

MERCED COLLEGE ADMIN MULTI ZONE HVAC REPLACEMENT

3600 M ST, MERCED CA, 95348



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GENERAL

PROJECT ADDRESS: 3600 M ST, MERCED CA, 95348

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE DEMOLITION AND REMOVAL OF ONE (1) EXISTING MULTI-ZONE AIR HANDLER & ONE (1) EXISTING CONDENSING UNIT AND THE INSTALLATION OF ONE (1) NEW HYDRONIC HEATING AND COOLING MULTI-ZONE AIR HANDLING UNIT LOCATED WITHIN THE ROOF PENTHOUSE OF THE ADMINISTRATION BUILDING. THE INSTALLATION CONTRACTOR TO CONNECT ALL NEW HVAC EQUIPMENT TO EXISTING CAMPUS EMS

GOVERNING CODES

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA EXISTING CODE, PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 7, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCE STANDARD FOR BUILDING INFORMATION, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
NFPA 1352 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (AS AMENDED)
NFPA 1353 INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (AS AMENDED)
NFPA 25-2024 (CALIFORNIA NFPA 25 EDITION) INSPECTION, TESTING, AND MAINTENANCE OF
WATER-BASED FIRE PROTECTION SYSTEMS (AS AMENDED)
NFPA 72-2022 NATIONAL FIRE ALARM AND SIGNALING CODE (AS AMENDED)

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.

ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE
INSTALLING CONTRACTOR, ENGINEER OF RECORD OR THE OWNER'S AGENT.

A LISTING OF CERTIFIED ATT CAN BE FOUND AT:
[HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE](https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance).
 THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

GENERAL NOTES

1. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE AUTHORITY HAVING JURISDICTION.
2. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF THE APPROVED T & I SHEET.
3. ADDENDA MUST BE SIGNED BY ARCHITECT AND APPROVED BY AUTHORITY HAVING JURISDICTION.
4. NO CHANGES OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECTS ACCESS COMPLIANCE ITEMS UNLESS SUCH CHANGES OR REVISIONS ARE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL.
5. SUBSTITUTIONS AFFECTING AUTHORITY HAVING JURISDICTION REGULATED ITEMS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA, AND SHALL BE APPROVED BY AUTHORITY HAVING JURISDICTION PRIOR TO FABRICATION AND INSTALLATION.
6. CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY THE FOLLOWING: • ENGINEER OF RECORD • DELEGATED PROFESSIONAL ENGINEER.
7. MATERIALS AND THEIR INSTALLATION SHALL COMPLY WITH APPLICABLE CODES, STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
8. THESE PLANS AND SPECIFICATIONS WILL COMPLY WITH CFC CHAPTER 33-FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.
9. AUTHORITY HAVING JURISDICTION IS NOT SUBJECT TO ARBITRATION.
10. AN "AUTHORITY HAVING JURISDICTION CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE OWNER AND APPROVED BY THE AUTHORITY HAVING JURISDICTION SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
11. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH THE REGULATIONS OF THE AUTHORITY HAVING JURISDICTION. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL BE CONFORM WITH THE REGULATIONS OF THE AUTHORITY HAVING JURISDICTION, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY AUTHORITY HAVING JURISDICTION BEFORE PROCEEDING WITH THE WORK.

DEFERRED SUBMITTALS

NONE

PROJECT DESCRIPTION

OWNER
MERCED COLLEGE

3600 M ST
MERCED, CA 95348
(209) 384-6301

CONTACT: MARCUS METCALF
EMAIL: MARCUS.METCALF@MCCD.EDU

MECHANICAL ENGINEER
NET POSITIVE CONSULTING ENGINEERS

5 RIVER PARK PLACE EAST, SUITE 303
FRESNO, CA 93720
(559) 940-7293

CONTACT: JONATHAN C. SCHLUNDT
EMAIL: JSCHLUNDT@NPCENG.COM
LICENSE #: M35955

PROJECT DIRECTORY

- A. CONTRACTOR SHALL PERFORM WORK AROUND OWNER & COLLEGE SCHEDULE, PROVIDING ALL TEMPORARY FACILITIES/CONTINUITY OF SERVICES TO MINIMIZE DISRUPTION TO CAMPUS.
- B. CONTRACTOR SHALL COORDINATE LOCATION OF ON-SITE TRAILOR AND/OR OFFICE WITH THE COLLEGE PRIOR TO CONSTRUCTION FOR REGULARLY SCHEDULED CONSTRUCTION MEETINGS.
- C. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING WORKING AREAS & SECURING MATERIALS DURING THE COURSE OF THE ENTIRE PROJECT.

TEMPORARY FACILITIES AND SPECIAL CONDITIONS

VICINITY MAP



GENERAL

G001	COVER SHEET
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MECHANICAL

M001	MECHANICAL LEGEND, SCHEDULES & NOTES
M100	MECHANICAL SITE PLAN - MERCED COLLEGE
M101	ENLARGED MECHANICAL SITE PLAN - ADMINISTRATION BUILDING
M200	ENLARGED MECHANICAL FLOOR PLAN - ADMINISTRATION BUILDING
M500	ENLARGED MECHANICAL ROOF PLAN - ADMINISTRATION BUILDING
M800	MECHANICAL DETAILS
M900	TITLE 24 DOCUMENTATION

SHEET INDEX

NUMBER OF SHEETS = 8

MERCED COLLEGE
ADMIN MULTI-ZONE REPLACEMENT

PROJECT NO: 1478

3600 M ST., MERCED, CA 95348

PROJECT NAME:

DATE: 03/26/2025

SHEET TITLE:

COVER SHEET

SHEET NO:

G001

MECHANICAL SCHEDULES

AIR HANDLER SCHEDULE - ADMINISTRATION O.F.C.I.		
DESIGNATION		AHU-A1
BLOWER	AIR FLOW (CFM)	12595
	MIN. OSA (CFM)	1525
	FLA	24.9
	MCA / MOCp	30 / 35
	VOLTS / PHASE	460 / 3
COOLING	CAPACITY TOT. (MBH)	512.6
	CAPACITY SENS. (MBH)	352.6
	EADB/EAWB (°F)	80 / 67
	AMBIENT AIR (°F)	105
	GPM	65
HEATING	WATER PD (FT)	19.8
	CAPACITY	475.9
	EADB (°F)	57
	GPM	96.15
FILTERS	WATER PD (FT)	15.1
	QUANTITY/SIZE	2 / 24x24 1 / 12x24
	EFFICIENCY (MERV)	MERV 13
	FINAL PD MX (IN. WC)	5.19
MANUFACTURER		WILLIS-ENERGY
TYPE		MULTI-ZONE VAV
MODEL NUMBER		Q1660GA
LOCATION		PENTHOUSE
SERVICE		ADMINISTRATION
NO. OF ZONES		7
OPER WT (LBS)		4525
ACCESSORIES		1-3

- CONTRACTOR SHALL:
- SUPPLY DUCT SMOKE DETECTOR (SYSTEM SENSOR D4120). PROVIDE CONDUIT AND CONDUCTORS AS REQUIRED FOR UNIT SHUTDOWN UPON DETECTION OF SMOKE. FURNISH REMOTE TEST SWITCH (RTS454KEY) WITHIN HOT DECK AND COLD DECK OF (N) AHU-A1 TO ELECTRICAL FOR INSTALLATION.
 - CO2 SENSOR FOR DEMAND CONTROL VENTILATION.
 - CONTRACTOR TO PROVIDE (N) BELIMO ACTUATORS & DAMPERS THAT ARE TO BE INTEGRATED INTO THE (E) JOHNSON METASYS. ALL (E) ACTUATORS TO BE SALVAGED TO THE OWNER.

GENERAL NOTES

- COORDINATION OF WORK: LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY.
- THE ACTUAL LOCATION OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCES WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL OR OTHER ELEMENTS.
- VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO THE INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.
- PROVIDE ALL DUCT TRANSITION PIECES AND FITTINGS REQUIRED TO ACCOMMODATE MECHANICAL EQUIPMENT CONNECTIONS, STRUCTURE, ARCHITECTURAL ELEMENTS, AND CHANGES IN DUCT SIZES.
- ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH THE STANDARDS ADOPTED BY SMACNA AND CHAPTER 6 OF THE 2022 CMC.
- ALL DUCTWORK AND PIPING SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF 2022 CMC. INSULATION MATERIALS SHALL MEET THE CALIFORNIA QUALITY STANDARD PER SECTION 110.8, 120.3, AND 120.4 OF THE 2022 CALIFORNIA ENERGY CODE.
- ALL DUCT SIZES SHOWN ARE NET INSIDE DIMENSIONS.
- DUCTWORK SHALL BE SHEET METAL CONSTRUCTED IN COMPLETE CONFORMANCE WITH CMC LATEST EDITION, CHAPTER 6 AND THE LATEST SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
- ALL DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR THE OWNER REPRESENTATIVE.
- PROVIDE VOLUME DAMPERS IN ALL BRANCH DUCTS (SUPPLY, RETURN, OSA AND EXHAUST) FOR SYSTEM BALANCING.
- HANDLE, STORE AND INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS AND AS DIRECTED IN THE PROJECT MANUAL.
- ALL AIR SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED TO MEET THE REQUIRED FLOW. TAB METHODOLOGY SHALL BE SUBMITTED TO OWNER REPRESENTATIVE PRIOR TO IMPLEMENTATION AND IN ACCORDANCE WITH PROJECT SEQUENCING.
- ALL PLUMBING FIXTURES AND PIPING SHALL BE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE 2022 CPC.

MECHANICAL LEGEND

SYMBOL	ITEM	ABBR.
	ABOVE	ABV
	ABOVE CEILING	ABV CLG
	ABOVE FINISHED FLOOR	AFF
	ALTERNATE	ALT
	AIR CONDITIONING	AC
	AIR FLOW STATION	AFS
	AIR HANDLER UNIT	AHU
	ANALOG INPUT	AI
	ANALOG OUTPUT	AO
&	AND	
	ARCHITECT / ARCHITECTURAL	ARCH
⊗	AT	
	BACKDRAFT DAMPER	BDD
	BELOW FINISH CEILING	BFC
	BELOW FLOOR	BEL FLR
	BELOW GRADE	BEL GR
	BLIND FLANGE	BLF
	BRITISH THERMAL UNIT	BTU
	BRITISH THERMAL UNIT PER HOUR	BTUH
	CALIFORNIA MECHANICAL CODE	CMC
	CALIFORNIA PLUMBING CODE	CPC
	CEILING	CLG
℄	CENTER LINE	
	CONTINUATION	CONT
	CUBIC FEET OF AIR PER MINUTE	CFM
	CURRENT SENSOR	CS
∅	DIAMETER	DIA
	DIFFERENTIAL PRESSURE SWITCH	DPS
	DIGITAL INPUT	DI
	DIGITAL OUTPUT	DO
	DOWN	DN
	DRAWING	DWG
	ELECTRICAL	ELEC
	ELBOW	ELL
	EXHAUST	EXH
	EXHAUST AIR	EA
	EXHAUST FAN	EF
	EXISTING	(E)
	FEET	FT
	FLOOR	FLR
	FLOW LINE	FL
	FLOW SWITCH	FS
	GAUGE	GA
	GALLON	GAL
	GALLONS PER HOUR	GPH
	GALLONS PER MINUTE	GPM
	INSIDE DIAMETER	ID
	MAKE-UP AIR UNIT	MAU
	MAXIMUM	MAX
	MINIMUM	MIN
	NEW	(N)
	NOT IN CONTRACT	NIC
	NOT TO SCALE	NTS
#	NUMBER	NO.
	OUTSIDE AIR	OSA
	OUTSIDE DIAMETER	OD
	POUNDS	LBS
	POUNDS PER SQUARE INCH	PSI
	POUNDS PER SQUARE INCH ABSOLUTE	PSIA
	POUNDS PER SQUARE INCH GAUGE	PSIG
	POLYVINYL CHLORIDE	PVC
	PRESSURE STATION	PS
	RETURN AIR	RA
	ROOM	RM
	SUPPLY AIR	SA
	SPECIFICATION	SPEC
	SQUARE FEET	SQ FT
	STAINLESS STEEL	SS
	TEMPERATURE	TEMP
	TEMPERATURE SENSOR	TS
	THROUGH	THRU
	TYPICAL	(TYP)
	VARIABLE REFRIGERANT FLOW	VRF
	VARIABLE AIR VOLUME UNIT	VAV
	WITH	WI
	WITHOUT	W/O
— A —	COMPRESSED AIR	A
— CHWS —	CHILLED WATER SUPPLY	CHWS
— CHWR —	CHILLED WATER RETURN	CHWR
— CWS —	CONDENSER WATER SUPPLY	CWS
— CWR —	CONDENSER WATER RETURN	CWR
— CW —	DOMESTIC COLD WATER	
— HWS —	HOT WATER SUPPLY	HWS
— HWR —	HOT WATER RETURN	HWR
— RD —	REFRIGERANT DISCHARGE	RD
— RL —	REFRIGERANT LIQUID	RL
— RS —	REFRIGERANT SUCTION	RS
— S —	STEAM SUPPLY	S
— CR —	STEAM CONDENSATE RETURN	CR
— CD —	CONDENSATE DRAIN	CD

