

**MECHANICAL SCOPE OF WORK SUMMARY**

1. PROVIDE AND INSTALL HVAC AND EXHAUST SYSTEMS AS SHOWN ON THESE PLANS.
2. DEMOLISH EXISTING SUPPLY AIR TRANSFER DUCTWORK; EXHAUST AIR DUCT AND FIRE DAMPERS, SUPPORTS, ETC. SOME DUCT WORK AND EQUIPMENT SHALL REMAIN FOR REUSE. COORDINATE DEMOLITION WITH NEW WORK REQUIREMENTS.
3. PROVIDE AND INSTALL NEW HVAC EQUIPMENT AS SCHEDULED AND SHOWN: FANS, FIRE-SMOKE DAMPERS, SUPPLY AND EXHAUST AIR DUCTWORK, SUPPLY AND EXHAUST GRILLES, ETC. TO MAKE THE JOB COMPLETE AND FULLY FUNCTIONAL IN ACCORDANCE WITH THE DESIGN INTENT.
4. PROVIDE TEST AND BALANCE WORK FOR THE NEW EXHAUST SYSTEM. T&B SHALL BE PERFORMED AFTER INSTALLATION OF THE SUPPLY AIR AND EXHAUST AIR SYSTEMS.
5. MECHANICAL CONTRACTOR SHALL INCLUDE CONTROLS IN THEIR SCOPE. SIEMENS HAS CONTROLS INFRASTRUCTURE IN PLACE AND WILL BE THE ONLY ACCEPTABLE BIDDER.
6. WORK INCLUDES OBTAINING PERMITS, PROCUREMENT OF EQUIPMENT, MATERIALS, ETC. ; COORDINATION BETWEEN TRADES; INSTALLATION, STARTUP, REPORTING, SYSTEMS' CHECKOUT; ASSISTING THE TEST, ADJUST AND BALANCE CONTRACTOR, AND RESOLVING DISCREPANCIES; PERFORMING SUBSTANTIAL AND FINAL COMPLETION ACTIVITIES, TRAINING, DEVELOPING AND SUBMITTING THE OPERATION AND MAINTENANCE MANUALS, AND PERFORMING PROJECT CLOSEOUT.

**GENERAL NOTES:**

- FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE ALL WORK SHOWN ON THE CONTRACT DRAWINGS.
- ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE CODE STANDARDS INCLUDING:
  - NFPA 70, NATIONAL ELECTRIC CODE
  - NFPA 90 A, AIR CONDITIONING & VENTILATION SYSTEMS
  - NFPA 101, LIFE SAFETY CODE
  - FLORIDA BUILDING CODE BUILDING (2023)
  - FLORIDA BUILDING CODE MECHANICAL (2023)
  - FLORIDA BUILDING CODE PLUMBING (2023)
  - FLORIDA BUILDING CODE FUEL GAS (2023)
  - FLORIDA FIRE PREVENTION CODE (2023 EDITION)
  - STATE AND LOCAL CODES AND ORDINANCES
- SHOULD CONFLICT OCCUR BETWEEN PROJECT SPECIFICATIONS & DRAWING NOTES, THE DRAWING NOTES WILL TAKE PRECEDENCE.
- THE CONTRACTOR IS EXPECTED TO PROVIDE PROFESSIONAL WORK PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND BEST PRACTICES.
- THE WORK SHALL BE COMPLETE, FULLY OPERATIONAL, AND SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED.
- DRAWINGS INDICATE SCOPE AND DO NOT SHOW ALL DETAILS. DEVICES AND INCIDENTAL MATERIALS NECESSARY TO ACCOMPLISH THE WORK, THEREFORE, IT SHALL BE UNDERSTOOD THAT SUCH DEVICES AND INCIDENTAL MATERIALS REQUIRED SHALL BE FURNISHED AT NO COST TO THE OWNER.
- CONTRACTORS SHALL TAKE INTO ACCOUNT FIELD CONDITIONS AND COORDINATE IN ORDER TO AVOID CONFLICTS WITH EXISTING CONDITIONS AND INTERFERENCE BETWEEN TRADES.
- EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR PROPER OPERATION, MAINTENANCE, AND SERVICE. IF CHANGES TO THE CONTRACT DOCUMENTS ARE NECESSARY TO AVOID CONFLICTS, THE CONTRACTOR IS RESPONSIBLE FOR REQUESTING CLARIFICATION IN A TIMELY FASHION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEFICIENCIES ASSOCIATED WITH WORK PERFORMED BEFORE OBTAINING WRITTEN CLARIFICATION.
- THE CONTRACTOR SHALL COORDINATE THE DISPOSITION OF EXISTING EQUIPMENT TO BE DEMOLISHED, E.G. BOILERS, PUMPS, AHU MOTORS, ETC. WITH THE OWNER IN ADVANCE.
- CONTRACTOR SHALL FOLLOW ALL LAWS AND ORDINANCES REGARDING REFRIGERANT RECOVERY, FILLING, AND RECYCLING OPERATIONS.
- CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF EXISTING EQUIPMENT TO BE DEMOLISHED PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL VERIFY HVAC SYSTEM DUCT SIZES, SERVICE, AND FLOW DIRECTION PRIOR TO COMMENCING WORK. ADVISE THE ENGINEER IN WRITING IF MATERIALLY DIFFERENT THAN SHOWN.
- CONTRACTOR TO COORDINATE DEMOLITION WITH NEW WORK AND OTHER TRADES.
- THE CONTRACTOR SHALL TAKE DUE CARE DURING ALL PHASES OF WORK TO PROTECT BUILDING FINISHES, FURNISHINGS, EQUIPMENT, ETC. THE CONTRACTOR SHALL BEAR ALL COSTS TO REPAIR ANY DAMAGED ITEMS, FINISHES, ETC. RESULTING FROM EITHER THEIR OR SUBCONTRACTORS' WORK.
- THE CONTRACTOR SHALL PROVIDE DAILY CLEANUP OF WORK AFFECTED AREAS. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL THOROUGHLY CLEAN SPACES THAT WERE OCCUPIED BY TEMPORARY WORK AND TEMPORARY FACILITIES. REMOVE ALL DEBRIS, RUBBISH, AND EXCESS MATERIAL FROM THE SITES.
- REPAIR DAMAGES CAUSED BY INSTALLATION OR USE OF TEMPORARY FACILITIES. THIS INCLUDES LANDSCAPING, LANDSCAPING, FINISHES, ETC.
- THE CONTRACTOR SHALL DELIVER TO THE OWNER, UPON SUBSTANTIAL COMPLETION OF THE WORK, ONE PHYSICAL AND ONE ELECTRONIC COPY OF DESCRIPTIVE LITERATURE RELATED TO THE EQUIPMENT INSTALLED UNDER THIS CONTRACT, INCLUDING PARTS LISTS, WIRING DIAGRAMS, MAINTENANCE AND OPERATION MANUALS AND WARRANTIES CUSTOMARILY SUPPLIED BY MANUFACTURERS FOR EQUIPMENT INCORPORATED IN THIS WORK.
- THE LITERATURE SHALL BE NEATLY BOUND IN A 3-RING BINDER AND DELIVERED PRIOR TO FINAL ACCEPTANCE.

**TEST, ADJUST AND BALANCE (TAB) SCOPE OF WORK AND COORDINATION**

1. THE MECHANICAL CONTRACTOR SHALL CONTRACT WITH A PROFESSIONAL/AABB CERTIFIED TAB COMPANY TO TEST, ADJUST AND BALANCE THE NEW/EXISTING/MODIFIED HVAC SYSTEMS.
2. THE MECHANICAL CONTRACTOR SHALL FULLY TEST THE OPERATION OF THE HVAC SYSTEM AND RESOLVE ALL KNOWN DISCREPANCIES PRIOR TO REQUESTING TAB SERVICES VIA THE CONSTRUCTION MANAGER.
3. THE MECHANICAL CONTRACTOR SHALL PARTICIPATE AND ASSIST THE TAB WORK, INCLUDING RESOLUTION OF TAB DISCREPANCIES.
4. TEST AND BALANCE CONTRACTOR SHALL PERFORM THE FOLLOWING TASKS:
  - A. MARK EQUIPMENT/DAMPER POSITIONS TO SHOW FINAL SETTINGS. MARK WITH PAINT OR OTHER SUITABLE/PERMANENT IDENTIFICATION MATERIALS.
  - B. COMPLETE TESTING, ADJUSTING, AND BALANCING OF NEW/EXISTING HVAC SYSTEMS (LIMITED TO AIRSIDES) INCLUDED ON THESE PLANS.
  - C. MEASURE PRESSURE DROP ACROSS EACH PIECE OF EQUIPMENT.
  - D. MEASURE EXHAUST FLOW RATES, SUPPLY FLOW RATES (NEW AND EXISTING) AT GRILLES, NEW EQUIPMENT OPERATING PARAMETERS (INCLUDING SUPPLY AIR TEMPERATURE) VOLTAGE, CURRENT, ETC.
5. TEST AND BALANCE CONTRACTOR SHALL PROVIDE ONE (1) PAPER AND ELECTRONIC COPY OF THE PRELIMINARY REPORT TO THE ENGINEER FOR REVIEW/COMMENTS. DISCREPANCIES SHALL BE RESOLVED, THE TAB CONTRACTOR SHALL RETEST SYSTEMS AS NEEDED AND ISSUE THREE (3) FINAL SIGNED AND SEALED REPORTS PLUS ONE ELECTRONIC COPY AFTER ALL ISSUES ARE RESOLVED TO THE SATISFACTION OF THE ENGINEER. ITERATIVE PRELIMINARY COPIES MAY BE REQUIRED.

**SPECIFICATIONS:**

**DUCTWORK:**

- ALL WORK SHALL COMPLY WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. STATIC PRESSURE REQUIREMENTS FOR VAV SINGLE-ZONE SYSTEMS: SUPPLY (2") AND RETURNS (-1"). OUTSIDE AIR DUCT SHALL BE CAPABLE OF 3" STATIC PRESSURE DOWNSTREAM OF FAN.
- USE EITHER ROUND OR RECTANGULAR DUCT WITH EQUAL OR GREATER EQUIVALENT FREE AREA TO ACCOMMODATE EXISTING STRUCTURE.
- INTERIOR - USE GALVANIZED SHEET METAL FOR RECTANGULAR/ROUND WITH EXTERIOR INSULATION, UOS. USE GALVANIZED SPIRAL SEAM ROUND DUCT WITH EXTERIOR INSULATION.
- USE A BELL MOUTH OR MITERED FITTING TO CONNECT ROUND DUCT TO RECTANGULAR.
- EXHAUST DUCT SHALL BE GALVANIZED SHEET METAL RECTANGULAR OR ROUND SPIRAL SEAM.
- FLEXIBLE DUCT ON RUNOUTS SHALL NOT EXCEED 15'. USE SPIRAL ROUND DUCT FOR LONGER RUNS.
- PROVIDE SHEET METAL CLOSURE ANGLES, ESCUTCHEONS, OR FLASHING ON BOTH SIDES OF WALL PENETRATIONS (NON RATED) AND SEAL AIR TIGHT. MINIMUM WIDTH IS 1" OR AS REQUIRED TO COVER OPENING.
- PROVIDE 1.5 HR RATED FIRE DAMPER AT RATED WALLS WHERE INDICATED.
- PROVIDE SMOKE TIGHT SEAL WHEN PENETRATING SMOKE COMPARTMENT WALLS.
- PROVIDE DOUBLE-THICKNESS TURNING VANES IN ALL RECTANGULAR ELBOWS AND OFFSETS.
- DUCT SIZES MAY BE CHANGED TO ACCOMMODATE CONDITION AS LONG AS THE INTERNAL FREE AREA IS NOT DIMINISHED.
- RUN-OUT DUCTS TO DIFFUSERS SHALL BE EQUAL TO DIFFUSER NECK SIZE.
- ALL FABRICATED DUCTWORK LONGITUDINAL AND TRANSVERSE JOINTS, TAPS, AND CONNECTIONS SHALL BE SEALED REGARDLESS OF PRESSURE CLASS.
- TAG ALL DAMPER LOCATIONS WITH ORANGE FLAG TAPE.
- PERMANENTLY MARK ALL DAMPER SHAFTS TO INDICATE DAMPER POSITION.

**DUCT ACCESSORIES:**

- ACCESSORIES, GRILLES, ETC. SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- REFLECTIVE SURFACES ABOVE OPENDUCTLESS RETURN AIR GRILLES SHALL BE PAINTED FLAT BLACK.
- FIRE DAMPERS SHALL HAVE EITHER A 1-1/2 OR 3.0 HR FIRE RATING TO MEET THE WALL RATING AND INSTALLED IN ACCORDANCE WITH NFPA 90A AND THEIR LISTING. SEE ARCH. SHTS FOR WALL RATINGS.
- RADIATION DAMPERS SHALL BE UL LISTED AND RATED FOR UP TO 3 HOURS. FLEX DUCT, IF USED, SHALL BE CLASS 1 OR CLASS 0 AND BEAR THE UL LISTING MARK AND RETAINED BY 16 GA SWG MIN. STEEL WIRE AROUND THE DAMPER FRAME. DAMPERS SHALL BE EQUAL TO RUSKIN MODEL CFD OR APPROVED EQUAL.
- MANUAL VOLUME DAMPERS IN DUCTS SHALL BE OPPOSED-BLADE TYPE. HANDLES SHALL HAVE LOCKING QUADRANTS, AND EXTENSIONS TO ACCOMMODATE EXTERNAL INSULATION.
- RECTANGULAR AND ROUND TAKEOFFS SHALL BE MITERED TYPE WITH MANUAL VOLUME DAMPERS AND INSULATION STANDOFFS TO ACCOMMODATE THE INSULATION THICKNESS. UOS. DAMPERS SHALL INCLUDE A LOCKING QUADRANT AND HARDWARE TO FIX/LOCK FINAL DAMPER POSITION. USE A PERMANENT MARKER ON THE DAMPER SHAFT TO INDICATE DAMPER POSITION.
- ROUND TAKEOFFS MAY BE CONICAL TYPE WITH MANUAL VOLUME DAMPER, INSULATION STANDOFF, AND LOCKING QUADRANT, UOS. USE A PERMANENT MARKER ON THE DAMPER SHAFT TO INDICATE DAMPER POSITION.

