

AHU SCHEDULE - VARIABLE AIR VOLUME (VAV)				
DESIGNATION		AHU-1	AHU-2	AHU-3
AREA SERVED		MUSIC / GYM LOBBY	GYM	LOCKER ROOM
MANUFACTURER		TRANE	TRANE	TRANE
UNIT MODEL		CSAA014	CSAA030	CSAA008
CONFIGURATION (SEE BELOW)		HORIZONTAL VAV	HORIZONTAL VAV	HORIZONTAL VAV
ORIENTATION/HANDING		RIGHT	LEFT	LEFT
MAX SUPPLY AIR	CFM	6800	14000	3900
VENTILATION AIR	CFM	2400	8500	1200
CC ENTERING AIR CONDITIONS	*FDB*/FWB	78.3 / 66.5	79.8 / 68.6	74.8 / 65.2
CC LEAVING AIR CONDITIONS	*FDB*/FWB	54 / 54	52 / 52	53.8 / 53.4
UNIT TOTAL COOLING CAPACITY	MBH	260	720	132
UNIT LATENT COOLING CAPACITY	MBH	80	430	42
UNIT SENSIBLE COOLING CAPACITY	MBH	180	290	90
CHILLED WATER FLOW RATE	GPM	44	120	22
CHILLED WATER TEMP ENT/LEAV	* F / * F	44 / 56	44 / 56	44 / 56
CHILLED WATER COIL ROWS & FINS/INCH		8 / 6.8	8 / 10	6 / 12
CHILLED WATER COIL FACE VELOCITY	PPM	518	488	533
COOLING COIL FLUID PRESSURE DROP	FT WG	4.5	6	2.8
HEATING COIL CAPACITY	MBH	140	330	78
HC ENTERING AIR CONDITIONS	* F DB	60	56	56
HC LEAVING AIR CONDITIONS	* F DB	79	78	74.5
HOT WATER FLOW RATE	GPM	16	33	10
HOT WATER TEMP ENT/LEAV (MAX/MIN)	* F / * F	160 / 140	160 / 140	160 / 140
HOT WATER COIL ROWS & FINS PER INCH		1 / 6.7	1 / 6.7	1 / 6.7
HOT WATER COIL FLUID PRESSURE DROP	FT WG	0.7	2.3	0.2
MAX HEATING COIL FACE VELOCITY	PPM	544	488	533
DP ERV	IN WG	0.9	1.8	-
DP FILTER SECTION	IN WG	1.4	1.4	1.5
DP COOLING COIL STATIC	IN WG	0.7	1	0.75
DP HEATING COIL STATIC	IN WG	0.1	0.1	0.1
DP FAN SECTION	IN WG	0.5	0.1	0.3
EXTERNAL STATIC	IN WG	1.5	1.5	1.5
TOTAL STATIC PRESS. DROP (CLEAN/DIRTY)	IN WG	5	5.9	4.1
AHU FAN BRAKE HORSEPOWER (DIRTY)	BHP	9.5	29	4.7
AHU FAN MOTOR HORSEPOWER	HP	ECM 2 @ 8.05	ECM 4 @ 8.05	ECM 8.05
AHU ELECTRICAL CHARACTERISTICS	V/0/HZ	480/3/60	480/3/60	480/3/60
MOTOR F.L.A.	AMPS	2 @ 8.5	4 @ 8.4	8.75
BREAKER SIZE (MCCP)	AMPS	25	40	15
MAXIMUM CABINET DIMENSIONS (LxWxH)	IN	155 x 72 x 45	164 x 94 x 65	150 x 50 x 41
NOTES		1 - 16	1 - 16	1 - 14

NOTES:

