive (and topcoat if applicable)

C. Sto Signature and Sto Specialty finishes

2.11 JOB MIXED INGREDIENTS

A. Water – clean and potable

B. Type I portland cement in compliance with ASTM C150

2.12 ACCESSORIES

A. Sto-Mesh Corner Bead Standard – one component PVC (polyvinyl chloride) accessory with integral reinforcing mesh for outside corner reinforcement

B. Sto Drip Edge Profile - one component PVC (polyvinyl chloride) accessory with integral reinforcing mesh that creates a drip edge and plaster return

C. StoSeal® STPE Sealant - high-movement, low modulus, non-sag one-component silyl-terminated polyether joint sealant in compliance with ASTM C920 and tested in accordance with ASTM C1382

2.13 MIXING

A. Refer to manufacturer's applicable product bulletins for mixing of materials

PART 3 EXECUTION

3.1 ACCEPTABLE INSTALLERS

A. Prequalify under Quality Assurance requirements of this specification (Section 1.7B)

3.2 EXAMINATION

A. Inspect concrete and masonry substrates prior to start of application for:

1. Contamination—algae, chalkiness, dirt, dust, efflorescence, form oil, fungus, grease, laitance, mildew, or other foreign substances
2. Surface absorption
3. Cracks—measure crack width and record location of cracks

4. Damage and deterioration such as voids, honeycombs and spalls
5. Moisture content and moisture damage—use a moisture meter to determine if the surface is dry enough to receive the products and record any areas of moisture damage
6. Compliance with specification tolerances—record areas that are out of tolerance (greater than ¼ inch in 10 feet [6mm in 3 m] deviation in plane)

B. Inspect sheathing application for compliance with applicable requirement and installation in conformance with specification and manufacturer requirements:

1. Glass Mat Faced gypsum sheathing compliant with ASTM C1177 – consult manufacturer
2. Exterior Grade and Exposure I wood based sheathing – APA Engineered Wood Association E 30
3. Cementitious sheathing – consult manufacturer
4. Attachment into structural supports with adjoining sheets abutted (gapped if wood-based sheathing) and fasteners at required spacing to resist design wind pressures as determined by design professional
5. Fasteners seated flush with sheathing surface and not over-driven

C. Report deviations from the requirements of project specifications or other conditions that might adversely affect the air and water-resistive barrier or the EIFS installation to the General Contractor. Do not start work until deviations are corrected.

3.3 SURFACE PREPARATION

A. Remove surface contaminants on concrete, concrete masonry, gypsum sheathing, or coated gypsum sheathing surfaces

B. Repair cracks, spalls or damage in concrete and concrete masonry surfaces, and level concrete and masonry surfaces to comply with required tolerances

C. Apply conditioner (consult Sto) by spray or roller to chalking or excessively absorptive surfaces or pressure wash to remove surface chalkiness

D. Remove fasteners that are not anchored into supporting construction and seal holes with air and water-resistive barrier detail material

E. Seal over-driven fasteners with Sto air and water-resistive barrier detail material and install additional fasteners as needed to comply with fastener spacing requirement

F. Fill large gaps between sheathing or voids around pipe, conduit, scupper, and similar penetrations with spray foam and shave flush with surface (refer to Sto Details)

G. Replace weather-damaged sheathing and repair or replace damaged or cracked sheathing

3.4 INSTALLATION

Refer to applicable Sto product bulletins, StoTherm EIFS: Installation Guide, and StoTherm ci Design Guide and Details Booklets

A. Install manufacturer's air and water-resistive barrier in conformance with manufacturer's written instructions

B. Install manufacturer's EIFS cladding in conformance with manufacturer's written instructions

3.5 PROTECTION

A. Provide protection of installed materials from water infiltration into or behind them

B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry

3.6 CLEANING, REPAIR AND MAINTENANCE

A. Clean and maintain the EIFS for a fresh appearance and to prevent water entry into and behind the system. Repair cracks, impact damage, spalls or delamination promptly.

B. Maintain adjacent components of construction such as sealants, windows, doors, and flashing, to prevent water entry into or behind the EIFS and anywhere into the wall assembly

C. Refer to Sto reStore Repair and Maintenance Guide (reStore Program) for detailed information on restoration – cleaning, repairs, recoating, resurfacing and refinishing, or re-cladding

Appendix: StoTherm ci Cladding Components

Table 1. StoTherm ci Cladding Components with Sto Textured Finishes listed in ICC ESR-1748

Adhesive	Continuous Insulation	Base Coats	Reinforcing Meshes	Textured Finishes
Sto TurboStick Sto TurboStick Mini Sto BTS Plus Sto BTS Silo Sto BTS Xtra	Sto EPS Insulation Board[1,2]	Sto BTS Plus Sto BTS Xtra Sto BTS Silo[3] Sto RFP	Sto Mesh Sto Detail Mesh Sto Mesh 6oz Sto Intermediate Mesh Sto Armor Mat Sto Armor Mat XX	Stolit Stolit Milano Stolit Lotusan
Sto Turbostick Sto TurboStick Mini Sto Primer/Adhesive Sto Primer/Adhesive-B	Sto EPS Insulation Board[1,2]	Sto Primer/Adhesive Sto Primer/Adhesive-B	Sto Mesh Sto Detail Mesh Sto Mesh 6oz Sto Intermediate Mesh Sto Armor Mat Sto Armor Mat XX	Sto Essence DPR Stolit Milano

1. NFPA 285 compliant with up to 12 inches (305mm) thick of Sto EPS Insulation Board. Refer to ICC ESR-1748, Table 4. Sto Armat Classic Plus base coat with Stolit finish is compliant with NFPA 285. Listing of Sto Armat Classic Plus in ICC ESR-1748 with Stolit (Table 1 in ICC ESR-1748) for use on noncombustible construction is pending.
2. Fire resistance-rated assemblies evaluated and compliant with up to 6 inches (102mm) thick of Sto EPS Insulation Board except for systems which use Stolit X and Sto TurboStick or Sto TurboStick Mini adhesive. Refer to ICC ESR-1748, Table 5. Listing of StoArmat Classic Plus in ICC ESR-1748 for fire-resistance rated assemblies (Table 5 in ICC ESR-1748) is pending.
3. Sto BTS Silo is not recognized for use with Stolit Milano and Stolit X finishes.

NOTE: Certain assemblies may be extended beyond the listed products and/or limitations, including Sto Signature and Sto Specialty finishes, through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular assembly in question

Table 2. StoTherm ci Cladding Components with Stolit HDP Textured Finish listed in ICC ESR-1748

Adhesives	Continuous Insulation	Base Coats	Reinforcing Meshes	Textured Finish
Sto TurboStick Sto TurboStick Mini Sto BTS Plus Sto BTS Silo Sto BTS Xtra	Sto EPS Insulation Board[1,2]	Sto BTS Plus StoArmat Classic Plus	Sto Mesh Sto Detail Mesh Sto Mesh 6oz Sto Intermediate Mesh Sto Armor Mat Sto Armor Mat XX	Stolit HDP

1. NFPA 285 compliant with up to 12 inches (305mm) thick of Sto EPS Insulation Board and Sto BTS Plus base coat, and up to 4 inches (102mm) thick with StoArmat Classic Plus base coat. Refer to ICC ESR-1748, Table 4.
2. Fire resistance-rated assemblies evaluated and compliant with up to 6 inches (102mm) thick of Sto EPS Insulation Board and Sto BTS Plus base coat. Refer to ICC ESR-1748, Table 5. Listing of StoArmat Classic Plus in ICC ESR-1748 for fire-resistance rated assemblies (Table 5 in ICC ESR-1748) is pending.

NOTE: Certain assemblies may be extended beyond the listed products and/or limitations, including Sto Signature and Sto Specialty finishes, through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular assembly in question.

Appendix: StoTherm ci Cladding Components (Continued)

Table 3. StoTherm ci Cladding Components with Sto Cast Finishes listed in ICC ESR-1748

Adhesives	Continuous Insulation[1]	Base Coat	Reinforcing Meshes	StoCast Finishes[2]
Sto TurboStick Sto TurboStick Mini Sto BTS Plus Sto BTS Silo Sto BTS Xtra	Sto EPS Insulation Board[1,2]	Sto BTS Plus StoArmat Classic Plus	Sto Mesh Sto Detail Mesh Sto Mesh 6oz Sto Intermediate Mesh Sto Armor Mat Sto Armor Mat XX	StoCast Wood with StoCast Wood Adhesive and Topcoat[3] StoCast Brick with Sto-Bonding and Pointing Mortar

1. NFPA 285 compliant up to 6 inches (152mm) thick of Sto EPS Insulation Board and Sto BTS Plus base coat. Refer to ICC ESR-1748, Table 4
2. Fire resistance-rated assemblies evaluated and compliant with up to 4 inches (102mm) thick of Sto EPS Insulation Board and Sto BTS Plus base coat. Refer to ICC-ESR- 1748, Table 5. Listing of StoArmat Classic Plus in ICC ESR-1748 for fire-resistance rated assemblies (Table 5 in ICC ESR-1748) is pending.
3. Topcoat is typically StoColor Wood Stain applied in two coats; or, any of the StoColor exterior topcoats may be used. Refer to StoColor and StoTique Product Bulletins.

NOTE: Certain assemblies may be extended beyond the listed products and/or limitations, including Sto Signature and Sto Specialty finishes, through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular assembly in question.

ATTENTION

Sto products are intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. They should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the nonperformance of adjacent building components or assemblies, or for other construction activities beyond Sto's control. Improper use of Sto products or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to Sto products, and to the structure of the building or its components. STO CORP. DISCLAIMS ALL WARRANTIES EXPRESS OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME. For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp. website, www.stocorp.com.

SECTION 220100 - PLUMBING GENERAL

1 GENERAL

1.1 The work covered by this division consists of providing all labor, equipment and materials and performing all operations necessary for the installation of the plumbing work as herein called for and shown on the drawings.

1.2 Related Documents:

1.2.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2.2 This is a Basic Plumbing Requirements Section. Provisions of this section apply to work of all Division-22 sections. Provisions of Division-23 Basic Mechanical Requirements Sections apply to work of all Division-22 sections.

1.2.3 Review all other contract documents to be aware of conditions affecting work herein.

1.2.4 Definitions:

1.2.4.1 Provide: Furnish and install, complete and ready for intended use.

1.2.4.2 Furnish: Supply and deliver to project site, ready for subsequent requirements.

1.2.4.3 Install: Operations at project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar requirements.

1.3 Permits and Fees: Contractor shall obtain all necessary permits, meters, and inspections required for his work and pay all fees and charges incidental thereto.

1.4 Verification of Owner's Data: Prior to commencing any work the Contractor shall satisfy himself as to the accuracy of all data as indicated in these plans and specifications and/or as provided by the Owner. Should the Contractor discover any inaccuracies, errors, or omissions in the data, he shall immediately notify the Architect/Engineer in order that proper adjustments can be anticipated and ordered. Commencement by the Contractor of any work shall be held as an acceptance of the data by him after which time the Contractor has no claim against the Owner resulting from alleged errors, omissions or inaccuracies of the said data.

1.5 Delivery and Storage of Materials: Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. All material shall be stored to provide protection from the weather and accidental damage.

1.6 Extent of work is indicated by the drawings, schedules, and the requirements of the specifications. Singular references shall not be constructed as requiring only one device if multiple devices are shown on the drawings or are required for proper system operation.

1.7 Field Measurements and Coordination:

1.7.1 The intent of the drawings and specifications is to obtain a complete and satisfactory installation. Separate divisional drawings and specifications shall not relieve the Contractor or subcontractors from full compliance of work of his trade indicated on any of the drawings or in any section of the specifications.

1.7.2 Verify all field dimensions and locations of equipment to insure close, neat fit with other trades' work. Make use of all contract documents and approved shop drawings to verify exact dimension and locations.

1.7.3 Coordinate work in this division with all other trades in proper sequence to ensure that the total work is completed within contract time schedule and with a minimum cutting and patching.

1.7.4 Locate all apparatus symmetrical with architectural elements. Install to exact height and locations when shown on architectural drawings. When locations are shown only on plumbing drawings, be guided by architectural details and conditions existing at job and correlate this work with that of others.

1.7.5 Install work as required to fit structure, avoid obstructions, and retain clearance, headroom, openings and passageways. Cut no structural members without written approval.

1.7.6 Carefully examine any existing conditions, piping, and premises. Compare drawings with existing conditions. Report any observed discrepancies. It shall be the Contractor's responsibility to properly coordinate the work and to identify problems in a timely manner. Written instructions will be issued to resolve discrepancies.

1.7.7 Because of the small scale of the drawings, it is not possible to indicate all offsets and fittings or to locate every accessory. Drawings are essentially diagrammatic. Study carefully the sizes and locations of structural members, wall and partition locations, trusses, and room dimensions and take actual measurements on the job. Locate piping, ductwork, equipment and accessories with sufficient space for installing and servicing. Contractor is responsible for accuracy of his measurements and for coordination with all trades. Contractor shall not order materials or perform work without such verification. No extra compensation will be allowed because field measurements vary from the dimensions on the drawings. If field measurements show that equipment or piping cannot be fitted, the Architect/Engineer shall be consulted. Remove and relocate, without additional compensation, any item that is installed and is later found to encroach on space assigned to another use.

1.8 Guarantee:

1.8.1 The Contractor shall guarantee labor, materials and equipment for a period of one (1) year from Final Completion, or from Owner's occupancy, whichever is earlier. Contractor shall make good any defects and shall include all necessary adjustments to and replacement of defective items without expense to the Owner.

1.8.2 Owner reserves right to make emergency repairs as required to keep equipment in operation without voiding Contractor's Guarantee Bond nor relieving Contractor of his responsibilities during guarantee period.

1.9 Approval Submittals:

1.9.1 When approved, the submittal control log and submittals shall be an addition to the specifications herewith, and shall be of equal force in that no deviation will be permitted except with the approval of the Architect/Engineer.

1.9.1.1 Shop drawings, product literature, and other approval submittals will only be reviewed if they are submitted in full accordance with the General and Supplementary Conditions and Division 1 Specification sections and the following.

1.9.1.1.1 Submittals shall be properly organized in accordance with the approved submittal control log.

1.9.1.1.2 Submittals shall not include items from more than one specification section in the same submittal package unless approved in the submittal control log.

1.9.1.1.3 Submittals shall be properly identified by a cover sheet showing the project name, Architect and Engineer names, submittal control number, specification section, a list of products or item names with model numbers in the order they appear in the package, and spaces for approval stamps. A sample cover sheet is included at the end of this section.

1.9.1.1.4 Submittals shall have been reviewed and approved by the General Contractor (or Prime Contractor). Evidence of this review and approval shall be an "Approved" stamp with a signature and date on the cover sheet.

1.9.1.1.5 Submittals that include a series of fixtures or devices (such as plumbing fixtures or valves) shall be organized by the fixture number or valve type and be marked accordingly. Each fixture must include all items associated with that fixture regardless of whether or not those items are used on other fixtures.

1.9.1.1.6 The electrical design shown on the drawings supports the plumbing equipment basis of design specifications at the time of design. If plumbing equipment is submitted with different electrical requirements, it is the responsibility of the plumbing contractor to resolve all required electrical design changes (wire and conduit size, type of disconnect or overload protection, point(s) of connection, etc.) and clearly show the new electrical design on the plumbing submittal with a written statement that this change will be provided at no additional cost. Plumbing submittals made with no written reference to the electrical design will be presumed to work with the electrical design. Any corrections required will be at no additional cost.

1.9.2 If the shop drawings show variation from the requirements of contract because of standard shop practice or other reasons, the Contractor shall make specific mention of such variation in writing in his letter of transmittal and on the submittal cover sheet in order that, if acceptable, Contractor will not be relieved of the responsibility for executing the work in accordance with the contract.

1.9.3 Review of shop drawings, product literature, catalog data, or schedules shall not relieve the Contractor from responsibility for deviations from contract drawings or specifications, unless he has in writing called to the attention of the Architect/Engineer each such deviation in writing at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings, product literature, catalog data, or schedules. Any feature or function specified but not mentioned in the submittal shall be assumed to be included per the specification.

1.9.4 Submit shop drawings as called for in other sections after award of the contract and before any material is ordered or fabricated. Shop drawings shall consist of plans, sections, elevations and details to scale (not smaller than ¼" per foot), with dimensions clearly showing the installation. Direct copies of small scale project drawings issued to the Contractor are not acceptable. Drawings shall take into account equipment furnished under other sections and shall show space allotted for it. Include construction details and materials.

1.10 Test Reports and Verification Submittals: Submit test reports, certifications and verification letters as called for in other sections. Contractor shall coordinate the required testing and documentation of system performance such that sufficient time exists to prepare the reports, submit the reports, review the reports and take corrective action within the scheduled contract time.

1.11 O&M Data Submittals: Submit Operation and Maintenance data as called for in other sections. When a copy of approval submittals is included in the O&M Manual, only the final “Approved” or “Approved as Noted” copy shall be used. Contractor shall organize these data in the O&M Manuals tabbed by specification number. Prepare O&M Manuals as required by Division 1 and as described herein. Submit manuals at the Substantial Completion inspection.