**DUCTWORK INSULATION:**

- IMPALE PINS (MECHANICAL FASTENERS) SHALL BE ADHERED WITH MASTIC. SELF-ADHESIVE TYPE ARE PROHIBITED.
- INSULATION IN CONCEALED/ACCESSIBLE INTERIOR SPACES AND 24" BEYOND AIR HANDLERS SHALL BE BLANKET TYPE.
- BLANKET INSULATION SHALL BE FOIL BACKED R-6 INSULATION. SEAL ALL JOINTS, SEAMS, ETC. WITH UL 181 PRESSURE-SENSITIVE TAPE.
- NEW SUPPLY AIR GRILLES WILL BE ORDERED WITH BACK SIDE INSULATION. REPAIR ANY DAMAGE AFTER INSTALLATION TO PROVIDE A FULLY INSULATED SYSTEM - SEE DETAIL.
- ALL DUCTWORK CONVEYING CONDITIONED OR OUTSIDE AIR SHALL BE EXTERNALLY INSULATED UNLESS SPECIFIED OTHERWISE.
- PROVIDE INCOMPRESSIBLE INSULATION/INSERTS AT ALL TRAPEZE-TYPE SUPPORTS TO PREVENT INSULATION COMPRESSION.
- INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY BEST PRACTICES FOR THE INTENDED PURPOSE.
- PROVIDE COMPOSITE MECHANICAL INSULATION (INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES) HAVING FLAME SPREAD INDEX OF 25 OR LESS, AND SMOKE DEVELOPED INDEX OF 50 OR LESS, AS TESTED BY ASTM E 84 (NFPA 255) METHODS.
- VAPOR BARRIERS SHALL BE MAINTAINED COMPLETE AND CONTINUOUS. SEAL ALL GAPS, JOINTS, SEAMS, ETC.
- INSTALL INSULATION AFTER THE DUCT SYSTEMS HAVE BEEN SEALED WITH MASTIC, PRESSURE TESTED AND FOUND FREE OF ALL LEAKS.
- SURFACES SHALL BE CLEAN AND DRY BEFORE APPLYING INSULATION MASTICS OR INSULATION.
- RATED PARTITIONS & WALLS SHALL BE PENETRATED ONLY WITH INSULATION MATERIALS AND TECHNIQUES THAT ARE UL LISTED TO MAINTAIN FIRE RATING. ANY QUESTIONS SHALL BE REFERRED TO THE ARCHITECT/ENGINEER.

**DUCT SMOKE and/or FIRE DAMPERS, COMMON DAMPERS, AND DETECTORS:**

- SMOKE AND FIRE DAMPERS, WHERE INDICATED, SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PROVIDE SLEEVES AND ANGLES WHERE REQUIRED. PROVIDE DUCT ACCESS PANELS FOR INSPECTION AND RESETTING OF FIRE DAMPERS.
- COMBINATION FIRE AND SMOKE DAMPERS SHALL BE 1-1/2 HR UL LABELED FOR FIRE WALLS RATED LESS THAN 3 HR, AND UL 555 + UL 555S LABELED. DAMPER OPERATORS SHALL BE FACTORY INSTALLED EXTERNAL ACTUATORS, 2-POSITION, 120VAC, FAIL CLOSED, HELD OPEN. FACTORY SUPPLIED SLEEVE (MAX 6" EXTENSION BEYOND WALL, BOTH SIDES.) INCLUDE A REUSABLE RESETTABLE LINK. UNIT SHALL BE AUTOMATICALLY RESETTABLE AFTER TEST, SMOKE DETECTION, OR POWER FAILURE. SEE DIVISION 26 FOR WIRING AND FIRE ALARM INFORMATION.
  - HOURLY FIRE RATING: 1.5 HOURS
  - LEAKAGE RATING: CLASS 1
  - ELEVATED TEMPERATURE RATING: 350°F
  - VELOCITY & PRESSURE: 4" W.G., 2000 FPM
- SMOKE DAMPER OPERATORS SHALL BE FACTORY INSTALLED, 120V, NORMALLY CLOSED, HELD OPEN. UNIT SHALL BE AUTOMATICALLY RESETTABLE AFTER TEST, SMOKE DETECTION, OR POWER FAILURE. SEE DIVISION 16 FOR SMOKE DAMPER WIRING & FIRE ALARM.
- DUCT SMOKE DETECTORS ARE PROVIDED AND WIRED TO THE FIRE ALARM BY DIVISION 26.
- THE MECHANICAL SUBCONTRACTOR WILL BE RESPONSIBLE FOR MOUNTING DUCT FIRE/SMOKE DAMPERS/ DETECTORS AND WIRING TO THE AHU FOR SYSTEM SHUTDOWN ON ANY GENERAL FIRE ALARM.
- ELECTRIC OPERATED CONTROL AND MANUAL VOLUME DAMPERS SHALL BE OPPOSED-BLADE TYPE WITH NEOPRENE BLADE EDGE SEALS EQUAL TO RUSKIN.
- ELECTRIC OPERATING CONTROL DAMPERS SHALL HAVE 24 V, 18 IN-LB TORQUE (MINIMUM) OPERATORS EQUAL TO BELIMO "TF" SERIES WITH SPRING RETURN. OPERATORS SHALL BE SIZED ACCORDING TO DAMPER SIZE AND TORQUE REQUIREMENTS PER THE DAMPER/OPERATOR REQUIREMENTS (WHICHEVER IS HIGHER).
- DURING DAMPER INSTALLATION, PERMANENTLY MARK EACH DAMPER SHAFT TO INDICATE DAMPER POSITION.

**CONTROLS:**

- CONTROLS CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR IN ADVANCE.

**RESTROOM EXHAUST FAN:**

- CONTROLS AND PROGRAMMING ARE EXISTING AND SHALL OPERATE NEW FAN. VENDOR TO CONFIRM OPERATION OF FAN TO OWNER'S SCHEDULE.

**HVAC SYMBOLS/LEGEND**

DESIGNATION	DESCRIPTION
	LAY-IN SUPPLY AIR DIFFUSER
	LAY-IN RETURN AIR DIFFUSER WITH OUT DUCT CONNECTION
	SURFACE MOUNT SUPPLY GRILLE
	SURFACE MOUNT RETURN GRILLE
	ROUND DUCT WITH SIZE INDICATED
	THERMOSTAT/TEMPERATURE SENSOR & WIREWAY
	TEMP/RELATIVE HUMIDITY SENSOR AND WIREWAY
	RECTANGULAR DUCTWORK & INTERNAL SIZE (FREE AREA)
	RECTANGULAR DUCTWORK W/LINER & INTERNAL SIZE (FREE AREA)
	FLEXIBLE DUCT CONNECTION
	MITERED ELBOW FITTING WITH DOUBLE THICKNESS TURNING VANES
	MITERED TAKEOFF WITH MVD (PROVIDE INSULATION STANDOFF)
	MITERED TAKEOFF WITHOUT MVD (USE AT TAKEOFFS FOR VAV TERMINALS)
	EXTENT OF DEMOLITION
	DUCT SMOKE DETECTOR
	POINT OF CONNECTION TO EXISTING
	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
	ELECTRIC OPERATED CONTROL DAMPER
	FIRE DAMPER
	COMBINATION FIRE/SMOKE DAMPER
	SMOKE DAMPER
	AIR FLOW VIA 1" DOOR UNDERCUT
	AIR FLOW DIRECTION
	GRILLE AND FLOWRATE (CFM) DESIGNATION
	CEILING MOUNTED EXHAUST FAN
	RELOCATE AND RELOCATED
	SERVICE AREA - MAINTAIN CLEAR
	ACCESS DOOR WITH LATCH, DIMENSION INDICATES SIZE
	FLEXIBLE DUCT

**ABBREVIATIONS**

AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHAP	AS HIGH AS POSSIBLE
BAS	BLDG AUTOMATION SYSTEM
BD	BACKDRAFT DAMPER
BHP	BRAKE HORSE POWER
BOD	BOTTOM OF DUCT
BTUH	BRITISH THERMAL UNIT/HOUR
CFM	CUBIC FEET PER MINUTE
CLS	CEILING
CONC	CONCRETE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
D	DUCT DETECTOR
DB	DRY BULB
DIA OR Ø	DIAMETER
DG	DOOR GRILLE
DTL	DETAIL
DW	DOMESTIC WATER
EF	EXHAUST FAN
ETR	EXISTING TO REMAIN
(EX)	EXISTING
EXT	EXTERNAL OR EXTERIOR
FD	FLOOR DRAIN
FL	FLOOR
GPM	GALLONS PER MINUTE
H	HIGH
HD	HUB DRAIN
L	LONG
LAT	LEAVING AIR TEMPERATURE
MAX	MAXIMUM
MBH	1000 BTU/HOUR
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
NPS	NOMINAL PIPE SIZE
OA	OUTSIDE AIR
OC	ON CENTER
PL	PLACES
PNL	PANEL
RA	RETURN AIR
RAG	RETURN AIR GRILLE
RLA	RATED LOAD AMPS
RV	ROOF VENT
SA	SUPPLY AIR
SAG	SUPPLY AIR GRILLE
SP	STATIC PRESSURE
SQ	SQUARE
T	TEMPERATURE
XFR	TRANSFER
THK	THICK
TOP	TOP OF DUCT
TYP	TYPICAL
UG	UNDERGROUND
UOS	UNLESS OTHERWISE SPECIFIED
VAV	VARIABLE AIR VOLUME
V	VOLTS
WB	WET BULB
W	WIDE
WG	WATER GAUGE

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**CONSTRUCTION DOCUMENTS**

PROJ. NO. 176925  
 DATE 02/26/2026  
 DRAWN JB  
 CHECKED JB  
 APPROVED JB  
 REVISION \_\_\_\_\_  
 REVISION DATE \_\_\_\_\_

**MECHANICAL GENERAL NOTES & LEGEND**

**M100**

DIFFUSER & GRILLE SCHEDULE					
TYPE	DESCRIPTION	MODEL	REMARKS	AIR PATTERN	DAMPER
(A)	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE 3, SQUARE PLAQUE, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET, 6" ROUND NECK SIZE.	4-WAY	NO
(B)	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE 3, SQUARE PLAQUE, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET, 8" ROUND NECK SIZE.	4-WAY	NO
(C)	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE 3, SQUARE PLAQUE, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET, 12" ROUND NECK SIZE.	4-WAY	NO
(D)	EXHAUST AIR GRILLE	TITUS PAR	LAY-IN TYPE, 3/16" Ø HOLES ON 1/4" CENTERS, ALUMINUM CONSTRUCTION, WHITE FINISH, 24x24 MODULE SIZE, 12x12 NECK SIZE.	NA	YES
(E)	ARCHITECTURAL SQUARE PLAQUE SUPPLY AIR GRILLE	TITUS OMNI-AA	LAY-IN TYPE 3, SQUARE PLAQUE, ALUMINUM CONSTRUCTION, WHITE FINISH, 12x12 MODULE SIZE, WITH OPTIONAL FACTORY MOLDED INSULATION BLANKET, 4" ROUND NECK SIZE.	4-WAY	NO

NOTES:  
1. INSULATE SUPPLY AIR GRILLE SURFACES ABOVE CEILING, SEE DETAIL.  
2. SUPPLY & EXHAUST FLOW RATES WILL BE ADJUSTABLE BY DAMPER AT THE TAKE-OFF, UOS.

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

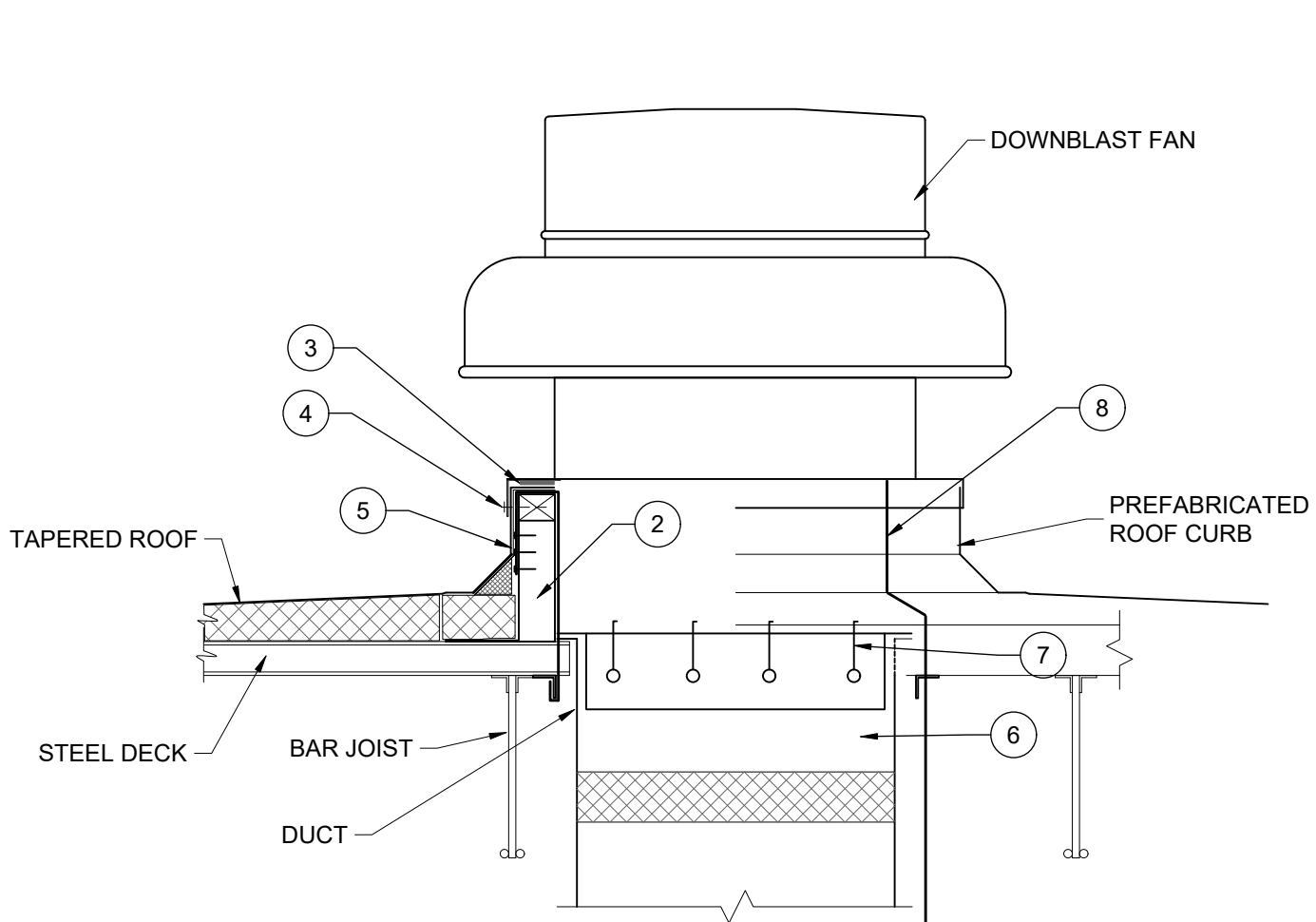
NOTES:  
1. EQUIVALENT SQUARE/RECT SIZES ARE ACCEPTABLE.