1. OUTSIDE AIR FLOW RATE SHALL VARY BASED ON INDOOR CO2 CONCENTRATION (DCV)
2. NO CONTROLLER, CONTROLS BY OTHERS.
3. COOLING COIL SECTION SHALL HAVE STAINLESS STEEL IAQ DRAIN PAN.
4. INCLUDE STAINLESS STEEL COIL CASING AND COIL SUPPORTS.
5. FILTER SECTION TO ACCOMMODATE "2" THICK PRE-FILTERS (MERV 8) WITH "4" THICK FINAL FILTERS (MERV 11)
6. THE COOLING COIL SHALL NOT HAVE MORE THAN "2" ROWS.
7. G-60 GALVANIZED DOUBLE-WALL UNIT WITH "2" THICK FOAM FILLED INSULATION, MINIMUM R = 13.
8. MOTORS SHALL BE ECM
9. MINIMUM 6" HIGH BASE RAIL INTEGRAL TO UNIT; CONDENSATE CONNECTION SHALL BE HIGH ENOUGH TO ALLOW FOR DRAINAGE OF NON-STANDING WATER IN PAN.
10. ACCESS DOORS SHALL BE HINGED WITH ROTATING DOOR LOCK AND GASKETS, AND MANUFACTURED OF THE SAME CONSTRUCTION OF THE BASE.
11. FAN FILTER PRESSURE DROP USED IN TSP AND BHP CALCULATIONS.
12. CFM FAN, FACTORY BALANCED ACROSS OPERATING RPM, MOUNTED ON ISOLATION PLATFORM.
13. PROVIDE A 5-YEAR MANUFACTURER'S WARRANTY ON PARTS AND LABOR
14. FAN SHIELDING SECTIONS SHALL FIT THROUGH A 6'-0" x 7'-0" DOUBLE DOOR, OR INCLUDE INSTRUCTIONS TO KNOCK-DOWN SECTIONS
15. ENTERING AIR TEMPERATURES ARE CALCULATED WITH ERV SYSTEM
16. FAN SECTIONS SHALL INCLUDE PERFORATED PANELS FOR NOISE ATTENUATION IN GYM AND MUSIC ROOMS.

DRAW -THRU CONFIGURATION

1. MIXING BOX SECTION, TOP INLET WITH NO DAMPER, WITH FILTER FRAMES
2. COOLING COIL
3. HEATING COIL
4. FAN SECTION, TOP OUTLET
5. PROVIDE ACCESS DOORS ON ONE SIDE.

DESIGNATION		ERV-1	ERV-2
AREA/ROOM SERVED & BUILDING		AHU-1	AHU-2
SERVICE		ENERGY RECOVERY	ENERGY RECOVERY
MANUFACTURER		RENEWAIRE	RENEWAIRE
MODEL		CA-3XJIN	CA-4XJIN
QTY.		2	3
TYPE		STATIC PLATE	STATIC PLATE
SUPPLY AIR FLOWRATE	CFM	2400	8500
EXHAUST AIR FLOWRATE	CFM	1800	7500
OUTDOOR AIR	*FDB*/FWB	96 / 76	96 / 76
FRESH AIR	*FDB*/FWB	79.9 / 68.9	80.6 / 69.5
RETURN AIR	*FDB*/FWB	73 / 63	73 / 63
SENSIBLE EFFECTIVENESS	%	88.5%	76.3%
TOTAL EFFECTIVENESS	%	77%	60.8%
LOAD SAVINGS RATIO	%	58%	53.4%
SENSIBLE ENERGY RECOVERY	MBTUH	39.6	142
LATENT ENERGY RECOVERY	MBTUH	28	80.4
TOTAL ENERGY RECOVERY	MBTUH	67.6	222.4
MOISTURE REMOVED	GR / LB	15.8	12.7
OUTDOOR AIR	*FDB*/FWB	25.6 / 21.4	25.6 / 21.4
FRESH AIR	*FDB*/FWB	54.9 / 42.4	55.3 / 42.2
RETURN AIR	*FDB*/FWB	70 / 51.5	70 / 51.5
SENSIBLE EFFECTIVENESS	%	88.5%	76.3%
TOTAL EFFECTIVENESS	%	86.5%	72.8%
LOAD SAVINGS RATIO	%	64.5%	63.8%
SENSIBLE ENERGY RECOVERY	BTUH	76.4	274.2
LATENT ENERGY RECOVERY	BTUH	16.9	52.7
TOTAL ENERGY RECOVERY	BTUH	93.3	327
MOISTURE ADDED	GR / LB	9.9	8.7
INTERNAL STATIC, O/A / E/A	IN WC	0.51 / 0.36	1.02 / 0.86
FILTER QTY / SIZE, EACH	IN	6 / 20x20x2	8 / 20x20x2
FILTER TYPE		MERV 11	MERV 11
UNIT DIMENSIONS, EACH	LXWXH	62" x 35" x 35"	82" x 35" x 35"
APPROX. UNIT WEIGHT, EACH	LBS	325	400
NOTES:			
1. INDOOR UNITS			
2. DOUBLE WALL INSULATED CABINET			
3. MULTIPLE UNITS ARE TO BE STACKED, AND DUCT CONNECTIONS WILL BE PLENUM STYLE.			
4. MAINTAIN ACCESS TO BOTH SIDES OF ERV FOR FILTER ACCESS.			