2 PRODUCTS

2.1 All materials shall be new or Owner-supplied reused as shown on the drawings, the best of their respective kinds, suitable for the conditions and duties imposed on them at the building and shall be of reputable manufacturers. The description, characteristics, and requirements of materials to be used shall be in accordance with qualifying conditions established in the following sections.

2.2 Equipment and Materials:

2.2.1 Shall be new and the most suitable grade for the purpose intended. Equipment furnished under this division shall be the product of a manufacturer regularly engaged in the manufacture of such items for a period of three years. Where practical, all of the components shall be products of a single manufacturer in order to provide proper coordination and responsibility. Where required, Contractor shall furnish proof of installation of similar units or equipment.

2.2.2 Each item of equipment shall bear a name plate showing the manufacturer's name, trade name, model number, serial number, ratings and other information necessary to fully identify it. This plate shall be permanently mounted in a prominent location and shall not be concealed, insulated or painted.

2.2.3 The label of the approving agency, such as UL, IBR, ASME, ARI, AMCA, by which a standard has been established for the particular item shall be in full view.

2.2.4 The equipment shall be essentially the standard product of a manufacturer regularly engaged in the production of such equipment and shall be a product of the manufacturer's latest design.

2.2.5 A service organization with personnel and spare parts shall be available within two hours for each type of equipment furnished.

2.2.6 Install in accordance with manufacturer's recommendations. Place in service by a factory trained representative where required.

2.2.7 Materials and equipment are specified herein by a single or by multiple manufacturers to indicate quality, material and type of construction desired. Manufacturer's products shown on the drawings have been used as basis for design; it shall be the Contractor's responsibility to ascertain that alternate manufacturer's products, or the particular products of named manufacturers, meet the detailed specifications and that size and arrangement of equipment are suitable for installation.

2.2.8 Model Numbers: Catalog numbers and model numbers indicated in the drawings and specifications are used as a guide in the selection of the equipment and are only listed for the contractor's convenience. The contractor shall determine the actual model numbers for ordering materials in accordance with the written description of each item and with the intent of the drawings and specifications.

2.3 Requests for Substitution:

2.3.1 Where a particular system, product or material is specified by name, consider it as standard basis for bidding, and base proposal on the particular system, product or material specified.

2.3.2 Requests by Contractor for substitution will be considered only when reasonable, timely, fully documented, and qualifying under one or more of the following circumstances.

2.3.2.1 Required product cannot be supplied in time for compliance with Contract time requirements.

2.3.2.2 Required product is not acceptable to governing authority, or determined to be non-compatible, or cannot be properly coordinated, warranted or insured, or has other recognized disability as certified by Contractor.

2.3.2.3 Substantial cost advantage is offered Owner after deducting offsetting disadvantages including delays, additional compensation for redesign, investigation, evaluation and other necessary services and similar considerations.

2.3.3 All requests for substitution shall contain a "Comparison Schedule" and clearly and specifically indicate any and all differences or omissions between the product specified as the basis of design and the product proposed for substitution. Differences shall include but shall not be limited to data as follows for both the specified and substituted products:

Principal of operation.
Materials of construction or finishes.
Thickness of gauge of materials.
Weight of item.
Deleted features or items.
Added features or items.
Changes in other work caused by the substitution.
Performance curves.

If the approved substitution contains differences or omissions not specifically called to the attention of the Architect/Engineer, the Owner reserves the right to require equal or similar features to be added to the substituted products (or to have the substituted products replaced) at the Contractor's expense.

3 EXECUTION

3.1 Workmanship: All materials and equipment shall be installed and completed in a first-class workmanlike manner and in accordance with the best modern methods and practice. Any materials installed which do not present an orderly and reasonably neat and/or workmanlike appearance, or do not allow adequate space for maintenance, shall be removed and replaced when so directed by the Architect/Engineer.

3.2 Coordination:

3.2.1 The Contractor shall be responsible for full coordination of the plumbing systems with shop drawings of the building construction so the proper openings and sleeves or supports are provided for piping, ductwork, or other equipment passing through slabs or walls.

3.2.2 Any additional steel supports required for the installation of any plumbing equipment, piping, or ductwork shall be furnished and installed under the section of the specifications requiring the additional supports.

3.2.3 It shall be the Contractor's responsibility to see that all equipment such as valves, dampers, filters and such other apparatus or equipment that may require maintenance and operation are made easily accessible, regardless of the diagrammatic location shown on the drawings.

3.2.4 All connections to fixtures and equipment shown on the drawings shall be considered diagrammatic unless otherwise indicated by detail. The actual connections shall be made to fully suit the requirements of each case and adequately provide for expansion and servicing.

3.2.5 The contractor shall protect equipment, material, and fixtures at all times. He shall replace all equipment, material, and fixtures which are damaged as a result of inadequate protection.

3.2.6 Prior to starting and during progress of work, examine work and materials installed by others as they apply to work in this division. Report conditions which will prevent satisfactory installation.

3.2.7 Start of work will be construed as acceptance of suitability of work of others.

3.3 Interruption of Service: Before any equipment is shut down for disconnecting or tie-ins, arrangements shall be made with the Architect/Engineer and this work shall be done at the time best suited to the Owner. This will typically be on weekends and/or holidays and/or after normal working hours. Services shall be restored the same day unless prior arrangements are made. All overtime or premium costs associated with this work shall be included in the base bid.

3.4 Phasing: Provide all required temporary valves, piping, ductwork, equipment and devices as required. Maintain temporary services to areas as required. Remove all temporary material and equipment on completion of work unless Engineer concurs that such material and equipment would be beneficial to the Owner on a permanent basis.

3.5 Cutting and Patching: Notify General Contractor to do all cutting and patching of all holes, chases, sleeves, and other openings required for installation of equipment furnished and installed under this section. Utilize experienced trades for cutting and patching. Obtain permission from Architect/Engineer before cutting any structural items.

3.6 Equipment Setting: Bolt equipment directly to concrete pads or vibration isolators as required, using hot-dipped galvanized anchor bolts, nuts and washers. Level equipment.

3.7 Painting: Touch-up factory finishes on equipment located inside and outside shall be done under Division 22. Obtain matched color coatings from the manufacturer and apply as directed. If corrosion is found during inspection on the surface of any equipment, clean, prime, and paint, as required.

3.8 Clean-up: Thoroughly clean all exposed parts of apparatus and equipment of cement, plaster, and other materials and remove all oil and grease spots. Repaint or touch up as required to look like new. During progress of work, contractor is to carefully clean up and leave premises and all portions of building free from debris and in a clean and safe condition.

3.9 Start-up and Operational Test: Start each item of equipment in strict accordance with the manufacturer's instructions; or where noted under equipment specification, start-up shall be done by a qualified representative of the manufacturer. Alignment, lubrication, safety, and operating control shall be included in start-up check.

3.10 Record Drawings:

3.10.1 During the progress of the work the Contractor shall record on their field set of drawings the exact location, as installed, of all piping, ductwork, equipment, and other systems which are not installed exactly as shown on the contract drawings.

3.10.2 Upon completion of the work, record drawings shall be prepared as described in the General Conditions, Supplementary Conditions, and Division 1 sections.

3.11 Acceptance:

3.11.1 Punch List: Submit written confirmation that all punch lists have been checked and the required work completed.

3.11.2 Instructions: At completion of the work, provide a competent and experienced person who is thoroughly familiar with project, for one day to instruct permanent operating personnel in operation of equipment and control systems. This is in addition to any specific equipment operation and maintenance training.

3.11.3 Operation and Maintenance Manuals: Furnish four complete manuals bound in ring binders with Table of Contents, organized, and tabbed by specification section. Manuals shall contain:

Detailed operating instructions and instructions for making minor adjustments.
Complete wiring and control diagrams.
Routine maintenance operations.
Manufacturer's catalog data, service instructions, and parts lists for each piece of operating equipment.
Copies of approved submittals.
Copies of all manufacturer's warranties.
Copies of test reports and verification submittals.

3.11.4 Record Drawings: Submit record drawings.

END OF SECTION 220100

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SECTION 220700 - INSULATION FOR PLUMBING EQUIPMENT AND PIPING

1 GENERAL

1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 Division-22 Basic Plumbing Materials and Methods Sections apply to work of this section.

1.3 Division-23 Basic Mechanical Materials and Methods Sections apply to work of this section.

1.4 Approval Submittals:

1.4.1 Product Data: Submit a producer's data sheets and installation instructions on each insulation system including insulation, coverings, adhesives, sealers, protective finishes, and other material recommended by the manufacturer for applications indicated. Submit for:

Fiberglass pipe insulation
Flexible unicellular piping insulation

1.5 O&M Data Submittals: Submit a copy of all approval submittals. Include in O&M Manual.

2 PRODUCTS

2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide insulation products by Armstrong, Johns Manville, Knauf, Owens Corning, Pittsburgh Corning, U.S. Rubber, or approved equal. All products shall be asbestos-free.

2.2 Flame/Smoke Ratings: Provide composite mechanical insulation (insulation, jackets, coverings, sealers, mastics, and adhesive) with a flame-spread rating of 25 or less, and a smoke-developed rating of 50 or less, as tested by ANSI/ASTM E84.

2.3 Pipe Insulation Materials:

2.3.1 Fiberglass Pipe Insulation: ASTM C547, Class 1 unless otherwise indicated. (Preformed sleeving with white all-service jacket, suitable for temperatures up to 450°F)

2.3.2 Flexible Unicellular Pipe Insulation: ASTM C534, Type I. (Tubular, suitable for use to 200ºF.)

2.3.3 Staples, Bands, Wires, and Cement: As recommended by the insulation manufacturer for applications indicated.

2.3.4 Adhesives, Sealers, Protective Finishes: Products recommended by the insulation manufacturer for the application indicated.

2.3.5 Jackets: ASTM C921, Type I (vapor barrier) for piping below ambient temperature, Type II (vapor permeable) for piping above ambient temperature. Type I may be used for all piping at Installer's option.

3 EXECUTION

3.1 General:

3.1.1 Install thermal insulation products in accordance with manufacturer's written instructions, and in compliance with recognized industry practices to ensure that insulation serves intended purpose.

3.1.2 Install insulation materials with smooth and even surfaces and on clean and dry surfaces. Redo poorly fitted joints. Do not use mastic or joint sealer as filler for gapping joints and excessive voids resulting from poor workmanship.

3.1.3 Maintain integrity of vapor-barrier on insulation and protect it to prevent puncture and other damage. Label all insulation "ASBESTOS FREE".

3.1.4 Do not apply insulation to surfaces while they are hot or wet.

3.1.5 Do not install insulation until systems have been checked and found free of leaks. Surfaces shall be clean and dry before attempting to apply insulation. A professional insulator with adequate experience and ability shall install insulation.

3.1.6 Do not install insulation on pipe systems until acceptance tests have been completed except for flexible unicellular insulation. Do not install insulation until the building is "dried-in".

3.2 Fiberglass Pipe Insulation:

3.2.1 Insulate the following piping systems (indoor locations):

3.2.1.1 Domestic hot water greater than 140º, less than 180° F: up to 2" pipe - 1½" thick, over 2" pipe 2" thick.

3.2.1.2 Domestic hot and tempered water less than 140° F: up to 3" pipe - 1½" thick, over 3" pipe - 2" thick.

3.2.2 Apply insulation to pipe with all side and end joints butted tightly. Seal longitudinal lap by pressurizing with plastic sealing tool. Apply 3 inch wide self sealing butt strips to joints between insulation sections. Insulate all fittings, flanges, valves and strainers with premolded insulation. Apply coat of insulating cement to fittings and wrap with glass cloth overlapping each wrap 1" and adjacent pipe 2". Finish with heavy coat of general purpose mastic. Premolded PVC covers may also be used, but no flexible inserts are allowed.

3.2.3 Provide hanger or pipe support shields of 16 gauge (minimum) galvanized steel over the insulation which extends halfway up the pipe insulation cover and at least 6" on each side of the hanger.

3.2.4 Omit insulation on exposed plumbing fixture runouts from faces of wall or floor to fixture; on unions, flanges, strainer blowoffs, flexible connections and expansion joints.

3.3 Flexible Unicellular Pipe Insulation:

3.3.1 Insulate the following piping systems:

3.3.1.1 Horizontal above-grade waste piping receiving condensate from air conditioning units to points of connection receiving waste from 4 or more fixtures - ½" thick.

3.3.1.2 Horizontal above grade waste piping receiving discharge from ice machines, coolers, freezers or similar units to points of connection receiving waste form 4 or more fixtures - ½" thick.

3.3.1.3 Floor drain bodies located above ceiling or above grade and receiving condensate from air conditioning units.

3.3.2 Apply insulation in accordance with the manufacturer's recommendations and instructions. Mitre cut insulation to fit pipe fittings. Use approved cement to seal all joints and ends in the insulation.

END OF SECTION 220700

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SECTION 221113 - POTABLE WATER SYSTEM

1 GENERAL

1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 Division-22 Basic Plumbing Requirements and Basic Plumbing Materials and Methods sections apply to work of this section.

1.3 Division-23 Basic Mechanical Materials and Methods Sections apply to work of this section.

1.4 Extent of potable water systems work, is indicated on drawings and schedules, and by requirements of this section.

1.5 Refer to other Division-2 sections for site water distribution system; not work of this section unless noted.

1.6 Refer to appropriate Division-2 sections for exterior potable water system; not work of this section unless noted.

1.7 Insulation for potable water piping is specified in other Division-22 sections, and is included as work of this section. Insulation requirements include:

1.7.1 Domestic hot water piping
1.7.2 Domestic hot water return piping

1.8 Excavation and backfill required in conjunction with water piping is specified in other Division-23 sections, and is included as work of this section.

1.9 Code Compliance: Comply with applicable portions of Florida Building Code-Plumbing pertaining to selection and installation of plumbing materials and products. Comply with local utility requirements.

1.10 Approval Submittals:

1.10.1 Product Data: Submit manufacturer's technical product data and installation instructions for:

Valves
Strainers
Hose bibbs
Wall hydrants
Water hammer arresters
Meters and gauges
Relief valves
Trap primers
Access doors

1.11 Test Reports and Verification Submittals:

1.11.1 Disinfection: Submit report by Health Department.

1.12 O&M Data Submittals: Submit a copy of all approval submittals. Submit maintenance data and parts lists for valves, trap primers. Include these data in O&M manual.

2 PRODUCTS

2.1 General: Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, temperature ratings, and capacities as indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide materials and products complying with Florida Building Code-Plumbing where applicable. Provide sizes and types matching pipe materials used in potable water systems. Where more than one type of materials or products is indicated, selection is Installer's option.

2.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following listed for each item.

2.3 Identification: Provide identification complying with Division-23 Basic Mechanical Materials and Methods section "Mechanical Identification". Provide manufacturer's standard permanent, bright-colored, continuous-printed plastic tape, intended for direct burial service; not less than 6" wide x 4 mils thick. Provide blue tape with black printing reading "CAUTION WATER LINE BURIED BELOW".

2.4 Pipes and Fittings: Provide pipes and pipe fittings complying with Division-23 Basic Mechanical Materials and Methods section "Pipes and Pipe Fittings", in accordance with the following listing:

2.4.1 Interior Water Piping:

2.4.1.1 Above Grade: Copper tube; Type L, hard-drawn temper; wrought-copper fittings, solder-joints.

2.4.1.2 Below Grade: Copper tube; Type L, soft-annealed temper; no joints below floor.

2.4.2 Exterior Water Piping:

2.4.2.1 Copper tube; Type L, hard-drawn temper; wrought-copper fittings, solder-joints.

2.4.3 Solder joints shall be made with 95-5 solder.

2.5 Piping Specialties: Provide piping specialties complying with Division-23 Basic Mechanical Materials and Methods section "Piping Specialties".

2.6 Supports and Anchors: Provide supports and anchors complying with Division-23 Basic Mechanical Materials and Methods section "Supports and Anchors".

2.7 Interior Valves: Provide valves complying with Division-23 Basic Mechanical Materials and Methods section "Valves", in accordance with the following listing:

2.7.1 Sectional and Shutoff Valves: GA1, GA2, GA3, BA1, BA2.

2.7.2 Drain Valves: GA1, GA2, BA1, BA2.

2.7.3 Throttling Valves: BA1, BA2.

2.7.4 Check Valves: CK1, CK2, CK3.

2.8 Hose Bibbs: Provide complete bronze body hose bibbs inside stainless steel box with hinged access door with cylinder lock and “WATER” stamped on cover. Provide key operated control valve with all bronze interior parts, replaceable seat washer, screwdriver operated stop valve in supply, and 3/4” male threaded hose connection. Zurn Z1350 or equal by Acorn or Woodford.

2.9 Wall Hydrants: Provide complete bronze body hose bibbs inside stainless steel box with hinged access

door with cylinder lock and “WATER” stamped on cover. Provide key operated control valve with all bronze interior parts, replaceable seat washer, screwdriver operated stop valve in supply, and 3/4” male threaded hose connection. Zurn Z1350 or equal by Acorn or Woodford.