SYMBOL	ITEM	ABBR.
—	PIPING CAP	
---	EXISTING (DESIGNATED)	(E)
////	REMOVE / DEMO EXISTING (DESIGNATED)	
→	DIRECTION OF FLOW	
→	SUPPLY AIR	SA
→	RETURN AIR	RA
→	EXHAUST AIR	EA
→	PIPE/DUCT TURN DOWN	
→	PIPE/DUCT TURN UP	
→	ROUND DUCT (SMALLER THAN 10'Ø)	
~~~~~	ROUND FLEXIBLE DUCT	
=====	RECTANGULAR OR ROUND DUCT (SIZE PER PLAN)	
---	EXISTING DUCT (DESIGNATED)	
ZZZZ	REMOVE/ DEMO EXISTING DUCT (DESIGNATED)	
=====	DUCT WITH ACOUSTIC LINING	
→	SUPPLY AIR DUCT DROP	
→	SUPPLY AIR DUCT RISE	
→	RETURN AIR DUCT DROP	
→	RETURN AIR DUCT RISE	
→	EXHAUST AIR DUCT DROP	
→	EXHAUST AIR DUCT RISE	
→	OUTSIDE AIR DUCT DROP	
→	OUTSIDE AIR DUCT RISE	
→	TURNING VANES	TV
→	EXTRACTOR	
GO	CO ₂ SENSOR	
DD	DUCT DETECTOR	DD
HD	HEAT DETECTOR	HD
SD	SMOKE DETECTOR	SD
M	MOTORIZED DAMPER	
◆	FIRE DAMPER W/MOTORIZED RESET AND ACCESS DOOR	
OR-■	FIRE/SMOKE DAMPER WITH ACCESS PANEL	FSD
—	VOLUME CONTROL DAMPER WITH LOCKING QUADRANT	VCD
△	REMOTE T'STAT WITH SENSOR IN DUCT	
T AC-1	THERMOSTAT; THERMOSTAT LABEL EXAMPLE : THERMOSTAT FOR AC-1	T'STAT
— X —	POINT OF CONNECTION TO EXISTING	POC
→	BYPASS TIMER	BPT
→	THERMOMETER	
→	PRESSURE GAGE	
●	SECURITY BARS	
→	PETE'S PLUG	
→	BALANCING COCK	
→	BALL VALVE	
→	BUTTERFLY VALVE	
→	CHECK VALVE	
→	CONCENTRIC REDUCER	
→	TWO-WAY CONTROL VALVE	
→	FLOW SWITCH	FS
→	FLEXIBLE CONNECTION	FLEX
→	GATE VALVE	
→	GLOBE VALVE	
→	INSTRUMENT WELL	
→	PLUG VALVE	
→	PRESSURE RELIEF VALVE	PRV
→	"Y" TYPE STRAINER	
→	UNION	
①	KEYNOTE	
A 8"x8" 100 CFM	NEW GRILLE TAG EXAMPLE: GRILLE MARK A NECK SIZE: 8"x8" / AIRFLOW: 100 CFM	
EF 8	NEW EQUIPMENT TAG EXAMPLE: DESCRIPTION EF, MARK NUMBER 8	
2 M202	DETAIL REFERENCE EXAMPLE: DETAIL 2, SHEET M202	
3 M400	SECTION REFERENCE EXAMPLE: SECTION 3, SHEET M400	

SHEET INDEX

M001	MECHANICAL LEGEND, SCHEDULES AND NOTES
M100	MECHANICAL SITE PLAN - MERCED COLLEGE
M101	ENLARGED MECHANICAL SITE PLAN - ADMINISTRATION BUILDING
M200	ENLARGED MECHANICAL FLOOR PLAN - ADMINISTRATION BUILDING
