

WARREN COUNTY, IOWA

SECONDARY ROADS MAINTENANCE FACILITY - FIRE PROTECTION UPGRADES

11950 NEVADA ST.
INDIANOLA, IA 50125



ENGINEER



The **FUTURE**. Built **Smarter**. www.imegcorp.com
2882 106TH STREET
DES MOINES, IA 50322
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ARCHITECT



OFFICE OF HARTMAN SPILLER TRAPP

1011 Locust Street Suite 305,
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Project Contact: TOM TRAPP
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VICINITY MAP



APPLICABLE CODES

BUILDING CODE:
INTERNATIONAL BUILDING CODE (IBC) 2015 EDITION

FIRE CODE:
INTERNATIONAL FIRE CODE (IFC) 2015 EDITION

PLUMBING CODE:
UNIFORM PLUMBING CODE (UPC) 2021 EDITION

MECHANICAL CODE:
INTERNATIONAL MECHANICAL CODE (IMC) 2021 EDITION

ELECTRICAL CODE:
NFPA 70 (NEC) 2020 EDITION

ENERGY CONSERVATION CODE:
INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2012 EDITION

LOCAL BUILDING CODE:
CURRENT EDITION

DRAWING INDEX

SHEET NUMBER	SHEET NAME
G0.00	PROJECT COVERSHEET
G1.01	CODE ANALYSIS AND PLANS
A1.01	FLOOR PLANS
A1.51	REFLECTED CEILING PLANS
A2.00	BUILDING ELEVATIONS, SECTIONS, AND DETAILS
F0.00	FIRE PROTECTION COVERSHEET
F0.10	SITE PLAN - FIRE PROTECTION
F0.11	SITE PLAN - FIRE PROTECTION - ALTERNATE 1
F2.00	FLOOR PLAN - FIRE PROTECTION
F4.00	FIRE PROTECTION DETAILS
F4.01	FIRE PROTECTION DETAILS, DIAGRAMS, & SCHEDULES
M0.00	MECHANICAL COVERSHEET
M2.00	FLOOR PLAN - HVAC
M2.02	FLOOR PLAN - PLUMBING
M4.00	MECHANICAL DETAILS
M4.01	MECHANICAL DETAILS, SCHEDULES, & DIAGRAMS
E0.00	ELECTRICAL COVERSHEET
E1.00	DEMOLITION FLOOR PLAN - ELECTRICAL
E2.00	FLOOR PLAN - POWER & SYSTEMS
E2.01	FLOOR PLAN - LIGHTING
E4.00	ELECTRICAL DETAILS & SCHEDULES

SCOPE OF WORK

FIRE PROTECTION SYSTEM IMPROVEMENTS INCLUDING PROVISION OF FIRE PROTECTION WATER STORAGE TANK, FIRE PUMP, AND AUTOMATIC SPRINKLER SYSTEM IN COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE AND NFPA 13. FIRE WATER STORAGE TANK AND FIRE PUMP SHALL HAVE ADEQUATE CAPACITY TO SUPPORT SITE FIRE FLOW REQUIREMENTS OF THE IFC FOR THE EXISTING FACILITY AS WELL AS FUTURE STORAGE FACILITIES PROPOSED TO BE CONSTRUCTED ON THIS SAME SITE. MODIFY AND/OR UPGRADE WALL CONSTRUCTIONS, MECHANICAL SYSTEMS, AND ELECTRICAL SYSTEMS IN SUPPORT OF THE FIRE PROTECTION SYSTEM IMPROVEMENTS.

PROJECT DIRECTORY

CLIENT: WARREN COUNTY, IOWA

FIRE PROTECTION ENGINEER: IMEG CORP.
2882 106TH ST.
URBANDALE, IA 50322
PHONE: 515-334-9906
CONTACT: DELLAN J. LLEWELLYN, P.E.

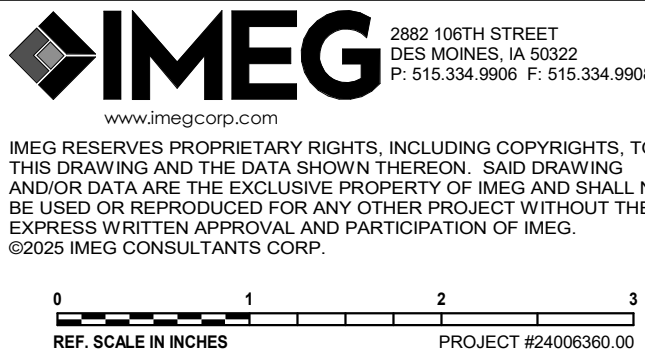
MECHANICAL ENGINEER: IMEG CORP.
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PHONE: 515-334-9906
CONTACT: LUCAS A. HEITZ

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APPROVALS

	I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA. DELLAN J. LLEWELLYN _____ DATE _____ MY LICENSE EXPIRATION DATE IS: 12/31/2026 PAGES OR SHEETS COVERED BY THIS SEAL: F-SERIES & M-SERIES
	I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA. TONY E. DELOUIS _____ DATE _____ MY LICENSE EXPIRATION DATE IS: 12/31/2026 PAGES OR SHEETS COVERED BY THIS SEAL: E-SERIES
	I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE. I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA. BRADLEY N. HARTMAN _____ DATE _____ MY LICENSE EXPIRATION DATE IS: 06/30/2026 PAGES OR SHEETS COVERED BY THIS SEAL: G1.01 & A-SERIES



SECONDARY ROADS MAINTENANCE
FACILITY - FIRE PROTECTION UPGRADES

11950 NEVADA ST.
INDIANOLA, IA 50125

REVISIONS

Project / Issue
Date
No.

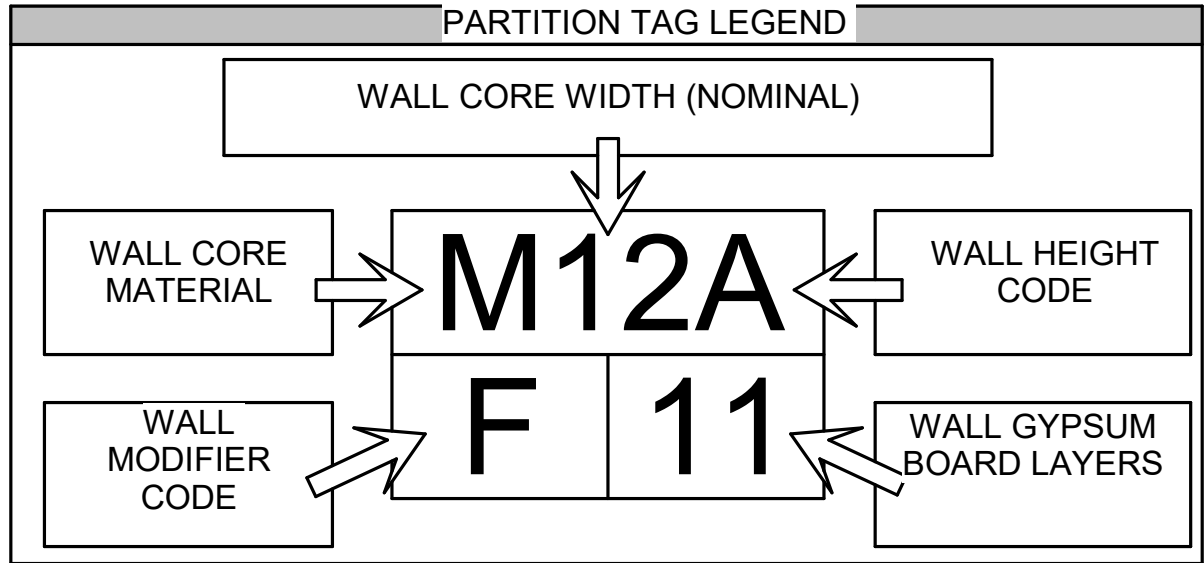
SHEET INFORMATION
Issue: **100% CD - REVIEW - REBID**
Date: **09/12/2025**
Project #: **24006360.00**
Drawn: **DELLLE**
Checked: **DELLLE**
Approved: **DELLLE**

SHEET TITLE
PROJECT COVERSHEET

SCALE

SHEET NUMBER

G0.00



WALL TYPE CODES									
Wall Core Material	Material Width	Wall Height Code	Wall Modifier Code	Wall Gypsum Board Layers	UL Rating				
Code	Material	Code	Description	Description	Description				
S	Metal Studs	0	7/8" Furring Channel	A	To underside of structural deck	(Blank) No Modifier	(Blank) = No Gyp Bd		
		3	3 5/8" Metal Stud				01	(0) + (1)	
		6	6" Metal Stud				02	(0) + (2)	
M	Masonry CMU	8	7 5/8" CMU	B	To 4" above ceiling	A	Sound Attenuation...	11	(1) + (1)
		12	11 5/8" CMU	C	To underside of...	C	Insulated Assembly	12	(1) + (2)
						F	Fired Rated Assembly		
C	Concrete	#	Wall thickness in...						
X	Complex Wall Types	#							
		1	M&A+S&A-01						
		2	M&C+S&C-01	I, O	Not to be used	I, O	Not to be used		
all									

WARREN COUNTY NEW SECONDARY ROADS FACILITY CODE ANALYSIS:

PROJECT DESCRIPTION — 25,500 SQ. FT. PRE-ENGINEERED METAL BUILDING/INTERIOR FINISHES (CHAPTER 8) — CONTAINING OFFICES, MAINTENANCE AND VEHICLE STORAGE

APPLICABLE CODES — NO CHANGE

INTERNATIONAL BUILDING CODE (IBC) — 2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC) — 2012
NATIONAL ELECTRICAL CODE (NEC) — 2014
INTERNATIONAL MECHANICAL CODE (IMC) — 2015
ICC A117.1

GENERAL —

MAINTENANCE BUILDING AREA - 25,500 SQ. FT.
BUILDING IS EQUIPPED WITH A FIRE SPRINKLER SYSTEM, THROUGHOUT ENTIRE BUILDING.

OCCUPANCIES (CHAPTERS 3 & 4) —

GROUP B — BUSINESS (CIVIC ADMINISTRATION / OFFICE)
GROUP S-1 — MODERATE-HAZARD STORAGE (MOTOR VEHICLE REPAIR GARAGE)
GROUP S-2 — LOW-HAZARD STORAGE

SECTION 406 - MOTOR VEHICLE-RELATED OCCUPANCIES
406.7 - MOTOR FUEL-DISPENSING FACILITIES
406.7.1 - VEHICLE FUELING PAD
406.8 - REPAIR GARAGES
406.8.1 - MIXED USES
406.8.2 - VENTILATION
406.8.3 - FLOOR SURFACE
406.8.4 - HEATING EQUIPMENT
406.8.5 - GAS DETECTION SYSTEM
406.8.6 - AUTOMATIC SPRINKLER SYSTEM

SECTION 413 - COMBUSTIBLE STORAGE
413.1 - GENERAL

CONSTRUCTION TYPE (CHAPTERS 5 & 6) —

CONSTRUCTION CLASS - TYPE II B

TABLE 504.3 ALLOWABLE BUILDING HEIGHT

GROUP: HEIGHT:
B 75 FT ABOVE GRADE PLANE
S-1 75 FT ABOVE GRADE PLANE
S-2 75 FT ABOVE GRADE PLANE

ACTUAL HEIGHT - <30'

TABLE 504.4 ALLOWABLE NUMBER OF STORIES

GROUP: STORIES:
B 4
S-1 3
S-2 4

ACTUAL NUMBER OF STORIES - 2

TABLE 506.2 - ALLOWABLE AREA:

GROUP: AREA:
B 69,000 SQ. FT. / FLOOR
S-1 52,500 SQ. FT. / FLOOR
S-2 78,000 SQ. FT. / FLOOR

ACTUAL AREA OF ENTIRE FACILITY 25,500 SQ. FT.

TABLE 508.4 - REQUIRED SEPARATION OF OCCUPANCIES
B - S-1 NO REQUIREMENTS

TABLE 509 - INCIDENTAL USES
NO SEPARATION BETWEEN MECHANICAL ROOM AND OTHER OCCUPANCIES SINCE BUILDING IS EQUIPPED WITH A FIRE SPRINKLER SYSTEM

TABLE 601 - FIRE RESISTANCE OF BUILDING ELEMENTS - 0

TABLE 803.11 - INTERIOR WALL AND CEILING FINISH REQUIREMENTS

GROUP: CLASS:
B B IN STAIRS, C EVERYWHERE ELSE
S-1 C IN ALL CASES

FIRE PROTECTION SYSTEMS (CHAPTER 9) —

SECTION 903 - AUTOMATIC SPRINKLER SYSTEMS
903.2.8.9 - GROUP S-2
BUILDING TO BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM COMPLYING WITH THIS CHAPTER.
903.2.9.1 - REPAIR GARAGES
BUILDING TO BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM COMPLYING WITH THIS CHAPTER.

SECTION 907 - FIRE ALARM AND DETECTION SYSTEMS

907.2 WHERE REQUIRED
NO FEWER THAN ONE MANUAL FIRE ALARM BOX SHALL BE PROVIDED IN AN APPROVED LOCATION TO INITIATE A FIRE ALARM SIGNAL FOR FIRE ALARM SYSTEM EMPLOYING AUTOMATIC FIRE DETECTORS OR WATERFLOW DETECTION DEVICES.

MEANS OF EGRESS (CHAPTER 10) —

SECTION 1004 - OCCUPANCY LOAD

BUSINESS 100 SQ. FT. / OCC. GROSS
REPAIR AREAS 200 SQ. FT. / OCC. GROSS
ACCESSORY & MECH 300 SQ. FT. / OCC. GROSS

TOTAL OCCUPANT LOAD = 211 OCCUPANTS

SECTION 1007 EXIT AND EXIT ACCESS DOORWAY CONFIGURATION
1007.1.1 - TWO EXIT & EXIT ACCESS DOORWAY CONFIGURATION

SECTION 1009 ACCESSIBLE MEANS OF EGRESS

1009.1 - ACCESSIBLE MEANS OF EGRESS REQUIRED FOR EACH ACCESS SPACE
1009.3 - STAIRWAYS
48" WIDE W/ AREA OF REFUGE
EXCEPTION 1 - 48" WIDTH NOT REQUIRED IF SPRINKLED
EXCEPTION 2 - AREA OF REFUGE NOT REQUIRED IF SPRINKLED

SECTION 1016 - EXIT ACCESS
1016.2 - EGRESS THROUGH INTERVENING SPACE
MEANS OF EGRESS ARE NOT PROHIBITED THROUGH ADJOINING OR INTERVENING ROOMS OR SPACES IN A GROUP I, S, OR F OCCUPANCY WHERE THE ADJOINING OR INTERVENING ROOMS OR SPACES ARE THE SAME OR A LESSER HAZARD OCCUPANCY GROUP.

SECTION 1017 - EXIT ACCESS TRAVEL DISTANCE

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE
GROUP: DISTANCE:
B 200'
S-1 200'
S-2 300'
A-3 200'

SECTION 1028 - EXIT DISCHARGE

1028.5 - ACCESS TO A PUBLIC WAY

ACCESSIBILITY (CHAPTER 11) —

SECTION 1101 - GENERAL

1101.2 - DESIGN
BUILDINGS & FACILITIES TO BE DESIGNED AND CONSTRUCTED TO BE ACCESSIBLE IN ACCORDANCE WITH IBC 2015 AND ICC A117.1

SECTION 1104 - ACCESSIBLE ROUTE

1104.4 MULTISTORY BUILDINGS AND FACILITIES
AT LEAST ONE ACCESSIBLE ROUTE WITHIN THE SITE SHALL CONNECT EACH ACCESSIBLE STORY AND MEZZANINE IN MULTILEVEL BUILDINGS AND FACILITIES
EXCEPTION - AN ACCESSIBLE ROUTE IS NOT REQUIRED TO STORIES AND MEZZANINES THAT HAVE AN AGGREGATE AREA OF NOT MORE THAN 3,000 SQUARE FEET AND ARE LOCATED ABOVE AND BELOW ACCESSIBLE LEVELS