2.10 Water Hammer Arresters: Provide bellows type water hammer arresters, stainless steel casing and bellows, pressure rated for 250 psi, tested and certified in accordance with PDI Standard WH-201. Precision Plumbing Products, Josam, Zurn, Amtrol, Wade, Jay R. Smith, or approved equal.

2.11 Meters and Gauges: Provide meters and gauges complying with Division-22 Basic Plumbing Materials and Methods section "Meters and Gauges", in accordance with the following listing:

Thermometers
Pressure gauges
Calibrated balancing cocks

2.12 Combined Pressure-Temperature Relief Valves: Provide relief valves as indicated, of size and capacity as selected by Installer for proper relieving capacity, in accordance with ASME Boiler and Pressure Vessel Code. Provide bronze body, test lever and thermostat complying with ANSI Z21.22 listing requirements for temperature discharge capacity. Provide temperature relief at 210°F, and pressure relief at 150 psi. Watts, Cash, Zurn, or approved equal.

2.13 Trap Primers: Provide brass trap primers and distribution units to seal floor drains indicated on drawings. Trap primer valves shall be automatic, self contained type with no springs or diaphragms and shall not require adjustment. Trap primer valves shall be the type that can be installed anywhere on cold water piping. Distribution units shall supply 1-4 floor drains. Trap primer valves shall comply with ASSE 1018. Precision Plumbing Products PI-500, or approved equal. Where P-trap primers are indicated use “Prime-Eze” by Jay R. Smith, or approved equal.

2.14 Access Doors: Provide access doors to service all valves and other devices as required in accordance with Division-23 Basic Mechanical Materials and Methods Section “Access Doors”.

3 EXECUTION

3.1 General: Examine areas and conditions under which potable water systems are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.2 Install plumbing identification in accordance with Division-23 Basic Mechanical Materials and Methods section "Mechanical Identification". Install underground plastic pipe markers during backfill, 6"-8" below grade.

3.3 Install water distribution piping in accordance with Division-23 Basic Mechanical Materials and Methods section "Pipes and Pipe Fittings".

3.3.1 Install piping with 1/32" per foot (¼%) downward slope towards drain point.

3.3.2 Locate groups of pipes parallel to each other, spaced to permit applying full insulation and servicing of valves.

3.4 Install exterior water piping in compliance with local governing regulations. Water piping shall be installed with a minimum of 30 inches of cover unless otherwise indicated.

3.5 Install piping specialties in accordance with Division-23 Basic Mechanical Materials and Methods section "Piping Specialties".

3.6 Install supports and anchors in accordance with Division-23 Basic Mechanical Materials and Methods

section "Supports and Anchors".

3.7 Install valves in accordance with Division-23 Basic Mechanical Materials and Methods section "Valves".

3.7.1 Sectional Valves: Install on each branch and riser, close to main, where branch or riser serves two or more plumbing fixtures or equipment connections, and elsewhere as indicated.

3.7.2 Shutoff Valves: Install on inlet of each plumbing equipment item, and on inlet of each plumbing fixture, and elsewhere as indicated.

3.7.3 Drain Valves: Install on each plumbing equipment item located to completely drain equipment for service or repair. Install at base of each riser, at base of each rise or drop in piping system, and elsewhere where indicated or required to completely drain potable water system.

3.7.4 Check Valves: Install where indicated.

3.8 Hose Bibbs and Wall Hydrants: Install on concealed piping where indicated with vacuum breaker. Mount 18 inches above grade or finished floor.

3.9 Install meters and gauges in accordance with Division-23 Basic Mechanical Materials and Methods section "Meters and Gauges".

3.10 Install relief valves on each water heater, and where indicated in accordance with the manufacturer's instructions. Pipe full size outside or to floor drain. Cut the end of the pipe at a 45° angle and terminate 6 inches above the floor or grade.

3.11 Piping Runouts to Fixtures: Provide hot and cold water piping runouts to fixtures of sizes indicated, but in no case smaller than required by Florida Building Code-Plumbing.

3.12 Plumbing Equipment Connections: Connect hot and cold water piping system to plumbing equipment as indicated, and comply with equipment manufacturer's installation instructions. Provide shutoff valve and union for each connection, provide drain valve on drain connection.

3.13 Install water hammer arresters in upright position, in locations and of sizes indicated in accordance with PDI Standard WH-201.

3.14 Install trap primers as indicated, and in accordance with manufacturer's installation instructions. Provide access panels to all trap primers unless accessible through a lay-in ceiling or inside mechanical room.

3.15 Locate and coordinate installation of access doors for all valves and devices in accordance with Division-23 Basic Mechanical Materials and Methods section “Access Doors”.

3.16 Piping Tests: Test, clean, and sterilize potable water piping in accordance with testing requirements of Division-23 Basic Mechanical Materials and Methods section "Testing, Cleaning, and Sterilization of Piping Systems".

END OF SECTION 221113

SECTION 221316 - SOIL, WASTE AND VENT SYSTEM

1 GENERAL

1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 Division-22 Basic Plumbing Requirements and Basic Plumbing Materials and Methods sections apply to work of this section.

1.3 Division-23 Basic Mechanical Materials and Methods Sections apply to work of this section.

1.4 Extent of soil waste and vent systems work is indicated on drawings and schedules, and by requirements of this section.

1.5 Refer to appropriate Division-2 sections for exterior sanitary sewer system required in conjunction with soil and waste systems; not work of this section.

1.6 Insulation for soil and waste systems is specified in other Division-22 sections, and is included as work of this section. Insulation requirements include:

1.6.1 Horizontal above grade waste pipes receiving discharge from ice machines, coolers, freezers or similar units to points of connection receiving waste from 4 or more fixtures.

1.6.2 Horizontal above grade waste pipes receiving condensate from air conditioning equipment to point of connection receiving waste from 4 or more fixtures.

1.7 Excavation and backfill required in conjunction with soil, waste and vent piping is specified in other Division-23 sections and is included as work of this section.

1.8 Refer to Division-7 section "Flashing and Sheet Metal" for flashings required in conjunction with soil and waste systems; not work of this section.

1.9 Code Compliance: Comply with applicable portions of Florida Building Code-Plumbing pertaining to plumbing materials, construction and installation of products. Comply with local utility requirements.

1.10 Approval Submittals:

1.10.1 Product Data: Submit manufacturer's technical product data for:

Cleanouts
Floor drains

2 PRODUCTS

2.1 General: Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, and capacities as indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements. Provide sizes and types matching piping and equipment connections; provide fittings of materials which match pipe materials used in soil and waste systems. Where more than one type of materials or products is indicated, selection is Installer's option.

Underground-Type Plastic Line Marker: Manufacturer's standard permanent, bright-colored, continuous-printed plastic tape, intended for direct-burial service; not less than 6" wide x 4 mils thick. Provide green tape with black printing reading "CAUTION SEWER LINE BURIED BELOW".

2.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following listed for each item.

2.3 Pipes and Fittings: Provide pipes and pipe fittings complying with Division-23 Basic Mechanical Materials and Methods section "Pipes and Pipe Fittings", in accordance with the following listing:

2.3.1 Above Ground Soil, Waste, and Vent Piping:

2.3.1.1 Polyvinyl chloride plastic pipe (PVC); Type DWV; PVC plastic type DWV socket-type fitting, solvent cement joints. Do not use in fire-rated assemblies or return air plenums.

2.3.2 Underground Building Drain Piping (within 5 feet of the building):

2.3.2.1 Pipe Size 6" and Smaller: Polyvinyl chloride sewer pipe (PVC); Type DWV; PVC plastic type DWV socket-type.

2.4 Pipe Specialties: Provide piping specialties complying with Division-23 Basic Mechanical Materials and Methods section "Piping Specialties".

2.5 Supports and Anchors: Provide supports and anchors complying with Division-23 Basic Mechanical Materials and Methods section "Supports and Anchors".

2.6 Cleanouts: Provide factory-fabricated drainage piping products of size and type indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements and governing regulations. Josam, Jay R. Smith, Wade, Zurn.

2.6.1 Cleanout Plugs: Cast-bronze or brass, threads complying with ANSI B2.1 countersunk head.

2.6.2 Cleanout for PVC Systems:

2.6.2.1 Floor Cleanouts: Cast-iron body with adjustable head, brass plug, and scoriated nickel brass cover. Furnish with carpet flange for carpeted floors. Furnish with recessed cover for tile floors. Furnish with clamping ring for floors with membrane. Wade W-6030 hub outlet for push-on.

2.6.2.2 Cleanouts in Piping: PVC cleanout adaptor with threaded PVC plug.

2.6.2.3 Wall Cleanouts: PVC cleanout adaptor with tapped, countersunk, threaded brass plug. Square 9”x9” wall access cover, with scoriated nickel bronze finish.

2.6.2.4 Grade Cleanouts: PVC cleanout adaptor with countersunk, threaded brass plug. Wade W-8590-D plug. In sidewalks and other finished concrete, provide access cover frames with a non-tilting tractor cover. Wade W-7035-Z or equal.

2.6.2.5 Cleanouts in Paved Areas: Cast iron body, adjustable housing, ferrule with plug and round loose scoriated tractor cover. Wade W-8300-MF. Coordinate concrete depth at site with adjustable flange.

2.7 Floor Drains: Provide floor drains of size as indicated on drawings; and type, including features, as specified herein. Josam, Jay R. Smith, Wade, Zurn.

2.7.1 Floor Drains: Provide inside caulk bottom outlet or TY-Seal hub outlet with adaptor for cast iron trap installation and a 4" deep trap seal. Provide clamping rings for floors with membrane.

2.7.2 Strainer: Provide 5" satin-nickel bronze strainer.

2.7.3 Trap Primer Connection: Provide ½" trap primer tapping.

2.7.4 Funnel: Provide funnel where shown on the drawings.

2.7.5 Basis of Design: Zurn Z-415B-P.

3 EXECUTION

3.1 Examine substrates and conditions under which soil and waste systems are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 Piping Installation:

3.2.1 Install above grade soil and waste piping in accordance with Division-22 Basic Plumbing Materials and Methods section "Pipes and Pipe Fittings", and with Florida Building Code-Plumbing.

3.2.2 Install underground soil and waste pipes as indicated and in accordance with Florida Building Code-Plumbing. Lay underground piping beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install required gaskets in accordance with manufacturer's recommendations for use of lubricants, cements, and other special installation requirements. Clean interior of piping of dirt and other superfluous material as work progresses. Maintain swab or drag in line and pull past each joint as it is completed. Place plugs in ends of uncompleted piping at end of day or whenever work stops.

3.2.3 Install building soil and vent piping pitched to drain at minimum slope of ¼" per foot (2%) for piping smaller than 3", and 1/8" per foot (1%) for piping 3" and larger.

3.3 Install piping specialties in accordance with Division-23 Basic Mechanical Materials and Methods section "Piping Specialties".

3.4 Install supports and anchors in accordance with Division-23 Basic Mechanical Materials and Methods section "Supports and Anchors".

3.5 Installation of Cleanouts: Install in above ground piping and building drain piping as indicated, as required by Florida Building Code-Plumbing; and at each change in direction of piping greater than 45°; at minimum intervals of 50' for piping 4" and smaller and 100' for larger piping; and at base of each vertical soil or waste stack. Install floor and wall cleanout covers for concealed piping, select type to match adjacent building finish.

3.5.1 Size: Cleanouts shall be full size up to 4". Piping over 4" shall have a reducing fitting to accommodate a 4" cleanout unless indicated otherwise on drawings.

3.5.2 Install cleanouts to allow adequate clearance for rodding.

3.5.3 Protect all finished surfaces of cleanouts with a suitable adhesive covering until construction is completed.

3.5.4 Cleanouts to Grade: Provide an 18" x 18" x 8" thick concrete pad around the cleanout. Set the cleanout ferrule, adapter, or access cover frame in the concrete as required. The cleanout shall be extended to the finished grade. The concrete pad shall slope away from the cleanout in all directions approximately one inch. Cover pad with fill to finished grade.

3.5.5 Cleanouts in Paved Areas: Provide concrete pad similar to cleanout to grade and coordinate concrete depth at site with adjustable flange. Access cover frames are required.

3.6 Flashing Flanges: Install flashing flange and clamping device with each stack and cleanout passing through waterproof membranes.

3.7 Vent Flashing Sleeves: Install on stack passing through roof, secure to stack flashing in accordance with manufacturer's instructions. For metal roofs, sleeves and flashing are by Division-7.

3.8 Installation of Floor Drains: Install floor drains in accordance with manufacturer's written instructions and in locations indicated.

3.8.1 Coordinate flashing work with work of waterproofing and adjoining substrate work.

3.8.2 Install floor drains at low points of surface areas to be drained, or as indicated. Set tops of drains flush with finished floor.

3.8.3 Install drain flashing collar or flange so that no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes, where penetrated.

3.8.4 Position drains so that they are accessible and easy to maintain.

3.9 Connection of Trap Primers: Connect trap primers as indicated, and in accordance with manufacturer's installation instructions. Pitch piping towards drain trap, minimum of 1/8" per foot (1%). Adjust trap primer for proper flow.

3.10 Piping Runouts to Fixtures: Provide soil and waste piping runouts to plumbing fixtures and drains, with approved trap, of sizes indicated, but in no case smaller than required by Florida Building Code-Plumbing.

3.11 Test, clean, flush, and inspect soil and waste piping in accordance with requirements of Division-23 Basic Mechanical Materials and Methods section "Testing, Cleaning and Sterilization of Piping Systems".

END OF SECTION 221316

SECTION 223000 - PLUMBING FIXTURES, EQUIPMENT, TRIM & SCHEDULE

1 GENERAL

1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 Division-22 Basic Plumbing Requirements and Basic Plumbing Materials and Methods sections apply to work of this section.

1.3 Division-23 Basic Mechanical Materials and Methods Sections apply to work of this section.

1.4 Extent of plumbing fixtures work required by this section is indicated on drawings and schedules, and by requirements of this section.

1.5 Refer to Division-26 sections for field-installed electrical wiring required for plumbing fixtures; not work of this section.

1.6 Codes and Standards:

1.6.1 Plumbing Fixture Standards: Comply with applicable portions of Florida Building Code-Plumbing pertaining to materials and installation of plumbing fixtures.

1.6.2 ANSI Standards: Comply with applicable ANSI standards pertaining to plumbing fixtures and systems.

1.6.3 PDI Compliance: Comply with standards established by PDI pertaining to plumbing fixture supports.

1.6.4 UL Listing: Construct plumbing fixtures requiring electrical power in accordance with UL standards and provide UL-listing and label.

1.6.5 ARI Compliance: Construct and install water coolers in accordance with ARI Standard 1010 "Drinking-Fountains and Self-Contained Mechanically-Refrigerated Drinking-Water Coolers", and provide Certification Symbol.

1.6.6 ANSI Compliance: Construct and install barrier-free plumbing fixtures in accordance with ANSI Standard A117.1 "Specifications for Making Buildings and Facilities Accessible To and Usable By Physically Handicapped People".

1.7 Approval Submittals:

1.7.1 Product Data: Submit manufacturer's technical product data, including rated capacities of selected model clearly indicated, furnished specialties and accessories; and installation instructions. Submit manufacturer's assembly-type drawings indicating dimensions, roughing-in requirements, required clearances, and methods of assembly of components and anchorages. The submittal shall be organized by “fixture number” and each fixture package shall be so identified. Each fixture package shall include all of the required fitting and trim, even if such devices are used for more than one fixture.

1.8 O&M Data Submittals: Submit a copy of approval submittals. Submit maintenance data and parts lists for each type of plumbing fixture and accessory; including "trouble-shooting" maintenance guide. Include these data in O&M manual.

1.9 Handle plumbing fixtures carefully to prevent breakage, chipping and scoring fixture finish. Do not install damaged plumbing fixtures; replace and return damaged units to equipment manufacturer.

2 PRODUCTS

2.1 General: Provide factory-fabricated fixtures of type, style and material indicated. For each type fixture, provide trim, carrier, seats, and valves as specified. Where not specified, provide products as recommended by manufacturer, and as required for complete installation. Where more than one type is indicated, selection is Installer's option; but, all fixtures of same type must be furnished by single manufacturer. Where type is not otherwise indicated, provide fixtures complying with governing regulations.

2.2 Model Numbers: Basis of design model numbers of a particular manufacturer are listed in the fixture schedule as an aid to contractors. Where conflicts between the model number and the written description occur, the written description shall govern. Where acceptable manufacturers are listed, products are subject to compliance with requirements.

2.3 Refer to plumbing construction documents for fixture specifications.

2.4 Materials:

2.4.1 Provide materials which have been selected for their surface flatness and smoothness. Exposed surfaces which exhibit pitting seam marks, roller marks, foundry sand holes, stains, decoloration, or other surface imperfections on finished units are not acceptable.

2.4.2 All fixtures shall be white vitreous china unless otherwise specifically noted. Where enameled iron fixtures are specified, they shall be furnished with acid resisting enamel.