M500	ENLARGED MECHANICAL ROOF PLANS - ADMINISTRATION BUILDING
M800	MECHANICAL DETAILS
M900	TITLE 24 DOCUMENTATION



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REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJECT NAME:

**MERCED COLLEGE  
ADMIN MULTI-ZONE REPLACEMENT**

3600 N ST., MERCED, CA 95348

PROJECT NO: 1478

DATE: 03/26/2025

SHEET TITLE:

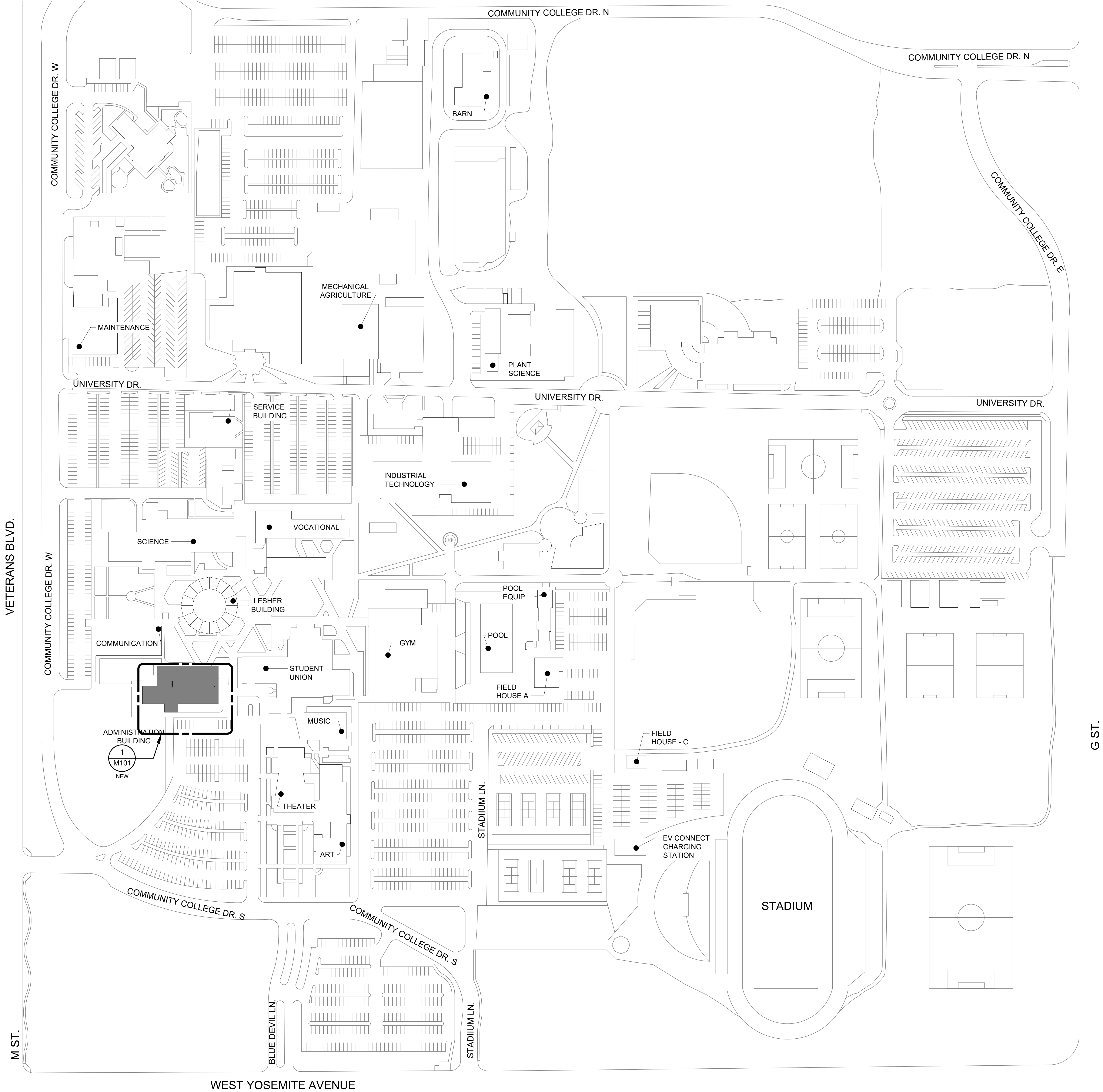
**MECHANICAL  
LEGEND,  
SCHEDULES  
& NOTES**

SHEET NO:

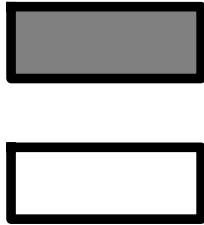
**M001**

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LEGEND



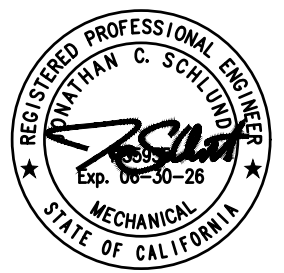
IN HVAC REPLACEMENT SCOPE.  
NOT IN HVAC REPLACEMENT SCOPE.



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**MERCED COLLEGE  
ADMIN MULTI-ZONE REPLACEMENT**

DATE: 03/26/2025  
SHEET TITLE:  
**MECHANICAL  
SITE PLAN -  
MERCED  
COLLEGE**

SHEET NO:  
**M100**

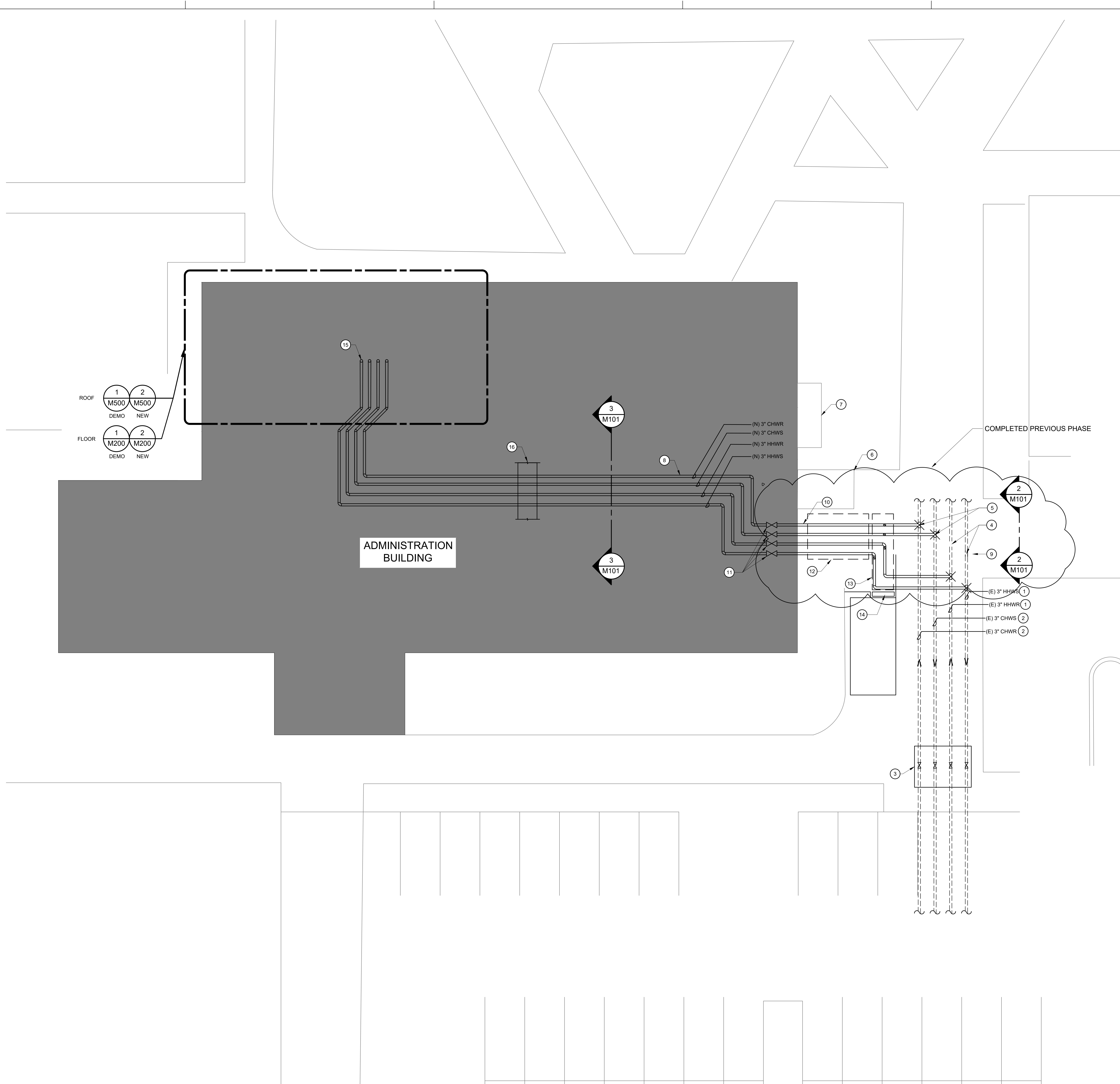
PROJECT NO: 1478



1"=100'-0"

1

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KEYNOTES #

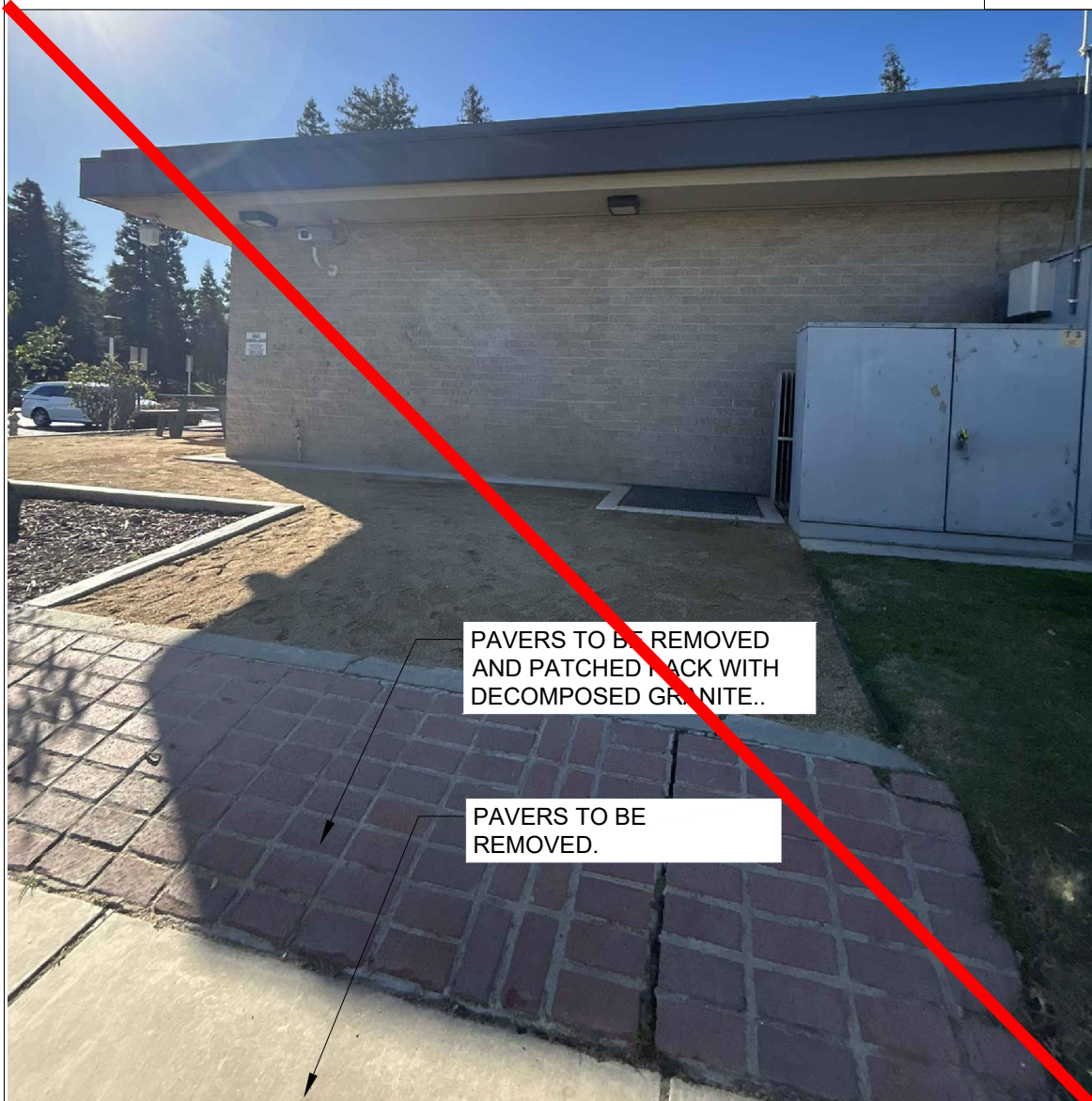
- (E) 3\"/>

GENERAL NOTES

- CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES FOR ALL HYDRONIC PIPING. NOTIFY ENGINEER WITH ANY DISCREPANCIES.
- LEAN CONCRETE SHALL BE USED AS BACK FILL WHERE UTILITY TRENCHES EXTEND FROM THE EXTERIOR TO THE INTERIOR LIMITS OF THE BUILDING. LEAN CONCRETE SHALL EXTEND A MINIMUM OF SIX (6) INCHES ABOVE THE FOOTING PENETRATION.
- BELOW GRADE CHILLED AND HEATING WATER PIPE SYSTEM SHALL BE PRE-MANUFACTURED, PRE-ENGINEERED, AND PROVIDED WITH FIELD JOINTS ON STRAIGHT LENGTHS AS REQUIRED TO MINIMIZE FIELD JOINTS. PRE-INSULATED METAL PIPE SYSTEM ROUTING SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING PRODUCT DESIGN AND LAYOUT FOR REVIEW. CONTRACTOR SHALL INCLUDE ALL PIPE OFFSETS AS REQUIRED PER THE GENERAL MECHANICAL PROVISIONS.



CRAWLSPACE PIPE ROUTING NTS 3