SECTION 1105 - ACCESSIBLE ENTRANCES

1105.1 - PUBLIC ENTRANCES
AT LEAST 60 PERCENT OF ALL PUBLIC ENTRANCES TO BE ACCESSIBLE

SECTION 1109 - OTHER FEATURES AND FACILITIES

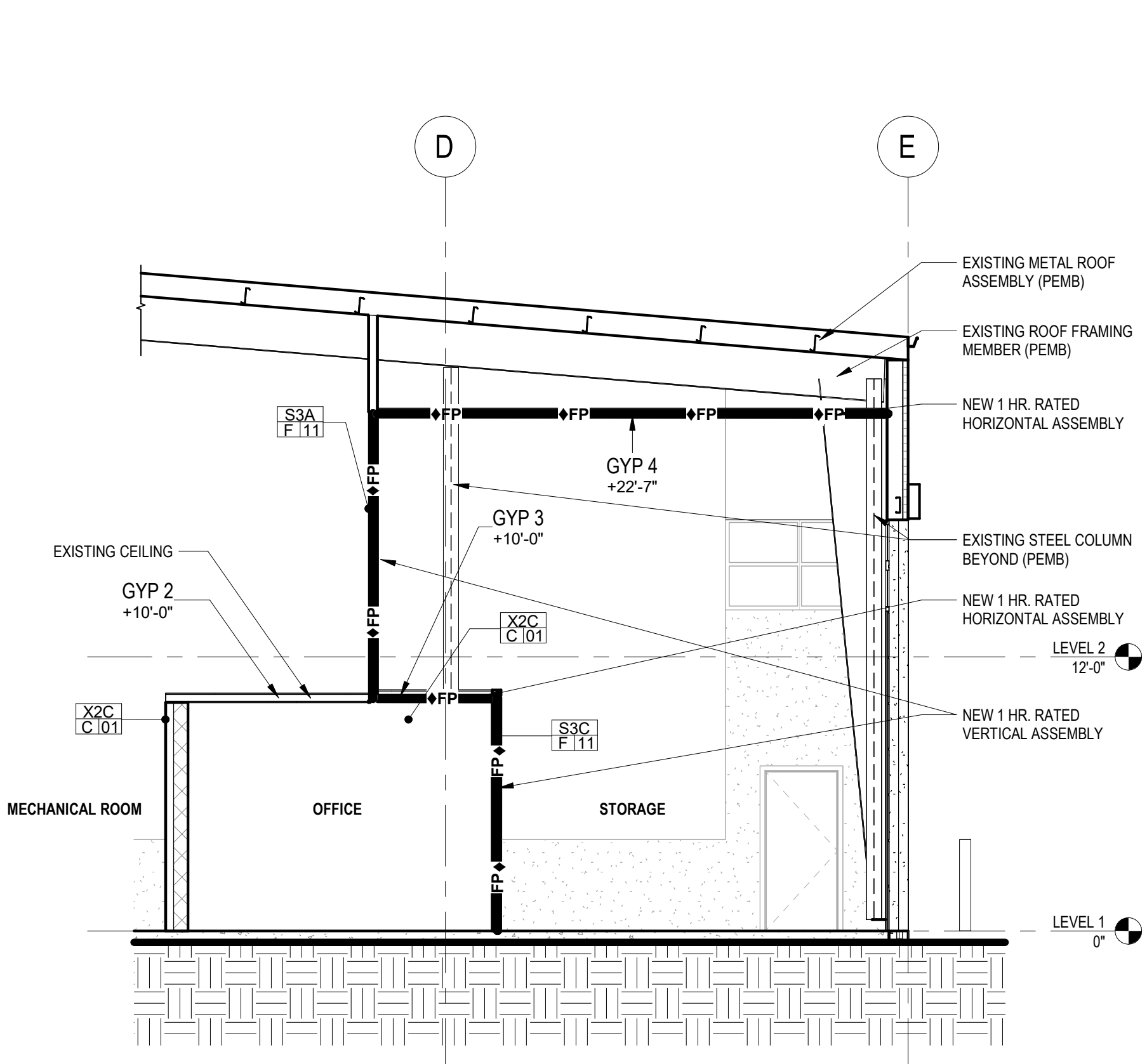
1109.2 - TOILET AND BATHING FACILITIES
EACH TOILET ROOM SHALL BE ACCESSIBLE

1109.3 - SINKS
AT LEAST 5% OF PROVIDED SINKS TO BE ACCESSIBLE

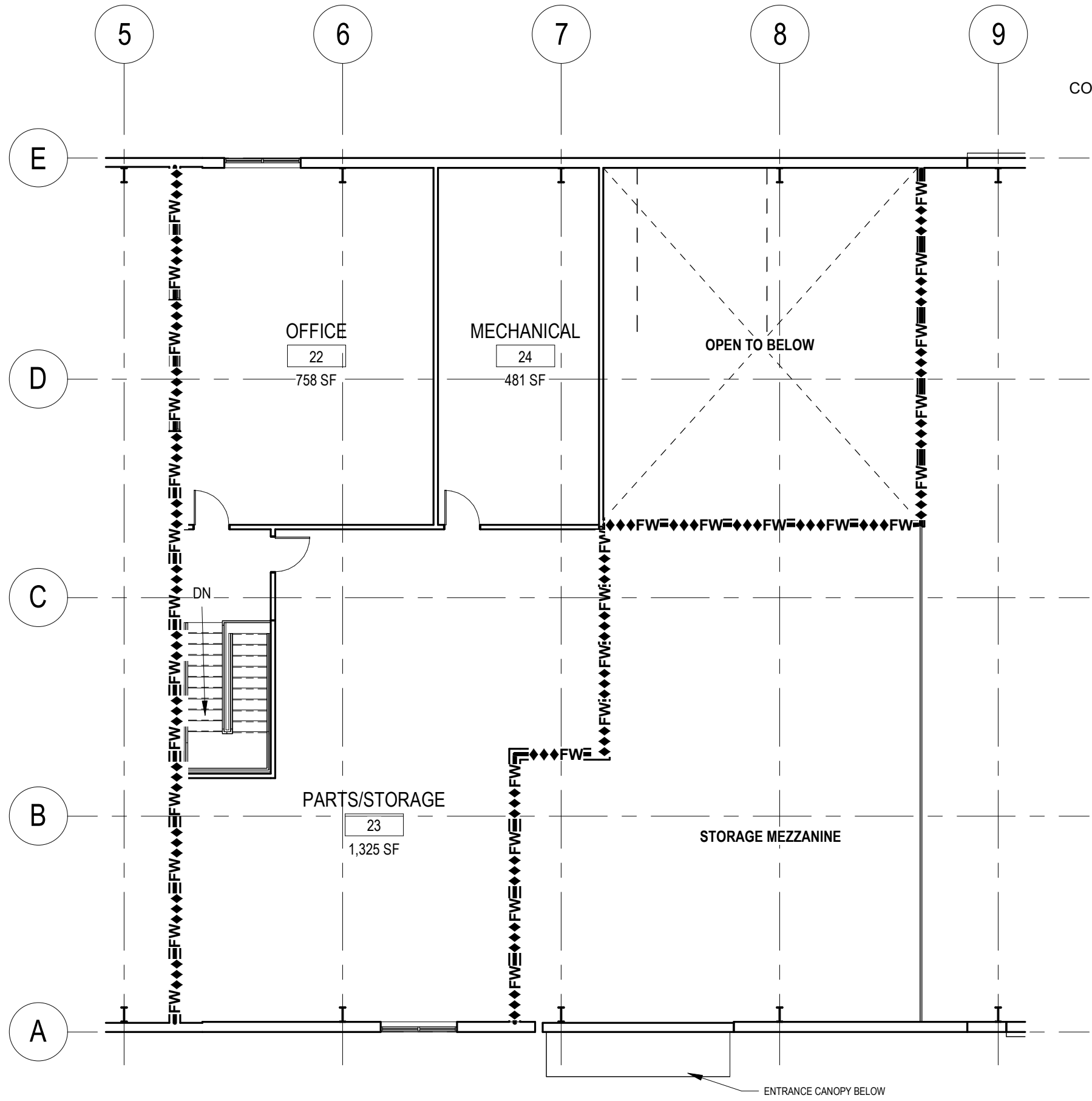
1109.5 - DRINKING FOUNTAIN
BY-LEVEL DRINKING FOUNTAINS TO BE PROVIDED

SECTION 1111 - SIGNAGE

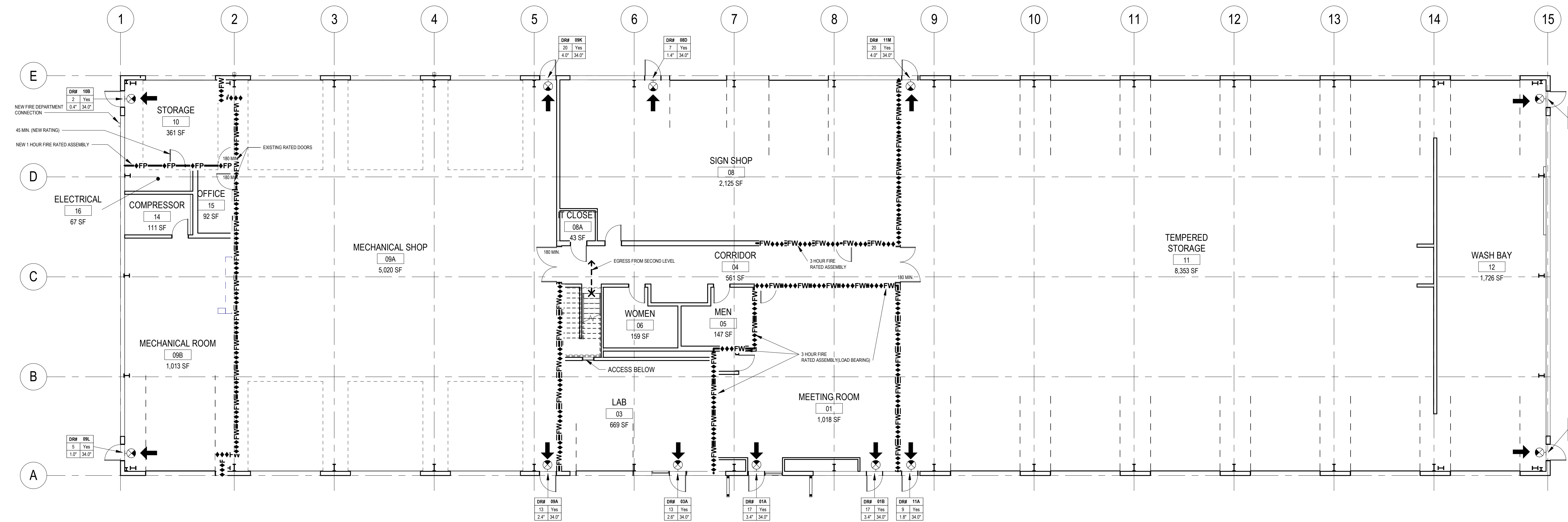
1111.1 - SIGNS
REQUIRED ACCESSIBLE ELEMENTS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGNAGE



SECTION 1 CODE ANALYSIS
3/16" = 1'-0"



LEVEL 2 CODE ANALYSIS
3/32" = 1'-0"



LEVEL 1 CODE ANALYSIS
3/32" = 1'-0"

CODE PLAN LEGEND	
SYMBOL	DESCRIPTION
◆◆◆FW	FIRE WALL (# OF DIAMONDS INDICATES HOURS OF FIRE RESISTANCE), IBC 706 A fire-resistance-rated wall having protected openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall.
◆◆◆FB	FIRE BARRIER (# OF DIAMONDS INDICATES HOURS OF FIRE RESISTANCE), IBC 707 A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained.
◆◆◆FP	FIRE PARTITION (# OF DIAMONDS INDICATES HOURS OF FIRE RESISTANCE), IBC 708 A vertical assembly of materials designed to restrict the spread of fire in which openings are protected.
◆◆◆SP	SMOKE PARTITION, IBC 710 A non-fire-resistance-rated partition designed to limit the movement of smoke, which extends from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above, or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke.
▲	EXIT - EXTERIOR
➡	EXIT - INTERIOR
⬇	EXIT SIGN & DIRECTIONAL INDICATOR
⬇	FIRE DEPARTMENT CONNECTION
⬇	FIRE EXTINGUISHER CABINET
⬇	TRAVEL PATH: A
⬇	EGRESS TRAVEL PATH, REFER TO SCHEDULE FOR LENGTH TABULATION
⬇	ACCUMULATED EXIT WIDTH AT REQUIRED EXIT: OCCUPANTS / REQUIRED WIDTH PROVIDED WIDTH

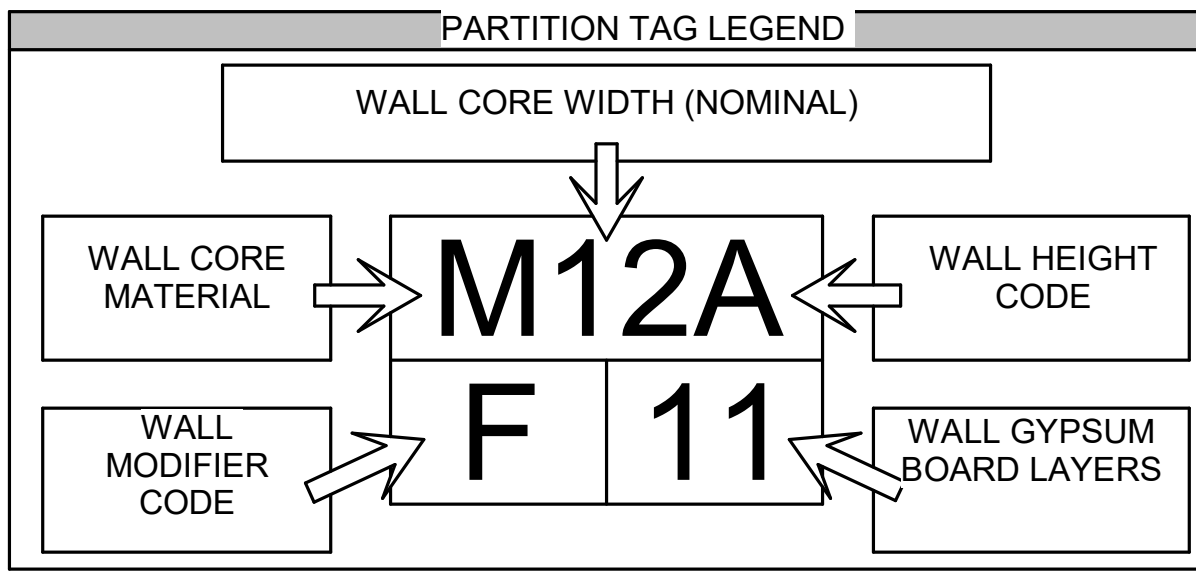
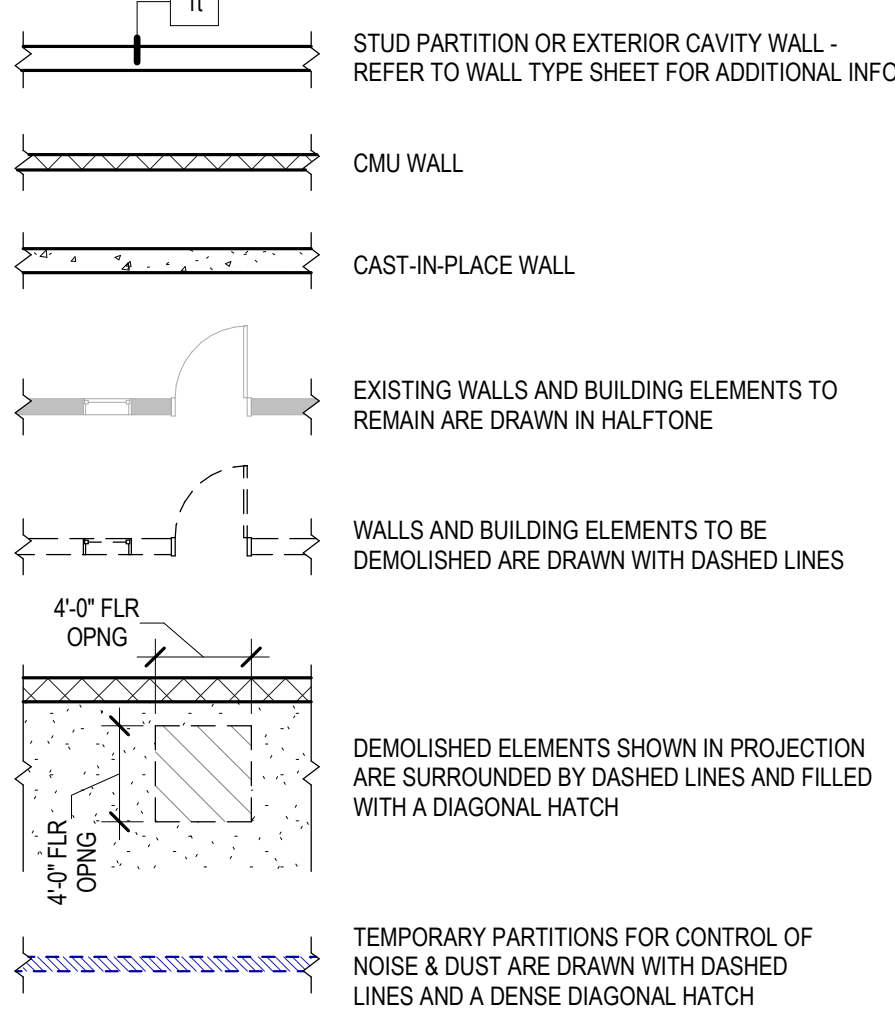


SECONDARY ROADS MAINTENANCE FACILITY-FIRE PROTECTION UPGRADES
11950 NEVADA ST.
INDIANOLA, IA 50125

REVISIONS	
Project / Issue	
Date	
Author	
SHEET INFORMATION	
Issue	100% CD - REVIEW - REBID
Date	09/12/2025
Project #	0101
Drawn	
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Approved	
SHEET TITLE	
CODE ANALYSIS AND PLANS	
SCALE	
Scale:	
SHEET NUMBER	