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

FAN SCHEDULE			
DESIGNATION		EF-12	
AREA/ROOM SERVED & BUILDING		RESTROOM EXHAUST	
SERVICE		TOILET STACK	
MANUFACTURER		GREENHECK	
MODEL		GB-330	
TYPE		DOWNBLAST	
FAN CONSTRUCTION		ALUMINUM	
DRIVE TYPE		DIRECT	
AIR FLOWRATE DESIGN	CFM	8000	
DESIGN STATIC PRESSURE	IN	0.80	
DESIGN FAN SPEED	RPM	500	
RADIATED SOUND POWER	SONES	15	
ELECTRICAL CHARACTERISTICS	V/Ø/HZ	208 / 1 / 60	
MOTOR HORSEPOWER	HP	2	
FLA / MCA / MOP	A	13.2 / 16.5 / 25	
CURB CAP	IN	53 x 53, F.V.	
ROOF CURB		EXIST.	
CURB HEIGHT	IN	EXIST.	
ROOF OPENING	IN	EXIST.	
OPTIONS		3,5,6,7	
CONTROL NOTES		2	
PROJECT QTY.	# FANS	1	

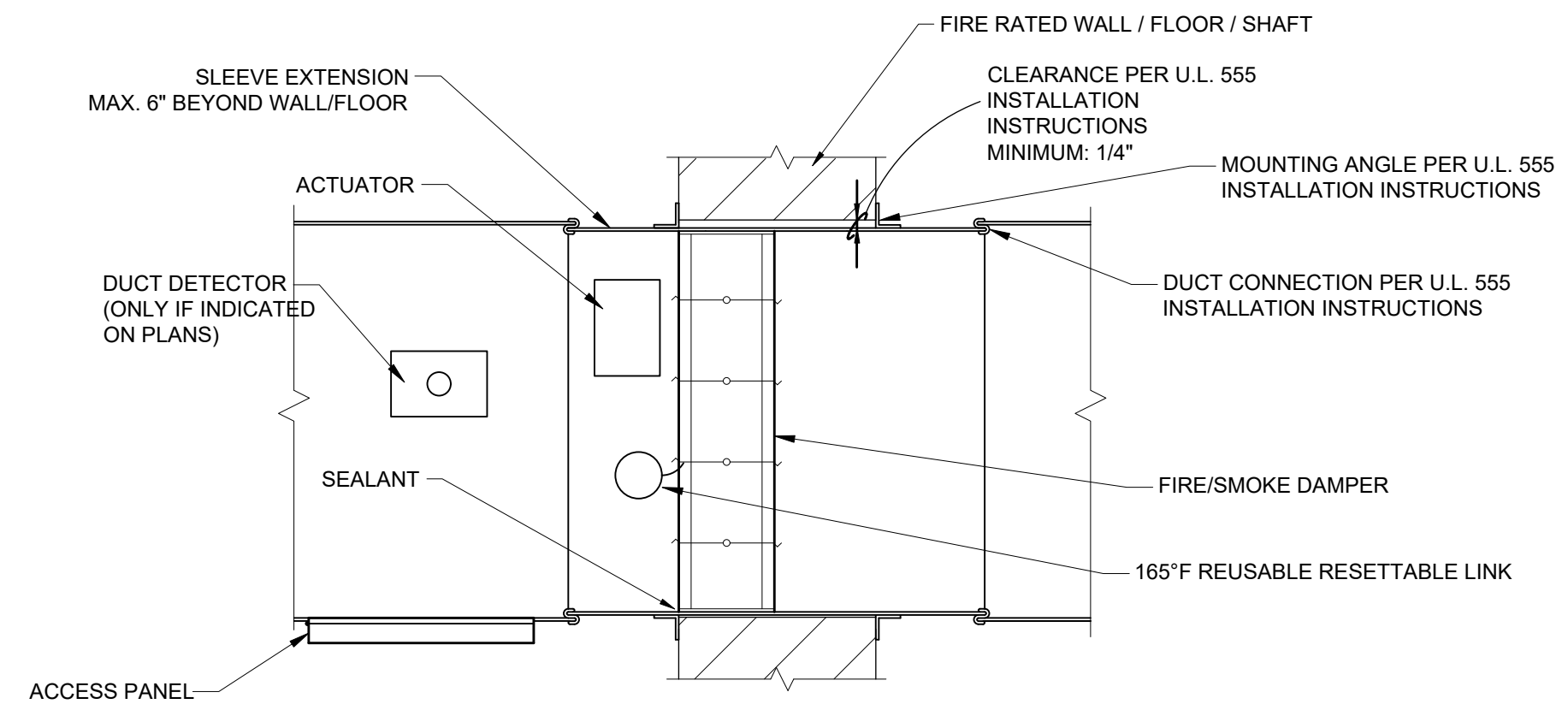
OPTIONS  
1. ALUMINUM GRILLE.  
2. PREWIRED MOTOR DISCONNECT SWITCH, NEMA-1.  
3. BACKDRAFT DAMPER  
4. VARI-GREEN MOTOR  
5. PREWIRED MOTOR DISCONNECT SWITCH, NEMA-3R.  
6. FAN TO BE RATED FOR HIGH WIND APPLICATION  
7. PROVIDE CURB ADAPTER FOR ATTACHING NEW FAN TO EXISTING CURB, IF REQUIRED.

CONTROL NOTES:  
1. FAN SHALL OPERATE VIA OCCUPANCY SENSOR.  
2. FAN WILL OPERATE DURING OCCUPIED HOURS VIA BAS.  
3. FAN WILL OPERATE CONTINUOUSLY.



DOWNBLAST ROOF FAN DETAIL  
SCALE: NONE

- NOTES:  
1. ALL WORK SHALL MAINTAIN ROOFING SYSTEM WARRANTY.  
2. VERIFY EXISTING ROOF CURB SIZE. PROVIDE A CURB ADAPTER BETWEEN THE CURB AND THE NEW FAN.  
3. APPLY FOAM RUBBER GASKET TO TOP OF CURB FOR AIR-TIGHT JOINT.  
4. SECURE FAN TO CURB WITH 3/8" Ø LAG BOLTS @ 12" O.C. ALL AROUND OR AS REQUIRED BY THE MANUFACTURER TO COMPLY WITH THE PRODUCT'S WIND LOAD CAPABILITY.  
5. ROOF MEMBRANE SHALL COVER THE EXTERIOR OF THE CURB AND THE TIE STRAPS.  
6. UPPER SECTION OF DUCT TO BE SUPPORTED AT ROOF.  
7. BACK-DRAFT DAMPER  
8. POWER TO CONNECT TO FACTORY DISCONNECT



FIRE-SMOKE DAMPER DETAIL  
SCALE: NONE

- NOTES:  
1. DAMPERS SHALL BE CONSTRUCTED, TESTED AND LABELED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES SAFETY STANDARD 555 & 555S  
2. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE U.L. INSTALLATION INSTRUCTION SHEET PROVIDED WITH DAMPERS.  
3. THE STEEL SLEEVE SHALL BE 14 GAUGE, OR AS ALLOWED BY U.L. STANDARD 555.  
4. WHERE NOTED, DUCT DETECTORS ARE PROVIDED BY THE FIRE ALARM CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR.

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TALLAHASSEE, FLORIDA

CONSTRUCTION DOCUMENTS

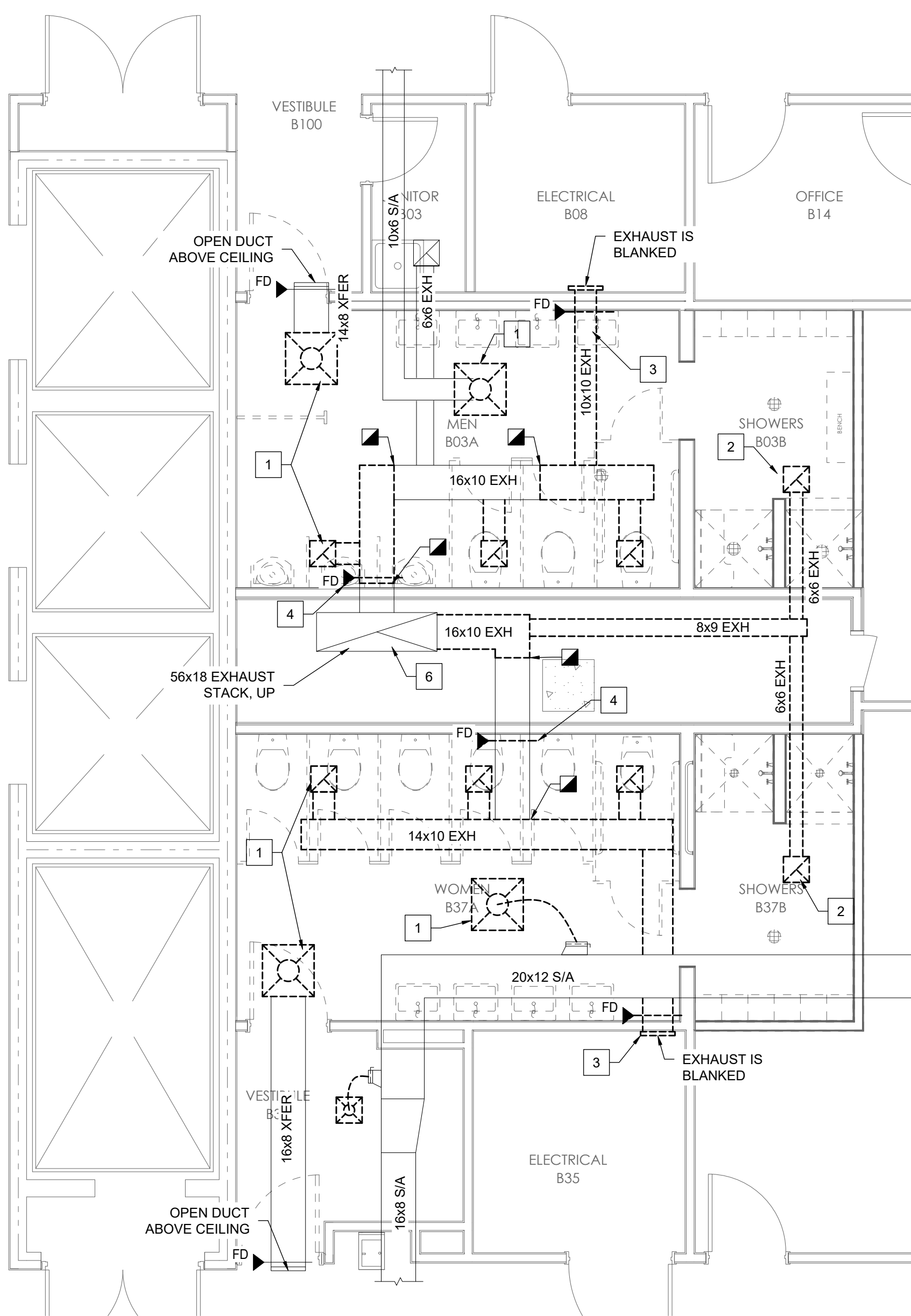
PROJ. NO. 176925  
DATE 02/26/2026  
DRAWN JB  
CHECKED JB  
APPROVED JB  
REVISION  
REVISION DATE

MECHANICAL DETAILS

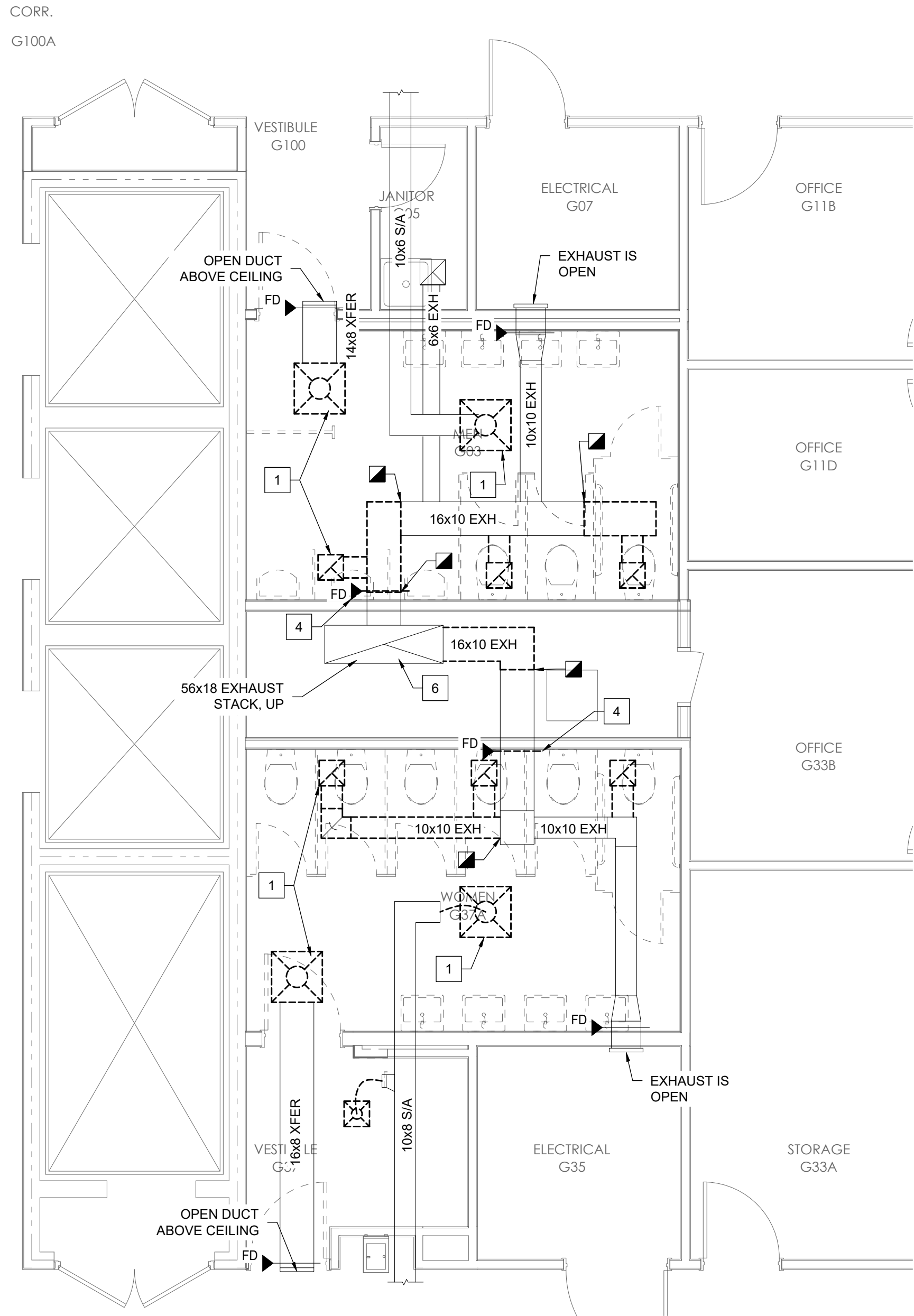
**M101**

DEMOLITION NOTES:

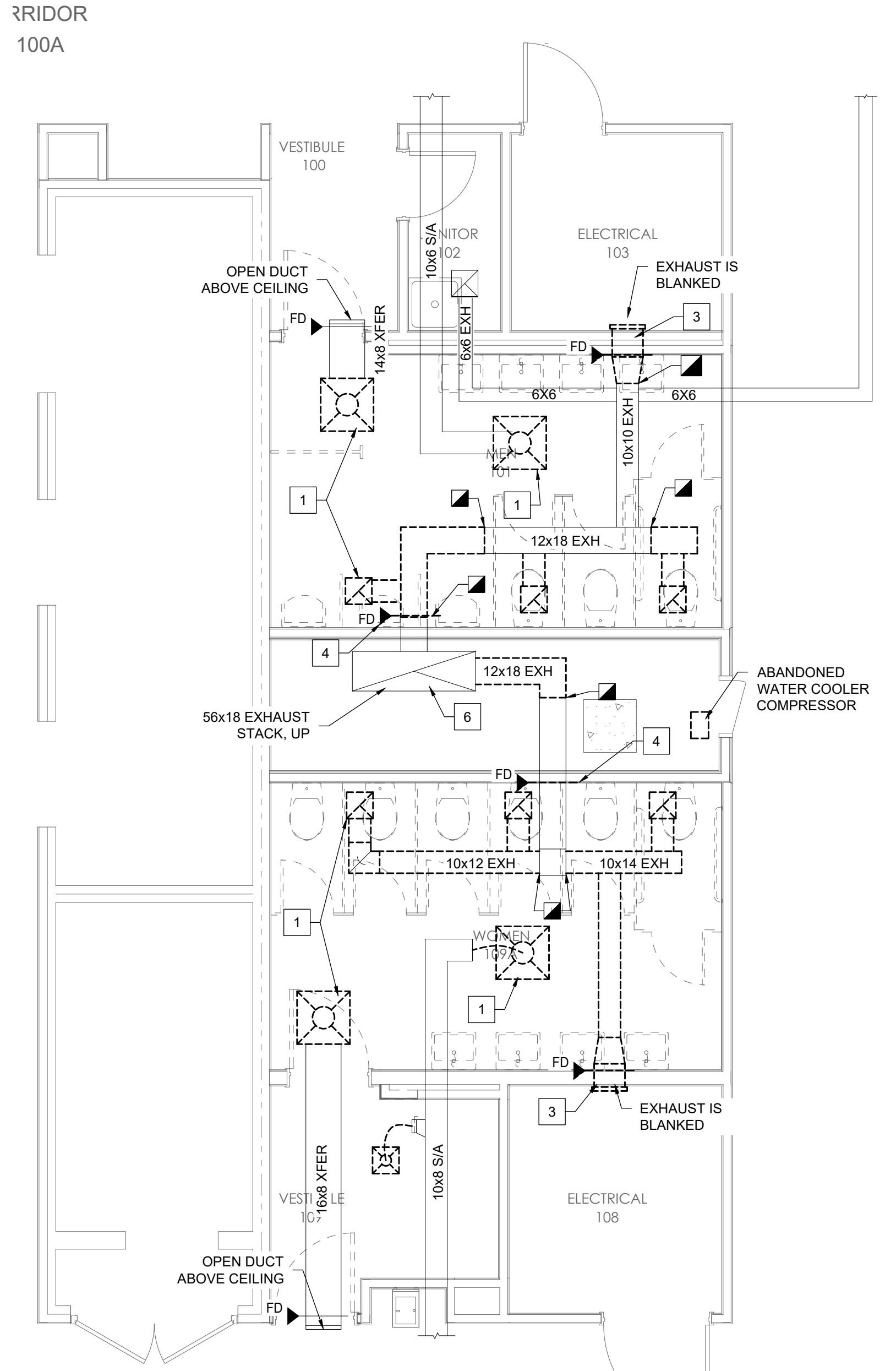
- 1 DEMOLISH GRILLES AND DIFFUSERS IN THE RESTROOMS. DEMO ANY CONNECTED FLEX DUCT. SEE PLANS FOR EXTENT OF DUCT DEMOLITION IN EACH RESTROOM. CAP EXISTING DUCT THAT IS TO REMAIN.
- 2 DEMO THE EXHAUST DUCT AND GRILLE TO THE SHOWERS IN THE BASEMENT. CAP CONNECTIONS INTO THE EXISTING DUCT.
- 3 DEMO THE EXHAUST DUCT & FIRE DAMPERS TO THE ELECTRICAL ROOMS WHERE NOTED; OTHERWISE, THE DUCT AND GRILL WILL REMAIN ACTIVE.
- 4 DEMO THE FIRE DAMPERS IN THE DUCTS THAT GO INTO THE PLUMBING CHASE.
- 5 DEMO EXHAUST FAN EF-12 ON THE ROOF. THE CURB AND DUCT ARE TO REMAIN FOR REUSE.
- 6 THE EXHAUST STACK WILL REMAIN IN SERVICE. THE DUCT IS TO BE CLEANED FROM THE TOP TO THE BASEMENT. ADD ACCESS PANELS THE TO THE STACK FOR REMOVAL OF DEBRIS.



1 DEMOLITION PLAN - BASEMENT  
 M200 SCALE: 1/4"=1'-0"



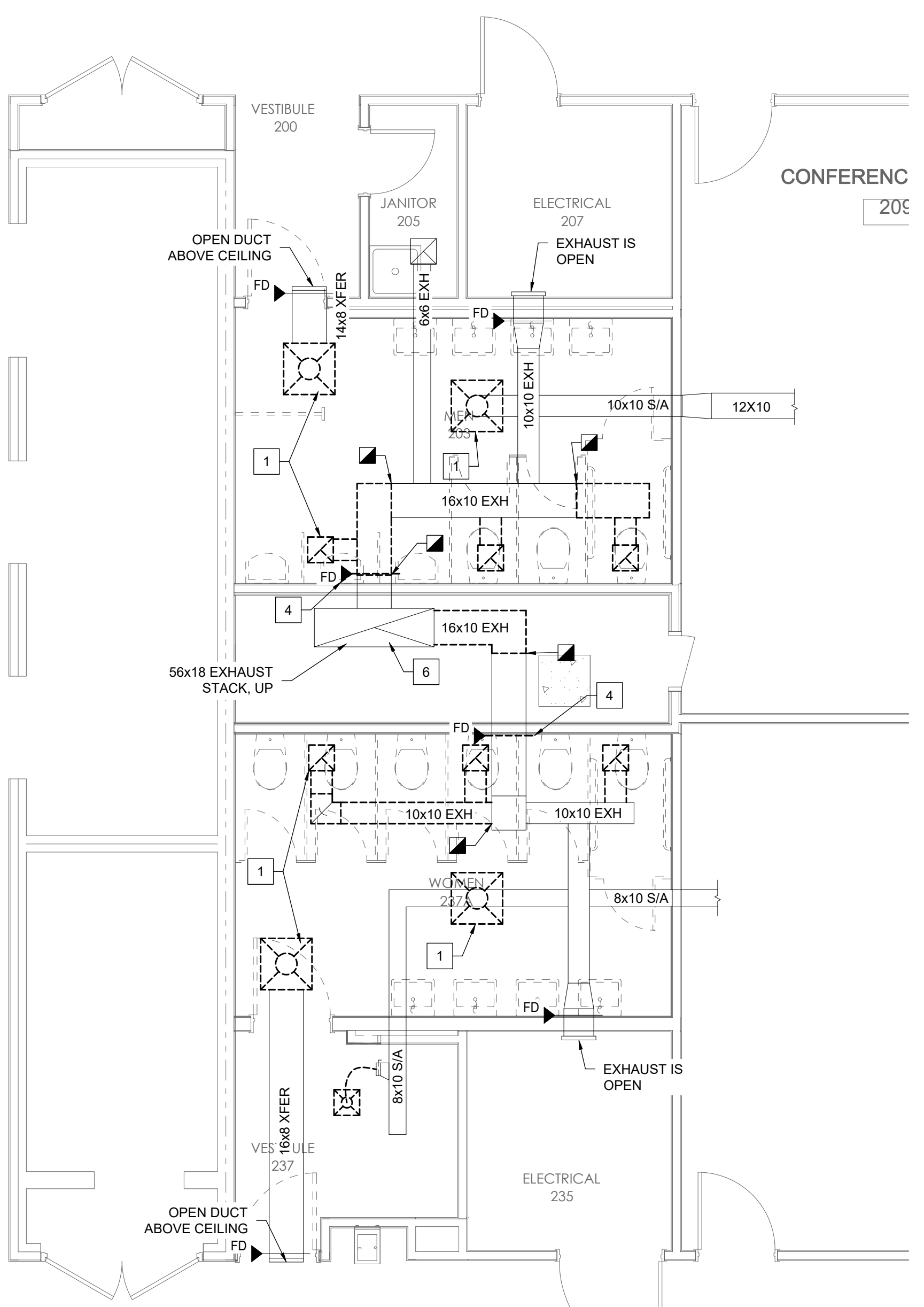
2 DEMOLITION PLAN - GROUND FLOOR  
 M200 SCALE: 1/4"=1'-0"

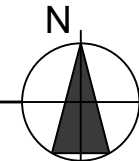


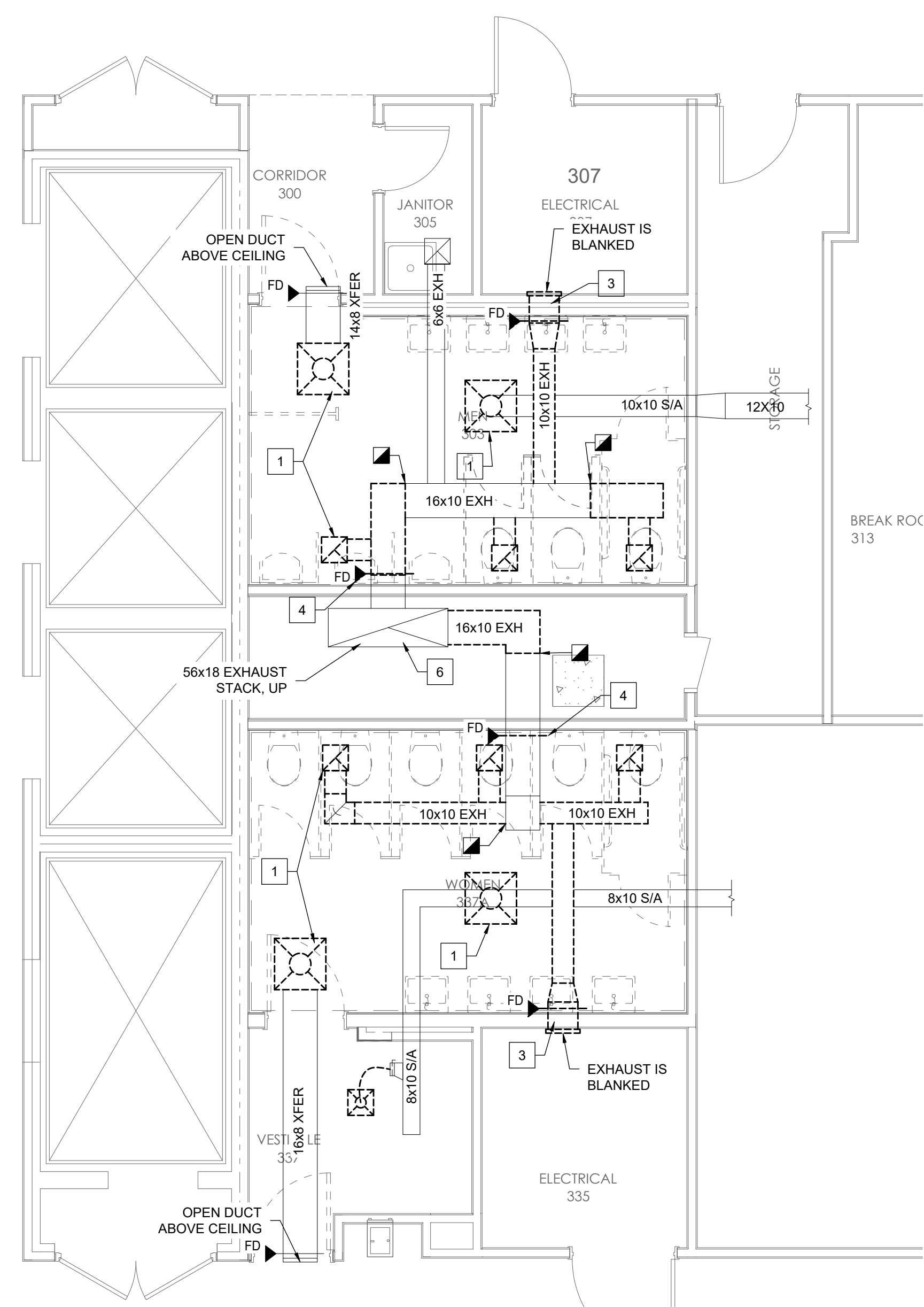
3 DEMOLITION PLAN - 1ST FLOOR  
 M200 SCALE: 1/4"=1'-0"

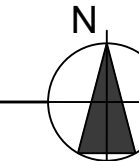
DEMOLITION NOTES:

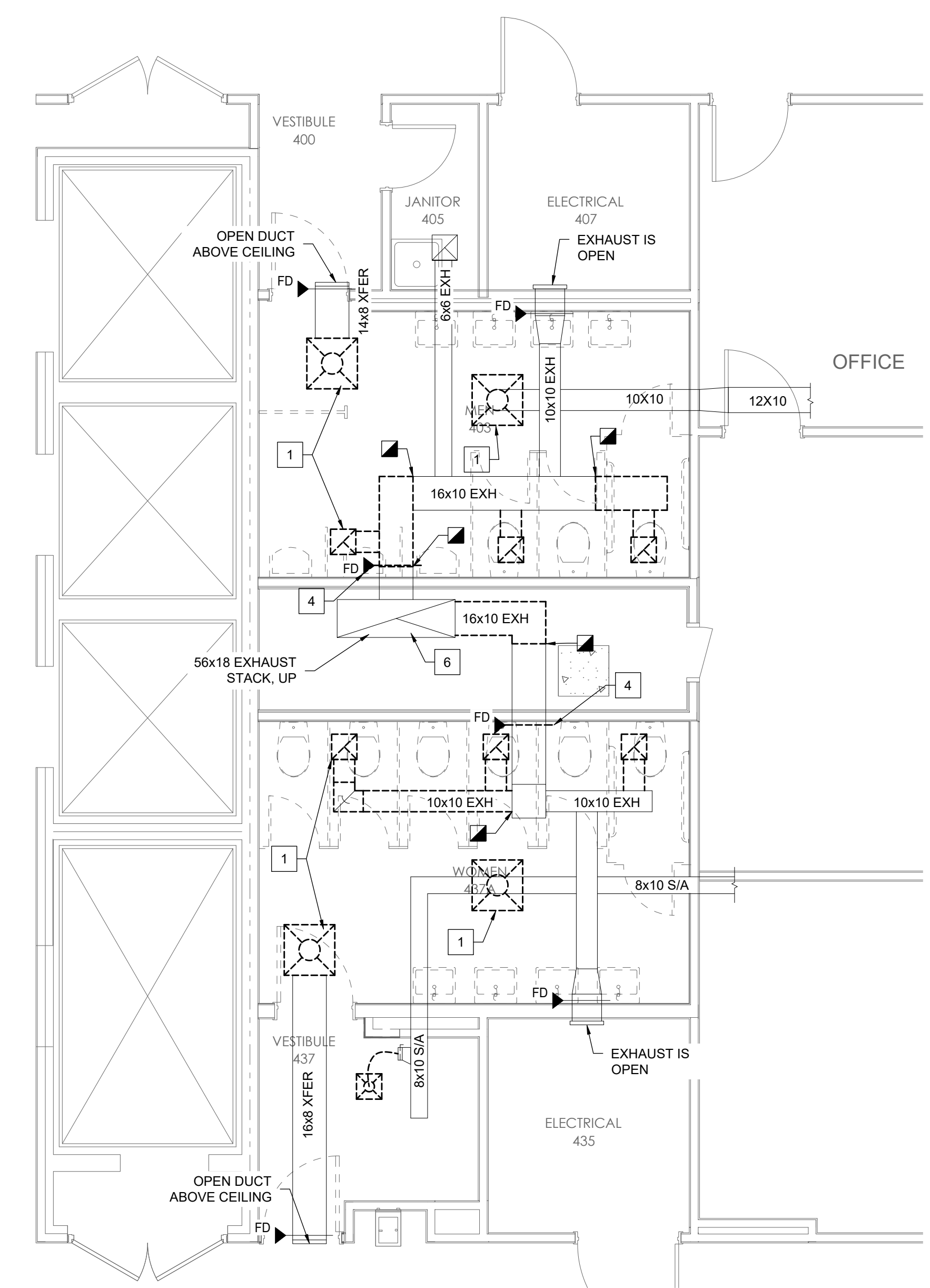
- 1 DEMOLISH GRILLES AND DIFFUSERS IN THE RESTROOMS. DEMO ANY CONNECTED FLEX DUCT. SEE PLANS FOR EXTENT OF DUCT DEMOLITION IN EACH RESTROOM. CAP EXISTING DUCT THAT IS TO REMAIN.
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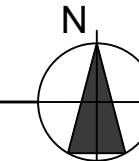


**1 DEMOLITION PLAN - 2ND FLOOR**  
M201 SCALE: 1/4"=1'-0" 

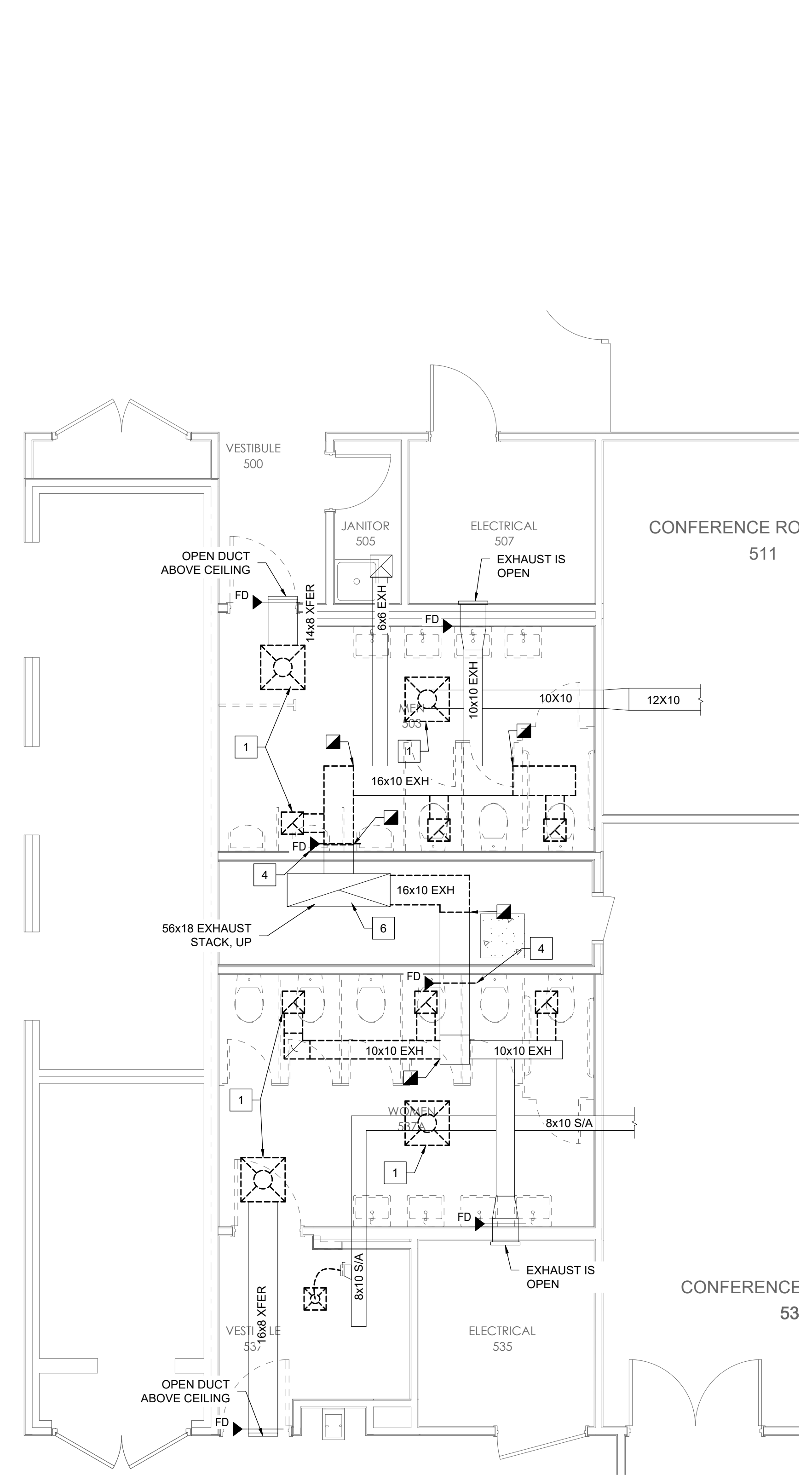


**2 DEMOLITION PLAN - 3RD FLOOR**  
M201 SCALE: 1/4"=1'-0" 

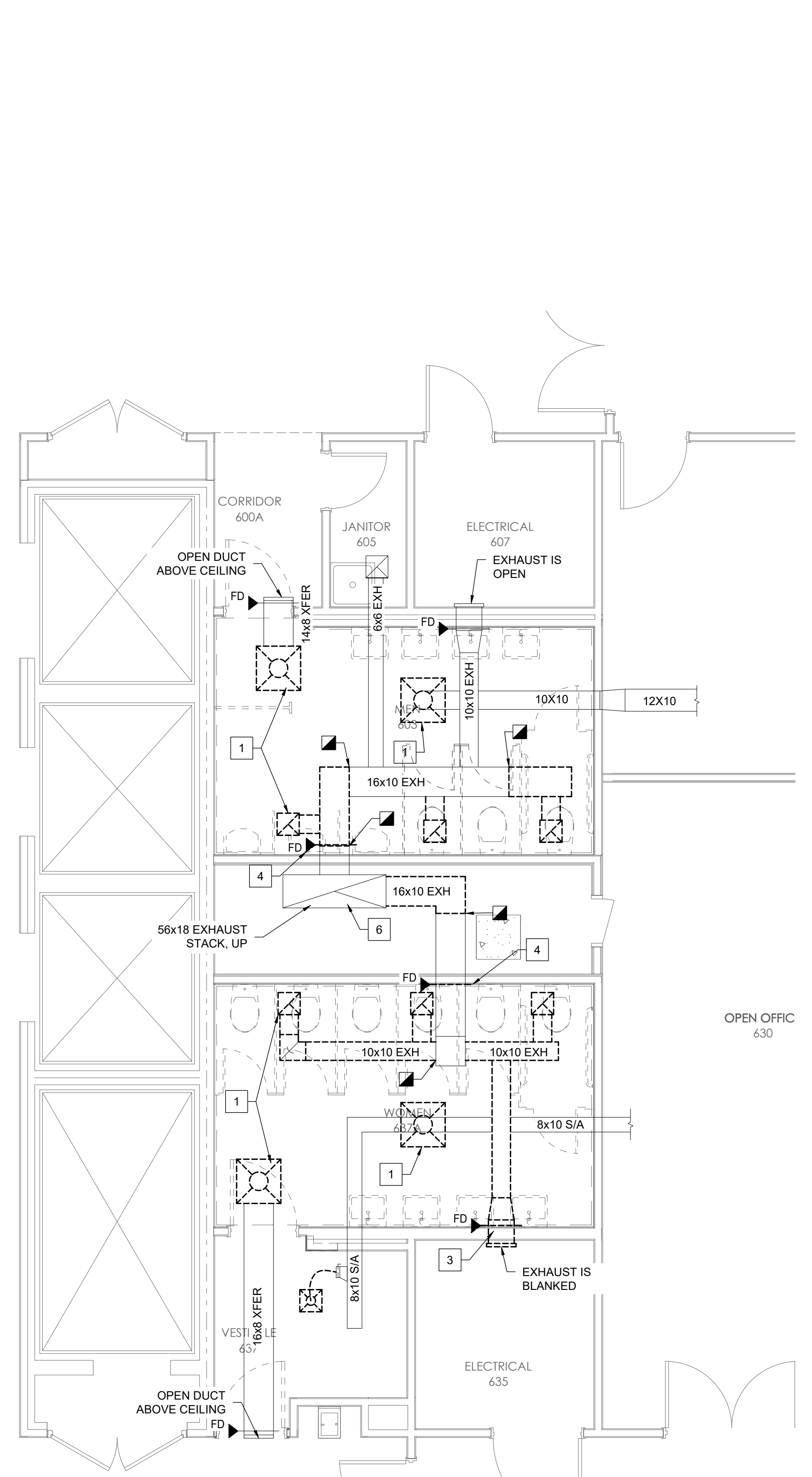


**3 DEMOLITION PLAN - 4TH FLOOR**  
M201 SCALE: 1/4"=1'-0" 

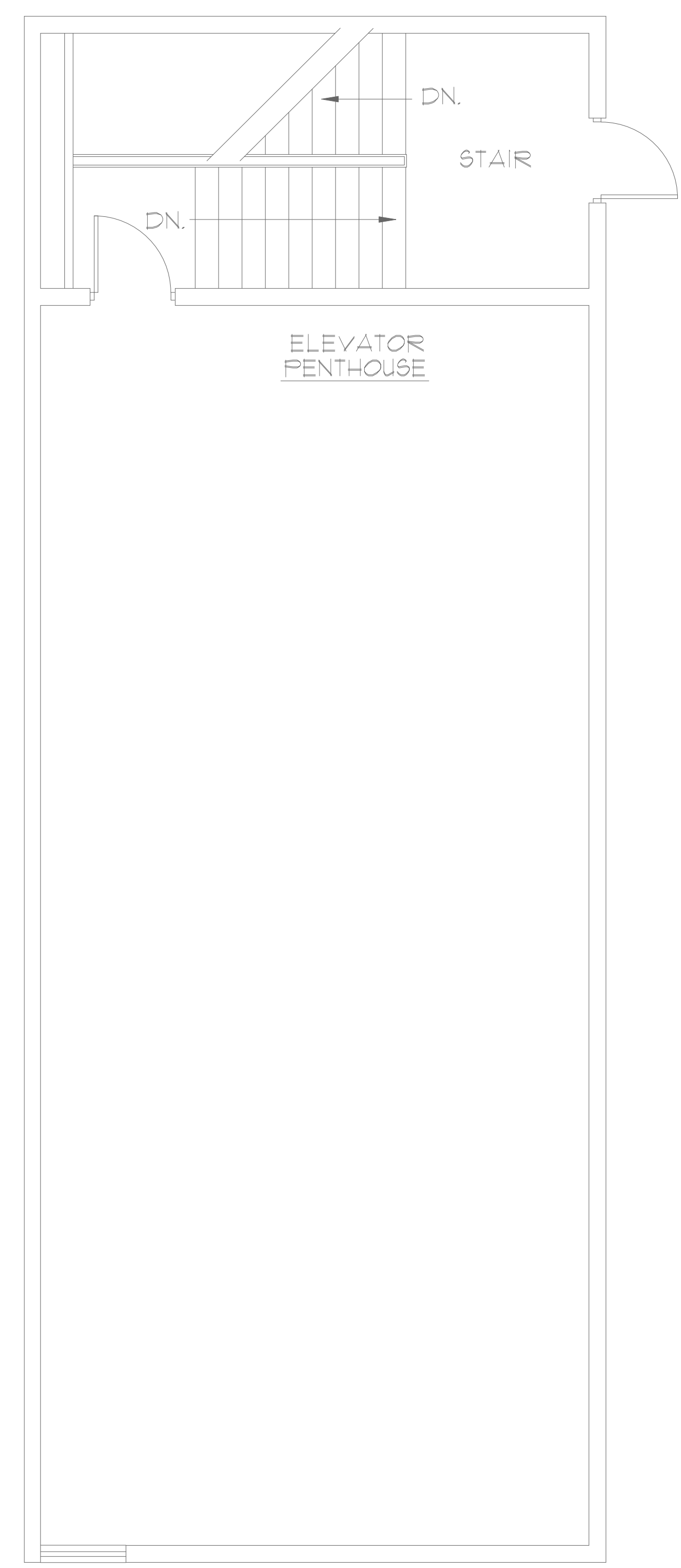
- DEMOLITION NOTES:**
- 1 DEMOLISH GRILLES AND DIFFUSERS IN THE RESTROOMS. DEMO ANY CONNECTED FLEX DUCT. SEE PLANS FOR EXTENT OF DUCT DEMOLITION IN EACH RESTROOM. CAP EXISTING DUCT THAT IS TO REMAIN.
  - 2 DEMO THE EXHAUST DUCT AND GRILLE TO THE SHOWERS IN THE BASEMENT. CAP CONNECTIONS INTO THE EXISTING DUCT.
  - 3 DEMO THE EXHAUST DUCT & FIRE DAMPERS TO THE ELECTRICAL ROOMS WHERE NOTED; OTHERWISE, THE DUCT AND GRILL WILL REMAIN ACTIVE.
  - 4 DEMO THE FIRE DAMPERS IN THE DUCTS THAT GO INTO THE PLUMBING CHASE.
  - 5 DEMO EXHAUST FAN EF-12 ON THE ROOF. THE CURB AND DUCT ARE TO REMAIN FOR REUSE.
  - 6 THE EXHAUST STACK WILL REMAIN IN SERVICE. THE DUCT IS TO BE CLEANED FROM THE TOP TO THE BASEMENT. ADD ACCESS PANELS THE TO THE STACK FOR REMOVAL OF DEBRIS.