2.4.3 Where fittings, trim and accessories are exposed or semi-exposed provide bright chrome-plated or polished stainless steel units. Provide copper or brass where not exposed.

2.4.4 Stainless Steel Sheets: ASTM A 167, Type 302/304, hardest workable temper. Finish shall be No. 4, bright, directional polish on exposed surfaces.

2.4.5 Vitreous China: High quality, free from fire cracks, spots, blisters, pinholes and specks; glaze exposed surfaces, and test for crazing resistance in accordance with ASTM C 554.

2.4.6 Synthetic Stone: High quality, free from defects, glaze on exposed surfaces, stain resistant.

2.5 Plumbing Fittings, Trim and Accessories:

2.5.1 Faucets: At locations where water is supplied (by manual, automatic or remote control), provide commercial quality chrome-plated, cast-brass faucets, valves, or other dispensing devices, of type and size indicated, and as required to operate as indicated.

2.5.1.1 Aerators: Provide aerators of types approved by Health Department having jurisdiction.

2.5.1.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. American Standard, Chicago Faucet Co., Kohler Co., Speakman Co., T & S Brass and Bronze Works, Water Saver Faucet Co., Zurn.

2.5.2 Stops: Provide chrome-plated brass, angle type, manual shutoff valves and 3/8" chrome-plated flexible supply pipes to permit fixture servicing without shutdown of water supply piping systems for all fixtures. Coordinate with fixture requirements.

2.5.2.1 Provide loose key stops.

2.5.2.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Zurn or approved equal.

2.5.3 Waste Outlets: Provide removable P-traps, drains, waste arms, tailpieces and wastes-to-wall where drains are indicated for direct connection to drainage system for all fixtures unless otherwise noted. Provide drains, tailpieces and waste arms where indirect drains are indicated. Waste outlets shall be full size of fixture drain connection.

2.5.3.1 Provide chrome-plated cast-brass P-traps and drains with cleanout.

2.5.3.2 P-traps, wastes and drains of all types shall be 17-gauge.

2.5.3.3 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Zurn, or approved equal.

2.5.4 Flush Valves: Provide quiet-flush, chrome-plated, cast-brass flush valves with vacuum breaker and screwdriver stop. Where handicap service is indicated, provide ADA compliant handles with the handle on the approach side of the stall.

2.5.4.1 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Sloan Valve Co. or Zurn.

2.5.5 Carriers: Provide cast-iron supports for fixtures of either graphitic gray iron, ductile iron, or malleable iron or steel as indicated. Coordinate with specific fixture requirements and conditions of the project.

2.5.5.1 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Josam, Wade, Zurn, J.R. Smith.

2.5.6 Fixture Bolt Caps: Provide manufacturer's standard exposed fixture bolt caps finished to match fixture finish.

2.5.7 Escutcheons: Where fixture supplies and drains penetrate walls in exposed locations, provide chrome-plated brass escutcheons with friction clips.

2.5.8 Comply with additional fixture requirements listed for each fixture and as required for a complete and functional system.

2.6 Water Closets:

2.6.1 General: Provide white china siphon jet type unless otherwise noted.

2.6.1.1 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. American Standard, Crane, Kohler, or Zurn.

2.6.2 Fixture Seats: Provide white, heavy molded plastic fixture seats with stainless steel self-sustaining check hinges.

2.6.2.1 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Bemis Mfg. Co., Beneke Corp., Church or Comfort Seats.

2.7 Lavatories:

2.7.1 General: Provide white china lavatories.

2.7.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. American Standard, Crane, Kohler, or Zurn.

2.8 Electric Water Coolers:

2.8.1 General: Provide self-contained electric water cooler with entire water system free of lead. All joints shall be made using silver solder. Units shall be complete with an air-cooled refrigeration system consisting of a hermetic compressor, cooler, pre-cooler, condenser fan, thermostat safety controls and all other related devices. The unit shall have a capacity of 8 gallons per hour. The cabinet shall be stainless steel with vermin proof insulation. The top shall be fabricated of stainless steel with a No. 4 finish. Provide sensor, operator, transformer and all related controls for fully automatic operation. Where handicap units are indicated, the bubbler and fountain shall be ADA compliant.

2.8.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Elkay Mfg. Co., Halsey Taylor Div., Haws Drinking Faucet Co., Sunroc, Oasis.

2.9 Mop Receptors:

2.9.1 General: Provide one piece mop receptors with 3" integral stainless steel grid drain. Provide wall-mounted faucet with arm handles, vacuum breaker, stops, hose connection and hose bracket. Provide 30" hose.

2.9.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Stern-Williams Co., or Acorn.

2.10 Stainless Steel Sinks:

2.10.1 General: Provide Type 304, 18 gauge self-rimming stainless steel back ledge with No. 4 finish. Provide sound deadening material on the sides and bottom of the sink. Provide grid drain or strainer with removable crumb cup and stopper as indicated.

2.10.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Elkay, Just

2.11 Water Heaters:

2.11.1 Accessories: VB, relief, pan, stand, etc.

2.11.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item. Ruud, Rheem, Mor-Flo, State, A.O. Smith.

2.12 Thermostatic Mixing Valves:

2.12.1 General:

2.12.2 Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following for each item.

3 EXECUTION

3.1 Examine roughing-in work of potable water and waste piping systems to verify actual locations of piping connections prior to installing fixtures. Also examine floors and substrates, and conditions under which fixture work is to be accomplished. Correct any incorrect locations of piping, and other unsatisfactory conditions for installation of plumbing fixtures. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.2 Install plumbing fixtures of types indicated where shown and at indicated heights. Install in accordance with fixture manufacturer's written instructions, roughing-in drawings, and with recognized industry practices. Install in accordance with ADA and applicable handicap code requirements. Ensure that plumbing fixtures comply with requirements and serve intended purposes. Comply with applicable requirements of Florida Building Code-Plumbing pertaining to installation of plumbing fixtures. Furnish templates for cut-outs in countertops. Coordinate exact fixture locations with countertop shop drawings.

3.3 Fasten plumbing fixtures securely to indicated supports or building structure; and ensure that fixtures are level and plumb. Secure plumbing supplies behind or within wall construction so as to be rigid, and not subject to pull or push movement. Mount at heights shown on the drawings. Fixture heights are floor-to-rim distance. Fitting heights are to centerline.

3.4 Install stop valve in water supply to each fixture.

3.5 After fixtures are set, the crack between the fixture and wall shall be caulked with DAP silicone-based caulking, or approved product specified by the architect.

3.6 Protect installed fixtures from damage during remainder of construction period.

3.7 Upon completion of installation of plumbing fixtures and after units are water pressurized, test fixtures to demonstrate capability and compliance with requirements. When possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units and proceed with retesting.

3.8 Inspect each installed unit for damage to finish. If feasible, restore and match finish to original at site; otherwise, remove fixture and replace with new unit. Feasibility and match to be judged by Architect/Engineer. Remove cracked or dented units and replace with new units.

3.9 Clean plumbing fixtures, trim, aerators, and strainers of dirt and debris upon completion of installation.

3.10 Adjust water pressure at drinking fountains, faucets, and flush valves to provide proper flow stream and specified gpm.

3.11 Adjust or replace washers to prevent leaks at faucets and stops.

END OF SECTION 223000

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SECTION 230100 - MECHANICAL GENERAL

1 GENERAL

1.1 The work covered by this division consists of providing all labor, equipment and materials and performing all operations necessary for the installation of the mechanical work as herein called for and shown on the drawings.

1.2 Related Documents:

1.2.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2.2 This is a Basic Mechanical Requirements Section. Provisions of this section apply to work of all Division 23 sections.

1.2.3 Review all other contract documents to be aware of conditions affecting work herein.

1.2.4 Definitions:

1.2.4.1 Provide: Furnish and install, complete and ready for intended use.

1.2.4.2 Furnish: Supply and deliver to project site, ready for subsequent requirements.

1.2.4.3 Install: Operations at project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar requirements.

1.3 Permits and Fees: Contractor shall obtain all necessary permits, meters, and inspections required for his work and pay all fees and charges incidental thereto.

1.4 Verification of Owner's Data: Prior to commencing any work the Contractor shall satisfy himself as to the accuracy of all data as indicated in these plans and specifications and/or as provided by the Owner. Should the Contractor discover any inaccuracies, errors, or omissions in the data, he shall immediately notify the Architect/Engineer in order that proper adjustments can be anticipated and ordered. Commencement by the Contractor of any work shall be held as an acceptance of the data by him after which time the Contractor has no claim against the Owner resulting from alleged errors, omissions or inaccuracies of the said data.

1.5 Delivery and Storage of Materials: Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. All material shall be stored to provide protection from the weather and accidental damage.

1.6 Extent of work is indicated by the drawings, schedules, and the requirements of the specifications. Singular references shall not be constructed as requiring only one device if multiple devices are shown on the drawings or are required for proper system operation.

1.7 Field Measurements and Coordination:

1.7.1 The intent of the drawings and specifications is to obtain a complete and satisfactory installation. Separate divisional drawings and specifications shall not relieve the Contractor or subcontractors from full compliance of work of his trade indicated on any of the drawings or in any section of the specifications.

1.7.2 Verify all field dimensions and locations of equipment to insure close, neat fit with other trades' work. Make use of all contract documents and approved shop drawings to verify exact dimension and locations.

1.7.3 Coordinate work in this division with all other trades in proper sequence to insure that the total work is completed within contract time schedule and with a minimum cutting and patching.

1.7.4 Locate all apparatus symmetrical with architectural elements. Install to exact height and locations when shown on architectural drawings. When locations are shown only on mechanical drawings, be guided by architectural details and conditions existing at job and correlate this work with that of others.

1.7.5 Install work as required to fit structure, avoid obstructions, and retain clearance, headroom, openings and passageways. Cut no structural members without written approval.

1.7.6 Carefully examine any existing conditions, piping, and premises. Compare drawings with existing conditions. Report any observed discrepancies. It shall be the Contractor's responsibility to properly coordinate the work and to identify problems in a timely manner. Written instructions will be issued to resolve discrepancies.

1.7.7 Because of the small scale of the drawings, it is not possible to indicate all offsets and fittings or to locate every accessory. Drawings are essentially diagrammatic. Study carefully the sizes and locations of structural members, wall and partition locations, trusses, and room dimensions and take actual measurements on the job. Locate piping, ductwork, equipment and accessories with sufficient space for installing and servicing. Contractor is responsible for accuracy of his measurements and for coordination with all trades. Contractor shall not order materials or perform work without such verification. No extra compensation will be allowed because field measurements vary from the dimensions on the drawings. If field measurements show that equipment or piping cannot be fitted, the Architect/Engineer shall be consulted. Remove and relocate, without additional compensation, any item that is installed and is later found to encroach on space assigned to another use.

1.8 Guarantee:

1.8.1 The Contractor shall guarantee labor, materials and equipment for a period of ~~five (5)~~ *one (1)* years ~~from~~ Final Completion, or from Owner's occupancy, whichever is earlier. Contractor shall make good any defects and shall include all necessary adjustments to and replacement of defective items without expense to the Owner.

1.8.2 Owner reserves right to make emergency repairs as required to keep equipment in operation without voiding Contractor's Guarantee Bond nor relieving Contractor of his responsibilities during guarantee period.

1.9 Approval Submittals:

1.9.1 When approved, the submittal control log and submittals shall be an addition to the specifications herewith, and shall be of equal force in that no deviation will be permitted except with the approval of the Architect/Engineer.

1.9.1.1 Shop drawings, product literature, and other approval submittals will only be reviewed if they are submitted in full accordance with the General and Supplementary Conditions and Division 1 Specification sections and the following.

1.9.1.1.1 Submittals shall be properly organized in accordance with the approved submittal control log.

1.9.1.1.2 Submittals shall not include items from more than one specification section in the same submittal package unless approved in the submittal control log.

1.9.1.1.3 Submittals shall be properly identified by a cover sheet showing the project name, Architect and Engineer names, submittal control number, specification section, a list of products or item names with model numbers in the order they appear in the package, and spaces for approval stamps. A sample cover sheet is included at the end of this section.

1.9.1.1.4 Submittals shall have been reviewed and approved by the General Contractor (or Prime Contractor). Evidence of this review and approval shall be an "Approved" stamp with a signature and date on the cover sheet.

1.9.1.1.5 Submittals that include a series of fixtures or devices (such as plumbing fixtures or valves) shall be organized by the fixture number or valve type and be marked accordingly. Each fixture must include all items associated with that fixture regardless of whether or not those items are used on other fixtures.

1.9.1.1.6 The electrical design shown on the drawings supports the mechanical equipment basis of design specifications at the time of design. If mechanical equipment is submitted with different electrical requirements, it is the responsibility of the mechanical contractor to resolve all required electrical design changes (wire and conduit size, type of disconnect or overload protection, point(s) of connection, etc.) and clearly show the new electrical design on the mechanical submittal with a written statement that this change will be provided at no additional cost. Mechanical submittals made with no written reference to the electrical design will be presumed to work with the electrical design. Any corrections required will be at no additional cost.

1.9.2 If the shop drawings show variation from the requirements of contract because of standard shop practice or other reasons, the Contractor shall make specific mention of such variation in writing in his letter of transmittal and on the submittal cover sheet in order that, if acceptable, Contractor will not be relieved of the responsibility for executing the work in accordance with the contract.

1.9.3 Review of shop drawings, product literature, catalog data, or schedules shall not relieve the Contractor from responsibility for deviations from contract drawings or specifications, unless he has in writing called to the attention of the Architect/Engineer each such deviation in writing at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings, product literature, catalog data, or schedules. Any feature or function specified but not mentioned in the submittal shall be assumed to be included per the specification.

1.9.4 Submit shop drawings as called for in other sections after award of the contract and before any material is ordered or fabricated. Shop drawings shall consist of plans, sections, elevations and details to scale (not smaller than ¼" per foot), with dimensions clearly showing the installation. Direct copies of small scale project drawings issued to the Contractor are not acceptable. Drawings shall take into account equipment furnished under other sections and shall show space allotted for it. Include construction details and materials.

1.10 Test Reports and Verification Submittals: Submit test reports, certifications and verification letters as called for in other sections. Contractor shall coordinate the required testing and documentation of system performance such that sufficient time exists to prepare the reports, submit the reports, review the reports and take corrective action within the scheduled contract time.

1.11 O&M Data Submittals: Submit Operation and Maintenance data as called for in other sections. When a copy of approval submittals is included in the O&M Manual, only the final “Approved” or “Approved as Noted” copy shall be used. Contractor shall organize these data in the O&M Manuals tabbed by specification number. Prepare O&M Manuals as required by Division 1 and as described herein. Submit manuals at the Substantial Completion inspection.

2 PRODUCTS

2.1 All materials shall be new or Owner-supplied reused as shown on the drawings, the best of their respective kinds, suitable for the conditions and duties imposed on them at the building and shall be of reputable manufacturers. The description, characteristics, and requirements of materials to be used shall be in accordance with qualifying conditions established in the following sections.

2.2 Equipment and Materials:

2.2.1 Shall be new and the most suitable grade for the purpose intended. Equipment furnished under this division shall be the product of a manufacturer regularly engaged in the manufacture of such items for a period of three years. Where practical, all of the components shall be products of a single manufacturer in order to provide proper coordination and responsibility. Where required, Contractor shall furnish proof of installation of similar units or equipment.

2.2.2 Each item of equipment shall bear a name plate showing the manufacturer's name, trade name, model number, serial number, ratings and other information necessary to fully identify it. This plate shall be permanently mounted in a prominent location and shall not be concealed, insulated or painted.

2.2.3 The label of the approving agency, such as UL, IBR, ASME, ARI, AMCA, by which a standard has been established for the particular item shall be in full view.

2.2.4 The equipment shall be essentially the standard product of a manufacturer regularly engaged in the production of such equipment and shall be a product of the manufacturer's latest design.

2.2.5 A service organization with personnel and spare parts shall be available within two hours for each type of equipment furnished.

2.2.6 Install in accordance with manufacturer's recommendations. Place in service by a factory trained representative where required.

2.2.7 Materials and equipment are specified herein by a single or by multiple manufacturers to indicate quality, material and type of construction desired. Manufacturer's products shown on the drawings have been used as basis for design; it shall be the Contractor's responsibility to ascertain that alternate manufacturer's products, or the particular products of named manufacturers, meet the detailed specifications and that size and arrangement of equipment are suitable for installation.

2.2.8 Model Numbers: Catalog numbers and model numbers indicated in the drawings and specifications are used as a guide in the selection of the equipment and are only listed for the contractor's convenience. The contractor shall determine the actual model numbers for ordering materials in accordance with the written description of each item and with the intent of the drawings and specifications.

2.3 Requests for Substitution:

2.3.1 Where a particular system, product or material is specified by name, consider it as standard basis for bidding, and base proposal on the particular system, product or material specified.

2.3.2 Requests by Contractor for substitution will be considered only when reasonable, timely, fully documented, and qualifying under one or more of the following circumstances.