LAY-IN SUPPLY AIR GRILLE NECK SIZES	
AIR FLOW RANGE (CFM)	NECK SIZE SIZE (IN)
25-120	6"Ø
125-225	8"Ø
230-350	10"Ø
351-500	12"Ø

NOTES:
 1. EQUIVALENT SQUARE/RECT SIZES ARE ACCEPTABLE.

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LAY-IN RETURN/EXHAUST/TRANSFER AIR GRILLE CONNECTION SIZES (UOS)	
AIR FLOW RANGE (CFM)	NECK/DUCT CONNECTION SIZE (UOS) (IN)
0-100	6"Ø
101-175	8"Ø
176-300	10"Ø
301-450	12"Ø
451-750	14"Ø

LOUVER SCHEDULE			
DESIGNATION		L-1	L-2
SERVICE		MECH ROOM 109	MEZZANINE 200
NOMINAL SIZE (WXH)	IN	76" x 24"	72" x 40"
FREE AREA (DESIGN MINIMUM)	%	42%	45%
FREE AREA	SQ FT	5.4 SF	9.1 SF
DEPTH	IN	6	6
TYPE		EXTERIOR	EXTERIOR
MATERIAL/CONSTRUCTION		ALUMINUM	ALUMINUM
BASIS OF DESIGN MANUFACTURER		GREENHECK	GREENHECK
BASIS OF DESIGN MODEL		EHH-601	EHH-601
QUANTITY		1	1
NOTES		1 THRU 8	1 THRU 6, 9

NOTES:

1. CONSTRUCTED OF EXTRUDED ALUMINUM. BLADES POSITIONED HORIZONTALLY.
2. EXPANDED, FLATTENED ALUMINUM BIRD SCREEN.
3. MIAMI-DADE CERTIFIED.
4. WIND DRIVEN RAIN RESISTANT
5. FINISH COLOR TO BE BRIGHT SILVER AL222. VERIFY WITH OWNER
6. INCLUDE INSECT SCREEN
7. PROVIDE INSULATED BLANK PANEL
8. TO BE INSTALLED IN A DOOR FRAME
9. TO BE INSTALLED IN A CMU WALL

GRAVITY VENTILATOR SCHEDULE			
DESIGNATION		GV-1	
SERVICE		EXHAUST	
NOMINAL SIZE (WXH)	IN	8	
FREE AREA (DESIGN MINIMUM)	SQ FT	0.37	
AIR FLOW RATE	CFM	70-300	
MAXIMUM PRESSURE DROP	IN	0.2	
THROAT VELOCITY	FPM	VARIES	
MATERIAL/CONSTRUCTION		ALUMINUM	
CURB CAP	IN	19x19	
ROOF CURB		YES	
CURB HEIGHT	IN	12", F.V.	
ROOF OPENING	IN	10.5 x 10.5	
BASIS OF DESIGN MANUFACTURER		GREENHECK	
BASIS OF DESIGN MODEL		GRSR	
PROJECT QTY.		4	
NOTES:			
1. HEAVY-GAUGE ALUMINUM CONSTRUCTION, STANDARD FINISH			
2. PROVIDE ROOF CURB TO MATCH ROOF PITCH, CURB SHALL EXTEND MIN. 8" ABOVE ROOFING.			
3. CURB CAP TO BE PRE-PUNCHED FOR MOUNTING TO CURB			
4. BIRD SCREEN, 1/2" GALV. MESH			
5. VENTILATOR & CURB ARE TO BE RATED FOR HIGH WIND APPLICATION			

NOTES:

1. HEAVY-GAUGE ALUMINUM CONSTRUCTION, STANDARD FINISH
2. PROVIDE ROOF CURB TO MATCH ROOF PITCH, CURB SHALL EXTEND MIN. 12" ABOVE ROOFING.
3. CURB CAP TO BE PRE-PUNCHED FOR MOUNTING TO CURB
4. BIRD SCREEN, 1/2" GALV. MESH
5. VENTILATOR & CURB ARE TO BE RATED FOR HIGH WIND APPLICATION