EXTERIOR PIPE ROUTING NTS 2

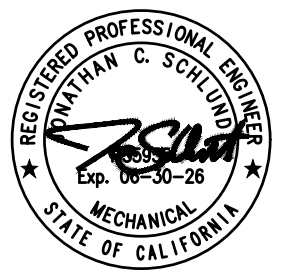




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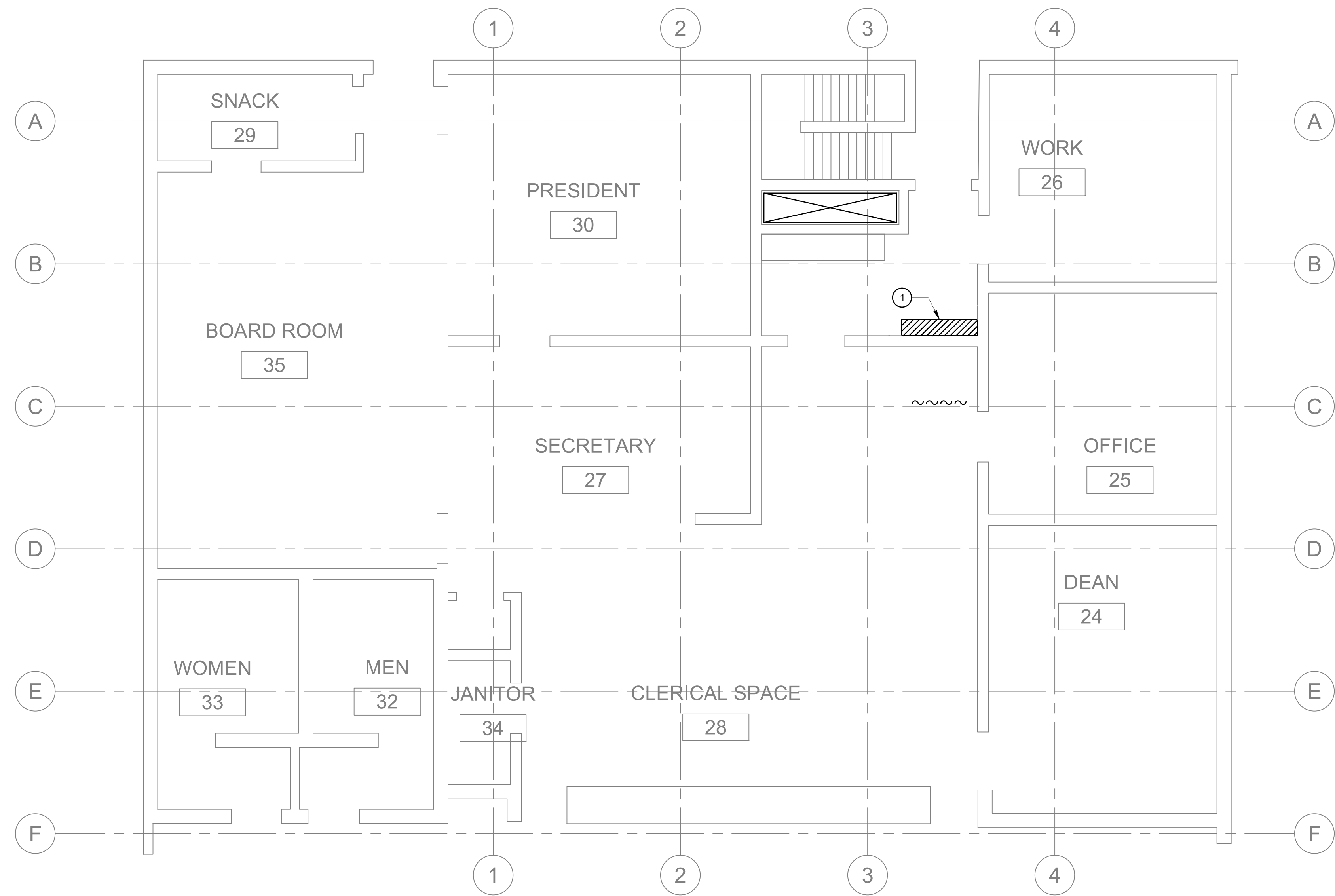
PROJECT NO.: 1478

3600 N ST., MERCED, CA 95348

DATE: 03/26/2025

SHEET TITLE:  
**ENLARGED  
MECHANICAL  
SITE PLAN -  
ADMINISTRATION  
BUILDING**

SHEET NO.:  
**M101**



KEYNOTES #

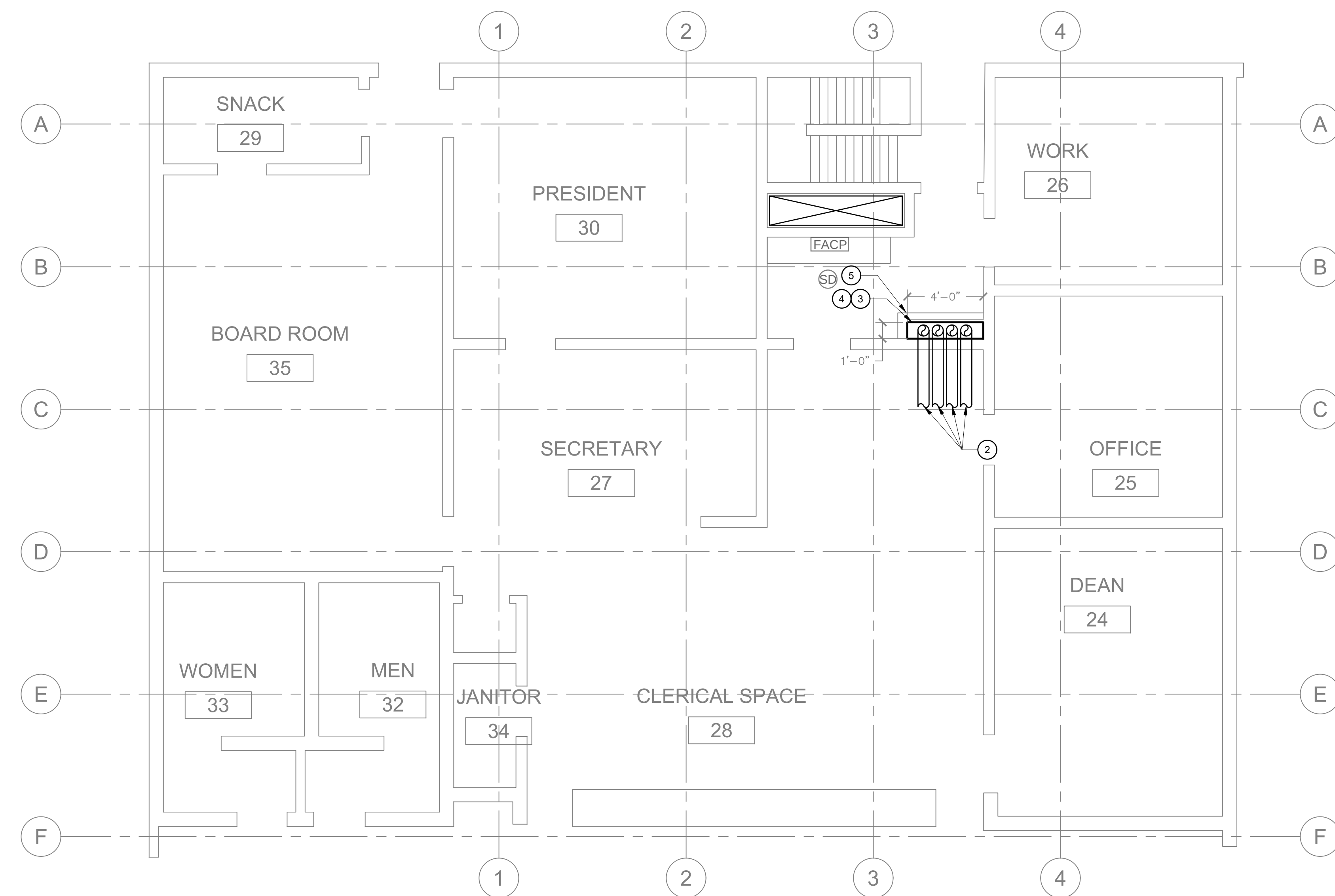
1. CONTRACTOR TO REMOVE (E) PORTION OF FLOOR, CEILING, & ROOF FOR (N) HYDRONIC PIPES. ALL CONCRETE CORES IN FLOOR AND ROOF STRUCTURE SHALL BE COORDINATED TO AVOID EXISTING REBAR. VERIFY VIA XRAY SCANNING. CONTRACTOR TO FIELD VERIFY DEMO EXTENT & ADJUST AS REQUIRED FOR THE INSTALLATION OF (N) 3" HWS/R & 3" CHWS/R PIPING
2. (N) 3" HWS/R & 3" CHWS/R PIPING FROM CRAWLSPACE UP THRU CEILING. SEE M100 SHEET FOR CONTINUATION.
3. CONTRACTOR SHALL MAINTAIN PIPE SPACING AT 1" MIN AND 3" MAX BETWEEN INSULATION, TO MINIMIZE CHASE DIMENSIONS.
4. CUT CEILING ACOUSTIC TILES AS REQUIRE FOR NEW PIPE RISERS. FIT TIGHT TO PIPE WITH 1/2" GAP MAX TO INSULATION. CONTRACTOR SHALL COORDINATE PIPE RISERS AS TO AVOID EXISTING T-BAR GRID.
5. (N) MECHANICAL CHASE FRAMING, GYP BOARD AND FINISHING BY DISTRICT, N.I.C.



ENLARGED MECHANICAL DEMOLITION FLOOR PLAN - ADMINISTRATION BUILDING

1/4" = 1'-0"

1



ENLARGED MECHANICAL PROPOSED FLOOR PLAN - ADMINISTRATION BUILDING

1/4" = 1'-0"

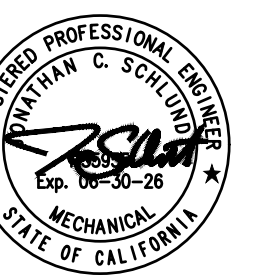
2



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REVISIONS:  
MARK DATE DESCRIPTION

PROJECT NAME:  
MERCED COLLEGE  
ADMIN MULTI-ZONE REPLACEMENT

PROJECT NO. 1478

3600 N ST., MERCED, CA 95348

DATE: 03/26/2025  
SHEET TITLE:  
ENLARGED  
MECHANICAL  
FLOOR PLAN -  
ADMINISTRATION  
BUILDING

SHEET NO:  
M200

DRAWN BY:  
REVIEW BY:

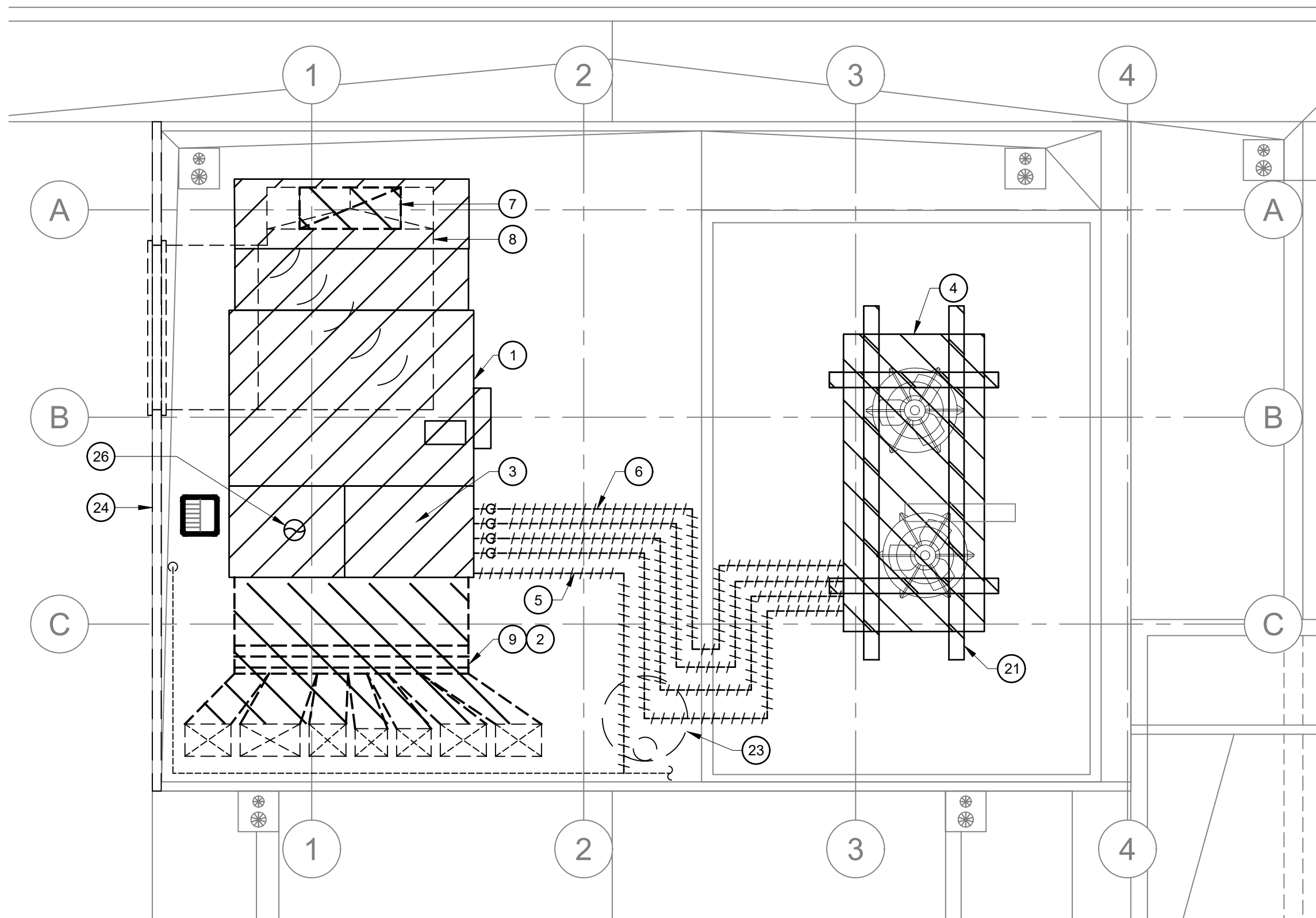
DRAWN BY:  
REVIEW BY:

ENLARGED MECHANICAL DEMOLITION ROOF PLAN - ADMINISTRATION BUILDING



1/4" = 1'-0"

1



DEMOLITION ELECTRICAL NOTES