2.3.2.1 Required product cannot be supplied in time for compliance with Contract time requirements.

2.3.2.2 Required product is not acceptable to governing authority, or determined to be non-compatible, or cannot be properly coordinated, warranted or insured, or has other recognized disability as certified by Contractor.

2.3.2.3 Substantial cost advantage is offered Owner after deducting offsetting disadvantages including delays, additional compensation for redesign, investigation, evaluation and other necessary services and similar considerations.

2.3.3 All requests for substitution shall contain a "Comparison Schedule" and clearly and specifically indicate any and all differences or omissions between the product specified as the basis of design and the product proposed for substitution. Differences shall include but shall not be limited to data as follows for both the specified and substituted products:

Principal of operation.
Materials of construction or finishes.
Thickness of gauge of materials.
Weight of item.
Deleted features or items.
Added features or items.
Changes in other work caused by the substitution.
Performance curves.

If the approved substitution contains differences or omissions not specifically called to the attention of the Architect/Engineer, the Owner reserves the right to require equal or similar features to be added to the substituted products (or to have the substituted products replaced) at the Contractor's expense.

3 EXECUTION

3.1 Workmanship: All materials and equipment shall be installed and completed in a first-class workmanlike manner and in accordance with the best modern methods and practice. Any materials installed which do not present an orderly and reasonably neat and/or workmanlike appearance, or do not allow adequate space for maintenance, shall be removed and replaced when so directed by the Architect/Engineer.

3.2 Coordination:

3.2.1 The Contractor shall be responsible for full coordination of the mechanical systems with shop drawings of the building construction so the proper openings and sleeves or supports are provided for piping, ductwork, or other equipment passing through slabs or walls.

3.2.2 Any additional steel supports required for the installation of any mechanical equipment, piping, or ductwork shall be furnished and installed under the section of the specifications requiring the additional supports.

3.2.3 It shall be the Contractor's responsibility to see that all equipment such as valves, dampers, filters and such other apparatus or equipment that may require maintenance and operation are made easily accessible, regardless of the diagrammatic location shown on the drawings.

3.2.4 All connections to fixtures and equipment shown on the drawings shall be considered diagrammatic unless otherwise indicated by detail. The actual connections shall be made to fully suit the requirements of each case and adequately provide for expansion and servicing.

3.2.5 The contractor shall protect equipment, material, and fixtures at all times. He shall replace all equipment, material, and fixtures which are damaged as a result of inadequate protection.

3.2.6 Prior to starting and during progress of work, examine work and materials installed by others as they apply to work in this division. Report conditions which will prevent satisfactory installation.

3.2.7 Start of work will be construed as acceptance of suitability of work of others.

3.3 Interruption of Service: Before any equipment is shut down for disconnecting or tie-ins, arrangements shall be made with the Architect/Engineer and this work shall be done at the time best suited to the Owner. This will typically be on weekends and/or holidays and/or after normal working hours. Services shall be restored the same day unless prior arrangements are made. All overtime or premium costs associated with this work shall be included in the base bid.

3.4 Phasing: Provide all required temporary valves, piping, ductwork, equipment and devices as required. Maintain temporary services to areas as required. Remove all temporary material and equipment on completion of work unless Engineer concurs that such material and equipment would be beneficial to the Owner on a permanent basis.

3.5 Cutting and Patching: Notify General Contractor to do all cutting and patching of all holes, chases, sleeves, and other openings required for installation of equipment furnished and installed under this section. Utilize experienced trades for cutting and patching. Obtain permission from Architect/Engineer before cutting any structural items.

3.6 Equipment Setting: Bolt equipment directly to concrete pads or vibration isolators as required, using hot-dipped galvanized anchor bolts, nuts and washers. Level equipment.

3.7 Painting: Touch-up factory finishes on equipment located inside and outside shall be done under Division 23. Obtain matched color coatings from the manufacturer and apply as directed. If corrosion is found during inspection on the surface of any equipment, clean, prime, and paint, as required.

3.8 Clean-up: Thoroughly clean all exposed parts of apparatus and equipment of cement, plaster, and other materials and remove all oil and grease spots. Repaint or touch up as required to look like new. During progress of work, contractor is to carefully clean up and leave premises and all portions of building free from debris and in a clean and safe condition.

3.9 Start-up and Operational Test: Start each item of equipment in strict accordance with the manufacturer's instructions; or where noted under equipment specification, start-up shall be done by a qualified representative of the manufacturer. Alignment, lubrication, safety, and operating control shall be included in start-up check.

3.10 Climate Control: Operate heating and cooling systems as required after initial startup to maintain temperature and humidity conditions to avoid freeze damage and warping or sagging of ceilings and carpet.

3.11 Record Drawings:

3.11.1 During the progress of the work the Contractor shall record on their field set of drawings the exact location, as installed, of all piping, ductwork, equipment, and other systems which are not installed exactly as shown on the contract drawings.

3.11.2 Upon completion of the work, record drawings shall be prepared as described in the General Conditions, Supplementary Conditions, and Division 1 sections.

3.12 Acceptance:

3.12.1 Punch List: Submit written confirmation that all punch lists have been checked and the required work completed.

3.12.2 Instructions: At completion of the work, provide a competent and experienced person who is thoroughly familiar with project, for one day to instruct permanent operating personnel in operation of

equipment and control systems. This is in addition to any specific equipment operation and maintenance training.

3.12.3 Operation and Maintenance Manuals: Furnish four complete manuals bound in ring binders with Table of Contents, organized, and tabbed by specification section. Manuals shall contain:

Detailed operating instructions and instructions for making minor adjustments.
Complete wiring and control diagrams.
Routine maintenance operations.
Manufacturer's catalog data, service instructions, and parts lists for each piece of operating equipment.
Copies of approved submittals.
Copies of all manufacturer's warranties.
Copies of test reports and verification submittals.

3.12.4 Record Drawings: Submit record drawings.

3.12.5 Test and Balance Report: Submit four certified copies. The Report shall be submitted for review prior to the Substantial Completion Inspection unless otherwise required by Division 1.

3.12.6 Acceptance will be made on the basis of tests and inspections of job. A representative of firm that performed test and balance work shall be in attendance to assist. Contractor shall furnish necessary mechanics to operate system, make any necessary adjustments and assist with final inspection.

END OF SECTION 230100

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SECTION 126613 – TELESCOPIC SEATING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Telescopic Gym Seating includes electrically operated multiple-tiered seating rows comprising of seat, deck components, understructure that permits closing without requiring dismantling, into a nested configuration for storing or for moving purposes

1. Wall-attached telescoping stands

B. Related Sections:

1. Division 26 Electrical sections for electrical wiring and connections for electrically operated telescoping stands.

1.2 REFERENCES

A. Aluminum Association (AA):

1. ADM 1- Aluminum Design Manual

B. American Institute of Steel Construction (AISC):

1. AISC 360- Steel Construction Manual.

C. American Iron & Steel Institute (AISI):

1. AISI S100 – Design of Cold Formed Steel Structural Members.

D. American Society for Testing Materials (ASTM):

1. ASTM - Standard Specifications for Properties of Materials.

E. American Wood Council (AWC):

1. ANSI/AWC NDS (National Design Specification for Wood Construction).

F. American Welding Society (AWS):

1. AWS D1.1 Structural Welding Code – Steel
2. AWS D1.3 Structural Welding Code - Sheet Steel

G. U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

H. Forest Stewardship Council:

1. Chain of Custody Certification (FSC-STD-40-004)

I. Florida Building Code (FBC)

J. International Code Council (ICC):

1. ICC 300: Standard for Bleachers, Folding and Telescopic Seating and Grandstands.

K. National Fire Protection Association (NFPA):

1. Florida Fire Prevention Code : NFPA 101:
2. NFPA 5000: Building Construction and Safety Code
3. NFPA 70: National Electrical Code.

L. National Institute of Standards and Technology (NIST)

1. PS 1: Structural Plywood.

M. Southern Pine Inspection Bureau (SPIB):

1. SPIB: Standard Grading Rules for Southern Pine.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Engineer, fabricate and install telescopic gym seating systems to the following structural loads without exceeding allowable design working stresses of materials involved, including anchors and connections. Apply each load to produce maximum stress in each respective component of each telescoping stand unit according to ICC 300.

B. Manufacturer's System Design Criteria:

1. Gymnasium seat assembly; Design to support and resist, in addition to its own weight, the following forces:

a.) Live load of 120 lbs. per linear foot (1.75 kN/m) on seats and decking

b.) Uniformly distributed live load of not less than 100 psf (4.79 kN/m^2) of gross horizontal projection.

c.) Parallel sway load of 24 lbs. per linear foot (0.35 kN/m) of row combined with (b.) above

d.) Perpendicular sway load of 10 lbs. per linear foot (0.15 kN/m) of row combined with uniformly distributed live load above.

e.) Parallel and Perpendicular sway loads are not applied concurrently.

2. Hand Railings, Posts and Supports: Engineered to withstand the following forces applied separately:

a.) Concentrated load of 200 lbs. (0.89 kN) applied at any point and in any direction.

b.) Uniform load of 50 lbs. per foot (0.73 kN/m) applied in any direction.

3. Guard Railings, Post and Supports: Engineered to withstand the following forces applied separately:

a.) Concentrated load of 200 lbs. (0.89 kN) applied at any point and in any direction along top rail.

b.) Uniform load of 50 lbs. per foot (0.73 kN/m) applied in any direction at top rail

c.) Uniform load of 50 lbs. (0.22 kN) applied on an area equal to 1 ft^2 (0.09 m^2) applied on all guardrail infill panels.

1.4 ACTION SUBMITTALS

A. Product to be supplied shall have a current evaluation report issued by ICC Evaluation Services (ICC-ES) certifying that it meets all structural design requirements of the current ICC 300 Standard for Bleachers, Folding and Telescopic Seating, and Grandstands, including all specified load combinations.

B. Provide Current Welding Certification[s] AWS or CSA.

C. Provide Manufacturers Certification of Insurance coverage of not less than $5,000,000 and Errors and Omission Insurance of not less than $2,000,000

D. Provide Installer Name, Current Certification Number and Product Qualifications

E. Provide Manufacturers' standard warranty documents.

F. Shop Drawings: For telescoping stands in both stacked and extended positions. Show seat heights, row spacing and rise, aisle widths and locations, assembly dimensions, anchorage to supporting structure, material types and finishes.

1. Electrical: Indicate power supply requirements.
2. Graphic Drawing Proofs & Layouts

G. Samples: For units with factory-applied finishes.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For telescopic bleacher to include video operations manual.

1.6 QUALITY ASSURANCE

A. Manufacturer shall be a current Certified Welding Fabricator as defined by either AWS or CWB, or both. The manufacturer shall comply with structural welding codes that are applicable to their products or materials. These welding codes shall be produced by AWS or CSA

B. Product to be supplied shall have a current evaluation report issued by ICC Evaluation Services (ICC-ES) certifying that it meets all structural design requirements of the current ICC 300 Standard for Bleachers, Folding and Telescopic Seating, and Grandstands, including all specified load combinations.

Electrical components, devices, and Accessories shall be listed and labeled as defined in NFPA 70, by a qualified testing agency and marked for intended location and application.

C. Installer Qualifications: Factory trained and certified by the manufacturer.

D. Seating Layout: Provide telescoping stands to comply with ICC 300 <Insert year> Standard for Bleachers, Folding and Telescopic Seating, and Grandstands, except where additional requirements are indicated or imposed by authorities having jurisdiction.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver telescoping stands in manufacturers packaging clearly labeled with manufacturer name and content.

B. Handle bleacher equipment in a manner to prevent damage.

C. Deliver the telescoping stands at a scheduled time for installation that will not interfere with other trades operating in the building when at all possible.

1.8 PROJECT CONDITIONS

A. Field Measurements: Coordinate actual dimensions of construction affecting telescoping stands installation by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid delay of Work.

1.9 WARRANTY

A. Manufacturer's Warranty: Includes the repair or replacement of the defective product; or defective component thereof, with a comparable product; or component thereof, or a refund of the purchase price prorated over the warranty period.

1. Includes: Labor, materials, and freight for replacement or repairs.
2. Structural Component parts of Understructure Warranty Period: [10 years] from Date of Acceptance
3. Decking systems, seating collections, electrical, portable and integral dolly systems, end closure curtains, surface material finishes Warranty Period [5 years] from Date of Acceptance.

PART 2 PRODUCTS

A. Wood:

1. Lumber: NIST PS 20, southern pine complying with SPIB's "Standard Grading Rules for Southern Pine Lumber" for B&B Finish (B and better) grade-of-finish requirements.
2. Plywood: NIST PS 1, APA-grade trademarked, A-C grade.

B. Steel:

1. Structural-Steel Shapes, Plates, and Bars: ASTM A36.
2. Galvanized-Steel Sheet: ASTM A653, Grade 40 (276 MPa) coating designation G60.
3. Uncoated Steel Strip; Non-Structural Components: ASTM A1011, Commercial Quality, Type B, Hot-Rolled Strip.
4. Uncoated Steel Strip; Structural Components: ASTM A1011 Grade 33 (228 MPa), Grade 36 (249 MPa), Grade 40 (276 MPa), Grade 45 (311 MPa), or Grade 50 (345 MPa), Structural Quality, Hot-Rolled.
5. Galvanized Steel Strip: ASTM A653 Grade 40 (276 MPa) or Grade 64 (441 MPa), structural quality, coating designation G60.
6. Tubing: ASTM A500, cold formed; Grade B, or ASTM A513, 46 ksi min yield.

C. Polyethylene Plastic: High-density polyethylene; injection molded, color-pigmented, textured, impact-resistant, and dimensionally stable.

2.2 MANUFACTURERS

A. Manufacturer: Hussey Seating Company, U.S.A. Basis of Design.

1. Address: North Berwick, Maine, 03906.
2. Telephone: (207) 676-2271; Fax: (207) 676-9690.
3. Product: MAXAM Telescopic Gym Seat System.

B. Irwin Seating

2.3 TELESCOPING STANDS

A. Wall-Attached Telescoping Stands: Forward-folding system with the rear of the understructure permanently attached to the floor and to the rear wall. Rear wall provides structural support and must support loads imposed by the bleacher.

2.4 DIMENSIONAL AND OPERATIONAL CRITERIA

A. Dimensions:

1. Bank Length: Refer to the drawings.
2. Aisle Width: Refer to the drawings..
3. Number of Tiers: . Refer to the drawings.
4. Row Spacing: . Refer to the drawings.
5. Row Rise: . Refer to the drawings.
6. Open Dimension: Refer to the drawings..
7. Closed Dimension: Refer to the drawings..
8. Overall Unit Height: Refer to the drawings.Net Capacity: Refer to the drawings..
10. Maximum Net Capacity; with Flex Row Fully Recovered: Refer to the drawings..

B. Operation: Integral Power

~~1.~~ Integral Power: ~~Keyed wall switch.~~ Parent Control

a.) Limit Switches: Automatically stop integral power system when telescoping stands reach fully opened or closed positions.

b.) Motion Monitor: Flashing light with self-contained warning horn, rated at 85 dB, activates when stands are in motion.

~~2. Portable power-assist: User operates system by opening/closing each section using a portable power-assist tractor: 115-volt, 20amps.~~(For manual systems only)

2.5 SEATING

A. Polymer Seat System: Courtside Collection [XC10][~~XC12~~].

1. Material: Gas assist injection-molded, 100 percent recyclable HDPE, high density polyethylene.
2. Module Size: 18 inches (457 mm)] long by 10 inches (254 mm), 12 inches (305 mm) deep.
3. Module Load: Tested to 600 lbs. (2.67 kN).
4. Seat height range from deck to top of seat: 16-1/8 inches (410 mm.
5. Integrally molded end caps at aisle end locations.
6. Integrally molded recess pockets to accept seat number and row letters.
7. Integrally molded rear closure panel at back of seat to allow for "continuous clean sweep" of debris at deck level and minimized visibility of structural ribbing.
8. Color: As selected by Architect from manufacturers 15 standard colors and Custom color as selected by Architect.

a.)

9. Seat Numbers: 1-3/4 inch (45 mm) by 1-1/4 inch (32 mm) oval Lexan plate.

a.) Color: Black number over grey background.

10. Row Identification: 1-3/4 inch (45 mm)] by 1-1/4 inch (32 mm) oval Lexan plate.

a.) Color: Black letter over gray background.

11. Operation:

B. ADA Accessible Seating:

1. Locate first tier modular unitsto provide wheelchair-accessible seating at locations indicated on Drawings.

~~a.)~~ Flex-Row™: Provide first row modular recoverable seating units that can be closed to accommodate persons requiring ADA spaces (or any other temporary space needs) or opened for standard usage. Each Flex-Row unit shall have a handle for easy operation. Provide a black full-surround steel skirting with no more than ¾" floor clearance for safety and improved aesthetics.Provide a black injection molded end cap for the nose beam for safety and improved aesthetics.Provide a mechanical positive lock when the Flex-Row system is in both the open and closed position. Handle shall unlock the modular recoverable seating unit for operation.Flex-Row can be utilized with the full system in the open or closed position.Flex-Row modular units are designed to achieve multi-use front row seating to accommodate team seating, ADA requirements and facility specific requirements. Flex-Row units are available in modular units from 2 to 7 seats wide as well as full section widths.~~Sections 6.) and 7.) below are an optional accessory to the Flex-Row accessible seating.Flex-Row [Removable belt barrier].~~

~~1.) Available With signage to mark the location of each recoverable Flex-Row module to assist with seating identification.~~

~~b.) Permanent ADA Units: first-tier fixed end-section units with a full width front closure panel, extending from underside of second tier to within 1-1/2 inches (38 mm) of finished floor.~~

2.6 RAILS, PANELS AND STEPS

A. End Rails:

1. Self-storing

a.) Provide steel self-storing starting no higher than tier 2 42 inches (1066mm) high above seat, end rail with tubular supports and intermediate members designed with 4 inch (102mm) sphere passage requirements.