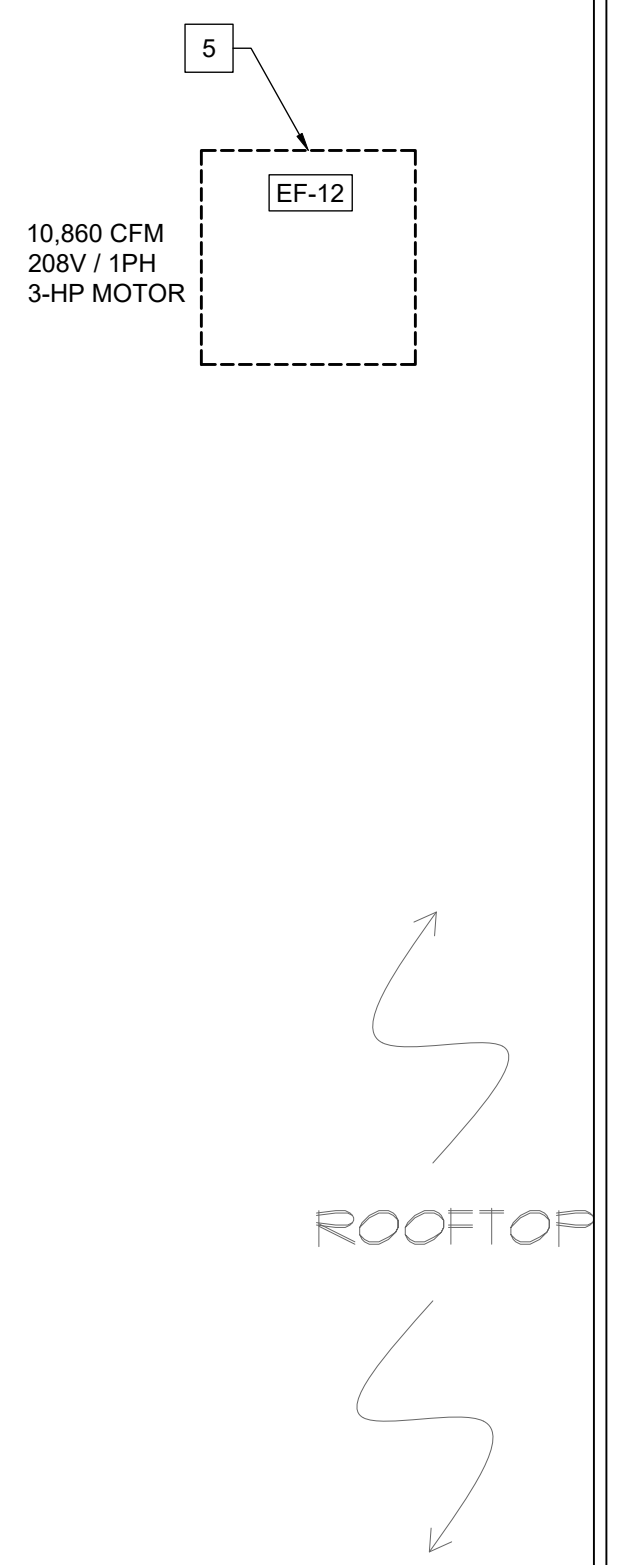
**1 DEMOLITION PLAN - 5TH FLOOR**  
 M202 SCALE: 1/4"=1'-0"



**2 DEMOLITION PLAN - 6TH FLOOR**  
 M202 SCALE: 1/4"=1'-0"



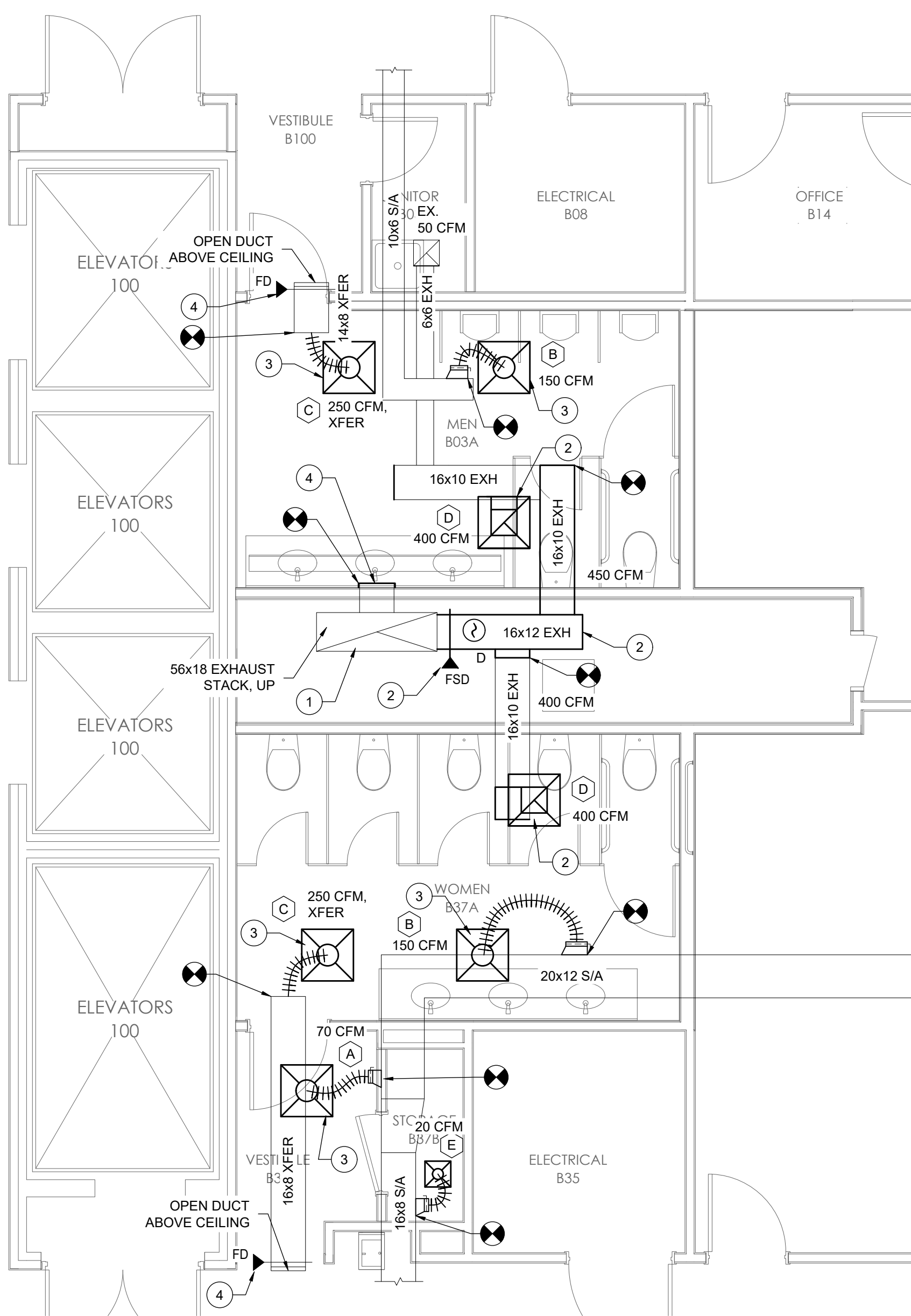
**3 DEMOLITION PLAN - PENTHOUSE**  
 M202 SCALE: 1/4"=1'-0"



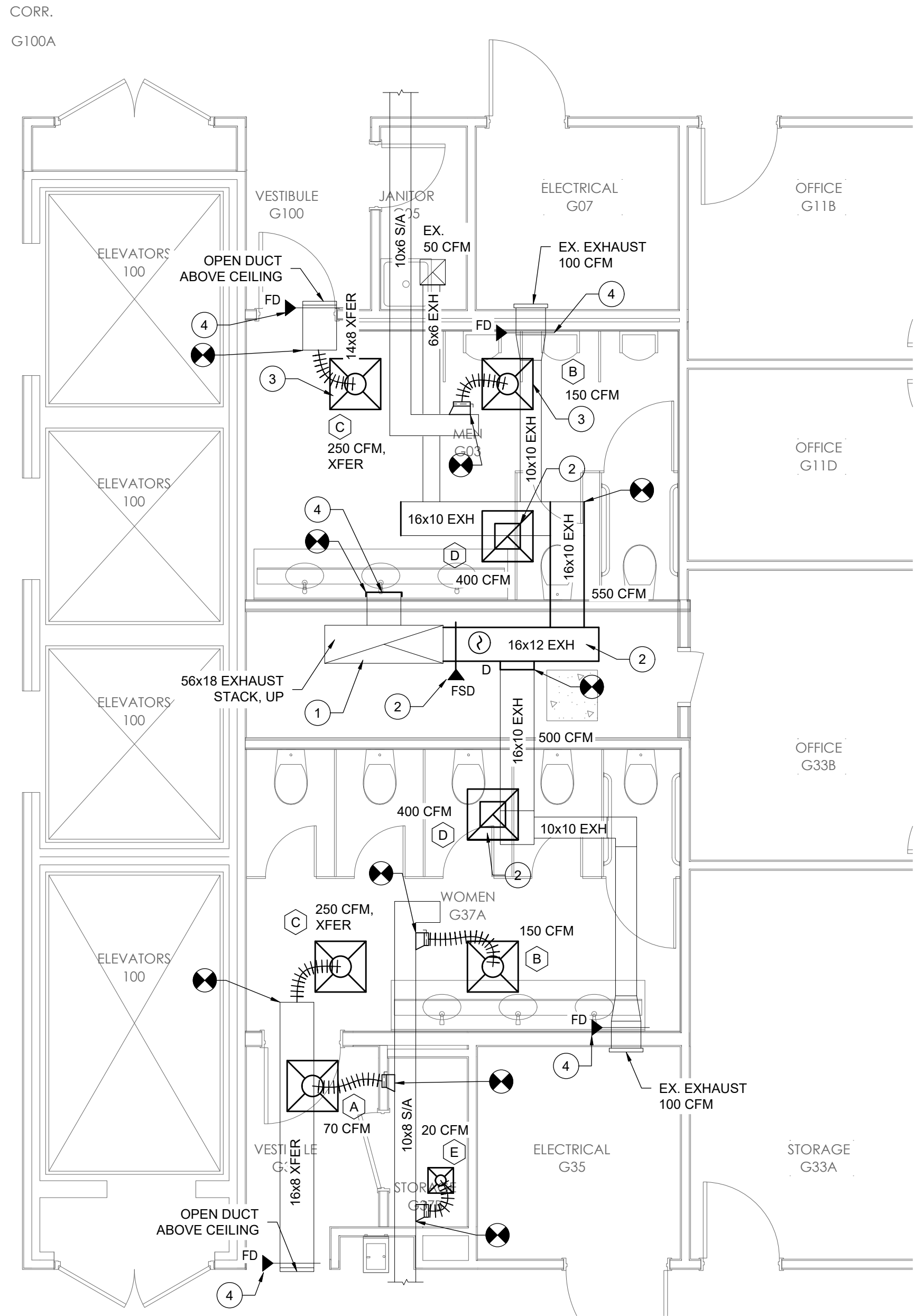
ROOFTOP

NEW WORK SHEET NOTES:

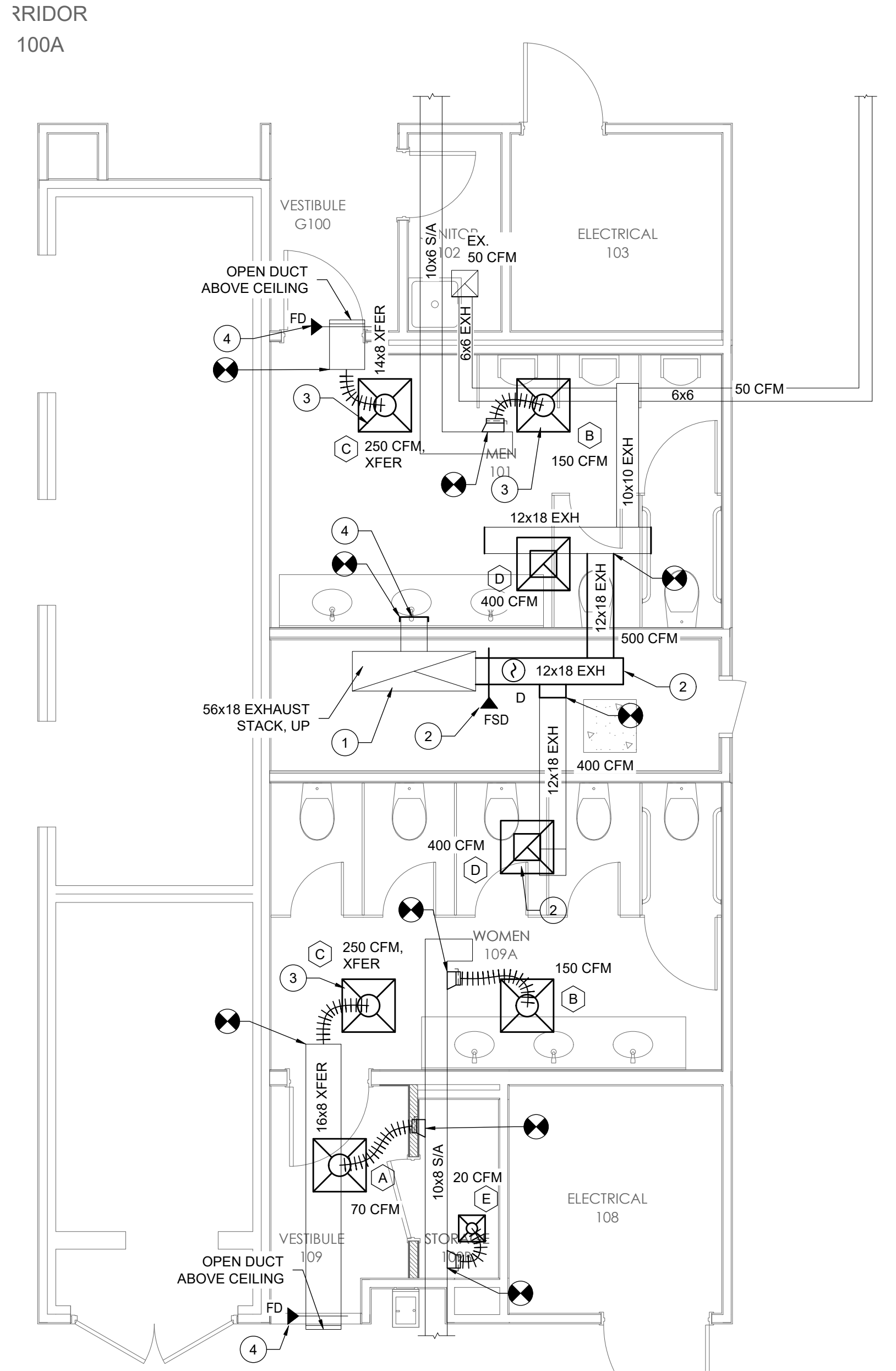
- 1 CLEAN EXISTING EXHAUST STACK FROM ROOF DOWN TO BASEMENT; REMOVE DEBRIS THROUGH DUCT OPENING.
- 2 INSTALL EXHAUST DUCTWORK BETWEEN GRILLE & EXISTING DUCT; INSTALL NEW DUCT TO EXHAUST SHAFT AND CONNECT TO EXISTING DUCT. INSTALL FIRE-SMOKE DAMPERS AT EACH PENETRATION INTO THE SHAFT; THEY MUST BE ACCESSIBLE. FIELD VERIFY ALL EXISTING DUCT SIZES.
- 3 INSTALL NEW GRILLES FOR SUPPLY AIR AND TRANSFER AIR INTO THE RESTROOMS. CONNECT VIA TAKE-OFFS AND FLEX TO EXISTING DUCTS. FLEX DUCT MAXIMUM LENGTH IS 8 FEET.
- 4 ADD A BLANK TO THE ABANDONED EXHAUST CONNECTIONS; MATERIAL TO BE MINIMUM 22 GA. AND SEALED WITH A FIRESTOP SEALANT.
- 5 THE EXISTING FIRE DAMPERS ARE TO BE STRAPPED OPEN; THERE IS NO LONGER A FIRE SEPARATION AT THE WALL.
- 6 INSTALL NEW RESTROOM EXHAUST FAN EF-12 ON THE ROOF, ON THE EXISTING CURB. FIELD VERIFY EXISTING DIMENSIONS; PROVIDE CURB ADAPTER TO NEW FAN.
- 7 THE EXHAUST FAN SHALL BE CONNECTED TO EXISTING BAS FOR SCHEDULED OPERATION DURING OCCUPIED HOURS. SIEMENS SHALL CONFIRM SCHEDULE AND FAN OPERATION.
- 8 BALANCE SUPPLY AND EXHAUST AIR FLOWS AT THE DAMPER AT EACH GRILLE / DIFFUSER IN THE RESTROOMS.