DISCONNECT AND REMOVE (E) ELECTRICAL CONNECTION TO (E) AIR HANDLING UNIT AND REMOVE (E) BRANCH CIRCUIT CONDUCTORS AND CONDUIT BACK TO (E) PANEL 'A'.

DISCONNECT AND REMOVE (E) ELECTRICAL CONNECTION TO (E) CONDENSING UNIT AND REMOVE (E) BRANCH CIRCUIT CONDUCTORS AND CONDUIT BACK TO (E) PANEL 'A' AND SWITCH (E) CIRCUIT BREAKER TO THE "OFF" POSITION.

KEYNOTES #

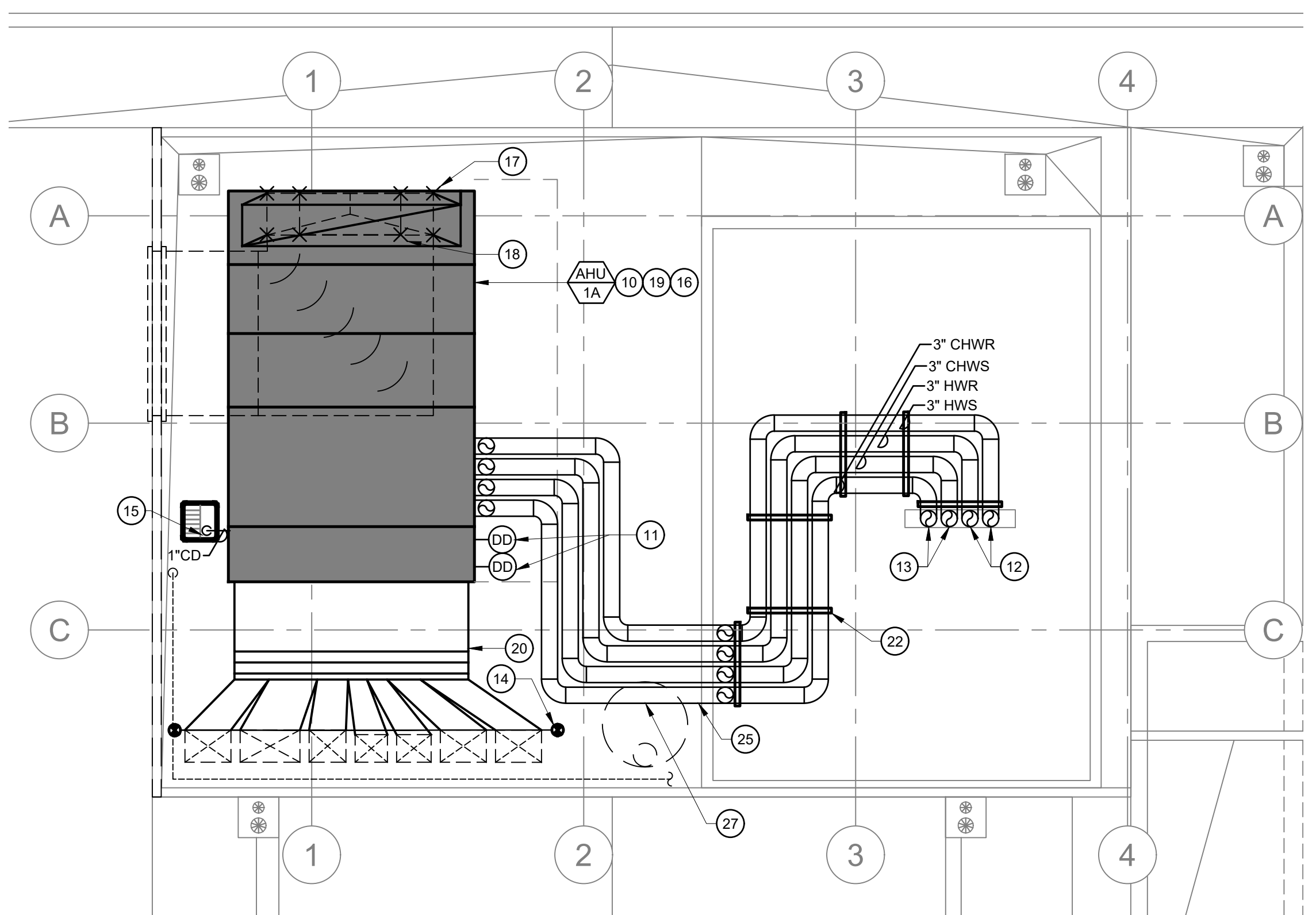
- (E) AIR HANDLING UNIT ASSEMBLY & (E) ISOLATORS TO BE REMOVED. (E) WIDE-FLANGE BEAM TO REMAIN FOR RE-USE. DISCONNECT (E) GAS AND PREPARE FOR RECONNECTION. REFER TO DETAIL 22/M800 FOR CLARITY & DETAIL 10/M800 FOR AIR HANDLER DIAGRAM. REMOVE EXISTING CONTROLS OF (E) AIR HANDLING UNIT.
- (E) CONTROL DAMPERS & ACTUATORS ASSOCIATED WITH (E) AIR HANDLING UNIT ASSEMBLY TO BE REMOVED.
- (E) 9"Ø FLUE DUCT TO BE DISCONNECTED & REMOVED.
- (E) CONDENSING UNIT TO BE REMOVED. (E) PLATFORM TO BE PRESERVED FOR RE-USE.
- (E) 1/2" GAS PIPING SHOWN HATCHED TO BE REMOVED. CAP (E) GAS LINE.
- (E) REFRIGERANT PIPING SHOWN HATCHED & (E) ASSOCIATED SUPPORTS TO BE REMOVED.
- (E) VERTICAL 44"x18" RA DUCT (E) AIR HANDLING UNIT ASSEMBLY TO BE REMOVED. PRESERVE (E) RA DUCT PENETRATION DN THRU ROOF FOR RECONNECTION.
- (E) 72"x18" OSA DUCT TO BE DISCONNECTED AND PRESERVED FROM (E) AIR HANDLING UNIT ASSEMBLY. PREPARE FOR RECONNECTION.
- (E) MULTIZONE DUCT SECTION SHOWN HATCHED TO BE REMOVED. PRESERVE SA PENETRATIONS THRU ROOF.
- (N) AIR HANDLER UNIT MOUNTED ON (N) ISOLATORS & (E) WIDE-FLANGE BEAM PER DETAIL 1/M800. CLEARANCE AROUND UNIT IS REPRESENTED BY FINE DASHED LINE. REFER TO DETAIL 24/M800 FOR CLARITY.
- (N) SUPPLY AIR DUCT DETECTORS MOUNTED WITHIN HOT AND COLD DUCT PLENUM SECTIONS PER DETAIL 7/M800.
- (N) 3"CHWSR THRU ROOF ROUTED TO (N) AIR HANDLING UNIT. SEE M200 FOR CONTINUATION. ROOF PATCH MUST BE TREMCO INSTALLED TO MAINTAIN WARRANTY. PROVIDE FLASHING PER 5/M800.