G1.01

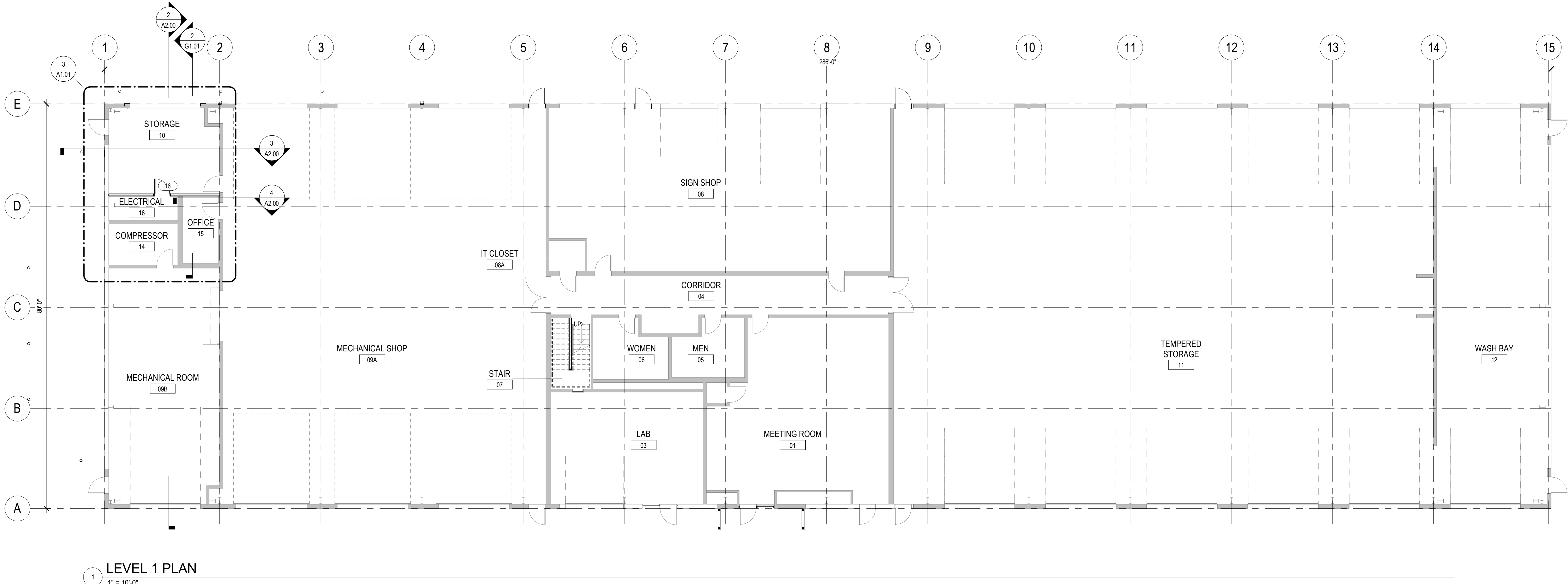
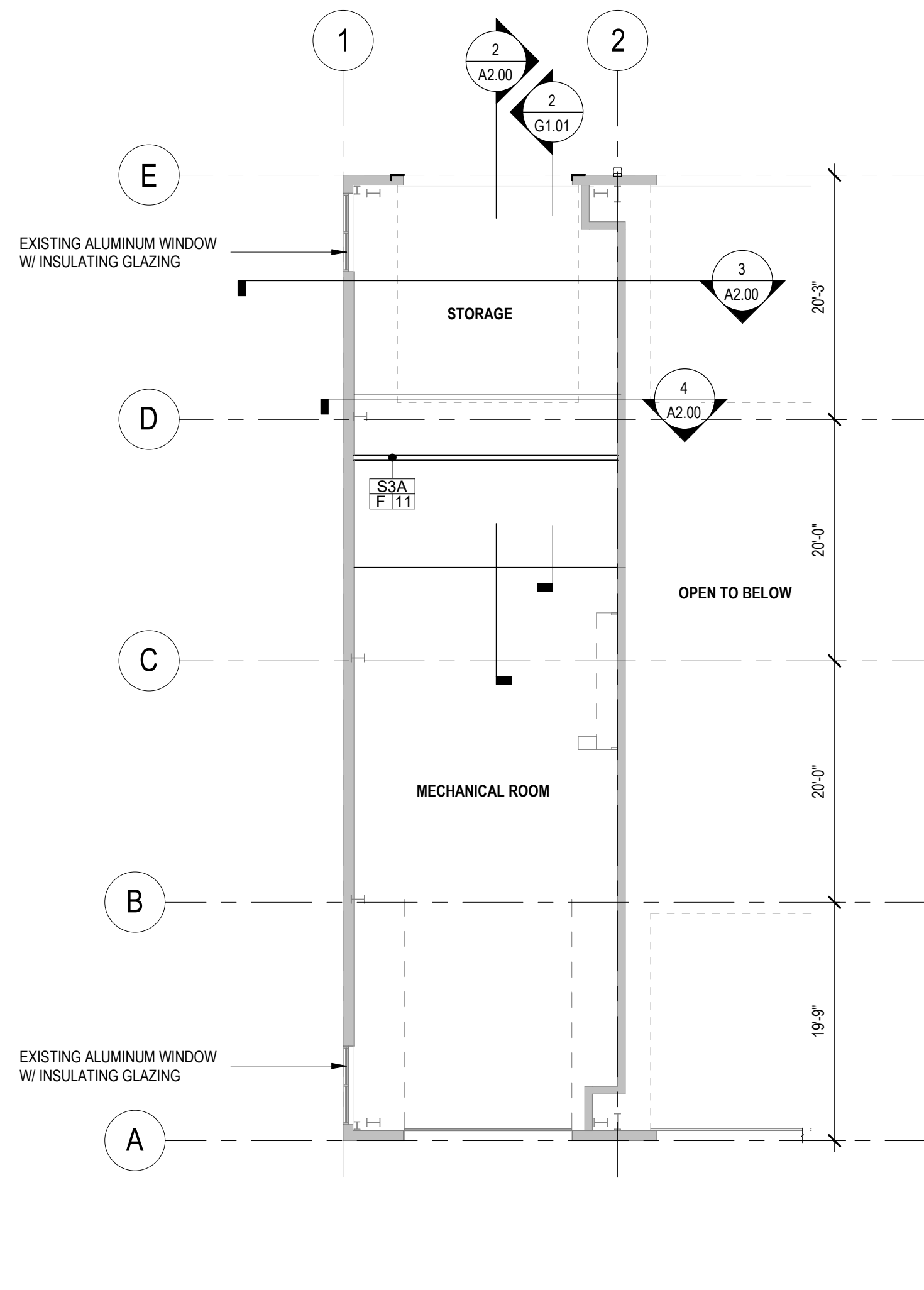
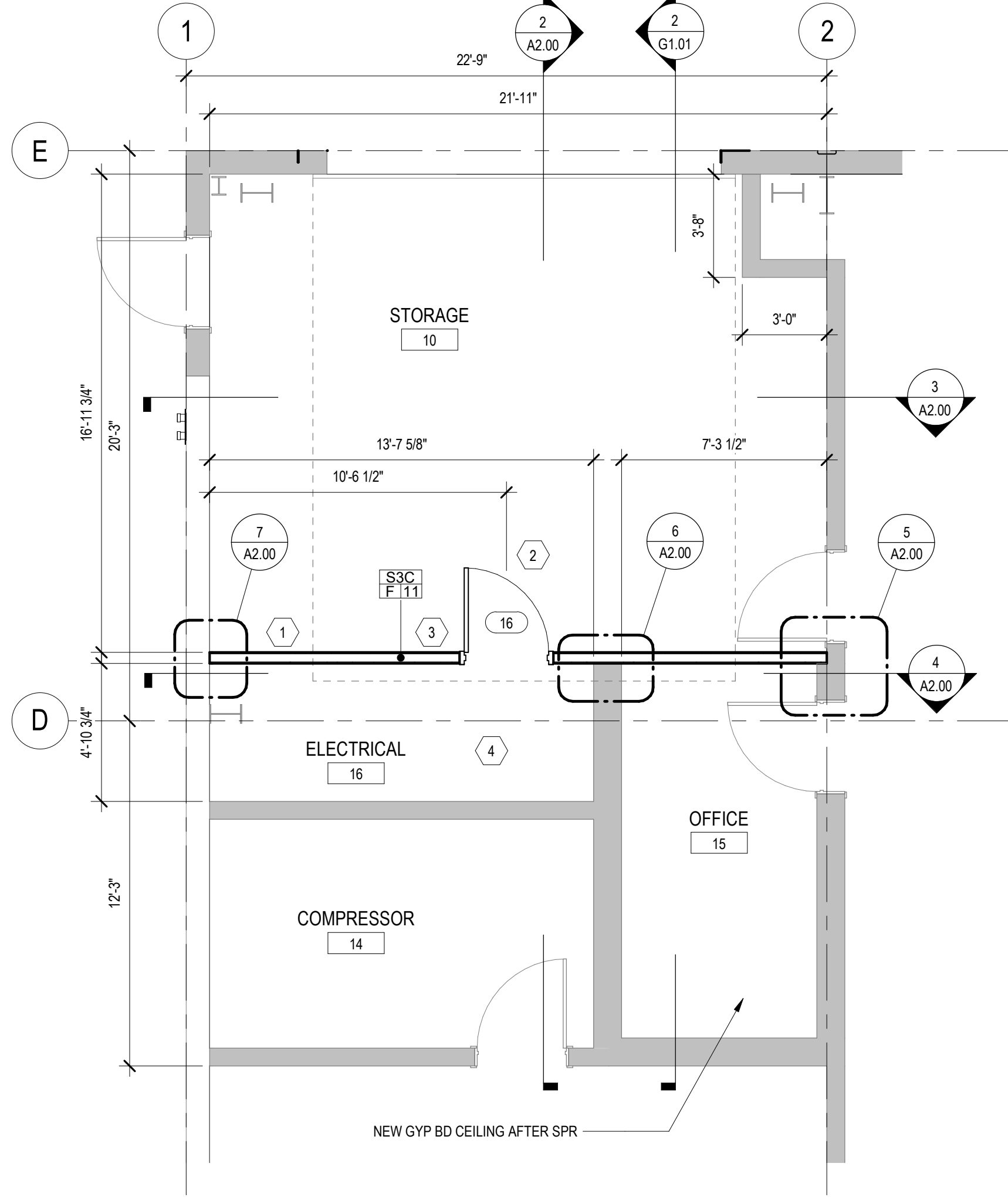
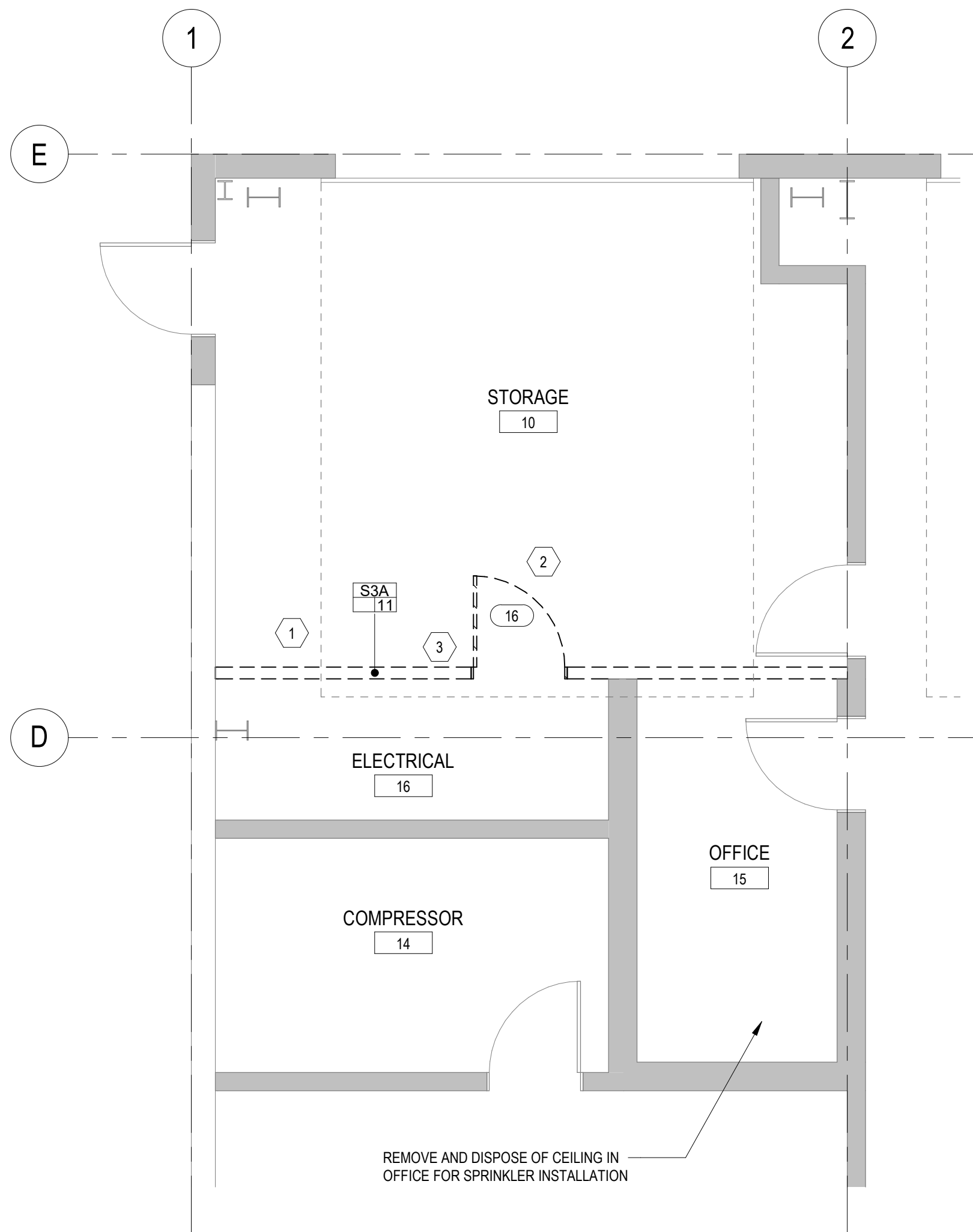
PARTITION GRAPHICS / PHASING LEGEND



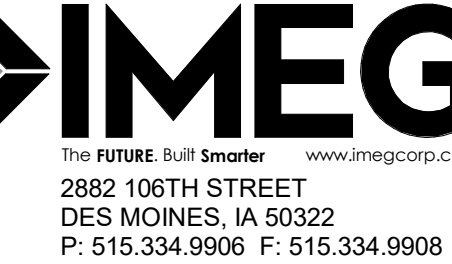
WALL TYPE CODES									
Wall Core Material		Material Width		Wall Height Code		Wall Modifier Code		Wall Gypsum Board Layers	
Code	Material	Code	Width	Code	Description	Code	Description	Code	Description
S	Metal Studs	0	7/8" Furring Channel	A	To underside of structural deck	(Blank)	No Modifier	(Blank)	No Gyp Bd
		3	3 5/8" Metal Stud					01	(0) + (1)
		6	6" Metal Stud					02	(0) + (2)
M	Masonry CMU	8	7 5/8" CMU	B	To 4" above ceiling	A	Sound Attenuation...		
		12	11 5/8" CMU	C	To underside of...	C	Insulated Assembly	11	(1) + (1)
						F	Fired Rated Assembly	12	(1) + (2)
C	Concrete	#	Wall thickness in...						
X	Complex Wall Types	#							
		1	M8A+S3A-01						
		2	M8C+S3C-01	I, O	Not to be used	I, O	Not to be used		

DEMOLITION KEYNOTES	
KEY	NOTE
1	CONFIRM METAL GAUGE STUD. REMOVE GYP BOARD, BOTH SIDES DOWN TO METAL STUD.
2	REMOVE AND DISPOSE OF EXISTING DOOR AND FRAME #16.
3	REMOVE WALL BASE, BOTH SIDES.

NEW CONSTRUCTION KEYNOTES	
KEY	NOTE
1	NEW 1HR. FIRE RATE WALL PER WALL SCHEDULE.
2	NEW DOOR AND FRAME #16 PER DOOR SCHEDULE.
3	NEW WALL BASE PER SPEC SHEET.
4	NEW 1 HR. RATE LID PER WALL SCHEDULE.



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SHEET TITLE
FLOOR PLANS

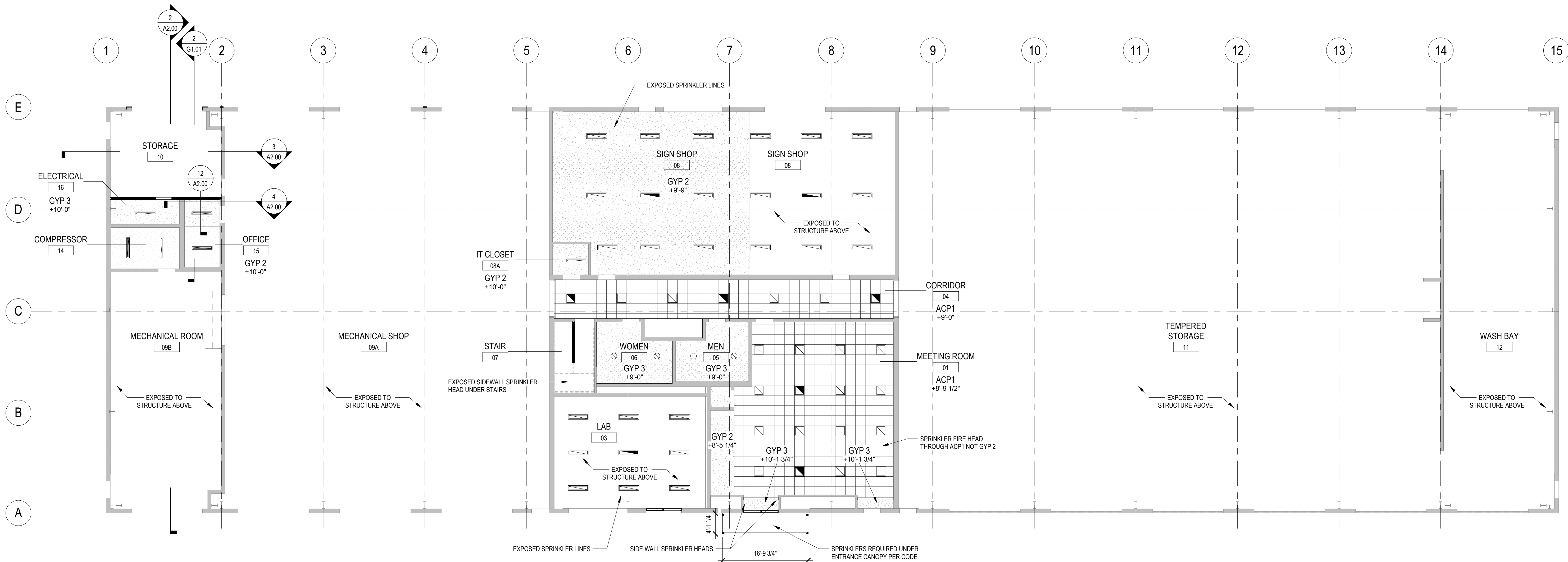
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SHEET NUMBER

A1.01



2 LEVEL 2 REFLECTED CEILING PLAN
1" = 10'-0"



1 LEVEL 1 REFLECTED CEILING PLAN
1" = 10'-0"

REFLECTED CEILING PLAN GENERAL NOTES	
1	COORDINATE ALL CEILING-MOUNTED ITEMS NOT INDICATED ON DRAWINGS WITH ARCHITECT PRIOR TO INSTALLATION
2	SEE ARCHITECTURAL DRAWINGS (ELEVATIONS AND REFLECTED CEILING PLANS) FOR ALL MECHANICAL AND ELECTRICAL DEVICE AND FIXTURE LOCATIONS AND MOUNTING HEIGHTS. IF NOT CLEARLY SPECIFIED, CONTACT ARCHITECT FOR FURTHER CLARIFICATION. MECHANICAL AND ELECTRICAL DRAWINGS ARE FOR FIXTURE TYPE REFERENCE ONLY
3	CEILING HEIGHTS ARE ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE
4	CEILING FIXTURE DIMENSIONS ARE TAKEN FROM CENTERLINE OF FIXTURE UNLESS NOTED OTHERWISE
5	CONCEALED SPRINKLER HEAD COVERS SHALL BE PAINTED TO MATCH SURROUNDING SUFFIT OR ACOUSTIC PANEL CEILING UNLESS NOTED OTHERWISE