2. Material and Finish: Semi-gloss powder coated steel.

3. Color: As selected by Architect from manufacturers 15 colors.

B. Center Aisle Rails:

1. Auto-Rotating

a.) Provide single pedestal mount handrails 34 inches (864mm) high with terminating mid rail. Permanently attached handrail shall rotate in a permanently mounted socket for rail storage. Rail shall automatically rotate, lock in the use position, unlock and rotate back to the stowed position as the gym seats open and close. Ends of the handrail shall return to the post, and not extend away from it. Rails having openings to avoid interference with closed decks are not acceptable

2. Material and Finish: Semi-glosspowder coated steel.

3. Color: As selected by Architect from manufacturer's 15 colors.

C. Skirt Panel: On 1st Row, provide galvanized steel front skirt panel to prevent players/objects from sliding underneath the first row.

~~D. Fixed Front Closure Panels: Panels extend vertically from underside of front row to within 1-1/2 inches (38 mm) of floor.~~

~~1. Material: Polydeck attached to a powder coated steel framework.~~

~~2. Color: Black.~~

~~E. End Closure Panels: For closed stack position at each exposed bank~~ end.

~~1. Material: Polydeck attached to a powder coated steel framework.~~

~~2. Color: Black.~~

F. Steps

1. Sure-Step (Flip-up Front Aisle Step): Permanently hinged to the front row to ensure availability and ease of operation. Two 3" diameter x ¾" wide non-marking front wheels are provided so that the system can be operated with the Sure-Step in the stored or deployed position. All edges coined, hemmed or radiused with front edge protective rubber bumpers. Abrasive-backed non-slip tread identifier on leading edge of nosing. For aisle widths greater than 6'-0", two side by side hinged steps are provided.

2. Intermediate Aisle Steps: Fully enclosed, at each vertical aisle. Full radius end caps on all four edges. Adhesive-backed abrasive non-slip tread surface.

2.7 COMPONENTS

A. Decking

1. Polydeck

~~a.)~~ 5/8 inch (16 mm) thick BC grade polyethylene-top-coated tongue and groove Douglas Fir plywood.

~~b.)~~ Polyethylene overlay bonded to substrate, 0.03 inch (0.8 mm) thickness.

~~c.)~~ Color: Black.

2. ~~Carpet~~

~~a.) Provide at decks and steps tufted, level loop, TARR rated - 'heavy foot traffic' - polyester pile with woven synthetic backing. Mount to plywood deck as substrate. Carpet color to be of manufacturer's standard selection.~~

3. ~~As selected by Architect from manufacturers standard colors.~~

B. Understructure:

1. Finish: Rust-inhibiting black finish.

2. Hardware finish:.Zinc-plated, Rust inhibiting black finish.

3. Posi-locks and other surfaces: Powder coated black, Rust inhibiting black finish.

4. Nose beam and Rear Riser beam: Nose beam shall be continuously roll-formed closed tubular shape of ASTM A653 grade 40 (276 MPa). Riser beam shall be continuously roll-formed of ASTM A653 Grade 64 (441 MPa). Nose and Riser beam shall be designed with no steel edges exposed to spectator after product assembly. Nose beam and riser beams are through-bolted fore/aft to deck stabilizers and frame cantilevers to create the deck structure.

5. Frame: The frames are welded assemblies (one left hand, one right hand per tier) comprised of the following components:

a.) Lower Track subassembly: ASTM A1011 Grade 50: Continuous Positive Interglide System (casterhorn) interlocks each adjacent frame casterhorn using an integral, continuous, anti-drift feature and captive interlock with adjustable row spacing at front to prevent separation and misalignment.

b.) Lower Track Wheels: 3 per frame Not less than 5 inches (127 mm) diameter by 1-1/4 inches (32 mm) with non-marring soft rubber face to protect wood and synthetic floor surfaces, with molded-in sintered iron oil-impregnated bushings to fit 3/8 inch (10 mm) diameter axles secured with E-type snap rings.

1.) Option: up to 6 wheels per frame for load distribution

c.) Slant Columns: A500 Grade B, tubular shape.

d.) Cantilever Subassembly: Consists of ASTM A1011 Grade 50 nose connection plate, cantilever, and riser attachment plate welded together into a subassembly.

6. Lock system: Casterhorns at the end sections of powered banks (minimally), and manual sections, contain a Low Profile Posi-Lock LX to lock each row in open position and allow unlocking automatically. Provide adjustable stops to allow field adjustment of row spacings.

7. Sway Bracing: ASTM A653 grade 40 (276 MPa), tension members bolted to columns.

8. Deck Stabilizer: A1011 Grade 45, member through-bolted to nose and riser at three locations per section. Securely captures front and rear edge of decking at rear edge of nose beam and lower edge of riser beam for entire length of section. Interlocks with adjacent stabilizer on upper tier using low-friction nylon roller to prevent separation and misalignment.

C. Fasteners: Vibration proof, in manufacturer's standard size and material.

2.8 ELECTRICAL OPERATION SYSTEMS

A. Integral Power

1. Default operation shall be with a removable pendant control unit which plugs into seating bank for tethered operator management of stop, start, forward, and reverse control of the power operation. Other modes of operation are optional.

B. PF1/2/3/4: Furnish and install Hussey PF(1/2/3/4), an integral automatic electro mechanical powered frame propulsion system, to open and close telescopic seating.

1. Electrical - Seating Manufacturer shall provide all wiring within seating bank, including pendant control. Motors, housing, and wiring shall be installed and grounded in complete accord with the National Electrical Code. The control system shall operate at low voltage (24V). The electrical contractor shall perform all connections at and upstream of the equipment specified herein and ensure that supplied voltage drops no more than 4% below nominal where power connects thereto.

2. Each unit for PF(1/2/3/4) is driven by a 1/2 horsepower, 1725 RPM motor. *Coordinate electrical requirements with electrical drawings.*

a.) 208V 3 Phase:

1.) This 1.25 Service Factor motor runs on 208V at 60 Hz and draws a full load current of 1.8 amperes. The required power supply shall be 3 asynchronous phases of 120 Volts each, plus neutral plus ground, each with 20 Amp capacity.

2.) This system shall be UL Listed in its entirety (motors, circuit protection, motor controls, user interface, enclosures, conductors and connectors all evaluated and approved for correct sizing and compatibility under maximum rated load on the motors) under UL Product Category FHJU, titled Electrical Drive and Controls for Folding and Telescopic Seating.

OR

b.) ~~115V 1 Phase~~

~~1.) This 1.25 Service Factor motor runs on 115V at 60 Hz and draws a full load current of 6.2 amperes. The required power supply shall be a single phase of 115 Volts, plus neutral plus ground, each with current capacity per the following schedule:~~

~~2.) 15 Amps when 1 or 2 motors on the power supply~~

~~a. 30 Amps when 3 or 4 motors on the power supply~~

~~b. 40 Amps when 5 or 6 motors on the power supply~~

~~3.) This system shall consist of UL Listed or Recognized components throughout (motors, circuit protection, motor controls, user interface, enclosures, conductors and connectors, all correctly sized and compatible under maximum rated load on the motors).~~

~~c~~.b.) Each pair of Powered Frames shall consist of output shaft gear reducer with 6 inch (152mm) diameter x 4 inch (102mm) wide wheels covered with non-marring 1/2 inch (13mm) thick composite rubber, and operate the bleacher as follows:

1.) PF3 – Pulls at 25 feet / min [9.3 meters / min] with ½ Hp through 111:1 speed reduction to 4 drive wheels. Max pull approx 478 lbs [2126 N];

3. Annual Service Light

a.) The annual service light unit is a low voltage (24V) system that is integrated into the electrical control system on a powered bleacher.

1.) This system shall be UL Listed under UL Product Category FHJU, titled Electrical Drive and Controls for Folding and Telescopic Seating (UL File No. E467277).

a.) This unit serves two main functions:Keep a continuous timer running that will indicate to the end user that an annual inspection of the bleacher is required.The unit will retain the counting data for no less than 6 months without power.There will be a light illuminated at the front of the bleacher once the counter reaches one calendar year.

b.) The counter and light can be reset by authorized personnel once an inspection has been completed.

2.) Record the forward, reverse, and total operating time of bleacher.

a.) This data can be viewed at any time from inside of the unit.

b.) Manufacturer shall furnish parts and instructions for installing an annual service light unit on the primary seating bank.

C. Options

~~1. Plug & Play Power~~

a.) ~~The Plug & Play option enables safe cord and plug connection of the power system to the power supply, eliminates the need for a separate disconnect, and eliminates lockout tagout procedures at the bleacher. Electrical contractor shall provide and install the disconnect-rated receptacle and associated parts specified by the manufacturer. Manufacturer shall specify facility preparations for, and furnish and install a cord-and-plug connected power system. This option is available only with 208V 3-Phase~~.

~~2.~~ Limit Switches

a.) Limit switches will automatically stop integral power operation when seating has reached the fully extended or closed position. Manufacturer shall furnish and install both open and closed limit switches for the integral power system. Power operation shall utilize a combination of contactors and limit switches to insure the wiring is not energized except during operation.

~~3. Remote Control~~

~~a.) The Remote Control option:~~

~~1.) Enables un-tethered operator management of stop, start, forward, and reverse control of the power system.~~

~~2.) Grants and confirms access only to an authorized controller, denying operation by spurious signals;~~

~~b.) Terminates access shortly after completed operation, requiring re-approval to resume operation.~~

~~c.) Manufacturer shall provide and install Access Control Unit and Remote Controller, and shall provide Remote Control Transmitters.~~

~~4. Key Switch Control~~

~~a.) Manufacturer shall furnish parts and instructions for installing a key-operated controller on the fixed structure of the facility.~~

2.9 FABRICATION

A. Fabricate understructure from structural-steel members in size, spacing, and form required to support design loads specified in referenced safety standard.

B. Weld understructure to comply with applicable AWS standards.

C. Round corners and edges of components and exposed fasteners to reduce snagging and pinching hazards.

D. Form exposed sheet metal with flat, flush surfaces, level and true in line, and without cracking and grain separation.

2.10 ACCESSORIES

A. Scorer's Table: Removable unit with a gray textured top of molded 2 inch (51 mm) thick polymer with eased edges and integral 16 gage (1.51 mm) cantilevered comfort C-style leg.

1. Size 8 feet (2438 mm) by 18 inches (457 mm)] by 30 inches (762 mm).

B. ~~Rear Deck Filler: Provide at rear deck level an extended rear deck filler. Available for wall attached and free standing applications. Available in 4 inch increments with a minimum of 6 inches (152mm) and a maximum of 50 inches (1270mm~~).

C. B. Deck Lock: Deck Lock is a performance enhancement feature consisting of a cast steel pawl welded to each stabilizer that mates to a nylon capture bracket pinned at the row spacing hole on the mating stabilizer. With the bleacher fully open, Deck Lock connects adjacent decks resulting in consistent nose to riser spacing across the platform. This eliminates the possibility of relative vertical movement and creates a quiet, solid walking surface, particularly with a lightly loaded bleacher.

D. C. Vinyl end closure curtain – Provide closure curtain fabricated of vinyl – coated 14oz Polyester fabric on open ends of telescopic seating. Curtains to be permanently attached to the wall or rear closure panel and secured to individual rows of seating. Curtain to open with seating unit into taut secure configuration and fold automatically as seating unit closes.

E. ~~Rear Wall Column Cutouts: Provide custom bleacher cutouts at rear wall building columns. Top row(s) to be cut out and fitted to meet wall column conditions.~~

F. ~~Top row Ball Deflector Curtain: Include on gym seat units six rows or more of single stack configuration, top row footwell closure curtain, secured with Velcro to prevent lodging of basketballs and foreign objects.~~

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas where telescoping stands are to be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Tolerances:

1. Flooring and rear wall: Level and plumb within 1/8 inch (3 mm) in 8 feet (2438mm).
2. Maximum bleacher force on the floor of a 27 foot (8230 mm) section: Static point load of less than 300 psi (2068 kN/m²).

B. Install telescoping stands to comply with referenced safety standard and manufacturer's written instructions.

3.3 ADJUSTING AND CLEANING

A. On completion of installation, lubricate, test, and adjust each telescoping stand unit so that it operates according to manufacturer's written operating instructions.

B. Clean installed telescoping stands on exposed surfaces. Touch up shop-applied finishes or replace components as required to restore damaged or soiled areas.

3.4 DEMONSTRATION

Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain telescoping stands.

END OF SECTION 126613

SECTION 11 66 23

GYMNASIUM EQUIPMENT

PART 1 – GENERAL

1.01 SUMMARY

A. The Work required under this Section consists of providing gymnasium equipment complete with accessories, necessary mounting and installation hardware.

B. Related Sections

1. Section 05 00 00, Structural Metal Framing, Metal Joists.
2. Section 09 00 00, Maintenance of Finishes, Wood Flooring, Interior Painting.
3. Section 26 00 00, Electrical, Installing electrical power to operate gymnasium equipment.

1.02 REFERENCES

A. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

1.03 SUBMITTALS

A. Comply with Section 01 33 00 – Submittal Procedures.

1. Design Data: Submit manufacturer’s design data, including loads to be transmitted to building structural members with requirements of any additional structure needed.
2. Field Test Reporting: Submit manufacturer’s certified destructive test reports completed by an accredited independent testing laboratory, indicating compliance with any specified factor or safety.
3. Shop Drawings: Submit manufacturer’s shop drawings, including elevations, plans, sections, layouts, component locations, dimensions, tolerances, fabrication details, materials, finish, quantities, hardware, fittings, electrical wiring diagrams, additional structure needed details, and method of attachment.
4. Product Data: Submit manufacturer’s product data, including proposed components, fabrication, finish, and materials.
5. Samples: Submit manufacturer’s color samples.
    a. Basketball Backboard Edge Padding
    b. Basketball Backstop Powder Coat
6. Installation, Operation, and Maintenance Instructions: Submit installation, operation, and maintenance instructions including detailed step-by-step installation, troubleshooting, general operation instructions, and any recommended routine maintenance.
7. Manufacturer's Project References: Submit manufacturer's list of recently completed projects. To be included is project name, location, name of architect, and description of equipment installed.
8. Warranty: Submit manufacturer’s guarantees and warranty information on a system and/or component.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualification: All components to be provided from a single source manufacturer.

B. Installer Qualification: All components to be installed by a trained and qualified installer approved by the manufacturer.

C. Welding Certification: All welding to be completed by a certified welder in accordance to the American Welding Society (AWS), D1.1, “Structural Welding Code – Steel.”

D. Regulatory Requirements: Gymnasium equipment shall conform to the latest rules and regulations:

1. National Federation of State High School Associations (NFSHSA)
2. International Basketball Federation (FIBA)
3. National Collegiate Athletic Association (NCAA)
4. National Basketball Association (NBA)
5. Women's National Basketball Association (WNBA)

1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver basketball system equipment in original manufacturer’s containers, with all containers grouped together, with labels clearly labeling the manufacturer and contents. Upon delivery, immediately inspect delivery for any missing containers or damage. Any damage or defects shall be noted and reported to the Owner’s Representative.

B. Storage: Store containers in a clean, dry indoor location.

C. Handling: Protect materials and finish during handling and installation.

D. Replacements: If necessary, replacements shall be immediately re-ordered, so as to minimize any conflict with the construction schedule.

1.06 WARRANTY

A. Wall mounted basketball structure shall be guaranteed against defects in material and workmanship for a period of ten (10) years. Other components may be covered by their own extended warranty.

B. Ceiling suspended basketball structure shall be guaranteed against defects in material and workmanship for a period of twenty-five (25) years. Other components may be covered by their own extended warranty.

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. Jaypro Sports, LLC. 976 Hartford Turnpike, Waterford, Connecticut 06385. Toll Free 800-243-0533. Phone 860-447-3001. Fax 800-988-3363. Email info@jaypro.com. Web www.jaypro.com.

B. Manufactures of equivalent products will be considered in accordance with Section 01 25 13, Product Substitution Procedures.