- (N) 3" CHWSR THRU ROOF ROUTED TO (N) AIR HANDLING UNIT. SEE M200 FOR CONTINUATION. ROOF PATCH MUST BE TREMCO INSTALLED TO MAINTAIN WARRANTY. PROVIDE FLASHING PER 5/M800.
- (N) POC OF MULTIZONE DUCT TO (E) FLOOR PENETRATIONS: 20"x14", 20"x14", 16"x14", 14"x12", 15"x12", 20"x14", 20"x14". CONTRACTOR TO FIELD VERIFY PENETRATION LOCATIONS & SIZES.
- (N) 1"Ø CONDENSATE DRAIN CONNECTION WITH (N) TRAP PER DETAIL 2/M800 TO DISCHARGE INTO (E) FLOOR SINK WITH 1" AIR GAP.
- (N) FANS FOR (N) AHU-1 TO BE SHIPPED LOOSE & FIELD INSTALLED.
- (N) 72"x18" OSA DUCT POC TO (E) 72"x18" OSA. PROVIDE TRANSITIONS AS REQUIRED.
- (N) 44"x18" RA DUCT POC TO (E) RA DUCT PENETRATION DN THRU ROOF. PROVIDE TRANSITIONS AS REQUIRED.
- (N) FLEX CONNECTION AT ALL DUCT CONNECTIONS TO (N) AIR HANDLING UNIT PER DETAIL 17/M800.
- (N) MULTIZONE DUCT SECTION. PROVIDE (N) BELIMO ACTUATORS & DAMPERS TO BE PROVIDED AND INTEGRATED INTO (E) JOHNSON METASYS.
- (E) EQUIPMENT STAND TO BE REMOVED.
- (N) 3" CHWSR PIPING ROUTED ON (N) GROUND MOUNTED SUPPORTS PER DETAIL 3/M800.
- (E) WATER HEATER & (E) FLUE TO REMAIN.
- (E) LOUVERED WALL TO BE REMOVED FOR (N) AIR HANDLING UNIT INSTALLATION. PRESERVE (E) OPENING & (E) LOUVER FOR REINSTALLATION.
- (N) PIPING OVERHEAD PER DETAIL 12/M800 THRU (E) OPENING. PROVIDE NEW BLOCKING, FLASHING AND STUCCO REPAIR. SEAL WATER TIGHT.
- (E) 9"Ø FLUE DUCT TO BE DISCONNECTED & REMOVED. PATCH (E) OPENING TO MATCH EXISTING AND TO BE WEATHER PROOF. CONTRACTOR TO FIELD VERIFY EXTENT OF PATCH PRIOR TO BIDDING.
- (N) PIPING OVER HEAD TO BE ROUTED OVER (E) WATER HEATER. CONTRACTOR TO MAINTAIN CLEARANCES AND PLAN ACCORDINGLY PRIOR TO CONSTRUCTION.

ENLARGED MECHANICAL PROPOSED ROOF PLAN - ADMINISTRATION BUILDING



1/4" = 1'-0"

2



PROPOSED WORK ELECTRICAL NOTES

PROVIDE (N) 60A-600V-3P-N3R FUSED DISCONNECT SWITCH WITH FLEX CONNECTION TO (N) AIR HANDLING UNIT 'AHU-1'. PROVIDE FUSES PER EQUIPMENT NAMEPLATE RATING. REPLACE EXISTING 30A, 3-POLE CIRCUIT BREAKER IN (E) PANEL 'A' WITH ONE (N) 35A, 480V, 3-POLE CIRCUIT BREAKER AND FEED (N) AIR HANDLING UNIT 'AHU-1' WITH 3#8 CU THWN AND 1#10 CU GND MINIMUM IN 1"Ø.