REFLECTED CEILING PLAN LEGEND	
	ACP1 2' x 2' SQUARE ACOUSTIC CEILING PANELS
	GYP1 GYPSUM BOARD CEILING w/ METAL STUD FRAMING AT 16" O.C.
	GYP2 INSULATED GYPSUM BOARD CEILING w/ METAL STUD FRAMING AT 16" O.C.
	GYP3 RATED HORIZONATL ASSEMBLY, DESIGN NO. AER-09038
	GYP4 1 HR. RATED SUSPENDED CEILING ASSEMBLY, UL DESIGN NO. 1504
E.T.S.	EXPOSED TO STRUCTURE,
NOTE: REFER TO FINISH SPECIFICATION LEGEND FOR MORE INFORMATION	

REFLECTED CEILING PLAN LEGEND	
CEILING EQUIPMENT:	
	LED OR FLUORESCENT INDUSTRIAL FIXTURE - CEILING MOUNTED
	LED OR FLUORESCENT PENDANT FIXTURE - CEILING MOUNTED
	FLUORESCENT FIXTURE - RECESSED IN CEILING
	2X2 - LAY IN
	2X4 - LAY IN
	RECESSED SQUARE CAN LIGHT
	RECESSED LINEAR LIGHT
HVAC EQUIPMENT:	
	SUPPLY - CEILING MOUNT
	RECTANGULAR DUCT - CEILING MOUNT
	RETURN GRILLE - CEILING MOUNT
FIRE PROTECTION EQUIPMENT:	
	FIRE ALARM SPEAKER-STROBE
	FIRE ALARM STROBE
	EXIT FIXTURE - WALL MOUNT



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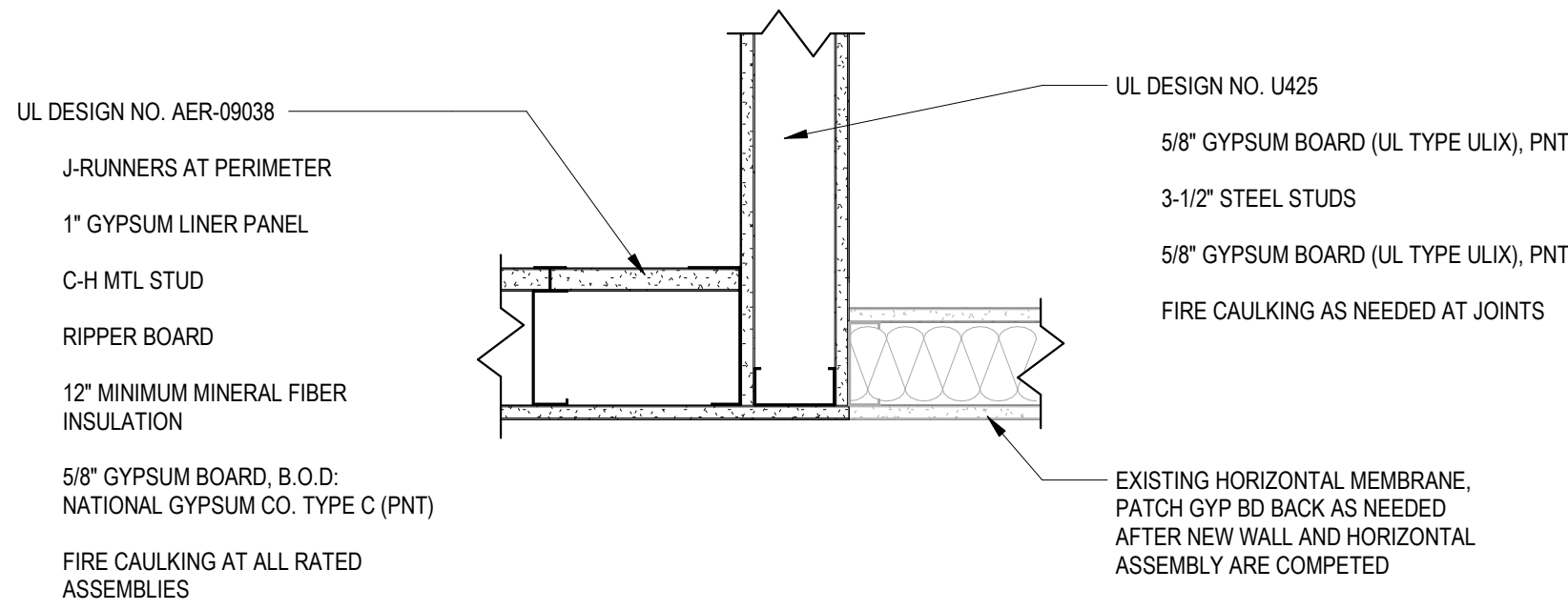
SHEET TITLE
REFLECTED CEILING
PLANS

SCALE
Scale:

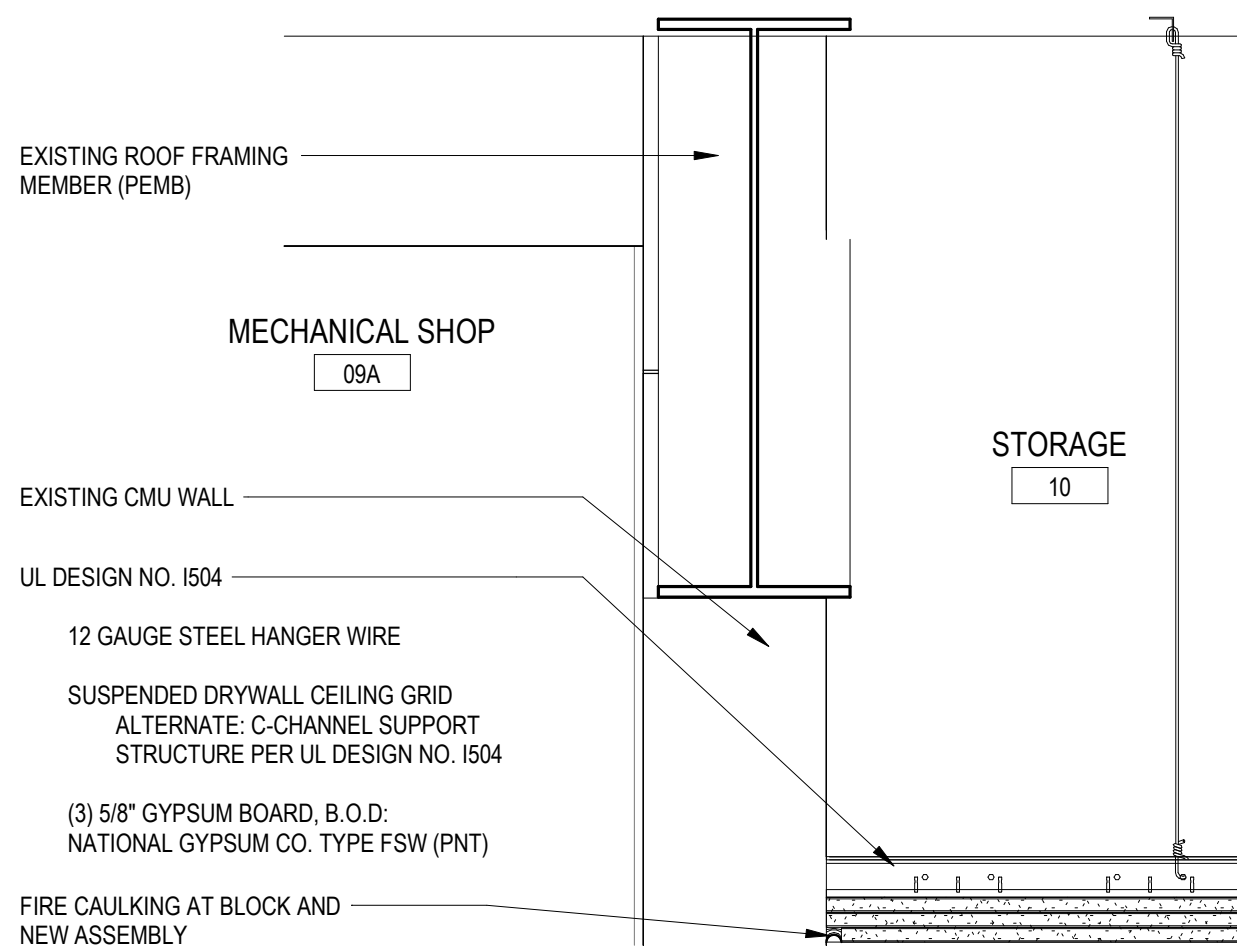
SHEET NUMBER

A1.51

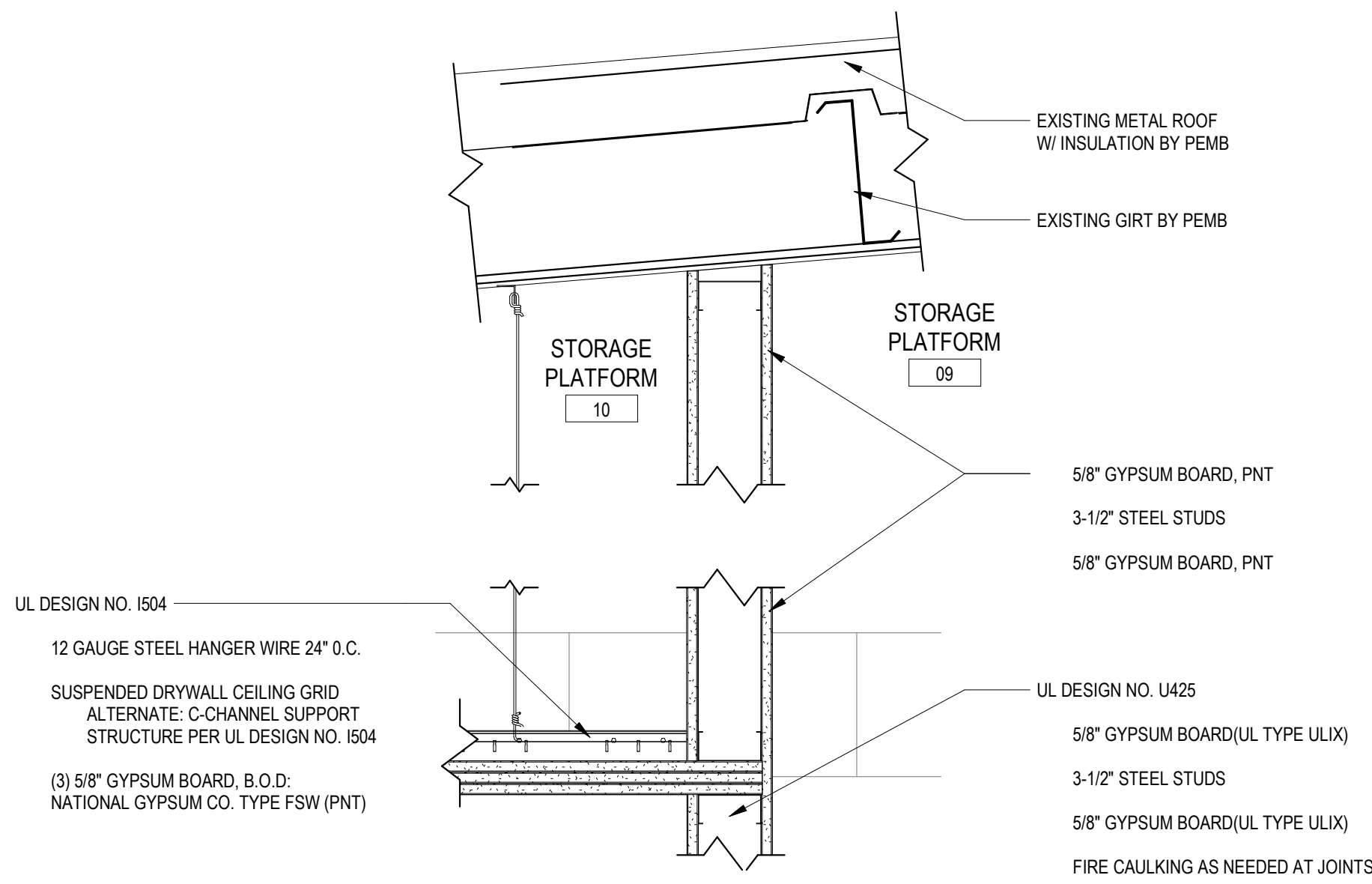
DOOR AND FRAME SCHEDULE															
MARK	ROOM NAME	FINISHED OPENING SIZE		THICK	LEAF			FRAME		DETAILS			HDWR	RATING	REMARKS
		WIDTH	HEIGHT		TYPE	MTRL	GLAZ	MTRL-TYPE	GLAZ	HEAD	JAMB	SILL			
		3'-0"	7'-0"		1 3/4"	F	HM	--	HM-00 : V2	--	C4/A600	C4/A600			
16	STORAGE	3'-0"	7'-0"	1 3/4"	F	HM	--	HM-00 : V2	--	C4/A600	C4/A600	--	10	45min.	



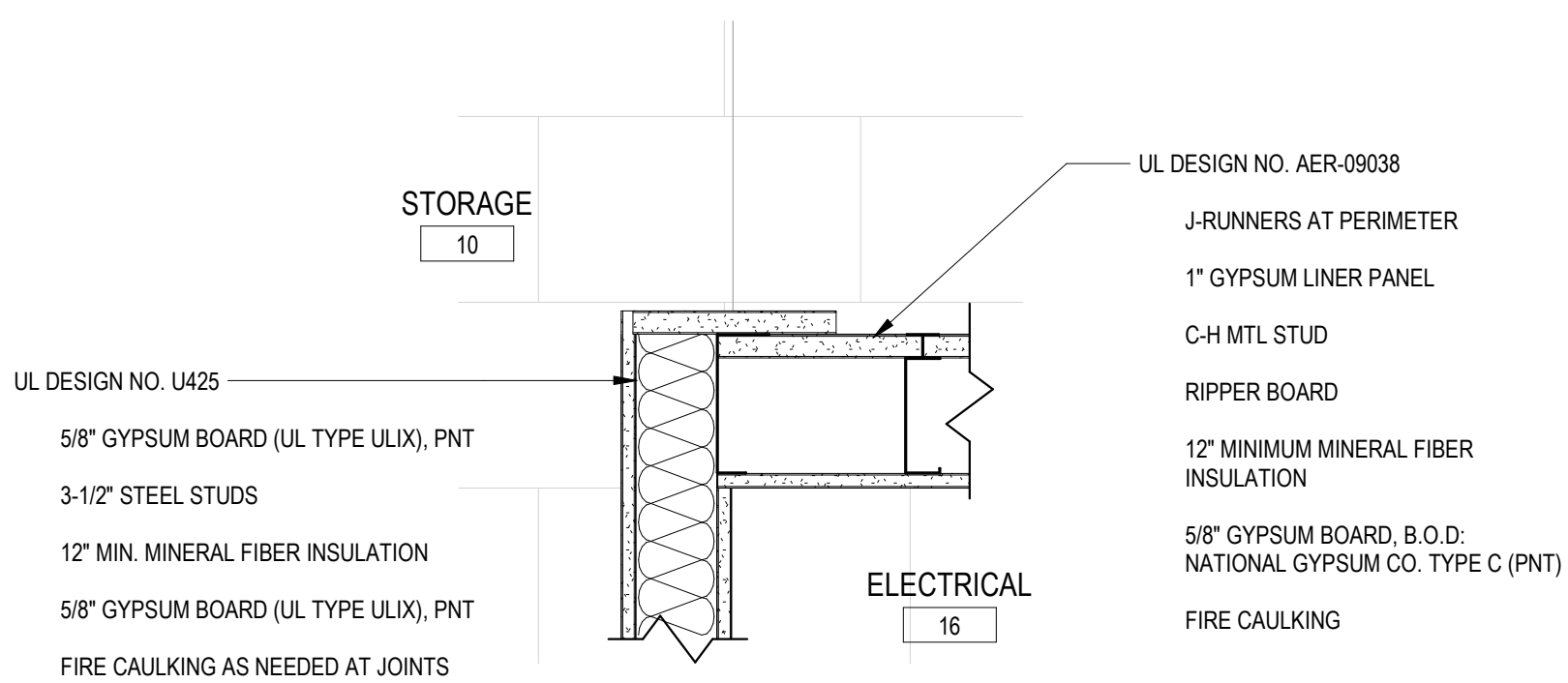
12 SECTION DTL - HORIZONTAL ASSEMBLY @ EXST CEILING
1 1/2" = 1'-0"



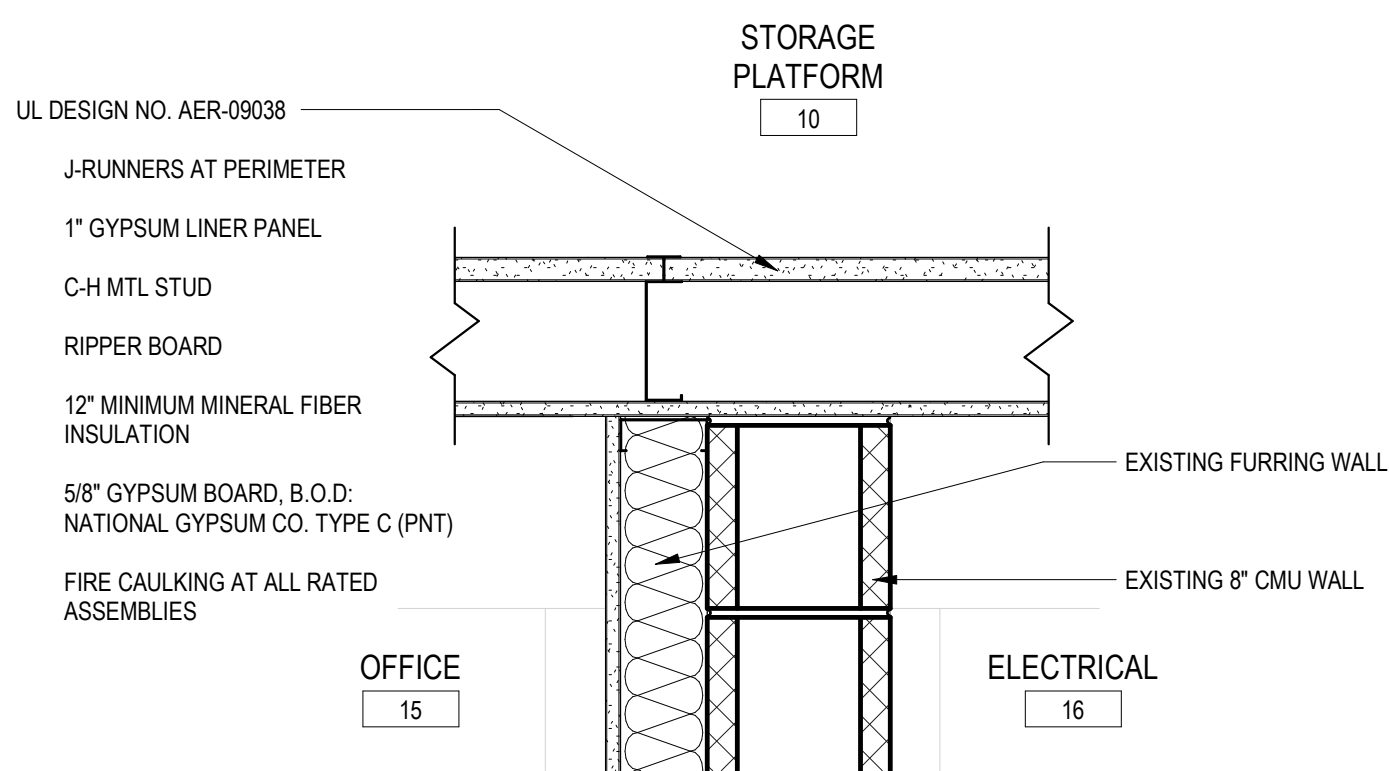
13 SECTION DTL- M8A AT ROOF ASSEMBLY
1 1/2" = 1'-0"