**1 NEW WORK PLAN - BASEMENT**  
 M300 SCALE: 1/4"=1'-0" 



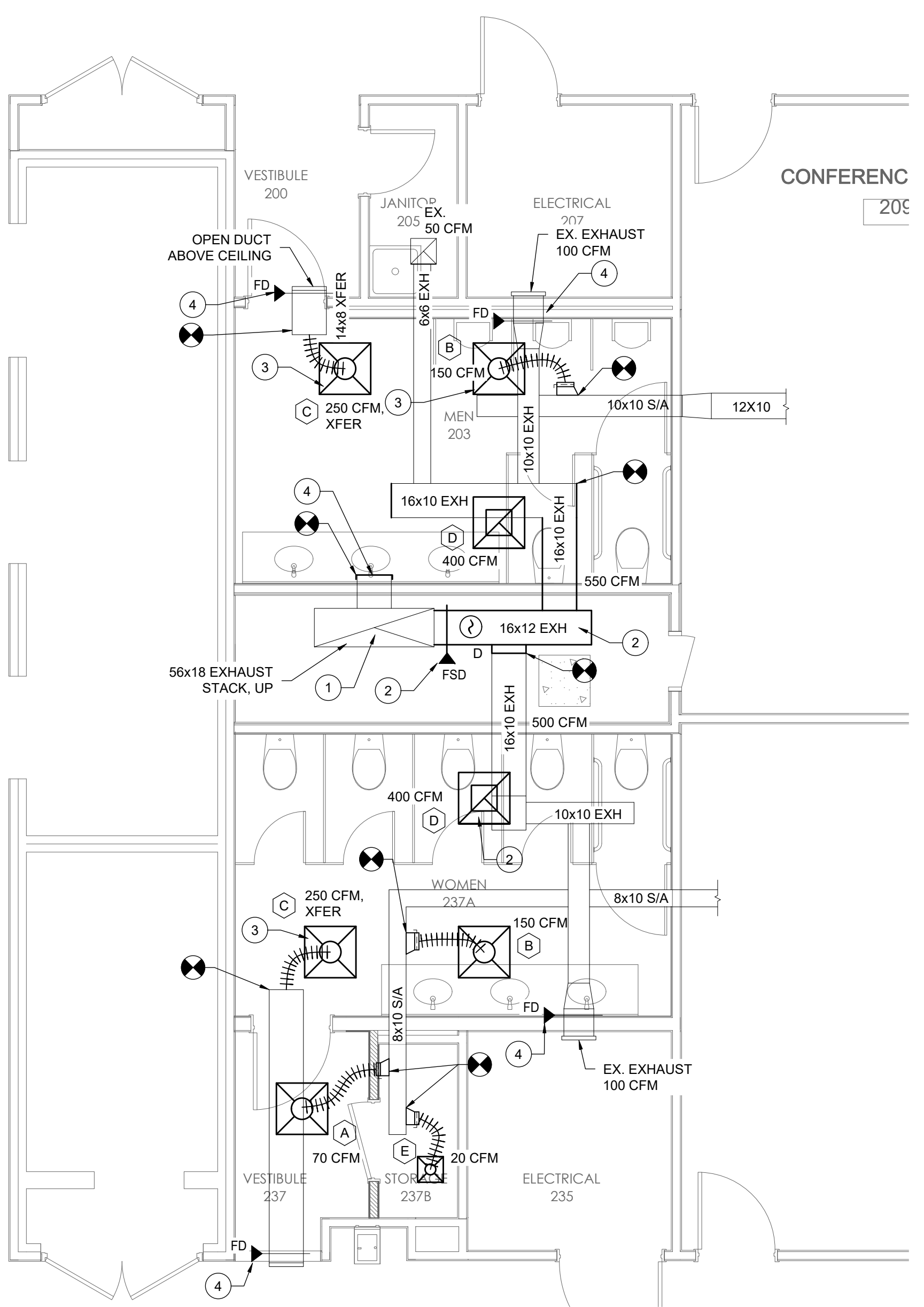
**2 NEW WORK PLAN - GROUND FLOOR**  
 M300 SCALE: 1/4"=1'-0" 

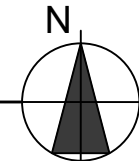


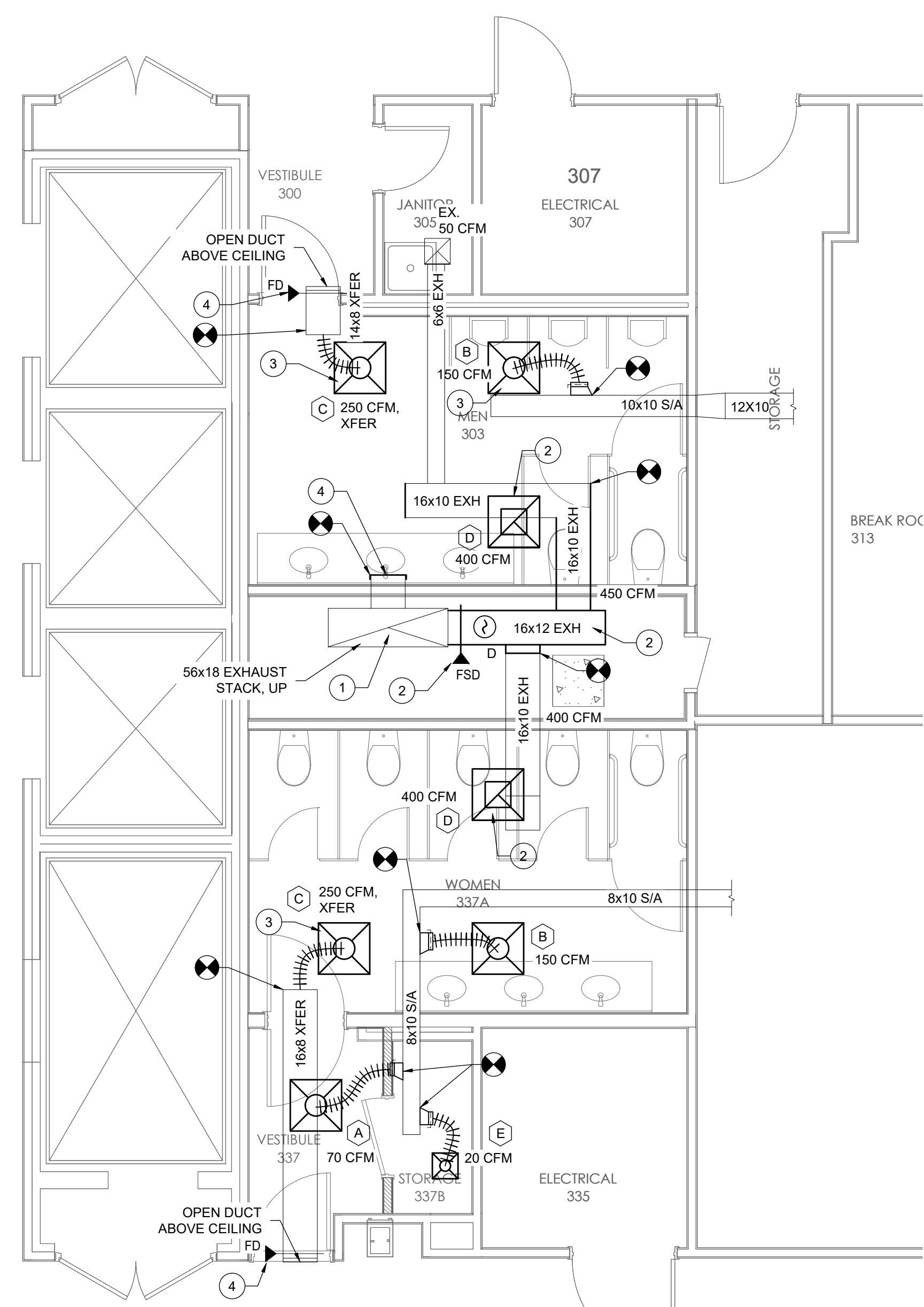
**3 NEW WORK PLAN - 1ST FLOOR**  
 M300 SCALE: 1/4"=1'-0" 

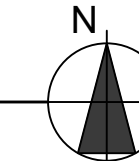
NEW WORK SHEET NOTES:

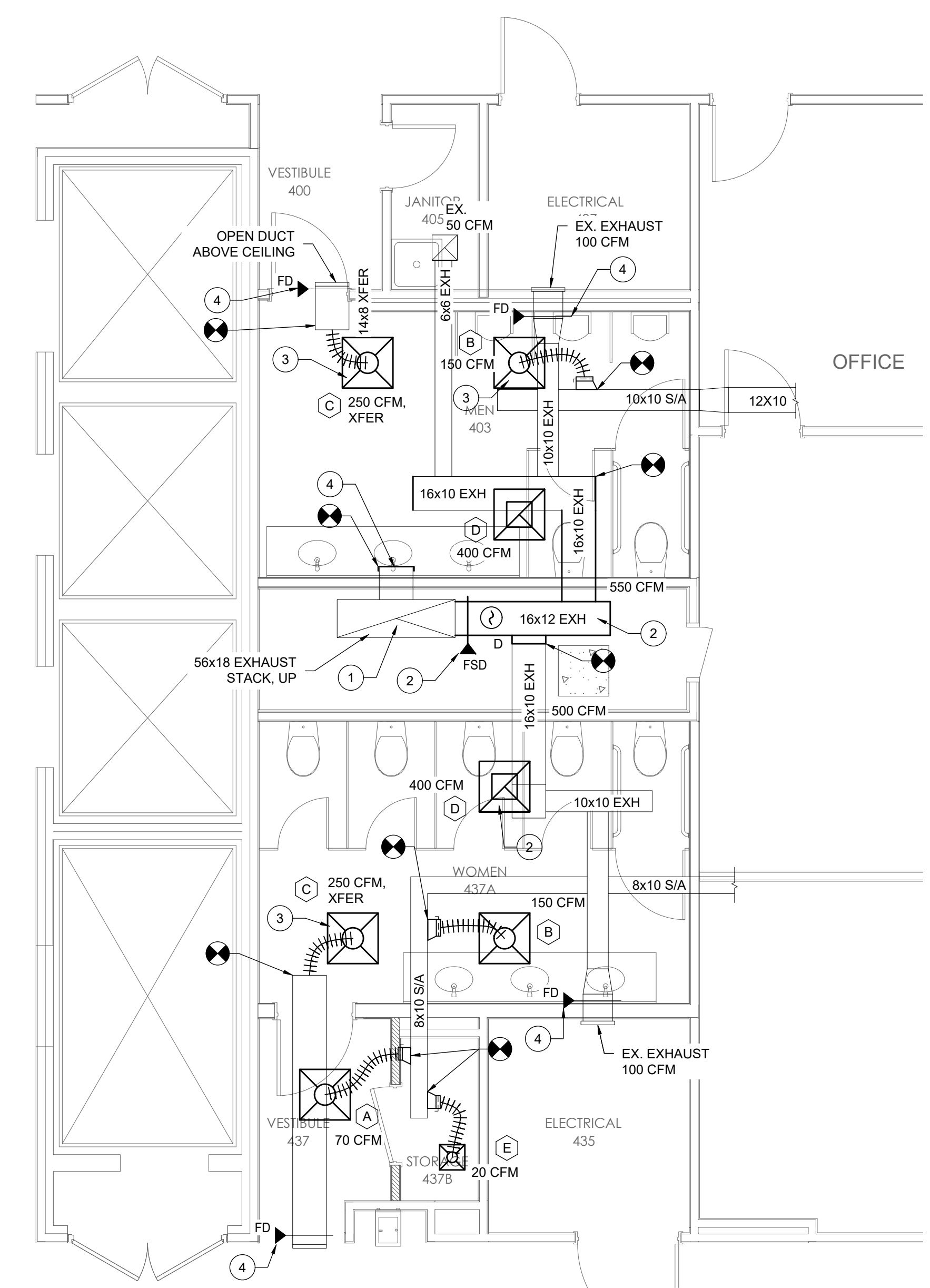
- 1 CLEAN EXISTING EXHAUST STACK FROM ROOF DOWN TO BASEMENT; REMOVE DEBRIS THROUGH DUCT OPENING.
- 2 INSTALL EXHAUST DUCTWORK BETWEEN GRILLE & EXISTING DUCT; INSTALL NEW DUCT TO EXHAUST SHAFT AND CONNECT TO EXISTING DUCT. INSTALL FIRE-SMOKE DAMPERS AT EACH PENETRATION INTO THE SHAFT; THEY MUST BE ACCESSIBLE. FIELD VERIFY ALL EXISTING DUCT SIZES.
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- 6 INSTALL NEW RESTROOM EXHAUST FAN EF-12 ON THE ROOF, ON THE EXISTING CURB. FIELD VERIFY EXISTING DIMENSIONS; PROVIDE CURB ADAPTER TO NEW FAN.
- 7 THE EXHAUST FAN SHALL BE CONNECTED TO EXISTING BAS FOR SCHEDULED OPERATION DURING OCCUPIED HOURS. SIEMENS SHALL CONFIRM SCHEDULE AND FAN OPERATION.
- 8 BALANCE SUPPLY AND EXHAUST AIR FLOWS AT THE DAMPER AT EACH GRILLE / DIFFUSER IN THE RESTROOMS.