PROVIDE 120V CONNECTION TO (N) DUCT SMOKE DETECTOR. VERIFY (E) FIRE ALARM SYSTEM MANUFACTURER AND PROVIDE COMPATIBLE (N) ADDRESSABLE SUPERVISED INPUT MODULE AS NEEDED TO COMMUNICATE WITH (E) FIRE ALARM SYSTEM. PROVIDE CONDUIT AND CABLING PER NFPA 72 TO TIE INTO (E) FIRE ALARM SYSTEM SLC.

GENERAL NOTES

- PROVIDE FLEX CONNECTION BETWEEN DUCT AND UNIT.
- PROVIDE TURNING VANES AT ALL RECTANGULAR ELBOWS.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZES FOR ALL DUCT DROPS AND DUCT RUNS.
- NOTIFY ENGINEER WITH ANY DISCREPANCIES.
- CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL EQUIPMENT & MATERIALS NOTED TO BE REMOVED.
- ALL NEW DUCT TO BE GALVANIZED RIGID DUCT PER SMACNA STANDARDS.
- THE ACTUAL LOCATION OF ALL DUCTWORK, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCE WITH EACH OTHER OR WITH EXISTING STRUCTURAL, ELECTRICAL, ARCHITECTURAL, OR OTHER ELEMENTS.
- ALL (E) ACTUATORS TO BE SALVAGED TO OWNER.
- ALL EXTERIOR PIPE SHALL BE INSULATED AND PROTECTED WITH ALUMINUM JACKETING.

DATE: 03/26/2025  
SHEET TITLE:  
ENLARGED  
MECHANICAL  
ROOF PLAN -  
ADMINISTRATION  
BUILDING  
SHEET NO:  
M500

PROJECT NAME:

MERCED COLLEGE  
ADMIN MULTI-ZONE REPLACEMENT

3600 N ST., MERCED, CA 95348

PROJECT NO. 1478

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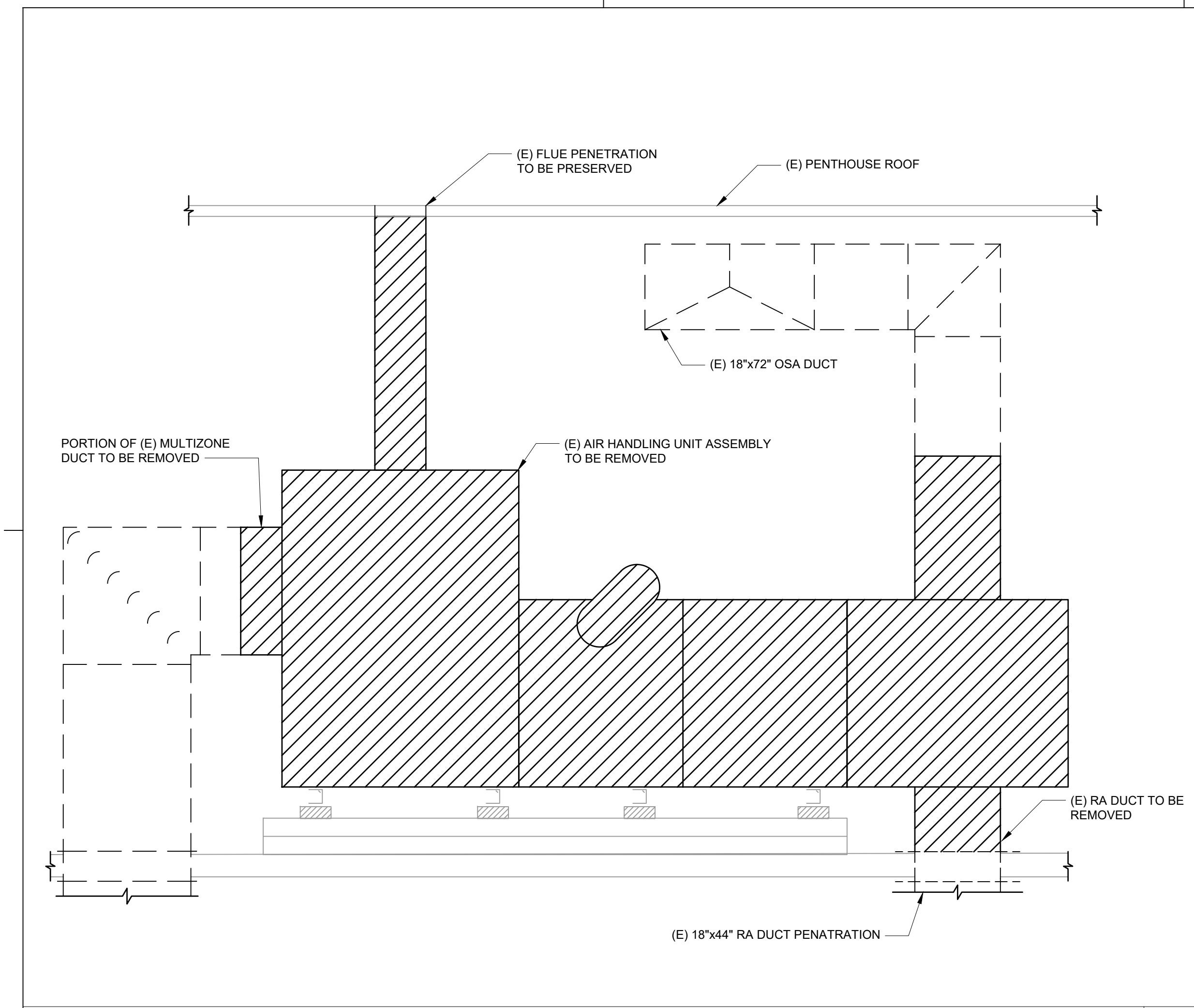


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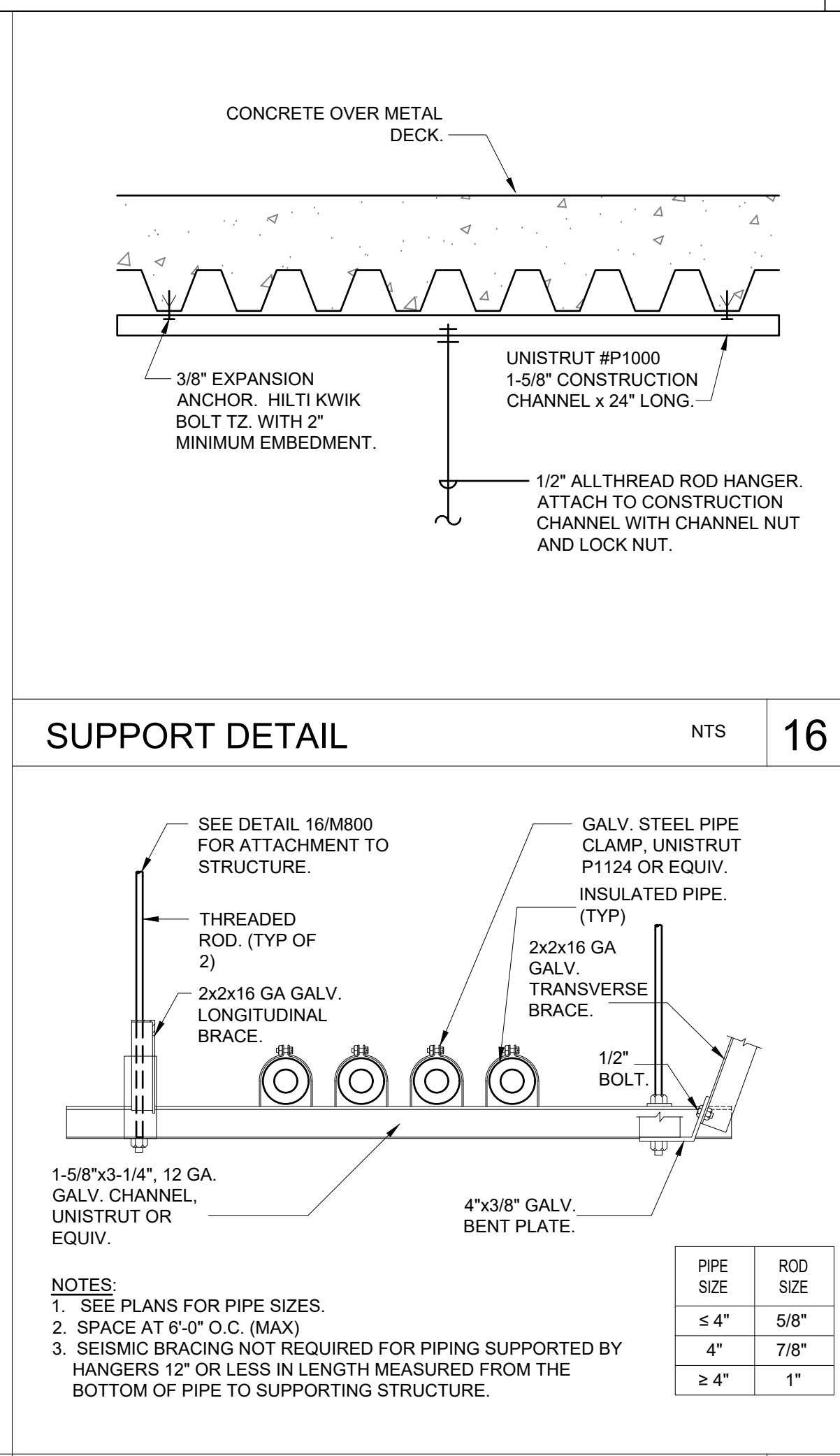
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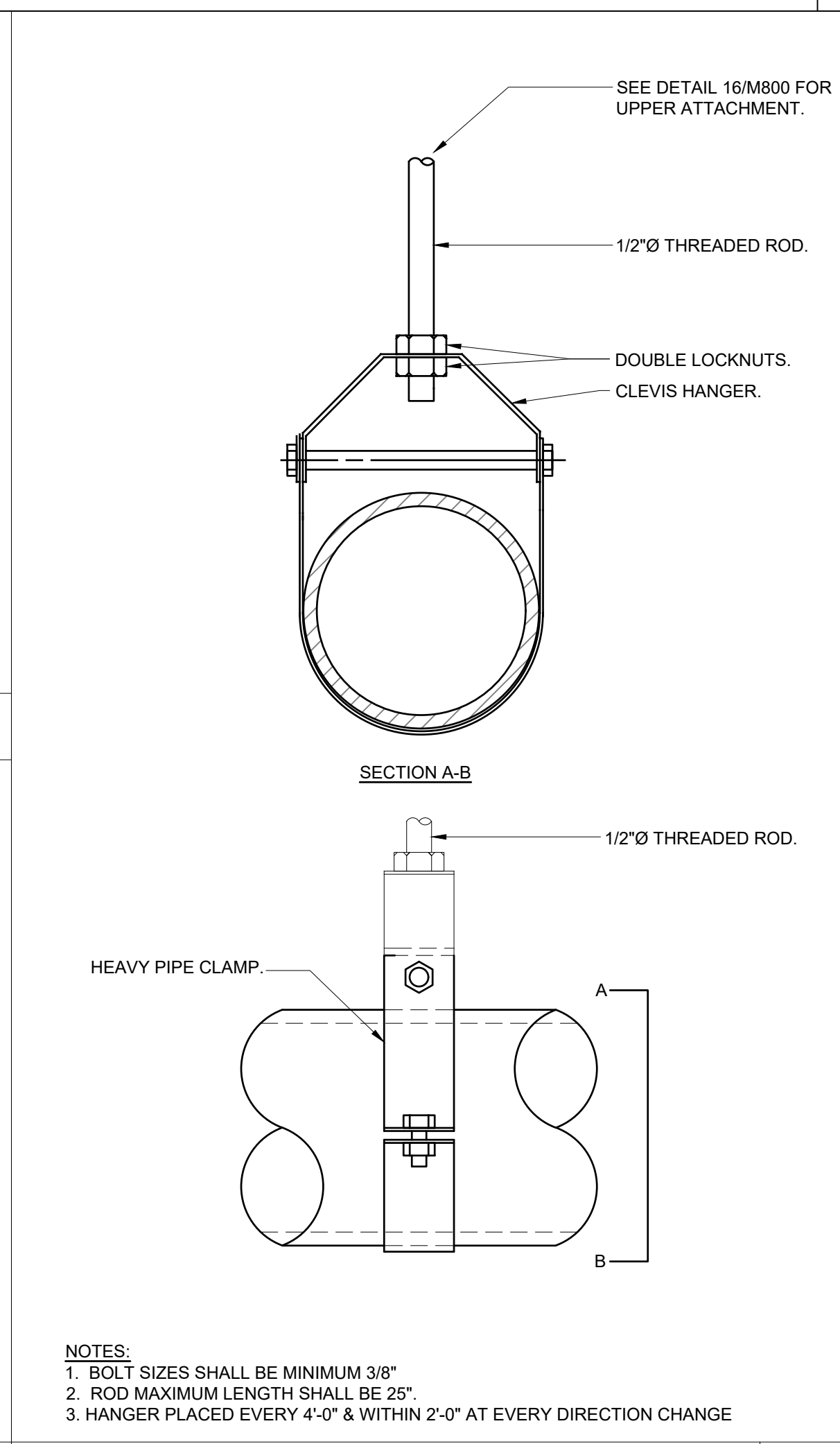
AIR HANDLING UNIT - DEMOLITION SECTION VIEW

NTS 22



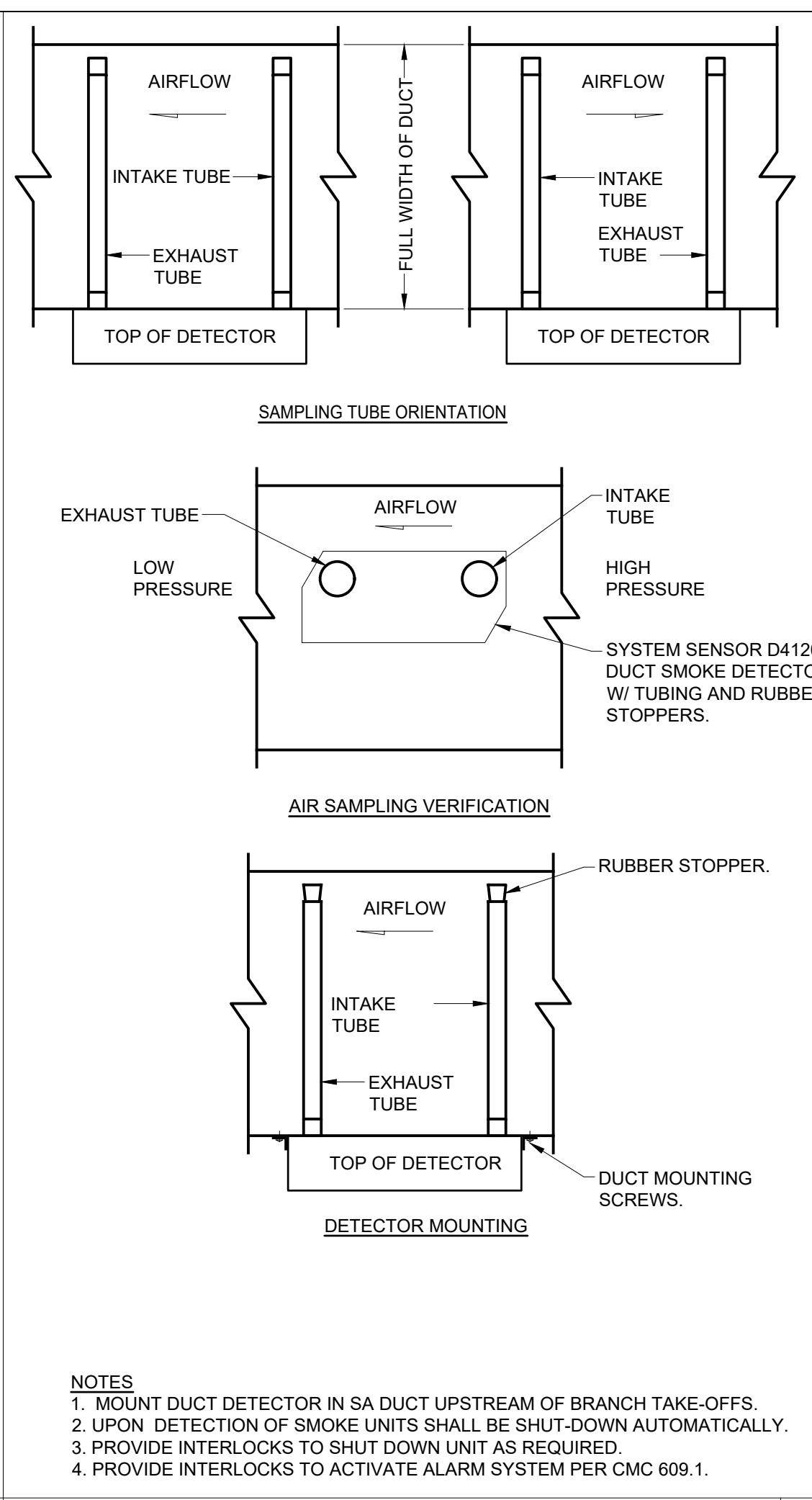
SUPPORT DETAIL

NTS 16



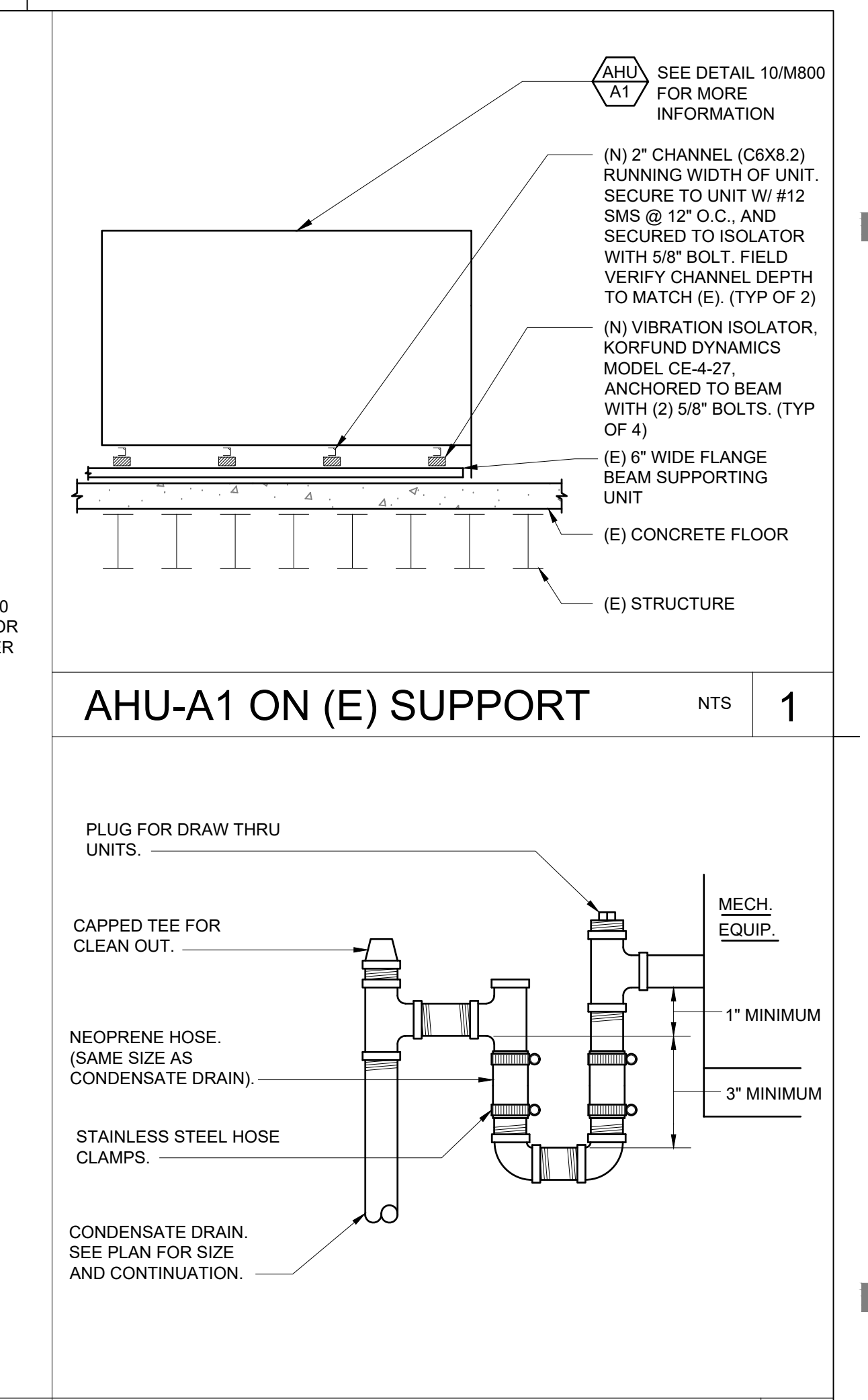
PIPE HANGER- UP TO 3" PIPING

NTS 12



DUCT DETECTOR