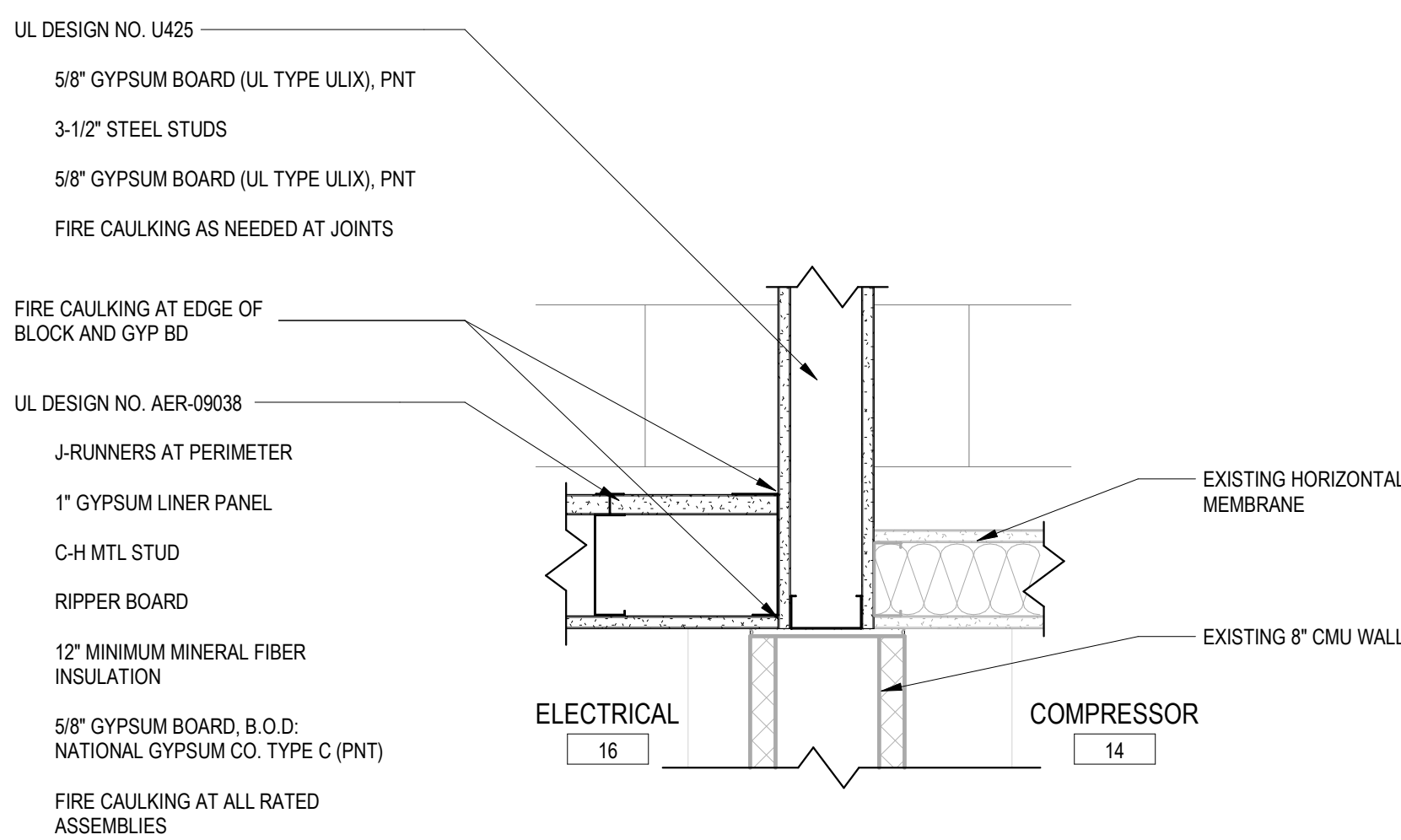
14 SECTION DTL-S3A AT ROOF ASSEMBLY
1 1/2" = 1'-0"



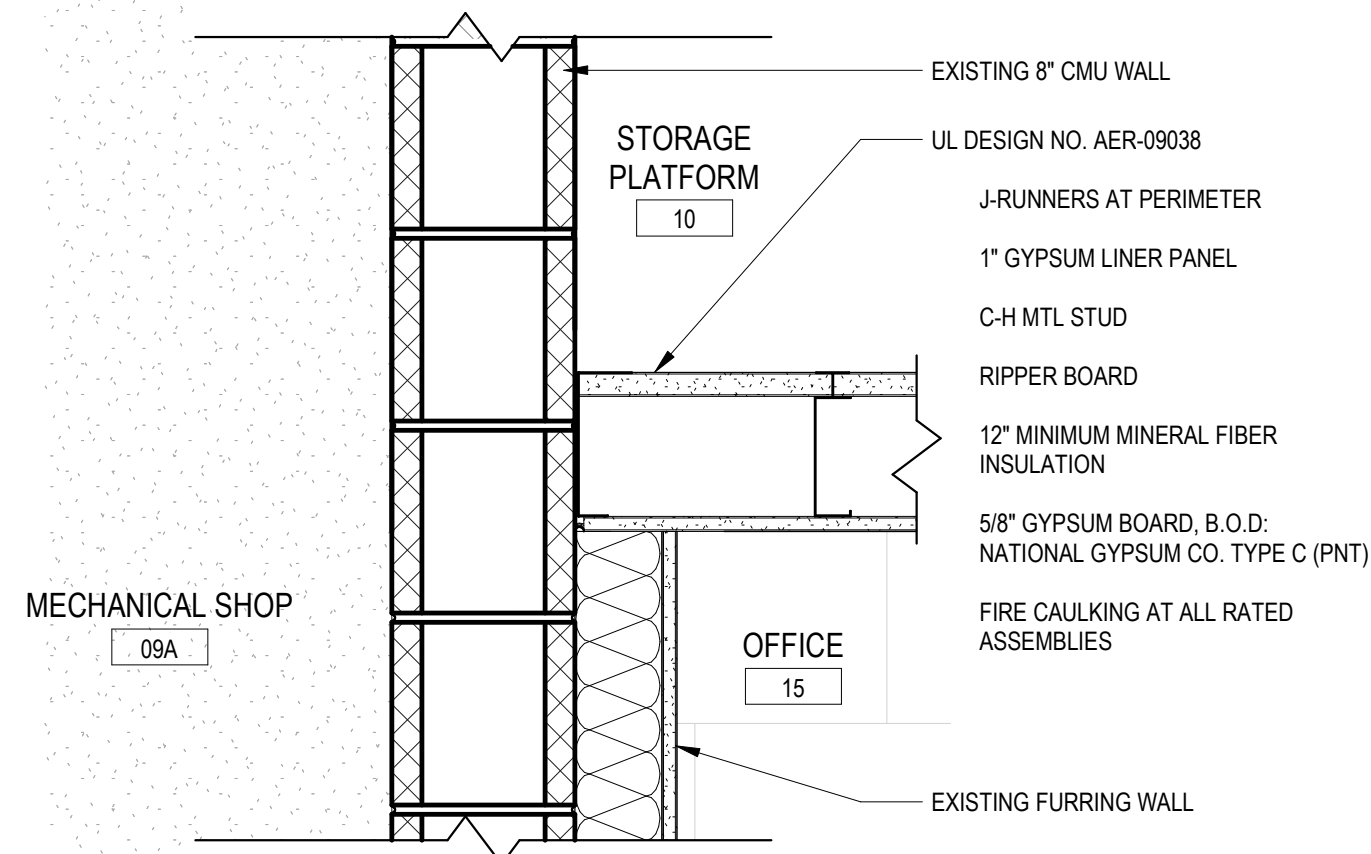
8 SECTION DTL-S3C-F11 AT HORIZONTAL ASSEMBLY
1 1/2" = 1'-0"



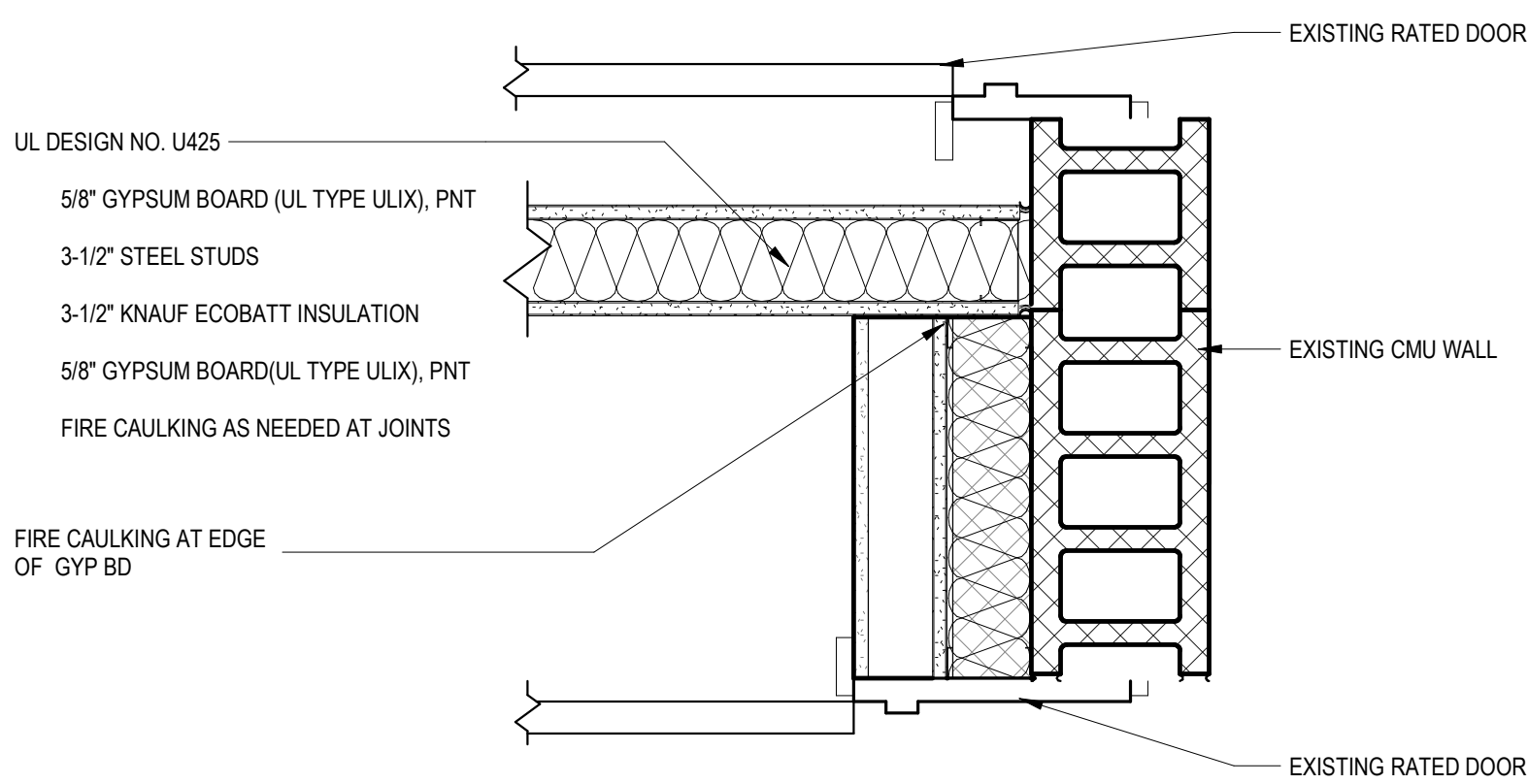
9 SECTION DTL-HORIZONTAL ASSEMBLY AT X2C-C01
1 1/2" = 1'-0"



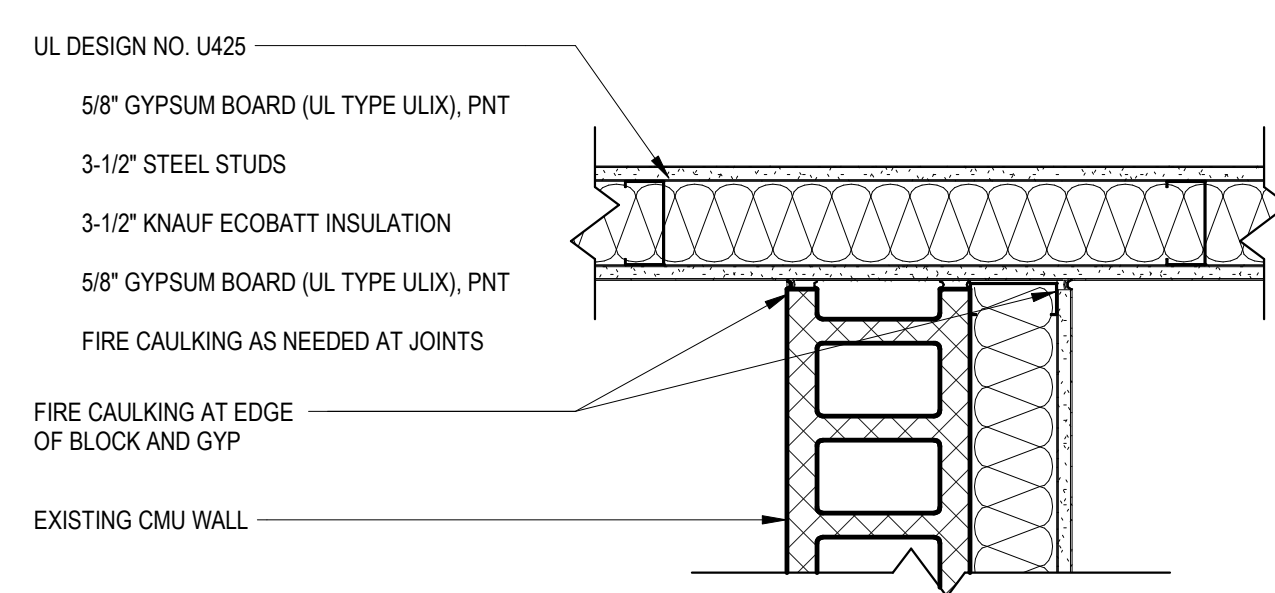
10 SECTION DTL - M8A AT HORIZONTAL ASSEMBLY
1 1/2" = 1'-0"



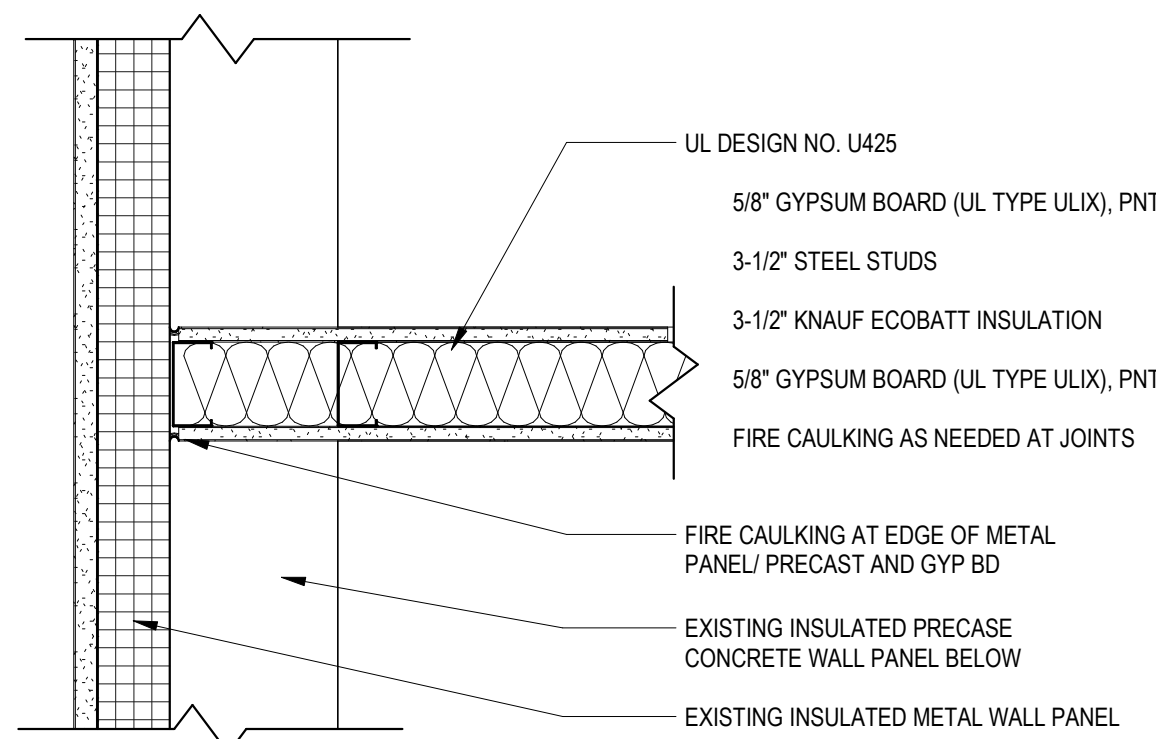
11 SECTION DTL - HORIZONTAL ASSEMBLY AT X1A-01
1 1/2" = 1'-0"