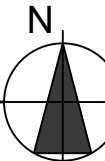


**1 NEW WORK PLAN - 2ND FLOOR**  
 M301 SCALE: 1/4"=1'-0" 



**2 NEW WORK PLAN - 3RD FLOOR**  
 M301 SCALE: 1/4"=1'-0" 



**3 NEW WORK PLAN - 4TH FLOOR**  
 M301 SCALE: 1/4"=1'-0" 

**CONSTRUCTION DOCUMENTS**

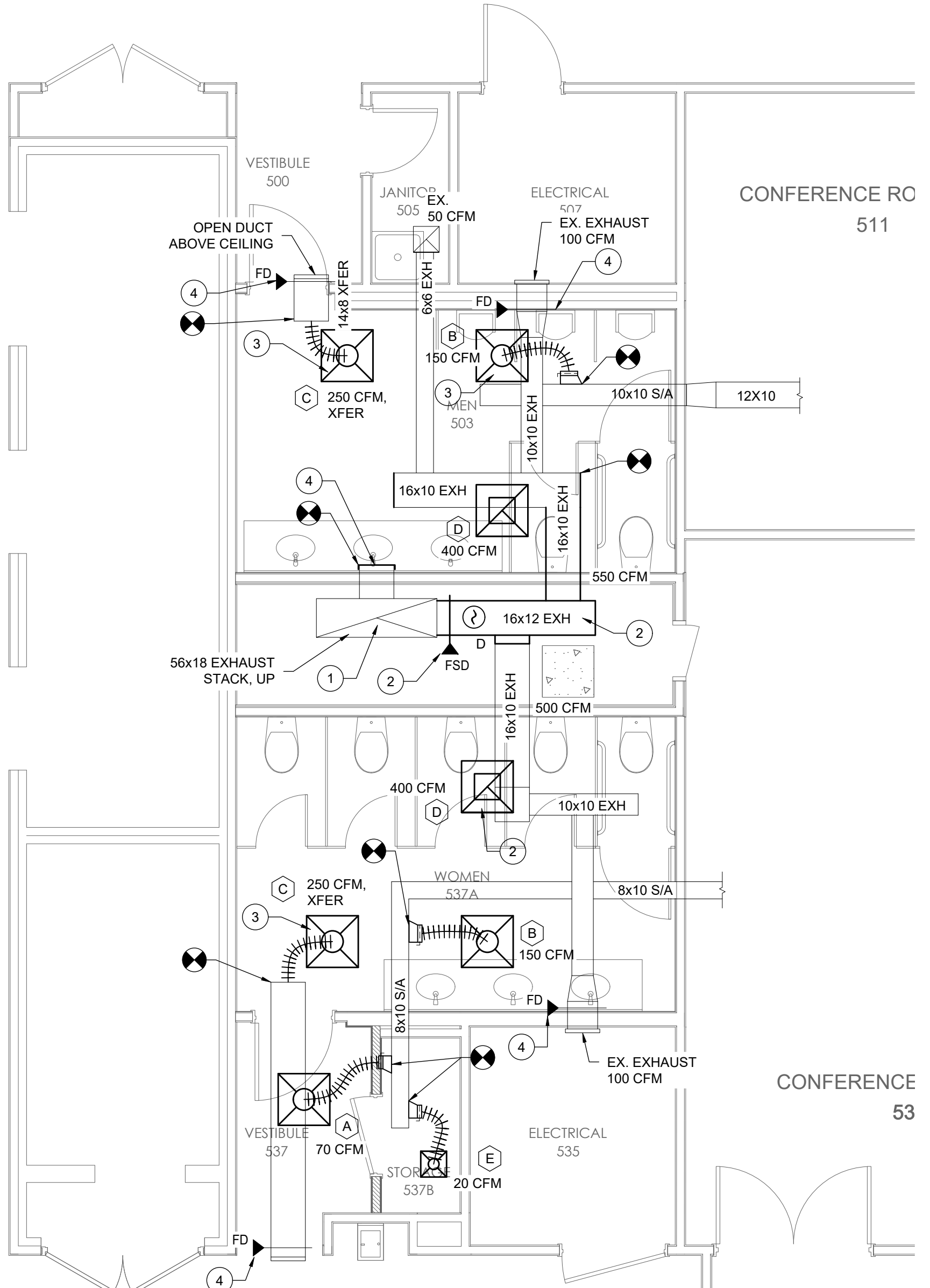
PROJ. NO.	176925
DATE	02/26/2026
DRAWN	_JB
CHECKED	_JB
APPROVED	_JB
REVISION	
REVISION DATE	

MECHANICAL  
 NEW WORK  
 PLANS

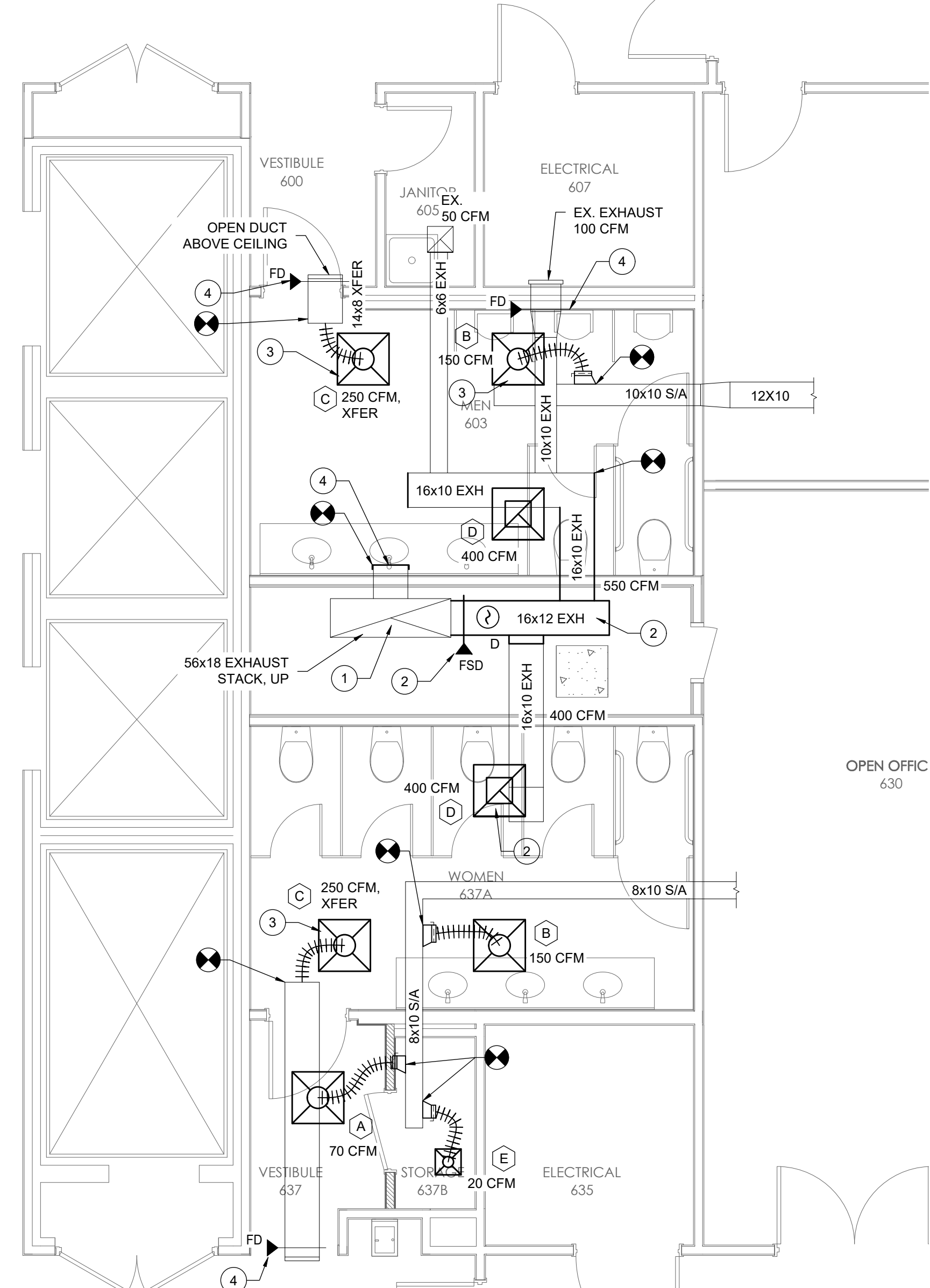
**M302**

**NEW WORK SHEET NOTES:**

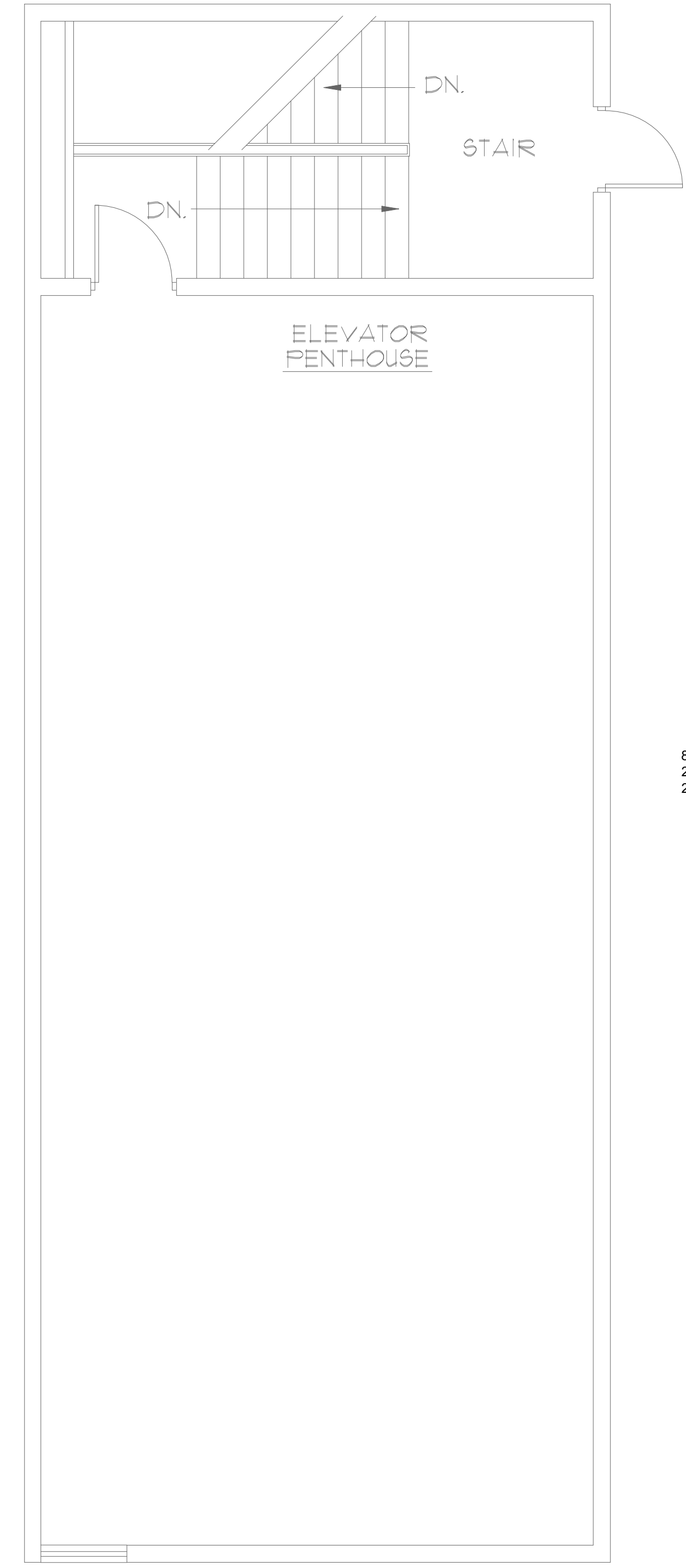
- 1 CLEAN EXISTING EXHAUST STACK FROM ROOF DOWN TO BASEMENT; REMOVE DEBRIS THROUGH DUCT OPENING.
- 2 INSTALL EXHAUST DUCTWORK BETWEEN GRILLE & EXISTING DUCT; INSTALL NEW DUCT TO EXHAUST SHAFT AND CONNECT TO EXISTING DUCT. INSTALL FIRE-SMOKE DAMPERS AT EACH PENETRATION INTO THE SHAFT; THEY MUST BE ACCESSIBLE. FIELD VERIFY ALL EXISTING DUCT SIZES.
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- 8 BALANCE SUPPLY AND EXHAUST AIR FLOWS AT THE DAMPER AT EACH GRILLE / DIFFUSER IN THE RESTROOMS.



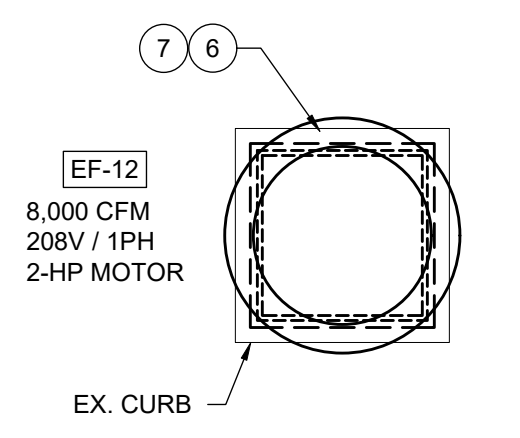
1 NEW WORK PLAN - 5TH FLOOR  
 M302 SCALE: 1/4"=1'-0"



2 NEW WORK PLAN - 6TH FLOOR  
 M302 SCALE: 1/4"=1'-0"



3 NEW WORK PLAN - PENTHOUSE  
 M302 SCALE: 1/4"=1'-0"



ROOF