2.02 CEILING SUSPENDED BASKETBALL EQUIPMENT

A. J849-FFFB, Single Drop, Forward Folding, Front Braced. 6 Units.

1. Type: Singe drop, forward folding, front braced with attachment up to 32'.

2. Main Mast Stem: 6-5/8" O.D. 11-gauge structural steel tube.
3. Anti-Sway Braces: 2-3/8" O.D. 10-gauge structural steel tube with precision cut ends for maximum weld area. Sway braces shall attach to the mast no higher than 36" above the backboard for maximum stability.
4. Auxiliary Braces: 1.90" O.D. 13-gauge steel tube braces for increased stability for attachment elevation exceeding 28'.
5. Mast Header: 5" heavy duty structural c-channel.
6. Mast Construction: Fully welded construction in accordance with American Welding Society (AWS), D1.1 "Structural Welding Code - Steel." Bolt-together masts are not acceptable.
7. Front Brace: Operates with 2-3/8" O.D. 12-gauge structure steel tube with heavy duty folding knuckle joint.
8. Knuckle Joint: Locks unit into playing position.
9. Fittings and Support Structure: Backstop supported from existing structure with capped 3-1/2" O.D. 11-gauge structural steel tube with heavy duty precision formed and/or welded steel support fittings.
10. Swing Hinge Fittings: Backstop suspended from 3-1/2" O.D. support pipe by 7/8" forged eyebolts with press fit oil-impregnated bronze bearings. 2" of adjustability provided for precise plumbing of backstop during installation.
11. Weight Lock: Mast centerline offset 2" forward of swing hinge fittings to ensure backstop securely weight locks the unit into the playing position.
12. Hoist Cable: 1/4" Diameter galvanized aircraft cable with 7000 lbs ultimate break strength. Cable disengages knuckle joint, allowing brace to fold.
13. Goals: Mounted directly through the backboard to a direct goal mount which is secured to the 6-5/8" main mast stem. Direct goal mount eliminates any strain on backboard should any player hang on rim.
14. Finish: All metal parts, pipes, and fittings to be powder coated
15. Compliance: Backstop system meets all NCAA and NFSHSA regulations and requirements.

2.03 BASKETBALL BACKSTOP WINCHES

A. SBBW-4, Electric Positioning Winch

1. Type: Fully enclosed, direct drive winch designed to hold backstop at any position during raising or lowering. Winch is maintenance free with no oil, belts, or chains.
2. Motor: 3/4 HP, instantly reversing, 115 volt, single phase electric torque motor. The winch shall deliver at least 1250 lbs. / 566 Kg. of line pull. Motor shall incorporate built-in thermal overload protection. Motor is rated at an intermittent 10 minute duty cycle and operates at full load amperage rating of 9.2 full load amps.
3. Frame: Precision interlocking steel frame for high rigidity and precise alignment.
4. Hoist Cable: 1/4" 7 x 19 galvanized aircraft cable with 7,000 pounds ultimate break strength.
5. Rope Pressure Roller: Torsion spring tensioning roller to ensure cable tracks properly in grooves even under slack cable conditions.

6. Cable Drum: Cast aluminum grooved for 1/4" aircraft cable to facilitate smooth take-up of cable and proper spooling. Supported in large diameter ball bearings.
7. Limit Switches: Integral adjustable upper and lower limit switches making the setting of stop positions easy and accurate.
8. Mounting: Universal type mounting bracket, mounted upside down or right side up, with cable pull from any one of three different directions.
9. Controls: Key Switch specified in subsequent paragraph.
1. Warranty: Limited 1 year warranty.

B. SBAL-30, Auto-loc Safety Strap

1. Application: For use with 1400 Fold-Up Wall Mounted Backstop and all Ceiling Suspended Folding Backstops.
2. Lock: Inertia sensitive to automatically lock basketball backstop in position at any time during raising, lowering, or being held in the storage position. Initiation of locking mechanism occurs when a sudden increase in either tension or speed shall occur.
3. Reset: Fully automatic reset mechanism requiring no poles, ropes, levers, or buttons.
4. Telltale Indicator: Breakaway loop sewn into strap containing bright colored warning label for notification when safety belt has been called into action.
5. Warranty: Limited 1 year warranty.

2.06 BASKETBALL BACKSTOP BACKBOARDS

A. GBRUB-42, 42" x 72" Unbreakable Rectangular Glass Backboard

1. Application: For use with goals with 4" (vertical) x 5" (horizontal) mounting centers. Meets all NBA, WNBA, NCAA, and NFSHSA regulations.
2. Construction: 1/2" tempered glass cushioned within shock absorbing vinyl gasket. Frame constructed of high strength aluminum channel with engineered lower reinforced steel member.
3. Frame Perimeter: Clear anodized anti-glare aluminum channel outer frame.
4. Goal Mount: Designed to transfer impact load on goal directly to support structure, without imparting any stress on the glass.
5. Border and Target: Official white color permanently fused into the face of the glass.
6. Warranty: Limited lifetime warranty against breakage.

2.07 BASKETBALL BACKSTOP EDGE PADDING

A. MBBP-6, Safe-Pro Bolt-On Edge Padding

1. Application: Recommended for all 72" wide glass backboards. Pads meet all NCAA and NFSHSA rules.
2. Type: Bolt-on, molded self-skinning urethane two-piece design.
3. Protection: Padding shall cover entire bottom edge and extend 17-3/8" up the sides. Padding shall not be less than 2" thick.
4. Construction: Steel reinforced plates facilitate attachment of padding with bolts. Interlocking steel pin connectors provided at match point between two halves to provide alignment and eliminate sagging underneath goal.

5. Color: [Royal Blue] [Navy Blue] [Columbia Blue] [Gray] [Black] [Purple] [Light Purple] [Maroon] [Scarlet] [Cardinal] [Burnt Orange] [Orange] [Old Gold] [Yellow] [Kelly Green] [Forest Green] [Pink]
6. Warranty: Safe-Pro Bolt-On Edge Padding covered by 8 year warranty.

2.08 BASKETBALL BACKSTOP GOALS

A. GBA-600, Competitor Pro Breakaway Goal

1. Application: Universal goal for use with backboards with 5" x 4" or 5" x 5" mounting pattern. Meets all NBA, WNBA, NCAA, and NFSHSA regulations.
2. Rim: 5/8" diameter steel rod braced by 3/16" die cut steel bracing welded to the underside of ring.
3. Net Attachment: 12 hideaway net attachments on underside of goal ring for maximum player safety
4. Pressure Release Mechanism: Automatically releases rim when static force exceeding the release setting is applied to the top of the goal at point most distant from the backboard. Spring loaded to instantaneously release back to playing position.
5. Settings: Factory pre-set to 180 lbs - 230 lbs with in-the-field adjustability to comply with NCAA recommendation rebound characteristics of non-moveable ring.
6. Net: White anti-whip nylon net.
7. Finish: Official durable orange powder coat.
8. Warranty: Limited 3-year warranty.

2.09 BASKETBALL BACKSTOP HEIGHT ADJUSTERS

A. SEHA-800, Steel Electric Height Adjuster, Required for all backstops

1. Type: Electrically operated by a linear actuator driven in such a manner as to raise or lower the basketball rim height. Factory set integral upper and lower limit switches. Actuators shall be driven by thermally protected 1/10 HP, 110–120-volt, single phase, 1.35-amp motor with a 4’ pigtail. Linear actuator capable of lifting 660 lbs with a 24” stroke. Height adjuster includes a redundant hard stop safety feature to catch the board and goal in the event of a failure. Height adjusters without a redundant hard stop safety feature shall not be considered as equals.
2. Adjustment Range: Goal position from 8' to 10' above finished floor. Height marking shall be permanently embossed in the side of the height adjuster to allow the operator to establish an accurate height.
3. Operation: Key Switch
4. Finish: The height adjuster, upper board mount, and mast mounting brackets shall be durable black powder coated finish.
5. Warranty: Limited 1-year warranty.

2.010 GYM EQUIPMENT GROUP CONTROL SYSTEMS

A. KS-13, Momentary Wall Mounted Key Switch

1. Wall Mounted Key Switch: Operate equipment with 3 position, momentary contact wall mounted key switch.
2. Momentary Switch: Spring loaded with automatic return to OFF position.

3. Cover Plate: Independently flush mounted stainless steel cover plate.
4. Equipment: Key switch identical for operation of basketball backstops, gymnasium curtains, mat hoist systems, electric height adjusters, batting cages.
5. Warranty: Limited one (1) year warranty.

2.011 VOLLEYBALL FLOOR PLATE/SLEEVES

A. **PVB-75S, Brass 3-1/2 in. Floor Sleeves, 6 ea. Required**

1. Lockable hinged cover
2. Heavy-duty cast brass finish design
3. 7-1/2" outside diameter cover plates, spring loaded latch.
4. 3 Year Limited Warranty

2.012 VOLLEYBALL SYSTEM AND ACCESSORIES

A. **PVB-5000, Featherlite System, 2 Complete Systems Required**

1. Uprights: Lower section of upright shall be constructed of a 3-1/2 in. O.D. x 0.300 in. wall aluminum tube and shall have a molded composite foot to protect the finished floor during transportation, storage, and installation of standards. Upper section of upright shall be constructed of a 2-7/8 in. O.D. x 0.203 in. wall aluminum tube with a 4-1/2 in. diameter pulley wheel to accommodate the net tensioning straps.
2. Winch: Tensioning winch shall have an internal worm gear construction with an effective 10:1 turn ratio to eliminate snap-back and shall be completely enclosed with a welded steel cover. The winch shall be furnished with folding handle. Winch will have a 1-1/2 in. wide, high tensile strength (7700 lb.) nylon strap with sewn snap buckle for completed cable-less design. Winch is located on outside of post for added player safety. Anchor strap shall be adjustable and winch strap shall be long enough to readily adapt to varying sleeve installation widths.
3. Net: Flex Net shall be 32 ft. long x 39 in. high with a top cable-less binding of 32 ft. 6 in.. A 2 in., 10,000 lbs. tensile strength, white binding shall surround entire perimeter of net body. High tensile strength hardened steel delta rings are attached to allow connection to upright leader straps or cables. This net shall be for use on any of the Jaypro volleyball units. Netting shall be manufactured from high quality, #21 black thread knotted nylon, 4 in. square mesh. Two net dowels at each end shall consist of 1/2 in. EMT steel tubing which are completely enclosed for safety in side pockets. Bottom of net shall have, on each end, a 2 in. Velcro tensioning strap and metal buckle to allow a very tight bottom net binding. Each buckle shall be covered with an attached, yet removable, Velcro strap for player safety. Standard overall net length is designed for 36 ft. on-center standards, but will accommodate 35 ft. to 37 ft. spacing. Volleyball nets with cables for tensioning shall not be considered equal.
4. Upright Padding: Pad shall be manufactured of 2 in. thick virgin polyurethane foam covered by a heavy duty 14 oz. polyester reinforced vinyl sewn into place. A 1-1/2 in. wide vinyl and Velcro flap, sewn onto one pad, securely fastens to the edge of the other in attaching the pad snugly around standard.

All sewing shall be of a lock stitch type, running stitch style of sewing shall not be considered equal. Pad shall be a full 72 in. in height. Velcro flap attachment shall be positioned to allow net cord or strap access to standards. Pad exceeds NFHS, NCAA and USVBA specifications for safety.

5. Antennae: Official 72 in., red and white antennae quickly clamps directly to the top and bottom of the net. Attachment adjustments are made easily from the floor. Fits both 36 in. and 39 in. nets.
6. Boundary Tape (Jaypro Model VA-22)
7. Folding Referee Stand (Jaypro Model VRS-6000), 2 required
8. Referee Stand Pad for VRS-8000 & VRS-6000 (Jaypro Model VRS-60P)
9. Equipment Carrier (6 uprights) (Jaypro Model EC-1000); Only 1 Equipment Carrier required

2.013 GYMNASIUM WALL & STAGE PADDING

A. WallGuard Impact Wall and Stage Padding.

1. Type: Vinyl wrapped high impact wall padding for indoor use only. Bidder is responsible for quantity and dimensions of wall padding. Sections of padding shall meet architectural requirements, as specified by Architect and/or Drawing Elevations.
2. Impact Resistance: Meets or exceeds impact standards as defined in ASTM F2440-04. All pads without certification shall not be approved as equals.
3. Shape and Size:
    1. WallGuard Impact Flat Shaped Wall Pads: Typical 2' wide by 6' high, located 4" above finished floor.
4. Construction:
    1. Vinyl: 14 oz. per square yard with grip tensile strength 365 lbs x 348 lbs and tongue tear strength 92 lbs x 83 lbs. Vinyl shall have embossed leather-like pattern. Vinyl meets or exceeds NFPA 101 Life Safety Code for Class A rating (Flame Spread 0-25, Smoke Development 0-450) and California State (CSFM) test requirements.
    2. Foam: 2" thick ASTM F2440-04 high impact foam.
    3. Backing: 7/16" oriented strand board (OSB) backing. Column pads may be supplied without solid backing material.
    4. Wrapping: Pads with OSB backing shall have vinyl completely wrapped around back side of pad and secured with steel staples.
5. Attachment: WallGuard Impact Wall Padding can be mounted to wood, drywall, concrete, brick, etc using the appropriate fasteners supplied by others. Pads without solid backing material may require custom attachment method.
    1. 1" Nailing Margins Top & Bottom: Pad construction with 1" nailing margin on top and bottom of pad assembly. (STANDARD)
6. Treatments: Vinyl shall be washable and resistant to fade, rot, mildew, and fungus.
7. Color: [Royal Blue] [Navy Blue] [Light Blue] [Purple] [Red] [Maroon] [Black] [White] [Gray] [Forest Green] [Kelly Green] [Tan] [Yellow] [Orange]

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine areas of installation for any conditions that would affect the installation of the gymnasium equipment. If conditions exist that prohibits or hinders installation, notify the Architect and do not proceed with the installation until conditions have been resolved.

3.02 INSTALLATION

A. Install equipment in accordance with manufacturer's instructions.

B. Install equipment level, straight, accurate in accordance with the supplied drawings and at the correct locations specified.

C. Install equipment with supplied hardware, fittings, and components.

D. For electrically operated equipment, install electrical power in accordance with Section 26, Electrical.

E. For electrically operated equipment, install control system such that the operation of the equipment can been seen in clear sight.

3.03 ADJUSTING

A. Adjust gymnasium equipment as needed to function properly and to ensure accurate position in both stored and in-use positions.

B. For electric powered gymnasium equipment, adjust upper and lower limit switches as need to achieve desired heights.

3.04 CLEANING

A. Clean gymnasium equipment in accordance with manufacturer's instructions.

B. Do not use harsh cleaning methods or supplies that may alter the finish of the gymnasium equipment.

C. Remove temporary labels and protective coverings.

3.05 DEMONSTRATION

A. Demonstrate complete operation of the gymnasium equipment to the Owner Representative.

B. Furnish Owner Representative of operation procedure and required maintenance.

C. Furnish Owner Representative with means necessary to operate gymnasium equipment.

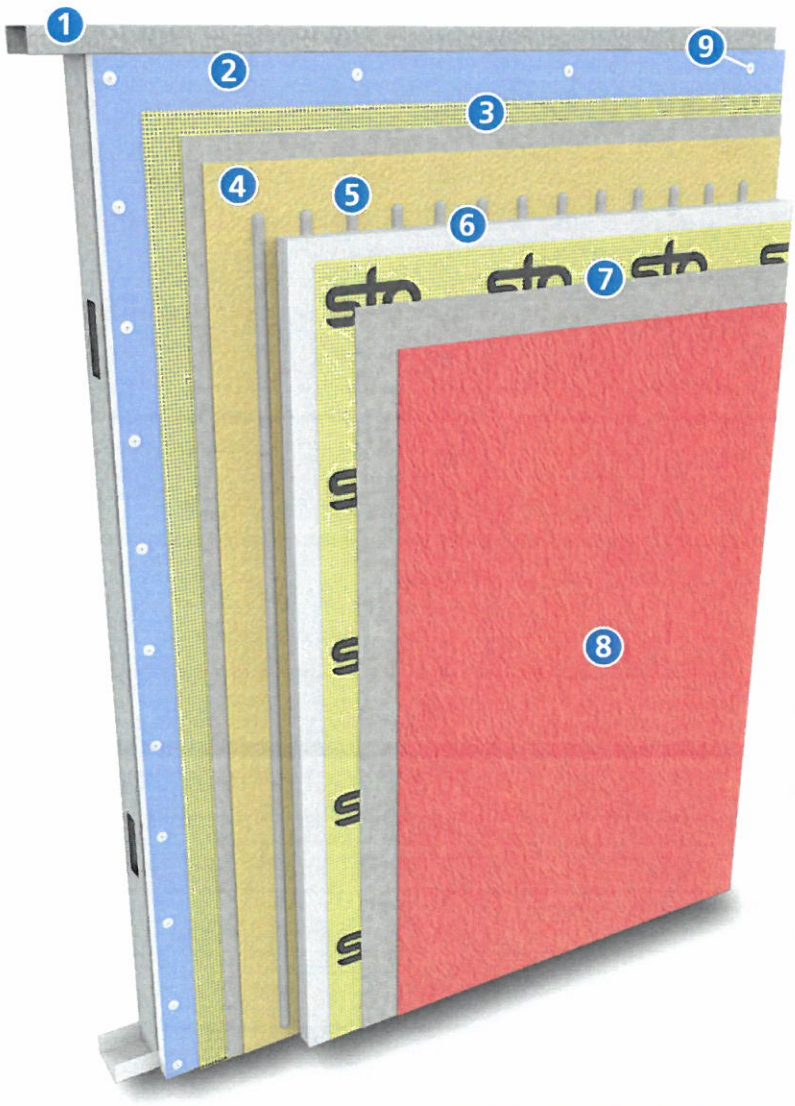
3.06 PROTECTION

A. For installations of gymnasium equipment with finished floor already installed, provide means of protecting the floor to prevent damage.