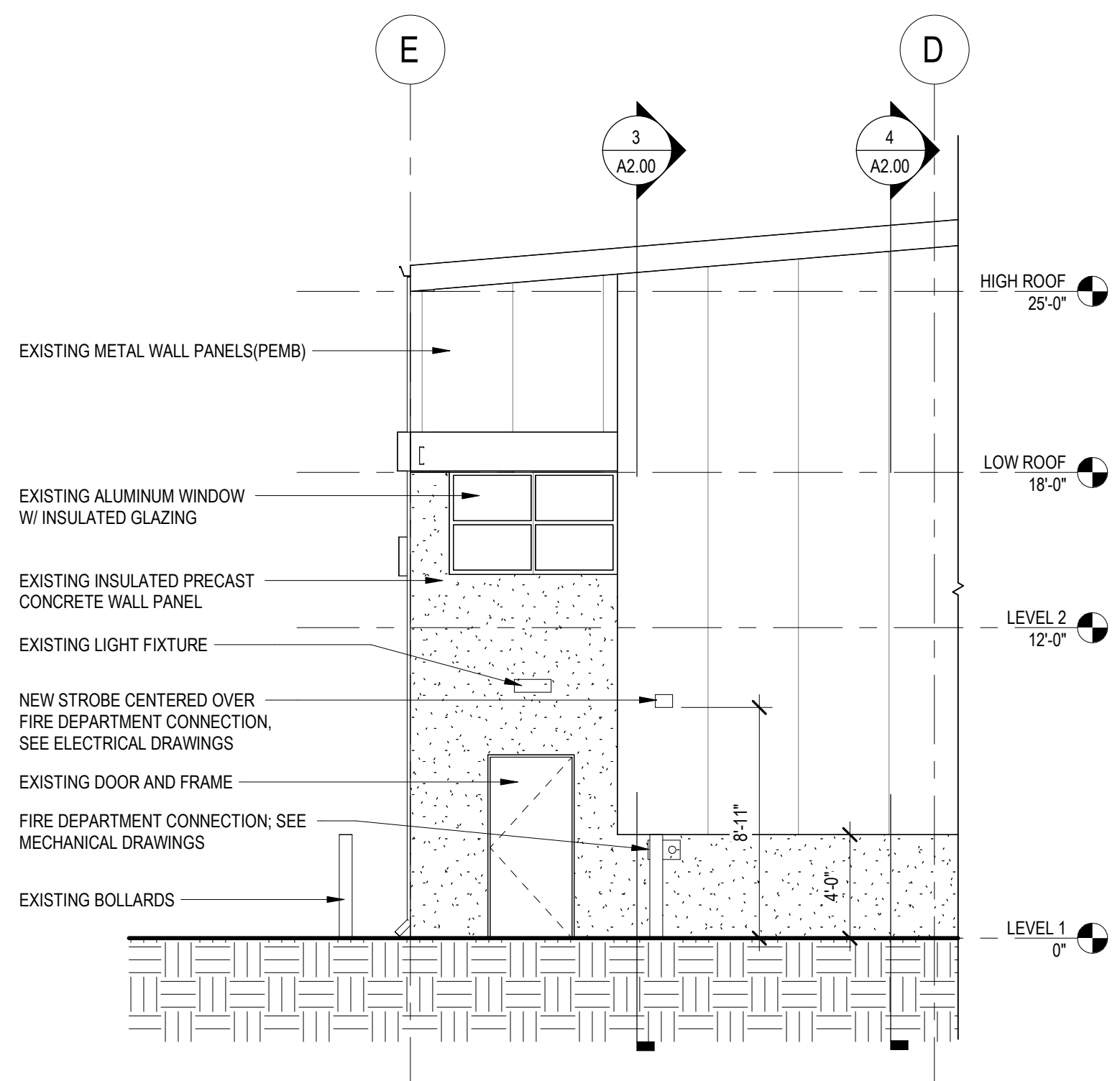
5 PLAN DTL - INTERSECTION X1A-01 AT S3C-F11
1 1/2" = 1'-0"



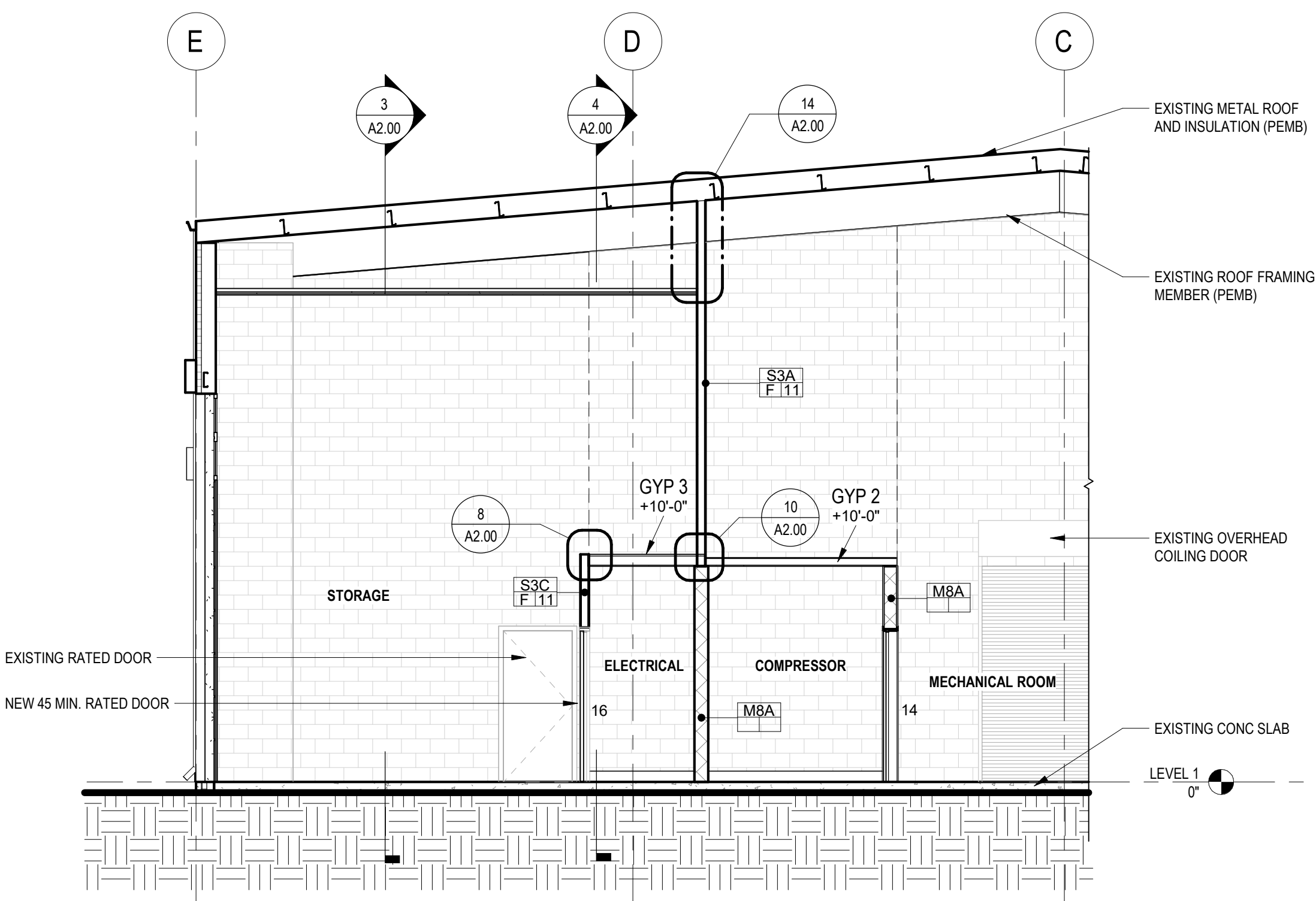
6 PLAN DTL - INTERSECTION X2C-C01 AT S3C-F11
1 1/2" = 1'-0"



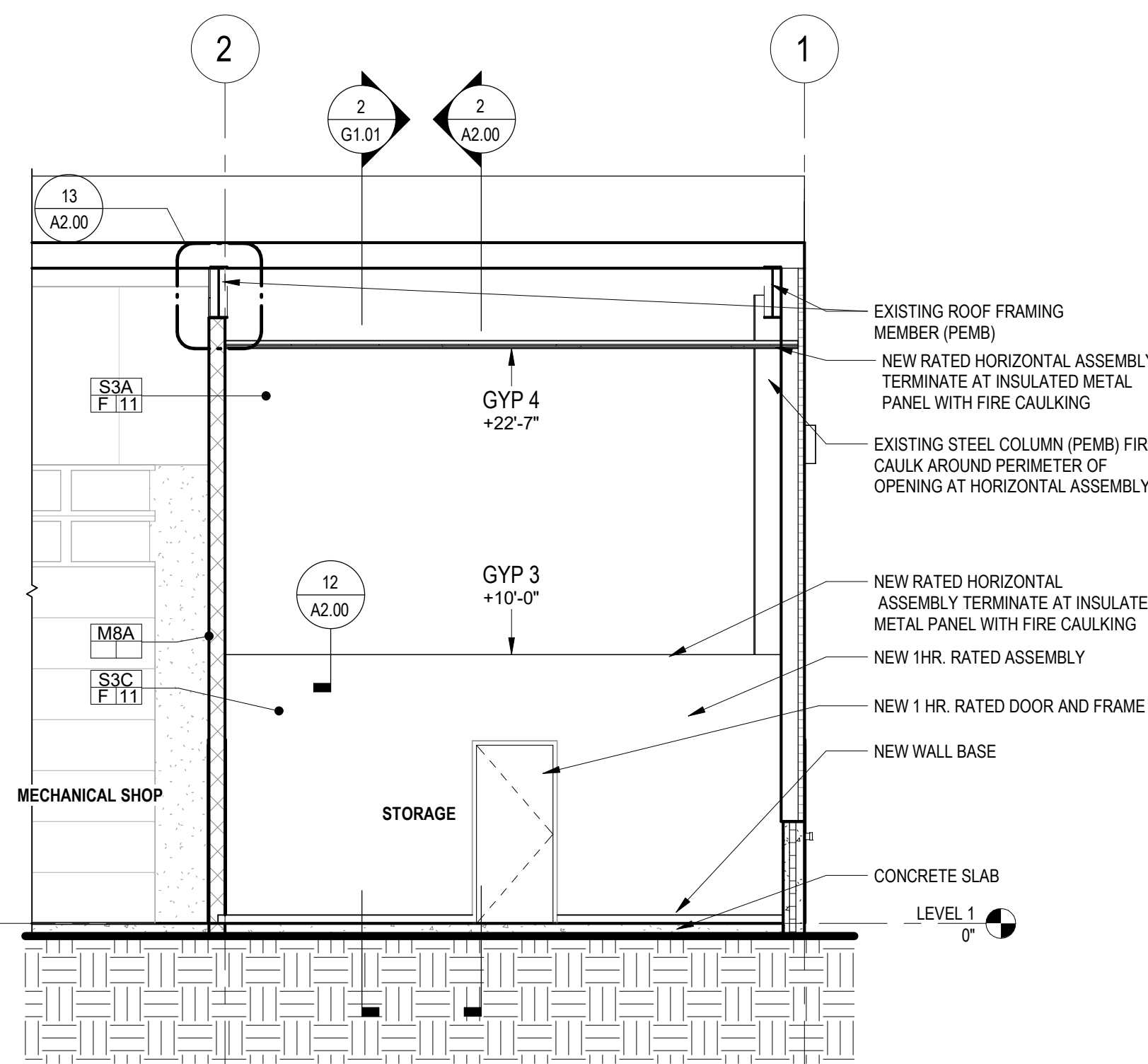
7 PLAN DTL - INTERSECTION S3C-F11 AT EXTERIOR
1 1/2" = 1'-0"



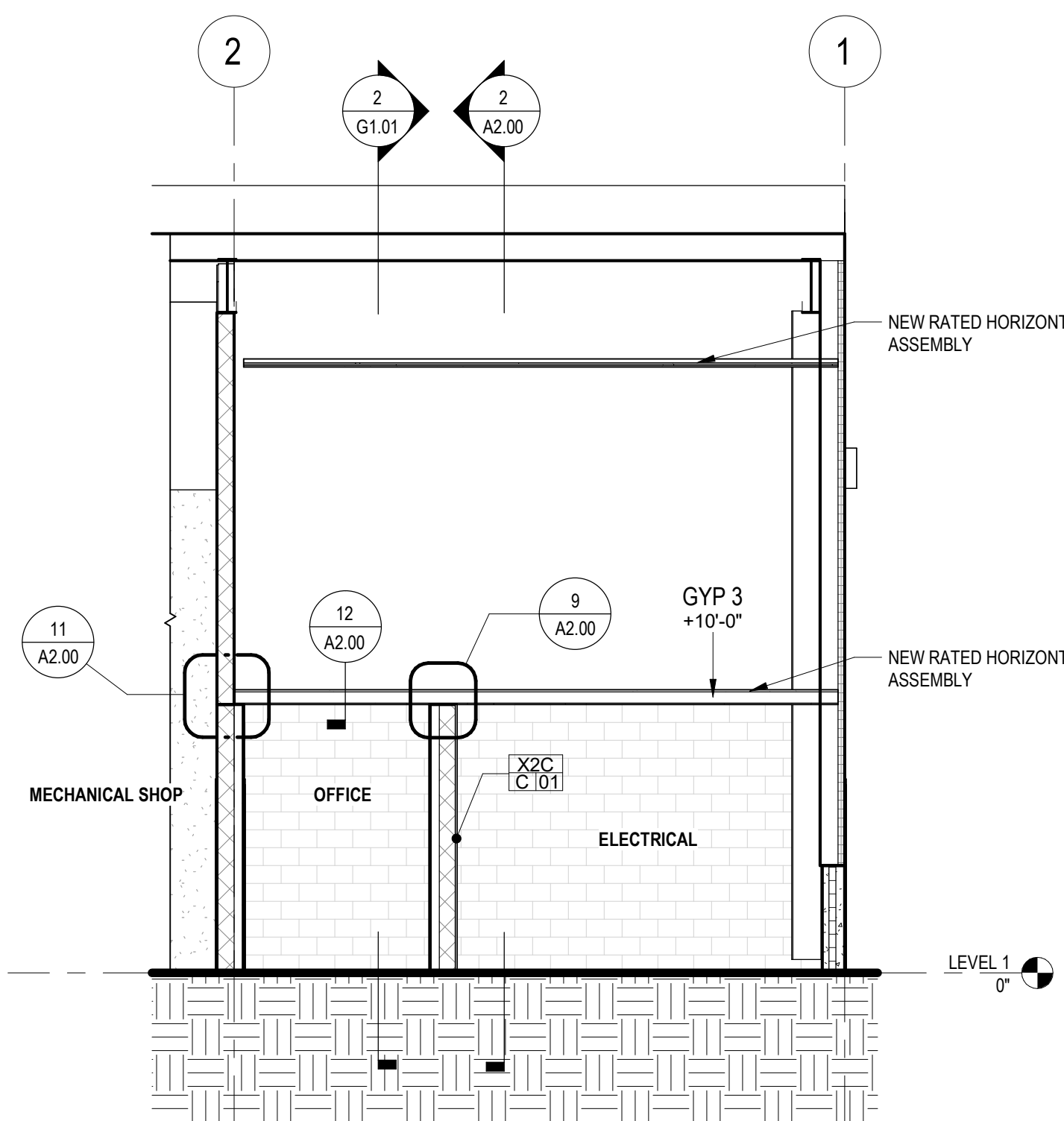
1 WEST ELEVATION
3/16" = 1'-0"



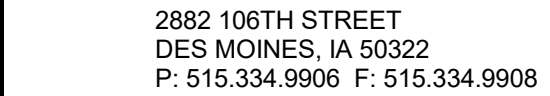
2 SECTION THROUGH MAINTENANCE
3/16" = 1'-0"



3 SECTION THROUGH STORAGE
3/16" = 1'-0"



4 SECTION THROUGH OFFICE
3/16" = 1'-0"



11950 NEVADA ST.
INDIANOLA, IA 50125

REVISIONS

No.