VRF SYSTEM SCHEDULE			
DESIGNATION		CU-102 & FCU-102	
TYPE OF UNIT		WALL MOUNT COOLING ONLY	
MANUFACTURER		DAIKIN	
FAN COIL UNIT MODEL		PKA-AL12NL	
CONDENSING UNIT MODEL		PUZ-AK12NL	
SUPPLY AIR (LOW, MED, HIGH)	CFM	265, 290, 385	
VENTILATION AIR	CFM	N/A	
FAN STATIC (EXTERNAL)	IN	N/A	
AHRI RATED COOLING CAPACITY	MBH	12.0	
SEER	BTUH/WATT	21.3	
RATED HEATING CAPACITY	MBH	N/A	
UNIT ELECTRICAL CHARACT.	V/Ø/HZ	208/230 / 1 / 60	
MINIMUM CIRCUIT AMPS	AMPS	16	
BREAKER SIZE	AMPS	20	
SUCTION/LIQUID LINE SIZE	IN	1/2" / 1/4"	
MAX PIPING LENGTH	FT	165	
FAN COIL DIMENSIONS (LXWXDP)	IN	36X12X10	
NOTES		1-3, 5-7	
NOTES: 1. VARIABLE INVERTER-DRIVEN COMPRESSOR, HIGH PRESSURE SWITCH, EXTERNAL SERVICES VALVES. 2. INDOOR UNIT POWERED BY OUTDOOR UNIT. 3. PROVIDE SIMPLE WIRED CONTROLLER 4. CASSETTE TO HAVE CAPACITY TO LIFT CONDENSATE TO 33" 5. INCLUDE MFR LINESET OF APPROPRIATE LENGTH. 6. PROVIDE REFCO GOBI II CONDENSATE PUMP W/ RESERVOIR & SENSOR TO OVERRIDE EQUIPMENT OPERATION ON HIGH CONDENSATE LEVEL. 7. INCLUDE CONDENSER WALL BRACKET OR MOUNTING PAD.			

NOTES:

1. VARIABLE INVERTER-DRIVEN COMPRESSOR, HIGH PRESSURE SWITCH, EXTERNAL SERVICES VALVES.
2. INDOOR UNIT POWERED BY OUTDOOR UNIT.
3. PROVIDE SIMPLE WIRED CONTROLLER
4. CASSETTE TO HAVE CAPACITY TO LIFT CONDENSATE TO 33"
5. INCLUDE REFR LINESET OF APPROX 10' LENGTH
6. PROVIDE REFCO G081 II CONDENSATE PUMP W/ RESERVOIR & SENSOR TO OVERRIDE EQUIPMENT OPERATION ON HIGH CONDENSATE LEVEL.
7. INCLUDE CONDENSER WALL BRACKET OR MOUNTING PAD.