END OF SECTION

StoTherm®ci GMG-LM
High Velocity Hurricane Zone System - Large Missile, 16ga.

Detail No.: 10H.14
Date: July 2025



1. 6", 16 ga. Steel Studs at 16-inches on-center.
2. 5/8-inch glass mat faced ASTM C1177 gypsum sheathing
3. Sto Armor Mat XX (20oz) Embedded in Sto Primer/Adhesive-B
4. StoGuard® with Sto Gold Coat®
5. Sto Primer/Adhesive-B
6. Sto Insulation Board Miami-Dade County Florida Listed1.0 pcf, Min. 1"Thick
7. Sto Mesh Embedded in Sto Primer/Adhesive-B
8. Sto Finish
9. No. 8, 1-1/4" Corrosion Resistent Wafer-head Screws Spaced at 6 inches On-Center Along Studs in Field and Perimeter.

High Velocity Hurricane Zone (HVHZ)

Design Pressure: ± 150 psf National Gypsum eXP®
Design Pressure: ± 150 psf USG Securock®
Design Pressure: ± 120 psf CertainTeed GlasRoc®

Notes:

1. Comply with written requirements presented in official Notice of Acceptance (NOA) available at www.stocorp.com and www.miamidade.gov.

2. Materials deemed equivalent or better may be substituted based on analysis by a qualified engineer and/or at the discretion of the local code official in locations outside of the High Velocity Hurricane Zone (Dade and Broward Counties, Florida).

3. Refer to Sto specifications and product bulletins for detailed information on mixing and application of products.

4. This system can be used for field applied and StoPanel® pre-fabricated panel wall construction.

5. Components not identified as Sto are furnished by other manufacturers and are not necessarily installed by trades who install the Sto products. Refer to project specific contract documents.

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Sto products are intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. They should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the nonperformance of adjacent building components or assemblies, of for other construction activities beyond Sto's control. Improper use of Sto products or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to Sto products, and to the structure of the building or its components.

STO CORP. DISCLAIMS ALL WARRANTIES EXPRESSED OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME. For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp. website, www.stocorp.com.

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on **the following exterior substrates:**
   1. Steel.
   2. Galvanized metal.

1.2 DEFINITIONS

A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples: For each type of paint system and each color and gloss of topcoat.

C. Product List: For each product indicated. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

D. Submittals certifying LEED Compliance

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials**, from the same product run,** that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

   1. Paint: **5** percent, but not less than **1 gal. (3.8 L)** of each material and color applied.

1.5 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, **provide one of the products** listed in other Part 2 articles for the paint category indicated.

B. Acceptable manufacturers: Except as otherwise noted, products specified as a standard of quality are manufactured by Pittsburgh Paints. Products of the following manufacturers similar in type and quality are acceptable for use, subject to approval of product list:
1. Pittsburgh Paints.
2. Benjamin Moore Co.
3. Sherwin-Williams Co.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Provide materials that comply with LEED VOC limits

D. Colors: **As selected by Architect from manufacturer's full range**.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Clean substrates of substances that could impair bond of paints, including rust, dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

2. Remove all rust and coating that are not tightly adhered to bare metal utilizing SSPC-SP7 “Brush-Off” Standard and spot prime to receive new coating. Feather edges of remaining coatings..

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Ferrous metal and non-ferrous (including galvanized metal): Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items.(bare substrates)

1.. Semi-gloss acrylic-enamel finish: (Good option)

a. First coat: ~~Int/Ext Industrial DTM Primer/Finish Enamel (123 g/L VOC compliant as anti-corrosive product); 2.0 to 3.0 Dry Mils.~~ Pitt-tech Plus EP DTM Acrylic Primer, 90-1908 Series, (<50 g/L VOC compliant as anti-corrosive product) 2.0 to 4.0 mils DFT

. b. Second coat: ~~Exterior House and Trim Semi-gloss Acrylic Latex (131 g/L VOC); 0.9 to 1.1 Dry Mils.~~ Pitt-tech Plus EP DTM Acrylic Semgiloss, 90-1610 Series (<50 g/L VOC) 2.0 to 4.0 mils DFT

c.. Third coat: ~~Exterior House andTrim Semi-gloss Acrylic Latex (131 g/L VOC); 0.9 to 1.1 Dry Mils.For a Premium Grade system, "~~ Pitt-tech Plus EP DTM Acrylic Semgiloss, 90-1610 Series (<50 g/L VOC) 2.0 to 4.0 mils DFT

2. Semi-gloss acrylic enamel fnish: (better corrosion protection option)
   a. First coat: Amerlock 2/400/600 Epoxy
   b. Second coat: Pitt-tech Plus EP DTM Acrylic Semigloss 90-1610 Series (<50 g/LVOC) 2.0 to 4.0 mils DFT
   c. Third coat: Pitt-tech Plus EP DTM Acrylic Semigloss 90-1610 Series (<50 g/L VOC) 2.0 to 4.0 mils DFT

3. Gloss urethane mastic finish: (better corrosion protection and better gloss/color retention)
   a. First coat: Multiprime 4360 Alkyd Metal Primer (338 g/L VOC)
   b. Second coat: DTM Durethane Mastic 95-3300 Series (241 g/L VOC) 3.0 to 5.0 mils DFT
   c. Third coat: DTM Durethane Mastic 95-3300 Series (241 g/L VOC) 3.0 to 5.0 mils DFT

4. High Gloss urethane: (best corrosion protection and best gloss/color retention)
   a. First coat: Amerlock 600 Epoxy (220 g/L VOC) 5.0 to 10.0 mils DFT
   b. Second coat (optional for high film build): Amerlock 600 Epoxy (220 g/L VOC) 5.0 to 10.0 mils DFT
   c. Third coat: Pitt-thane Ultra High Gloss 95-812 Series (241 g/L VOC) 2.0 to 3.0 mils DFT

B. EIFS, Cement Hardiboard, Smooth concrete, Precast Masonry (bare substrates)

1. Flat Acrylic Finish (standard)
   a. First coat: Permacrete Alkali Resistant Primer 4-603XI (<100 g/L VOC) 1.4 to 2.6 mils DFT
   b. Second coat: Acrishield Max Exterior 100% Acrylic Flat 519-10 Series (<50 g/L VOC) minimum 1.6 mils DFT
   c. Third coat: Acrishield Max Exterior 100% Acrylic Flat 519-10 Series (<50 g/L VOC) minimum 1.6 mils DFT

2. Satin Acrylic Finish (standard)
   a. First coat: Permacrete Alkali Resistant Primer 4-603XI (<100 g/L VOC) 1.4 to 2.6 mils DFT
   b. Second coat: Acrishield Max Exterior 100% Acrylic Satin 739-10 Series (<50 g/L VOC) minimum 1.6 mils DFT
   c. Third coat: Acrishield Max Exterior 100% Acrylic Satin 739-10 Series (<50 g/L VOC) minimum 1.6 mils DFT

3. ***Upgrade option***: (Wind Driven Rain Resistant System)
   a. First coat: Permacrete Alkali Resistant Primer 4-603XI (<100 g/L VOC) minimum 2 mils DFT
   b. Second coat: Perma-Crete High Build Acrylic Exterior Flat (<100 g/L VOC) minimum 5 mils DFT or Perma-Crete High Build Acrylic Exterior Satin (<100 g/L VOC) minimum 5 mils DFT

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c. Third coat: Second coat: Perma-Crete High Build Acrylic Exterior Flat (<100 g/L VOC) minimum 5 mils DFT or Perma-Crete High Build Acrylic Exterior Satin (<100 g/L VOC) minimum 5 mils DFT

C. CMU Block, Split Face (bare substrate)
1. Flat Acrylic Finish (standard)
a. First coat: Perma-Crete Concrete Block & Masonry Surfacer/Filler, 4-100XI (<100 g/L VOC) 8.0 to 11.0 mils DFT
b. Second coat: Acrishield Max Exterior 100% Acrylic Flat 519-10 Series (<50 g/L VOC) minimum 1.6 mils DFT
c. Third coat: Acrishield Max Exterior 100% Acrylic Flat 519-10 Series (<50 g/L VOC) minimum 1.6 mils DFT
2. Satin Acrylic Finish (standard)
a. First coat: Perma-Crete Concrete Block & Masonry Surfacer/Filler, 4-100XI (<100 g/L VOC) 8.0 to 11.0 mils DFT
b. Second coat: Acrishield Max Exterior 100% Acrylic Satin 739-10 Series (<50 g/L VOC) minimum 1.6 mils DFT
c. Third coat: Acrishield Max Exterior 100% Acrylic Satin 739-10 Series (<50 g/L VOC) minimum 1.6 mils DFT
3. **Upgrade option:** (Wind Driven Rain Resistant System)
a. First coat: Perma-Crete Concrete Block & Masonry Surfacer/Filler, 4-100XI (<100 g/L VOC) 8.0 to 11.0 mils DFT
b. Second coat: Perma-Crete High Build Acrylic Exterior Flat (<100 g/L VOC) minimum 5 mils DFT or Perma-Crete High Build Acrylic Exterior Satin (<100 g/L VOC) minimum 5 mils DFT
c. Third coat: Second coat: Perma-Crete High Build Acrylic Exterior Flat (<100 g/L VOC) minimum 5 mils DFT or Perma-Crete High Build Acrylic Exterior Satin (<100 g/L VOC) minimum 5 mils DFT

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END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Primers.
2. Water-based finish coatings.
3. Floor sealers and paints.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
1.

B. Samples: For each type of topcoat product.

C. Product Schedule: Use same designations indicated on Drawings and in the Interior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

1.3 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Refer to finish schedule on the drawings.

2.2 PAINT PRODUCTS, GENERAL

A. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

B. Colors: **As indicated in a interior finish color schedule**

2.3 PRIMERS

A. Interior/Exterior Latex Block Filler: Water-based, high-solids, emulsion coating formulated to bridge and fill porous surfaces of exterior concrete masonry units in preparation for specified subsequent coatings.

B. Interior Latex Primer Sealer: Water-based latex sealer used on new interior plaster, concrete, and gypsum wallboard surfaces.

C. Interior Latex Primer for Wood: Waterborne-emulsion primer formulated for resistance to extractive bleeding, mold, and microbials; for hiding stains; and for use on interior wood subject to extractive bleeding.

D. Water-Based Rust-Inhibitive Primer: Corrosion-resistant, water-based-emulsion primer formulated for resistance to flash rusting when applied to cleaned, interior ferrous metals subject to mildly corrosive environments.

E. Surface-Tolerant Metal Primer: Corrosion-resistant, solvent-based metal primer formulated for use on structural steel and metal fabrications that have been minimally prepared.

F. Water-Based Galvanized-Metal Primer: Corrosion-resistant, acrylic primer; formulated for use on cleaned/etched, exterior, galvanized metal to prepare it for subsequent water-based coatings.

G. Water-Based Bonding Primer: Water-based-emulsion primer formulated to promote adhesion of subsequent specified coatings.

2.4 WATER-BASED FINISH COATS

A. Interior, Latex, Flat: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
1. Gloss and Sheen Level: Refer to Finish Schedule.

B. Interior, Latex, High-Performance Architectural Coating, Low Sheen: High-performance architectural latex coating providing a significantly higher level of performance than conventional latex paints in the areas of scrub resistance, burnish resistance, and ease of stain removal.
1. Gloss and Sheen Level: Gloss and Sheen Level: Refer to Finish Schedule.

C. Interior, Latex, High-Performance Architectural Coating, Eggshell: High-performance architectural latex coating providing a significantly higher level of performance than conventional latex paints in the areas of scrub resistance, burnish resistance, and ease of stain removal.
1. Gloss and Sheen Level: Refer to Finish Schedule.

2.5 FLOOR SEALERS AND PAINTS

A. Interior Concrete Stain: Penetrating semitransparent stain specifically manufactured for interior and exterior concrete horizontal and vertical surfaces.

B. Latex Floor Paint, Low Gloss: Water-based, pigmented coating formulated to hide stains, for alkali and incidental water resistance, and for use on concrete and primed-wood surfaces subject to low to medium foot traffic.
1. Gloss and Sheen Level: **Manufacturer's standard low-gloss finish**.
2. Slip-Resistant Aggregate: **Manufacturer's standard additive**.

C. Water-Based Concrete Floor Sealer: Clear, water-based, acrylic-copolymer-emulsion sealer formulated for oil, gasoline, alkali, and water resistance and for use on concrete traffic surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

B. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

C. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 INSTALLATION

A. Apply paints according to manufacturer's written instructions.

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

C. Painting Fire-Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed in equipment rooms:
   a. Uninsulated metal piping.
   b. Uninsulated plastic piping.
   c. Metal conduit.
   d. Plastic conduit.

2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 CLEANING AND PROTECTION

A. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

1. Water-Based Concrete Floor Sealer System:

   a. First Coat: Matching topcoat.
   b. Topcoat: Water-based concrete floor sealer. Perma-Crete Plex-Seal WB Interior/Exterior Clear Sealer 4-6200XI Series
   c. Topcoat: Interior, latex, high-performance architectural coating.

B. CMU Substrates:

1. Latex System:

   ~~a.~~ Block Filler: Interior/exterior latex block filler; Perma-Crete Concrete Block & Masonry Surfacer/Filler, 4-100XI~~.~~
   ~~b.~~ Intermediate Coat: Matching topcoat; Speedhide Zero VOC Interior Latex~~.~~
   ~~c.~~ Topcoat: Interior, latex; Speedhide Zero VOC Interior Latex~~.~~

2. High-Performance Architectural Latex System:

   a. Block Filler: Interior/exterior latex block filler. Perma-Crete Concrete Block & Masonry Surfacer/Filler, 4-100XI
   b. Prime Coat: Alkali-resistant, water-based primer.Perma-Crete Alkali Resistant Primer, 4-100XI
   c. Intermediate Coat: Matching topcoat.Pure Performance Interior Latex
   d. Topcoat: Interior, latex, high-performance architectural coating. Pure Performance Interior Latex

C. Steel Substrates:

1. Latex over Shop-Applied Quick-Drying Shop Primer System:

   a. Prime Coat: Quick-dry primer for shop application. PMC Fast Dry 4190 / Devguard 4190
   b. Intermediate Coat: Matching topcoat.Pitt-Tech Plus EP DTM Acrylic
   c. Topcoat: Interior, latex.Pitt-Tech Plus EP DTM Acrylic

2. Institutional Low-Odor/VOC Latex System:

   a. Prime Coat: Water-based rust-inhibitive primer. Pitt-Tech Plus EP DTM Acrylic Primer/Finish 90-1908 Series
   b. Intermediate Coat: Matching topcoat. Pitt-Glaze WB-1 Precatalyzed Waterbased Epoxy Semi-Gloss 16-1510 Series
   c. Topcoat: Interior, latex, institutional low odor/VOC.Pitt-Glaze WB-1 Precatalyzed Waterbased Epoxy 16-1510 Series

D. Galvanized-Metal Substrates:

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1. Institutional Low-Odor/VOC Latex System:

   a. Prime Coat: Water-based galvanized primer.Pitt-Tech Plus EP DTM Acrylic Primer/Finish 90-1908 Series
   b. Intermediate Coat: Matching topcoat.Pitt-Glaze WB-1 Precatalyzed Waterbased Epoxy Eggshell 16-1310 Series
   c. Topcoat: Interior, latex, institutional low odor/VOC, **eggshell**. P:itt-Glaze WB-1 Precatalyzed Waterbased Epoxy 16-1310 Series

2. High-Performance Architectural Latex System:
   ~~a.~~ Prime Coat: Water-based galvanized primer. Pitt-Tech Plus EP DTM Acrylic Primer/Finish 90-1908 Series
   ~~b.~~a. Intermediate Coat: Matching topcoat. Pitt-Glaze WB-1 Precatalyzed Waterbased Epoxy
   ~~c.~~b. Topcoat: Interior, latex, high-performance architectural coating. Pitt-Glaze WB-1 Precatalyzed Waterbased Epoxy Eggshell 16-1310 Series

E. **Gypsum Board** Substrates:

1. Latex over Latex Sealer System:

   a. Prime Coat: Interior latex primer sealer. Speedhide Zero VOC Interior Latex Sealer 6-4900XI or Speedhide Quick Drying Sealer 6-2
   b. Intermediate Coat: Matching topcoat. Speedhide Zero VOC Interior Latex
   c. Topcoat: Interior, latex. Speedhide Zero VOC Interior Latex

END OF SECTION 099123

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