SHEET TITLE
**FIRE PROTECTION
COVERSHEET**

SHEET NUMBER

FIRE / SMOKE BARRIER DESIGNATIONS	
THE LINE TYPES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY RATINGS WITH THE LATEST SET OF ARCHITECTURAL PLANS AND FURNISH ALL MATERIALS REQUIRED TO COMPLY WITH THOSE RATINGS WHETHER SHOWN OR NOT. ALL FLOOR, FLOOR CEILING, AND ROOF CEILING ASSEMBLIES SHALL BE DESIGNATED AS 1, 2, HOUR FIRE, BARRIER(S), UNLESS NOTED OTHERWISE ON THE PLANS. RATINGS WERE ACQUIRED FROM THE ARCHITECTURAL PLANS DATED 05/28/2025.	
FIRE PARTITION	-----
1 HOUR FIRE BARRIER	-----
3 HOUR FIRE BARRIER OR WALL	=====

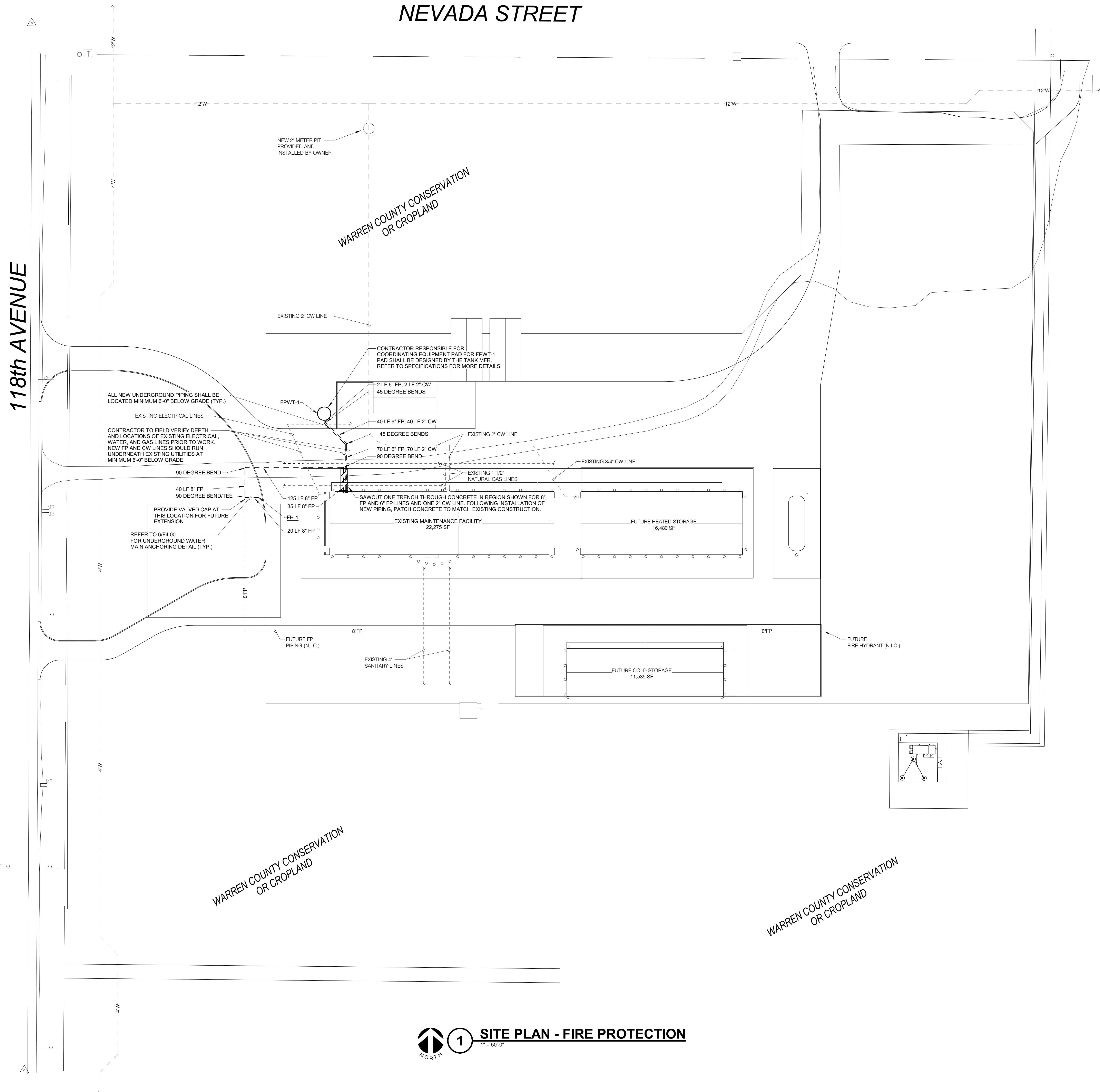
CONTRACTOR ABBREVIATION KEY	
ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

FIRE PROTECTION ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
I.E.	INVERT ELEVATION
LF	LINEAR FEET
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
SCCR	SHORT CIRCUIT CURRENT RATING
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED

FIRE PROTECTION SHEET INDEX	
F0.00	FIRE PROTECTION COVERSHEET
F0.10	SITE PLAN - FIRE PROTECTION
F0.11	SITE PLAN - FIRE PROTECTION - ALTERNATE 1
F2.00	FLOOR PLAN - FIRE PROTECTION
F4.00	FIRE PROTECTION DETAILS
F4.01	FIRE PROTECTION DETAILS, DIAGRAMS, & SCHEDULES
GRAND TOTAL: 6	

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS AND LABOR FOR ALL OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE CATALOG NUMBERS AND THE CATALOGS THEMSELVES AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS.
3. CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2X4 CEILING TILES CENTERING USING A 2X2 CEILING PATTERN IS ACCEPTABLE.
4. SPRINKLERS SHALL NOT BE LOCATED IN OR NEAR LIGHT FIXTURES, SMOKE HEADS, LIGHTING, DIFFUSERS, AND ANY OTHER FEATURES IN THE CEILING.
5. NEW SPRINKLERS SHALL BE QUICK RESPONSE TYPE. UNLESS OTHERWISE NOTED, SPRINKLERS SHALL NOT BE INSTALLED IN AREAS WITH SPRINKLERS WITH QUICK RESPONSE SPRINKLERS IN UNPARTITIONED SPACES.
6. PROVIDE COVERAGE ABOVE AND BELOW ALL EXPOSED DUCTWORK GREATER THAN 48" WIDE.
7. PROVIDE COVERAGE ABOVE (IF APPLICABLE) AND BELOW FLOORING CEILINGS, REFER TO ARCHITECTURAL PLANS.
8. FIRE PROTECTION PIPE ROUTING IS SHOWN FOR GENERAL LAYOUT. DETERMINE EXACT NUMBER OF SPRINKERS, PIPE SIZING, AND PIPE ROUTING.
9. THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED TO MEET OWNER'S INSURANCE COMPANY STANDARDS WHERE APPLICABLE, THE MORE STRINGENT OF THE OWNER'S INSURANCE UNDERWRITER'S SPECIFICATION CRITERIA AND THE NFPA STANDARDS SHALL BE USED.
10. ALL BUILDING AREAS SHALL FULLY SPRINKLERED INCLUDING CANOPES, WALKWAYS, OVERHANGS, OFFSETS, AND BUILDING PROJECTIONS. ALL ACCESSIBLE COMBUSTIBLE CONCEALED SPACES SHALL BE FULLY PROTECTED BY THE SPRINKLER SYSTEM.
11. EACH ASSEMBLY SHALL INCLUDE CHECK VALVE BUTTERFLY CONTROL VALVE, COORDINATED POSITION, TEST INDICATION VALVE, FLOW SWITCH AND PRESSURE GAUGES.
12. PROVIDE RISER ROOM IDENTIFICATION SIGNAGE OUTSIDE THE FIRE RISER ROOM.
13. PROVIDE IDENTIFICATION SIGNAGE ON EACH DISCHARGE SIDE.
14. WHERE FEASIBLE INSTALL PIPES HIGH AS POSSIBLE TO AVOID CONFLICT WITH OTHER DISCIPLINES.
15. INSTALL SYSTEM DRAINS AT LOW POCKET AREAS CONTAINING FIVE GALLONS OF WATER OR MORE, PROVIDE WITH ISOLATION VALVE AND THREADED HOSE CONNECTION.
16. FOLLOW ARCHITECTURAL DETAILS WHEN PENETRATING OR PASSING THROUGH STRUCTURAL ELEMENTS. ALTERNATE DESIGNS WILL NEED TO BE APPROVED THROUGH THE STRUCTURAL ENGINEER.
17. PROVIDE IDENTIFICATION SIGNAGE FOR TEMPERATURE SPRINKLER HEADS WHERE REQUIRED BY NFPA 13 UNLESS OTHERWISE NOTED.
18. FINAL HEAD LOCATION, TYPE AND FINISH SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT.
19. PAINT ALL EXPOSED PIPING TO MATCH BACKGROUND OR AS DIRECTED BY THE ARCHITECT.
20. CONTRACTOR MUST BE NOTIFIED FIRST TO EACH AND EVERY DRaining OR RECHARGING OF THE SPRINKLER SYSTEM.
21. THE CONTRACTOR SHALL PREPARE A COORDINATED SET OF SHOP DRAWINGS AND SUBMIT FOR APPROVAL BY THE LOCAL JURISDICTION AND THE LOCAL FIRE DEPARTMENT PRIOR TO ANY INSTALLATION.
22. DRAWINGS SHOW LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE NOT TO SCALE AND MAY BE EXAGGERATED FOR CLARITY.
23. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC. AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS ARE NOT TO BE USED SOLELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL BE REQUIRED.
24. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER AREAS. VERIFY ALL DIMENSIONS PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION AND HVAC.



1 SITE PLAN - FIRE PROTECTION
1" = 50'-0"

IMEG
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www.imegcorp.com

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REF. SCALE IN INCHES
0 1 2 3
PROJECT #24006360.00



ENGINEER

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ARCHITECT



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Des Moines, Iowa, 50309
Project Contact: TOM TRAPP
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**SECONDARY ROADS MAINTENANCE
FACILITY - FIRE PROTECTION UPGRADES**

11950 NEVADA ST.
INDIANOLA, IA 50125

REVISIONS

No. Date Revision / Issue

SHEET INFORMATION

Issue	100% CD - REBID
Date	10/22/2025
Project #	24006360.00
Drawn	LUCHEI
Checked	DELLIE
Approved	DELLIE

SHEET TITLE

**SITE PLAN - FIRE
PROTECTION**

SCALE

Scale: 1" = 50'-0"

SHEET NUMBER

F0.10

INDIANOLA, IA 50125

SHEET INFORMATION	
Issue	100% CD - REBID
Date	10/22/2025
Project #	24006360.00
Drawn	LUCHEI
Checked	DELLLE
Approved	DELLLE

	SCALE	
Question	100	500-550

SHEET NUMBER

1 SITE PLAN - FIRE PROTECTION - ALTERNATE 1

1" = 50'-0"

KEYNOTES: #

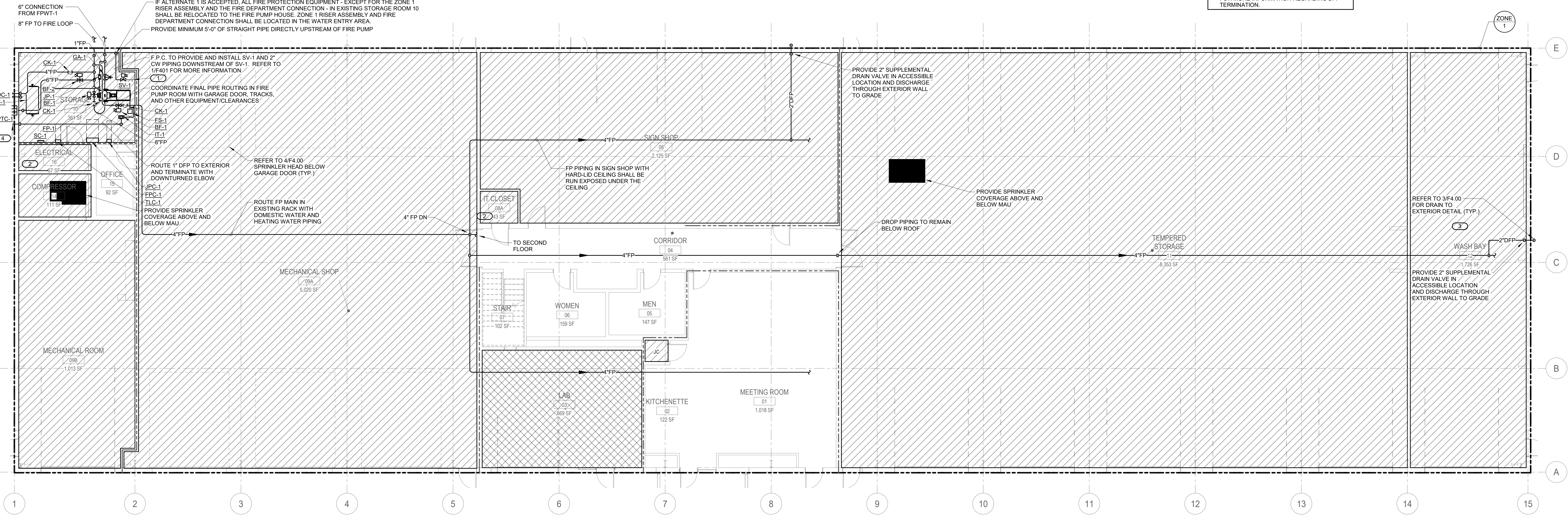
1. ALTERNATE #1 PRICING SHALL INCLUDE CONSTRUCTION OF A 12x15' ENCLOSURE AROUND THE RELOCATED EQUIPMENT WITH A MINIMUM ROOF BEARING HEIGHT OF 10' CONSISTING OF SHALLOW FOUNDATIONS TO BE 12" DEEP POURED CONCRETE DOWN TO FROST AT 4'-0" BELOW GRADE WITH 2" (R-10) RIGID INSULATION DOWN 24" FROM GRADE, POURED 4" CONCRETE SLAB ON GRADE WITH LIGHT W/12" BROOM FINISH, 2x6 WOOD FRAMED WALLS WITH R-20 BATT INSULATION, PAINTED GYPSUM BOARD INTERIOR FINISH, WOOD SHEATHING AND FIBER CEMENT LAP SIDING WITH WEATHER BARRIER, ASPHALT SHINGLED GABLE ROOF WITH R-38 INSULATION BETWEEN RAFTERS AND PAINTED GYPSUM BOARD CEILING.



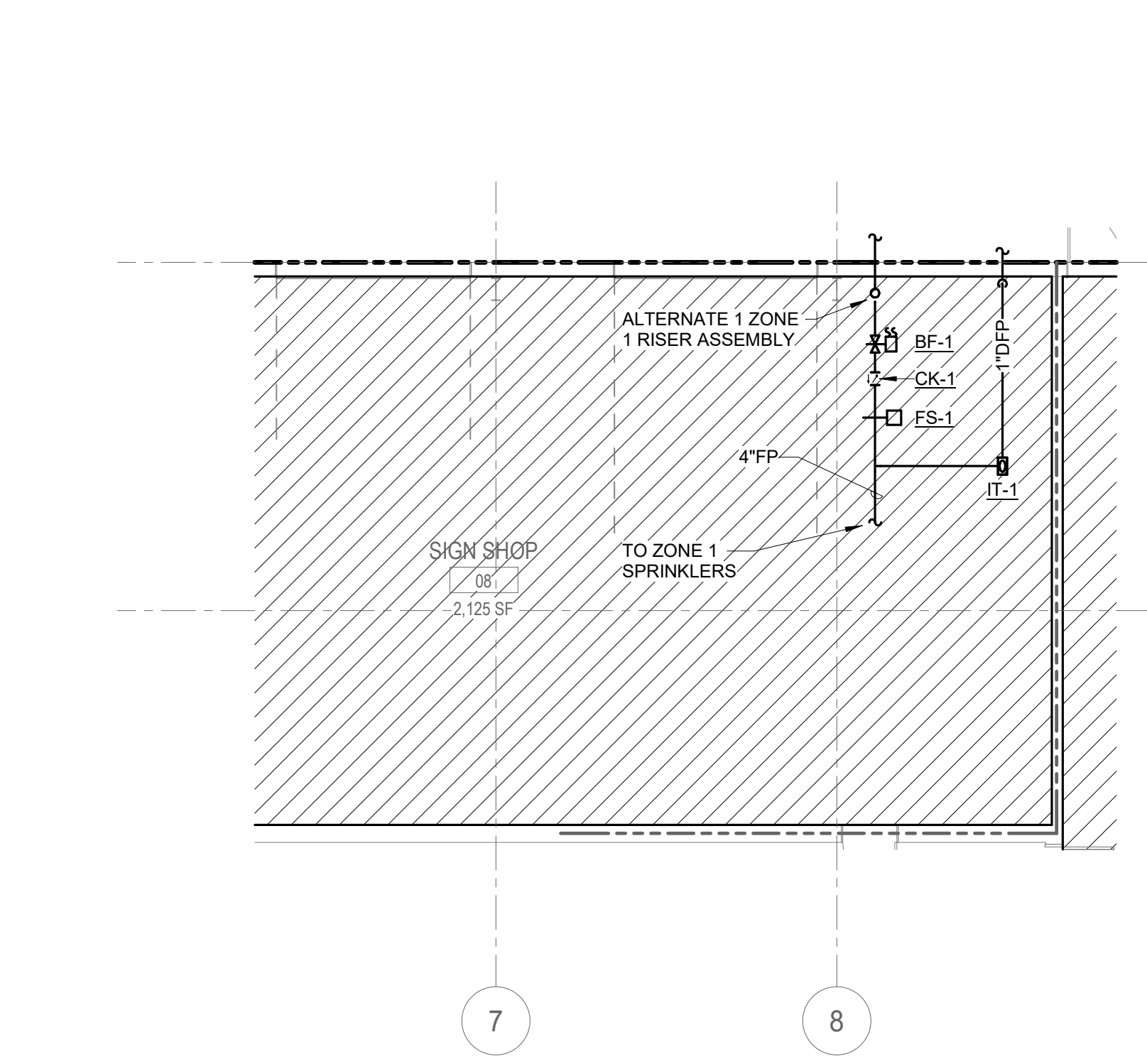
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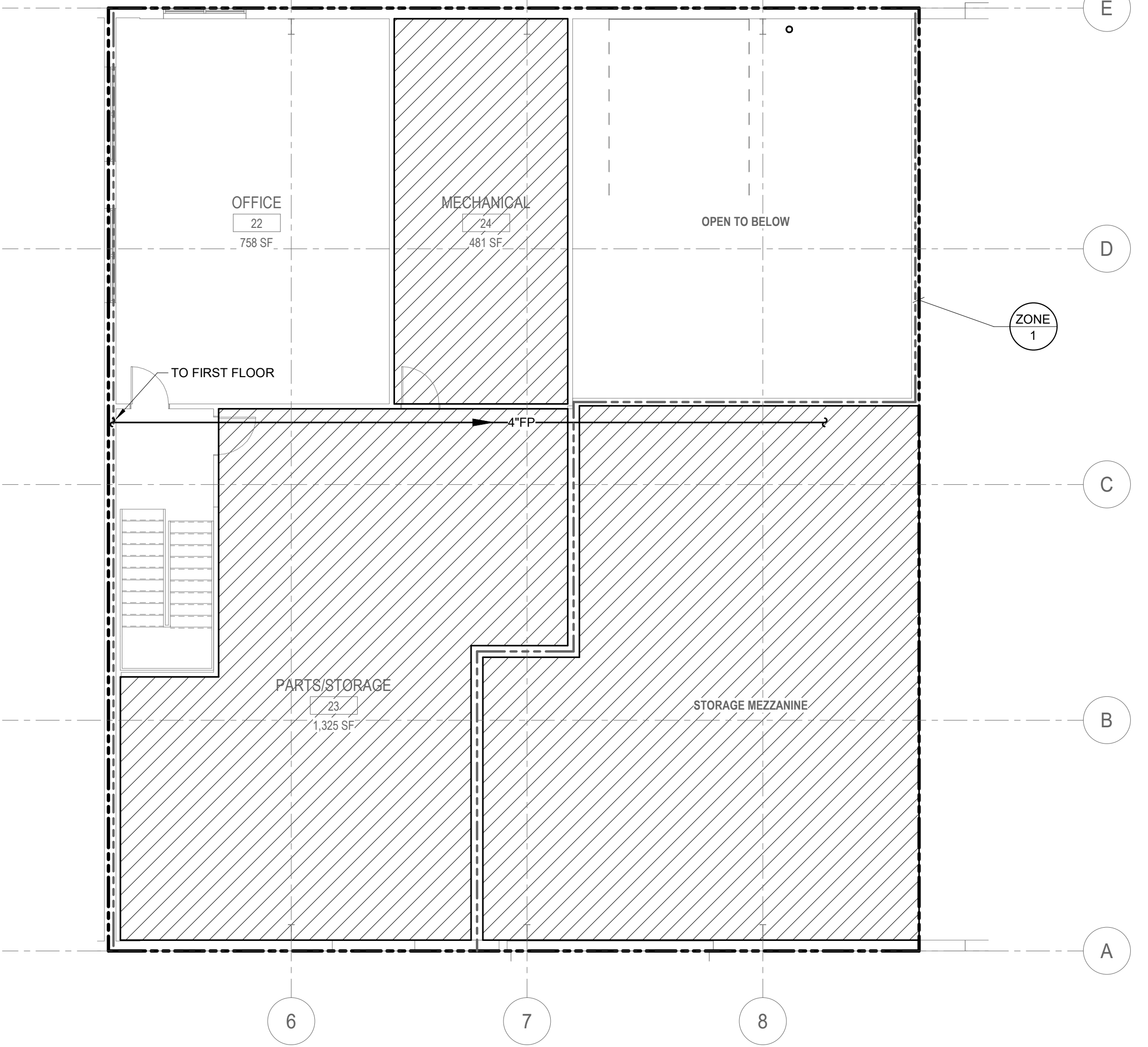
0 1 2 3
REF. SCALE IN INCHES PROJECT #24005350.00