NTS 7

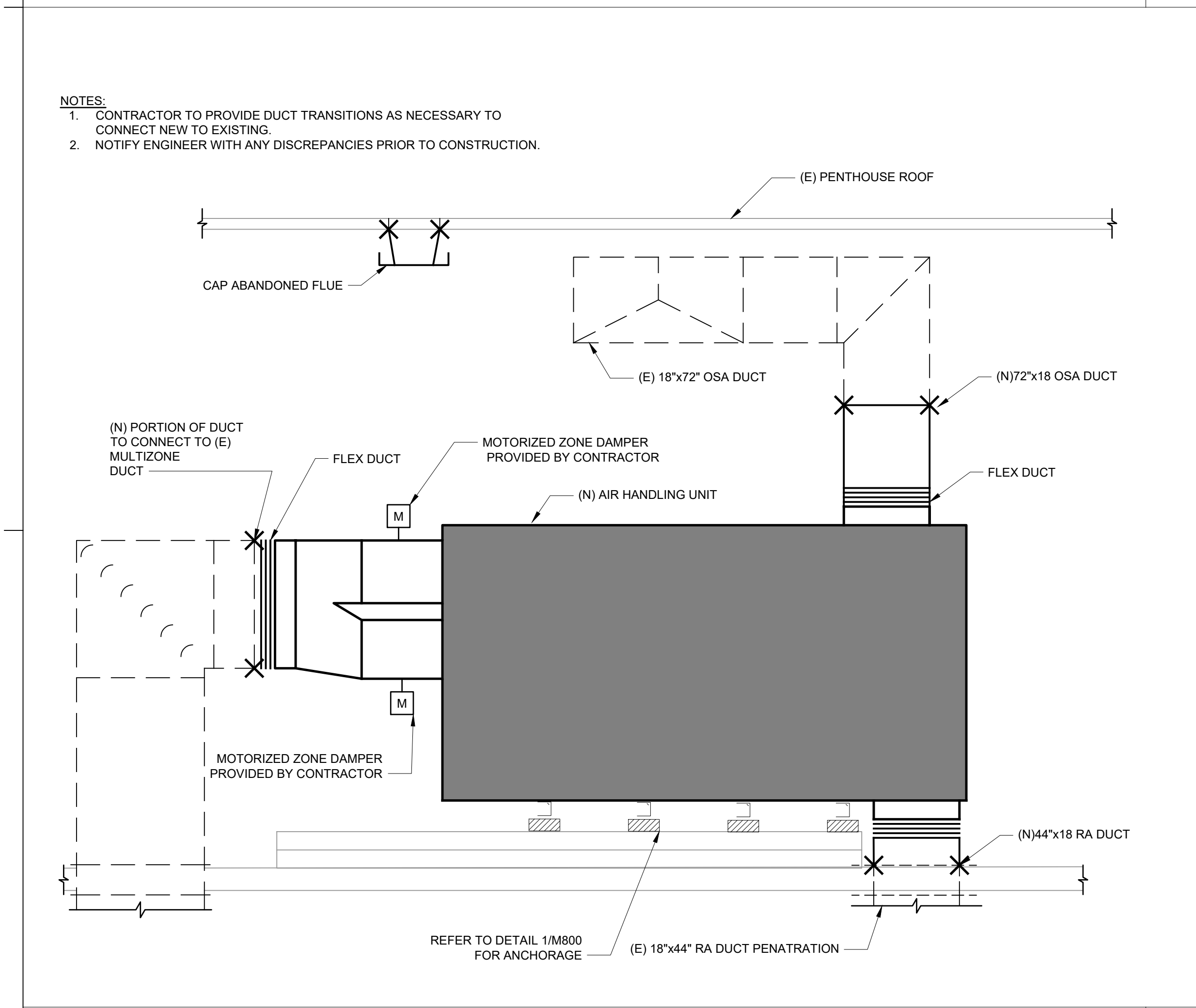


AHU-A1 ON (E) SUPPORT

NTS 1

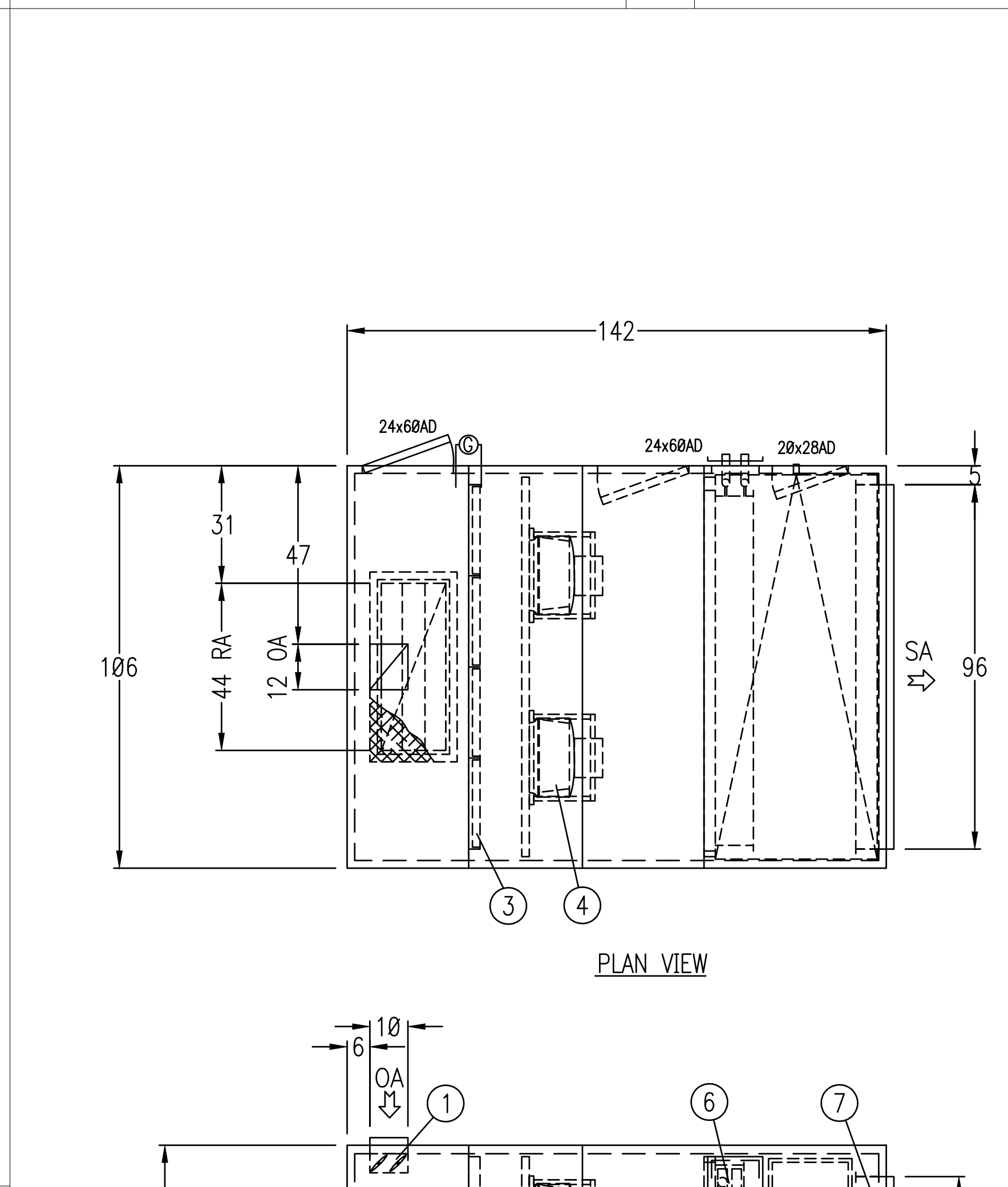
CONDENSATE DRAIN CONNECTION

NTS 2



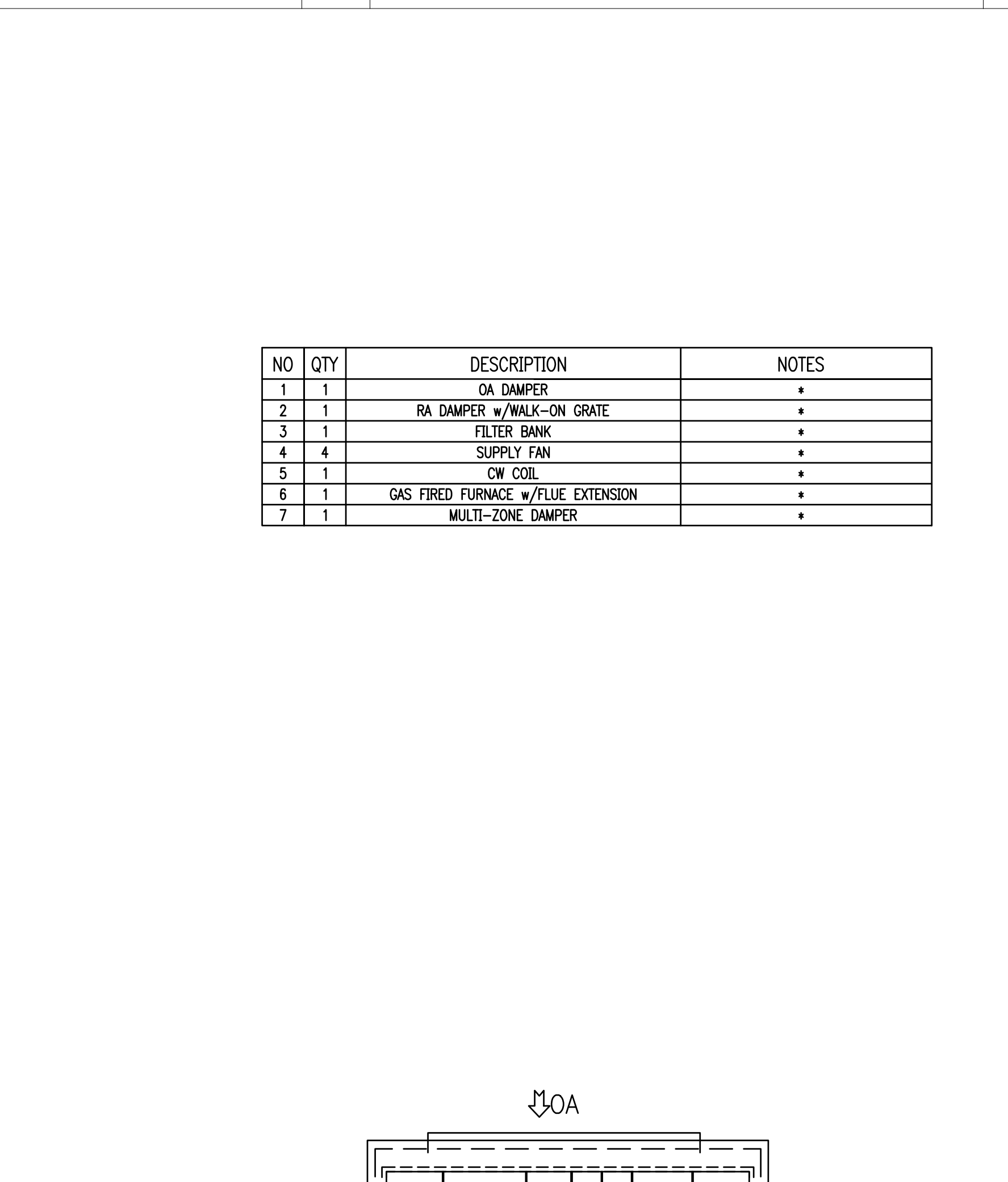
AIR HANDLING UNIT - DEMOLITION SECTION VIEW

NTS 24

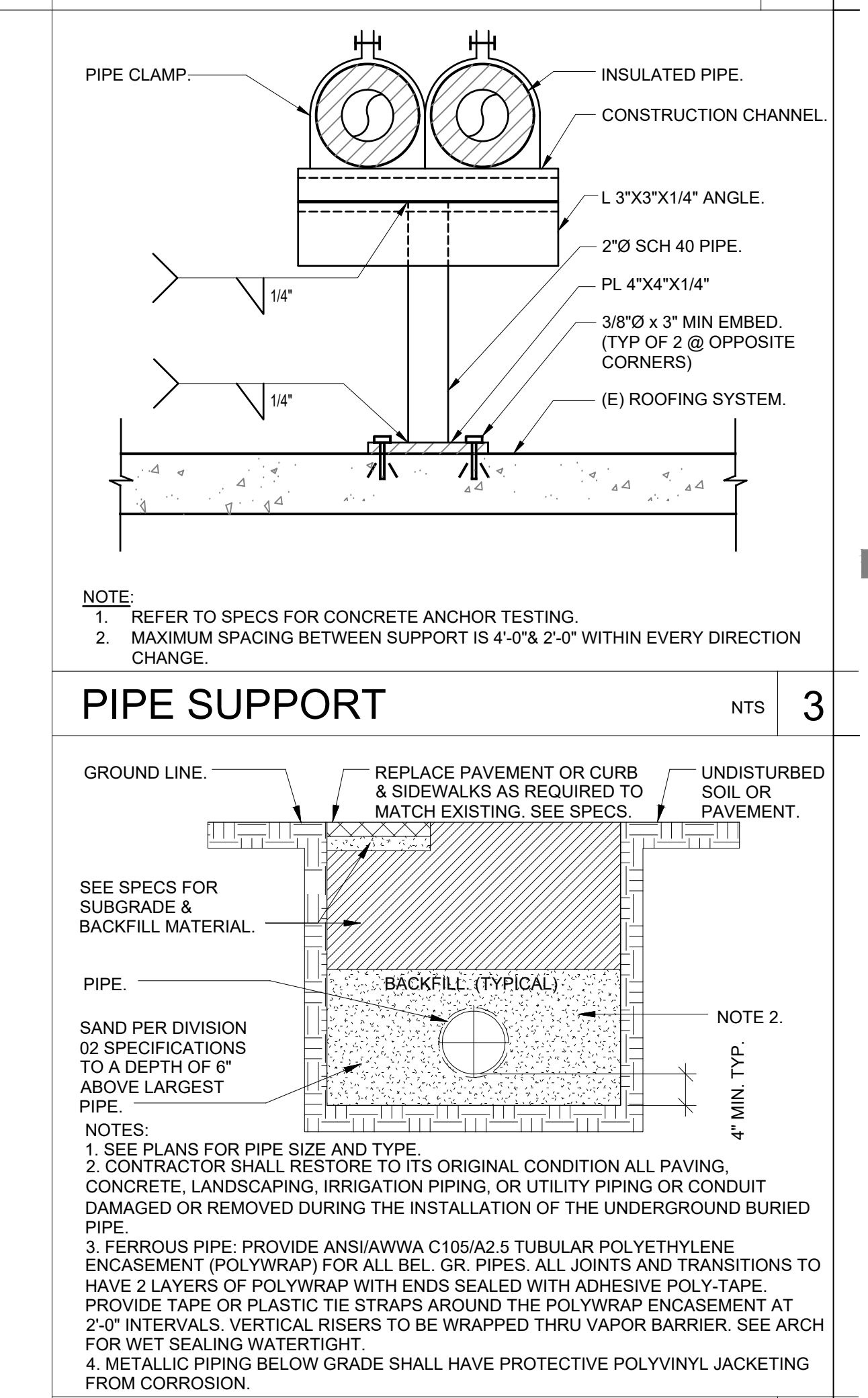


AIR HANDLER DIAGRAM - AHU - A1

NTS 25



END ELEVATION VIEW

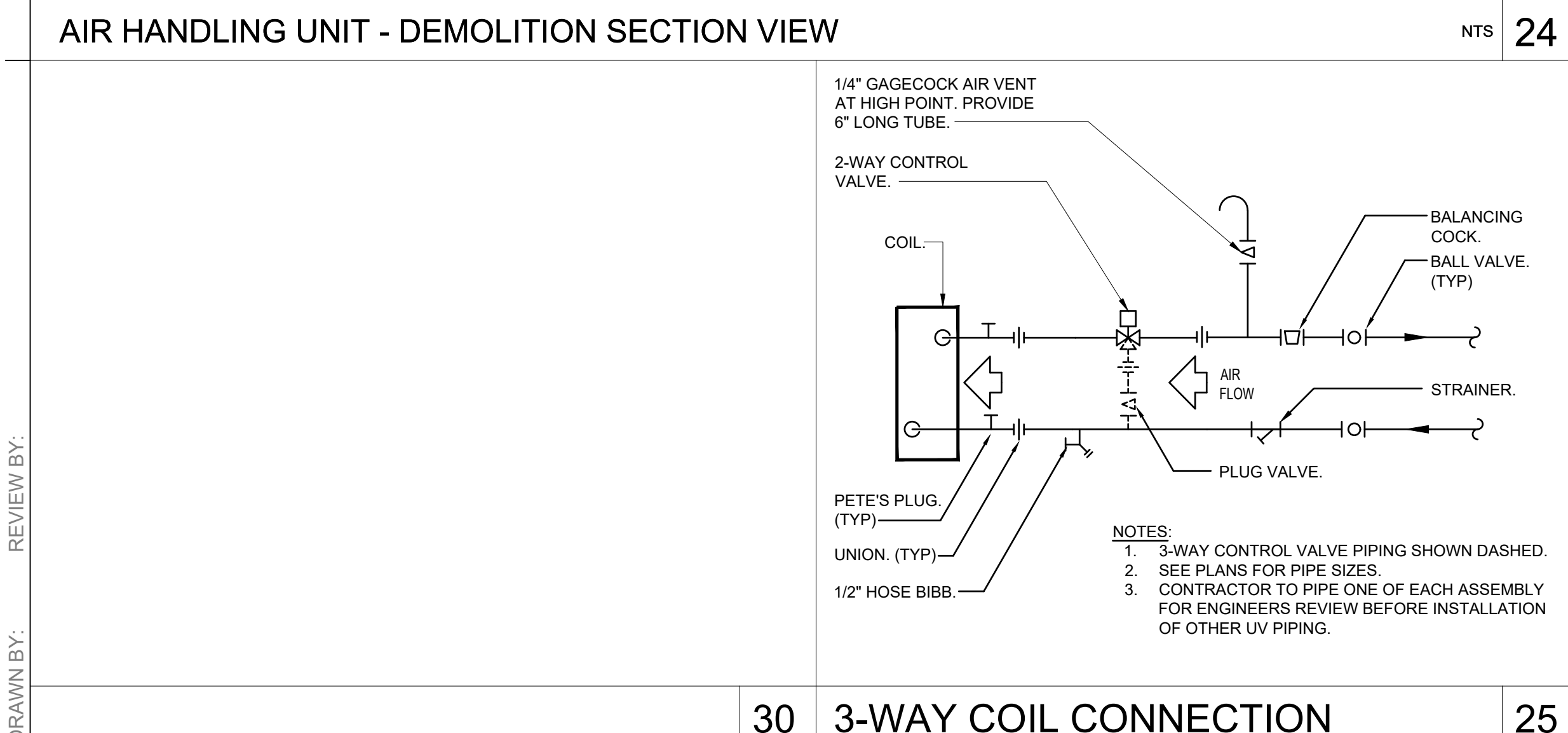


TRENCH UTILITY DETAIL

NTS 4

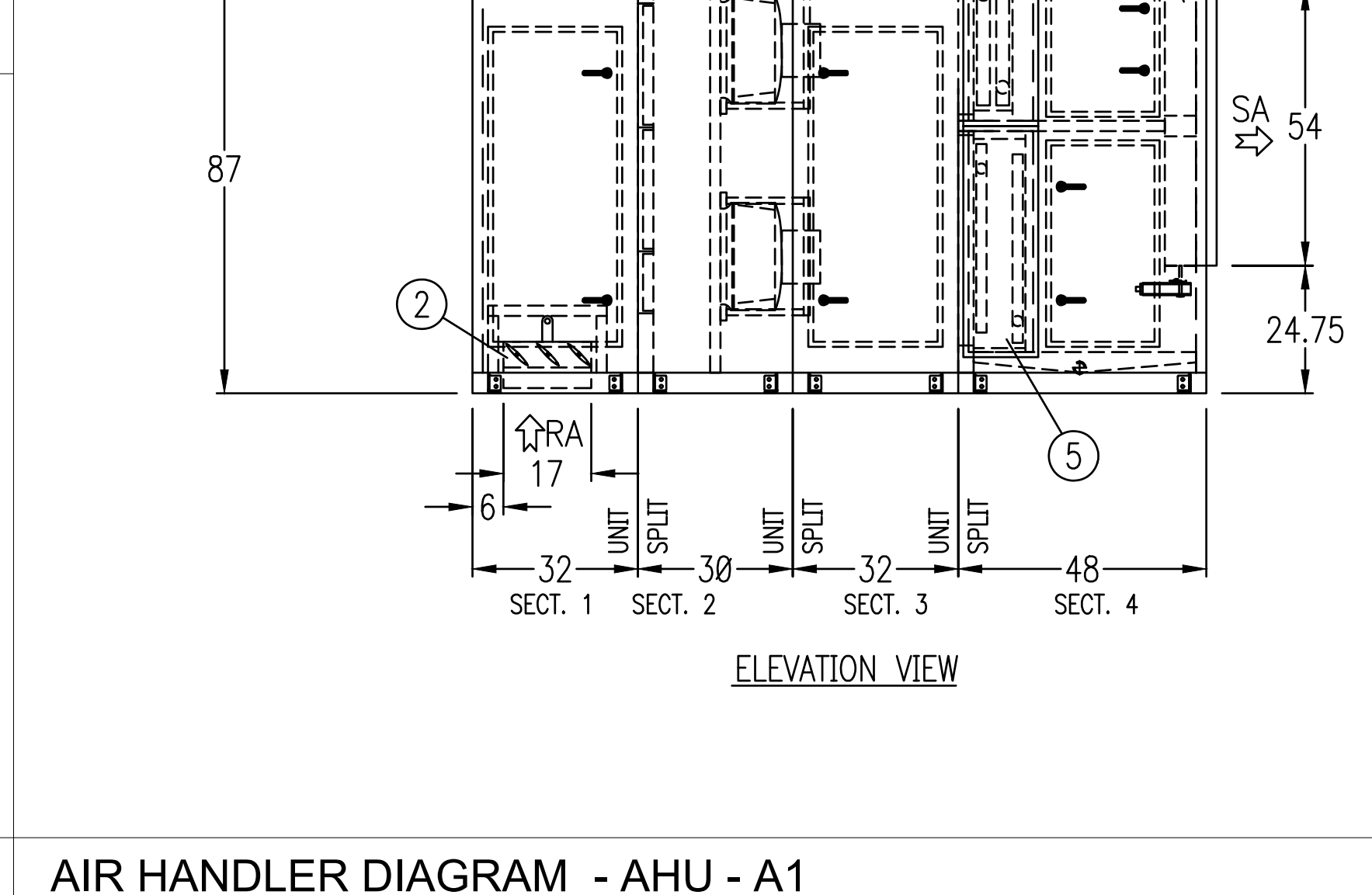
PIPE - THROUGH ROOF

NTS 5



3-WAY COIL CONNECTION

NTS 30



PIPE - THROUGH ROOF

PIPE - THROUGH ROOF

NTS 10

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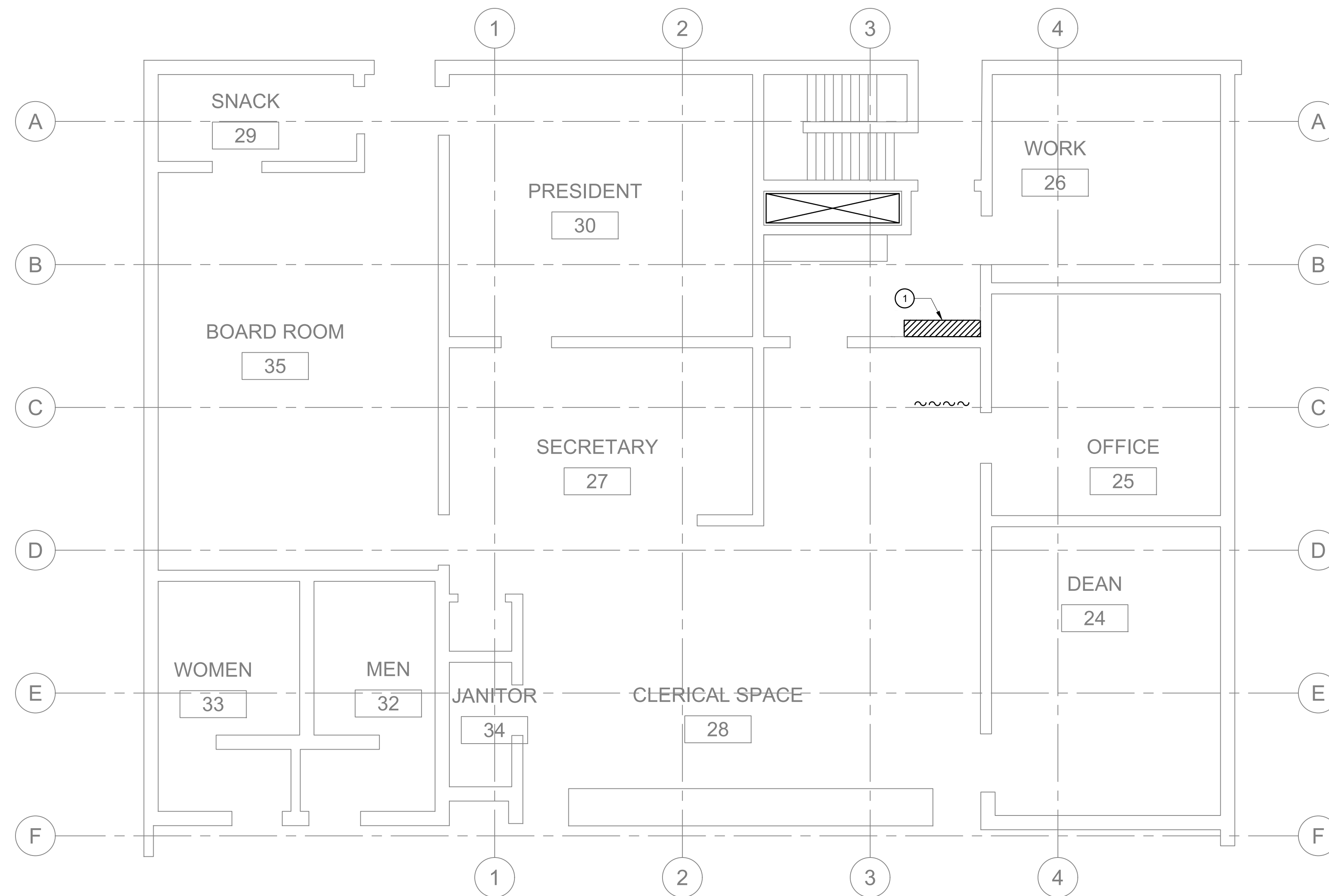
SHEET TITLE:

MECHANICAL DETAILS

SHEET NO:

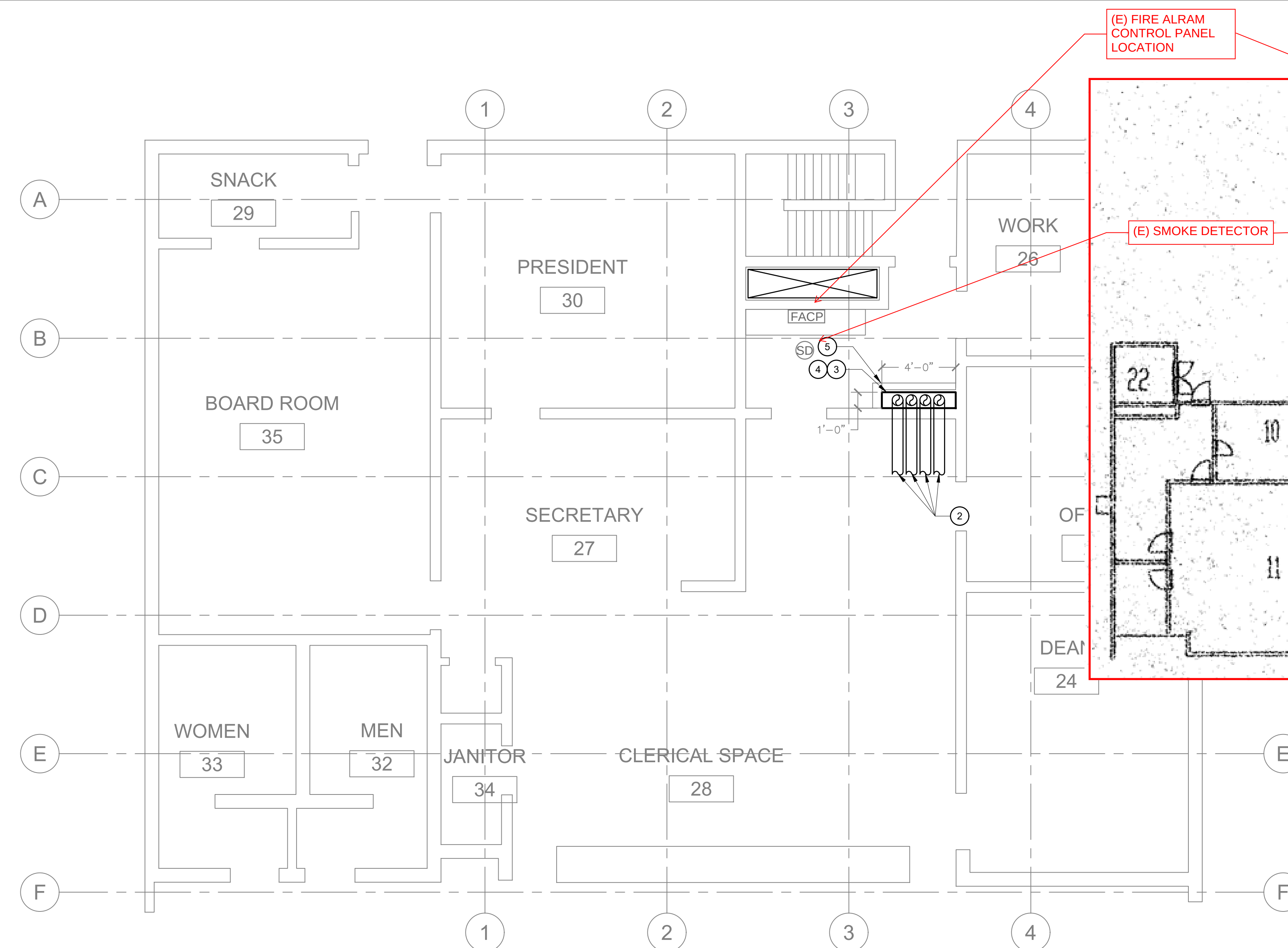
M800





ENLARGED MECHANICAL DEMOLITION FLOOR PLAN - ADMINISTRATION BUILDING

1/4" = 1'-0" 1



ENLARGED MECHANICAL PROPOSED FLOOR PLAN - ADMINISTRATION BUILDING

1/4" = 1'-0" 2

### KEYNOTES #

1. CONTRACTOR TO REMOVE (E) PORTION OF FLOOR, CEILING, & ROOF FOR (N) HYDRONIC PIPES. ALL CONCRETE CORES IN FLOOR AND ROOF STRUCTURE SHALL BE COORDINATED TO AVOID EXISTING REBAR. VERIFY VIA XRAY SCANNING. CONTRACTOR TO FIELD VERIFY DEMO EXTENT & ADJUST AS REQUIRED FOR THE INSTALLATION OF (N) 3" HWS/R & 3" CHWS/R PIPING
2. (N) 3" HWS/R & 3" CHWS/R PIPING FROM CRAWLSPACE UP THRU CEILING. SEE M100 SHEET FOR CONTINUATION.
3. CONTRACTOR SHALL MAINTAIN PIPE SPACING AT 1" MIN AND 3" MAX BETWEEN INSULATION, TO MINIMIZE CHASE DIMENSIONS.
4. CUT CEILING ACOUSTIC TILES AS REQUIRE FOR NEW PIPE RISERS. FIT TIGHT TO PIPE WITH 1/2" GAP MAX TO INSULATION. CONTRACTOR SHALL COORDINATE PIPE RISERS AS TO AVOID EXISTING T-BAR GRID.
5. (N) MECHANICAL CHASE FRAMING, GYP BOARD AND FINISHING BY DISTRICT, N.T.C.



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FLOOR PLAN -  
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BUILDING**

SHEET NO:

**M200**