DIFFUSER & GRILLE SCHEDULE						
TYPE	QTY	DESCRIPTION	MODEL	REMARKS	AIR PATTERN	DAMPER
A	14	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE, SQUARE PLAQUE, ALUMINUM, WITH FORMED EDGES, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET. 10" ROUND NECK SIZE.	4-WAY	NO
B	13	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE, SQUARE PLAQUE, ALUMINUM, WITH FORMED EDGES, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET. 8" ROUND NECK SIZE.	4-WAY	NO
C	7	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE, SQUARE PLAQUE, ALUMINUM, WITH FORMED EDGES, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET. 6" ROUND NECK SIZE.	4-WAY	NO
D	4	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	SURFACE MOUNT, SQUARE PLAQUE, ALUMINUM, WITH FORMED EDGES, WHITE FINISH, 12x12 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET. 6" ROUND NECK SIZE.	4-WAY	NO
E	3	LOUVERED SUPPLY AIR GRILLE	TITUS 301FS	SURFACE MOUNT TYPE-1, ALUMINUM CONSTRUCTION, 3/4" BLADE SPACING, ADJ. BLADES, SINGLE DEFLECTION, 32"x8" FINISH COLOR TO BE GENTIAN BLUE RAL5010.	NA	NO
F	1	LOUVERED SUPPLY AIR GRILLE	TITUS 301FS	SURFACE MOUNT TYPE-1, ALUMINUM CONSTRUCTION, 3/4" BLADE SPACING, ADJ. BLADES, SINGLE DEFLECTION, WHITE FINISH, 8x8, OPPOSED BLADE DAMPER	NA	YES
G	8	PERFORATED RETURN AIR GRILLE	TITUS PAR	LAY-IN TYPE, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 12" ROUND NECK SIZE	NA	NO
H	10	PERFORATED RETURN AIR GRILLE	TITUS PAR	LAY-IN TYPE, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 10" ROUND NECK SIZE	NA	NO
I	1	PERFORATED RETURN AIR GRILLE	TITUS PAR	LAY-IN TYPE, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 8" ROUND NECK SIZE	NA	NO
J	6	PERFORATED RETURN AIR GRILLE	TITUS PAR	LAY-IN TYPE, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 6" ROUND NECK SIZE	NA	NO
K	2	PERFORATED RETURN AIR GRILLE	TITUS PAR	SURFACE MOUNT, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 12x12 MODULE SIZE, 8" ROUND NECK SIZE	NA	NO
L	3	PERFORATED RETURN AIR GRILLE	TITUS PAR	SURFACE MOUNT, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 8x8 MODULE SIZE, 6" ROUND NECK SIZE	NA	NO
M	1	LOUVERED RETURN GRILLE	GREENHECK XG-RHE	SURFACE MOUNT TYPE-1, ALUMINUM CONSTRUCTION, 3/4" BLADE SPACING, 45° FIXED BLADE, SINGLE DEFLECTION, 32" x 16" FINISH COLOR TO BE GENTIAN BLUE RAL5010.	NA	NO
N	14	DRUM LOUVER FOR SPIRAL-WOUND, DOUBLE-WALL DUCT	GREENHECK XG-RL-SP	DRUM LOUVER FOR INSTALLATION INTO DOUBLE-WALL DUCT. ALUMINUM CONSTRUCTION. ADJUSTABLE DIRECTION VANES, AIR SCOOP, COLOR TO BE WHITE, 30" x 12"	2-WAY	NO
O	2	LOUVERED RETURN AIR GRILLE	GREENHECK XG-RHE	SURFACE MOUNT TYPE-1, ALUMINUM CONSTRUCTION, 3/4" BLADE SPACING, 45° FIXED BLADE, SINGLE DEFLECTION, 64" x 40". FOR USE IN A GYM. FINISH COLOR TO BE AGATE GREY RAL 7038.	NA	NO
P	1	HIGH PRESS SUPPLY NOZZLE	UNICO SYSTEMS	WHITE, 2" ROUND NOZZLE WITH SOUND ATTENUATING HOSE.	NA	NO
Q	2	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	SURFACE MOUNT, SQUARE PLAQUE, ALUMINUM, WITH FORMED EDGES, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET. 8" ROUND NECK SIZE.	4-WAY	NO
R	2	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	SURFACE MOUNT, SQUARE PLAQUE, ALUMINUM, WITH FORMED EDGES, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET. 6" ROUND NECK SIZE.	4-WAY	NO
S	2	PERFORATED RETURN AIR GRILLE	TITUS PAR	SURFACE MOUNT, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 12" ROUND NECK SIZE	NA	NO
T	2	PERFORATED RETURN AIR GRILLE	TITUS PAR	SURFACE MOUNT, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 6" ROUND NECK SIZE	NA	NO

NOTES:

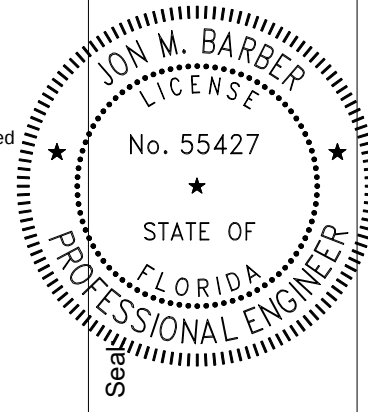
- SUPPLY FLOW RATES SHALL BE ADJUSTABLE AT THE TAKE OFF UOS.
- COORDINATE FINISHES WITH ARCHITECT. DUCT MOUNT GRILLES IN EXPOSED DUCTWORK TO BE FIELD-PAINT TO MATCH.

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NOTES:

1. SUPPLY FLOW RATES SHALL BE ADJUSTABLE AT THE TAKE OFF UOS.
2. COORDINATE FINISHES WITH ARCHITECT. DUCT MOUNT GRILLES IN E

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Project Phase:

100% Construction Documents

Phase:

Leon County Schools
3420 W. Tharpe St., Suite 100
Tallahassee, FL 32303

Griffin Middle School - Phase 2
800 Alabama St Tallahassee

Client:

Consultant:

M F E **McGINNISS + FLEMING ENGINEERING**

JON BARBER, PE 55427 | BRIAN WALLACE, PE 75562
ONE EAST OLYMPIA AVENUE, TALL MAHOGANY, FL 32909

OFF

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100% Construction Documents

Phase:

Description:
**Mechanica
Schedules**

Sheet No.

M1.2