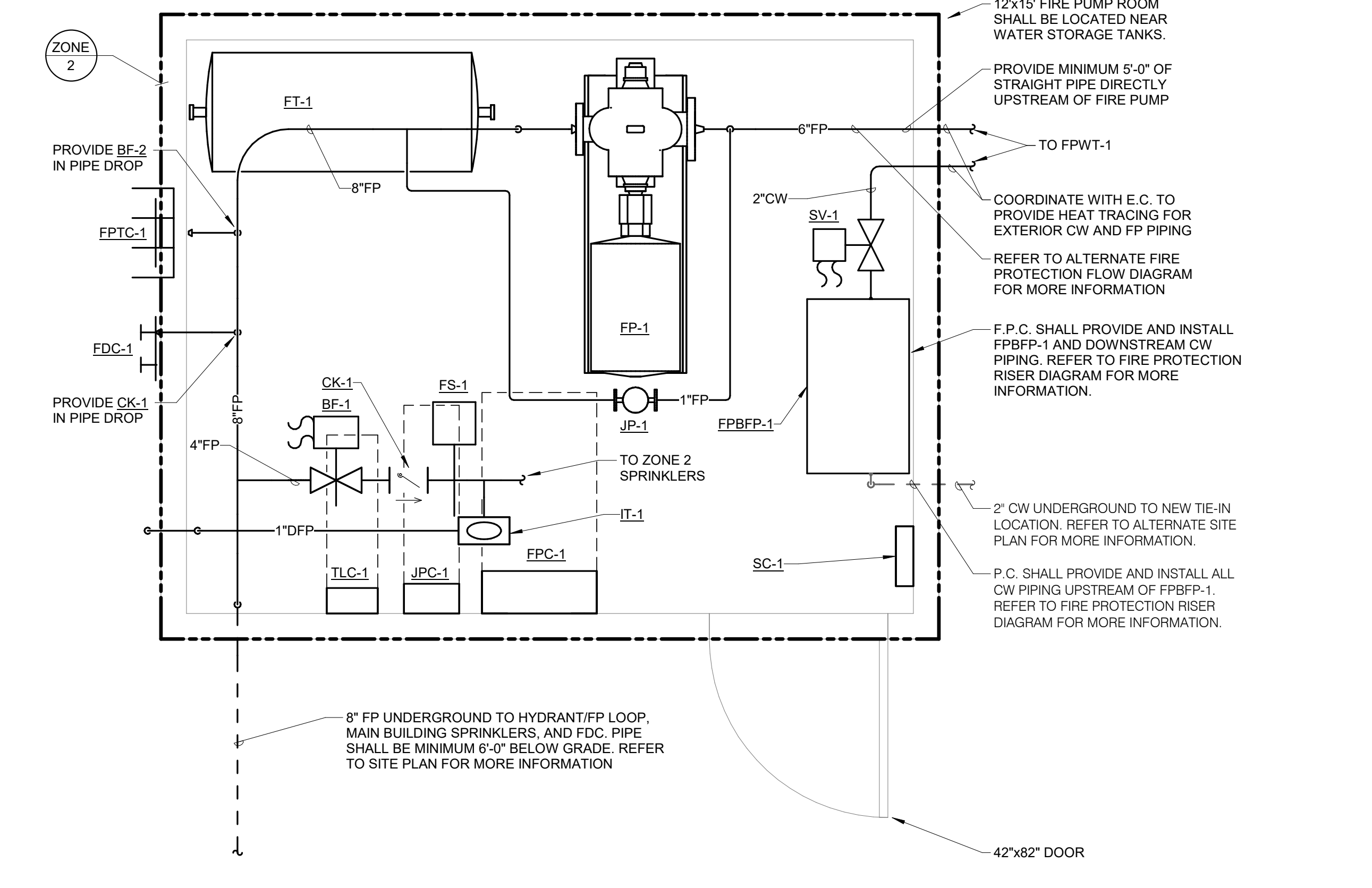
1 FIRST FLOOR PLAN - FIRE PROTECTION
1/8" = 1'-0"



2 FIRST FLOOR ENLARGED PLAN - FIRE PROTECTION - ALTERNATE 1
1/8" = 1'-0"



3 SECOND FLOOR PLAN - FIRE PROTECTION
1/8" = 1'-0"



4 PUMP HOUSE PLAN - FIRE PROTECTION - ALTERNATE 1
1/2" = 1'-0"

- KEYNOTES:**
- 2" CW FILL CONNECTION FROM WATER ENTRY AREA. REFER TO PLUMBING DRAWINGS FOR MORE INFORMATION.
 - FP PIPING SHALL NOT BE ROUTED OVER ANY IT CLOSET, ELECTRICAL ROOM, OR ELECTRICAL PANEL.
 - PROVIDE CORROSION RESISTANT SPRINKLERS IN WASH BAY. REFER TO SPRINKLER USAGE SCHEDULE FOR MORE INFORMATION.
 - REFER TO FIRE PROTECTION RISER DIAGRAM FOR MORE INFORMATION REGARDING DFP TERMINATION.

- SHEET NOTES:**
- REFER TO 1/F400 FOR FLOOR/WALL PENETRATION - RATED FIRE BARRIER DETAIL.
 - REFER TO 2/F400 FOR WALL PENETRATION - NON-FIRE RATED DETAIL.
 - REFER TO 5/F400 FOR SPRINKLER HEAD MOUNTING DETAIL.

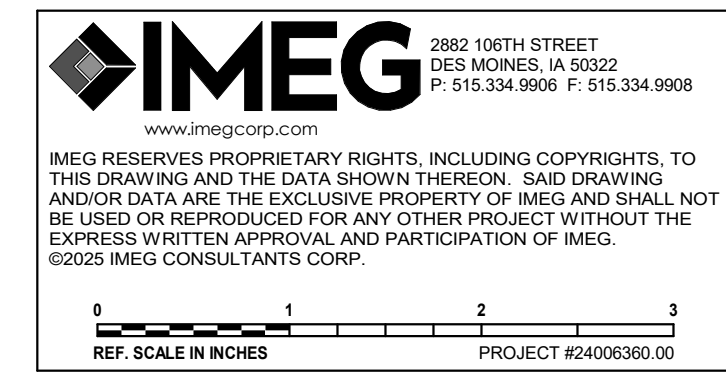


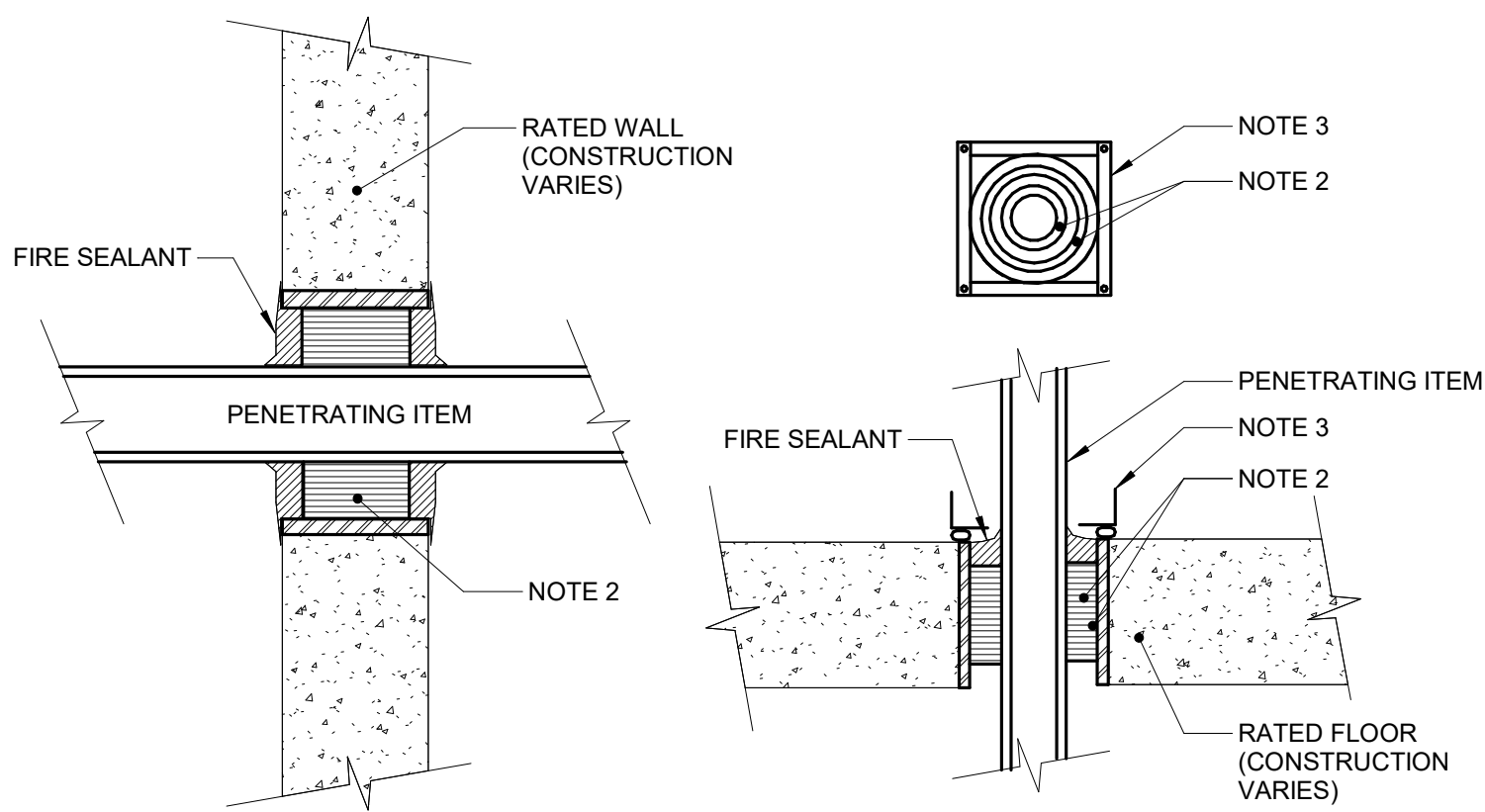
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Des Moines, Iowa 50309
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SECONDARY ROADS MAINTENANCE FACILITY - FIRE PROTECTION UPGRADES
11950 NEVADA ST.
INDIANOLA, IA 50125

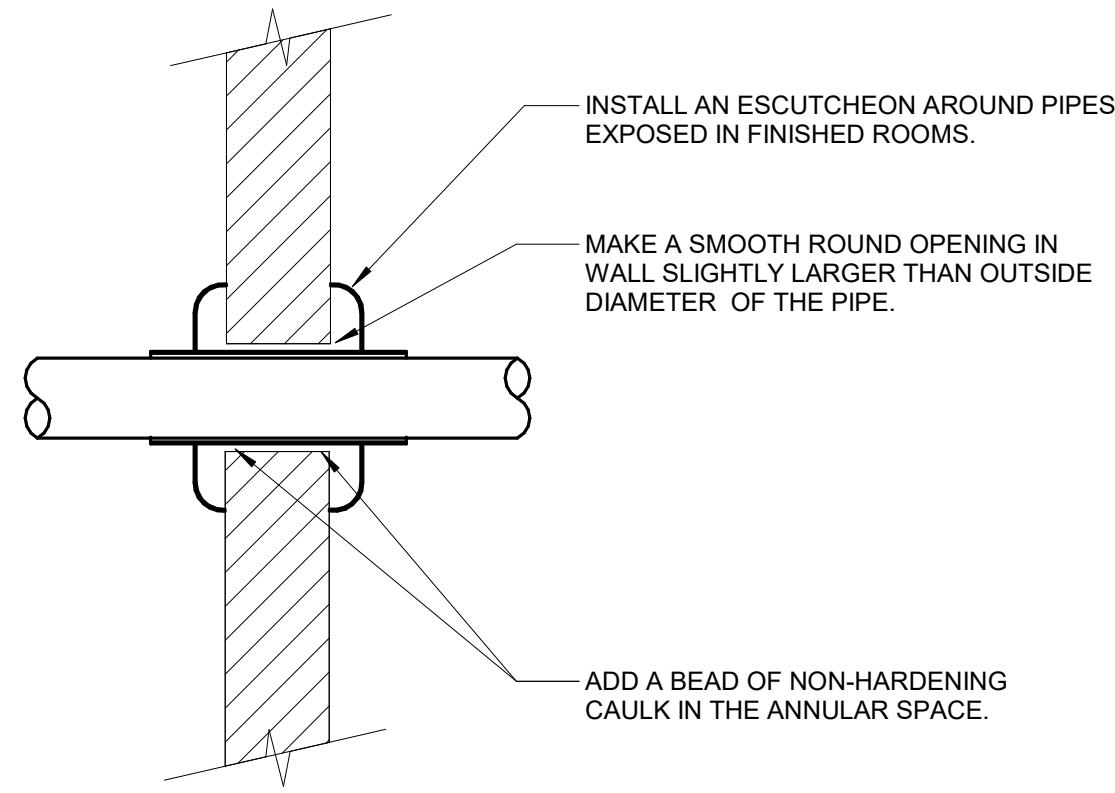
REVISIONS	
SHEET INFORMATION	
Issue	100% CD - REBID
Date	10/22/2025
Project #	24006360.00
Drawn	LUCHEI
Checked	DELLIE
Approved	DELLIE
SHEET TITLE	
FLOOR PLAN - FIRE PROTECTION	
SCALE	
Scale:	As indicated.
SHEET NUMBER	





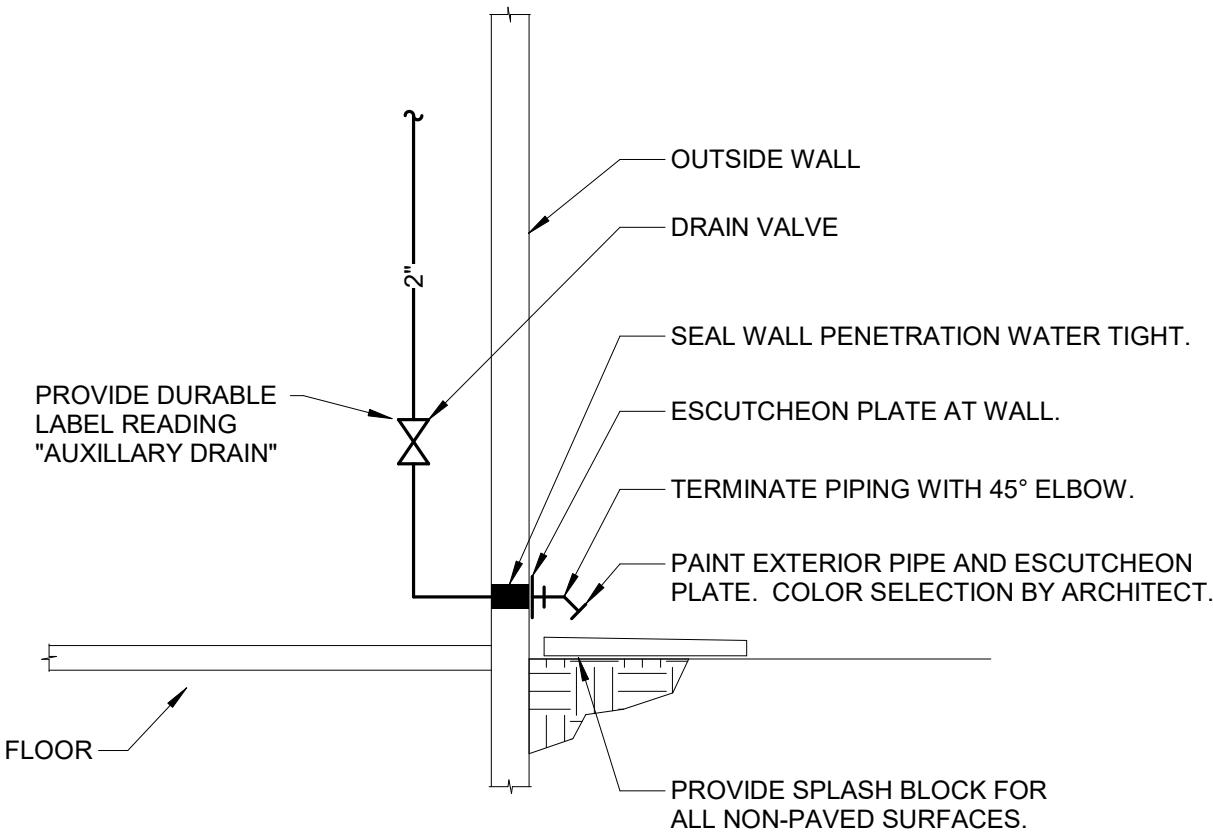
NOTES:

1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT. REFER TO SPECIFICATION SECTION 07840 FOR SELECTION OF THROUGH PENETRATION FIRE STOPPING.
2. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM WITHOUT MOVEMENT OF FIRE BARRIER.
3. WATERTIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP. PLACE A BEAD OF WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.



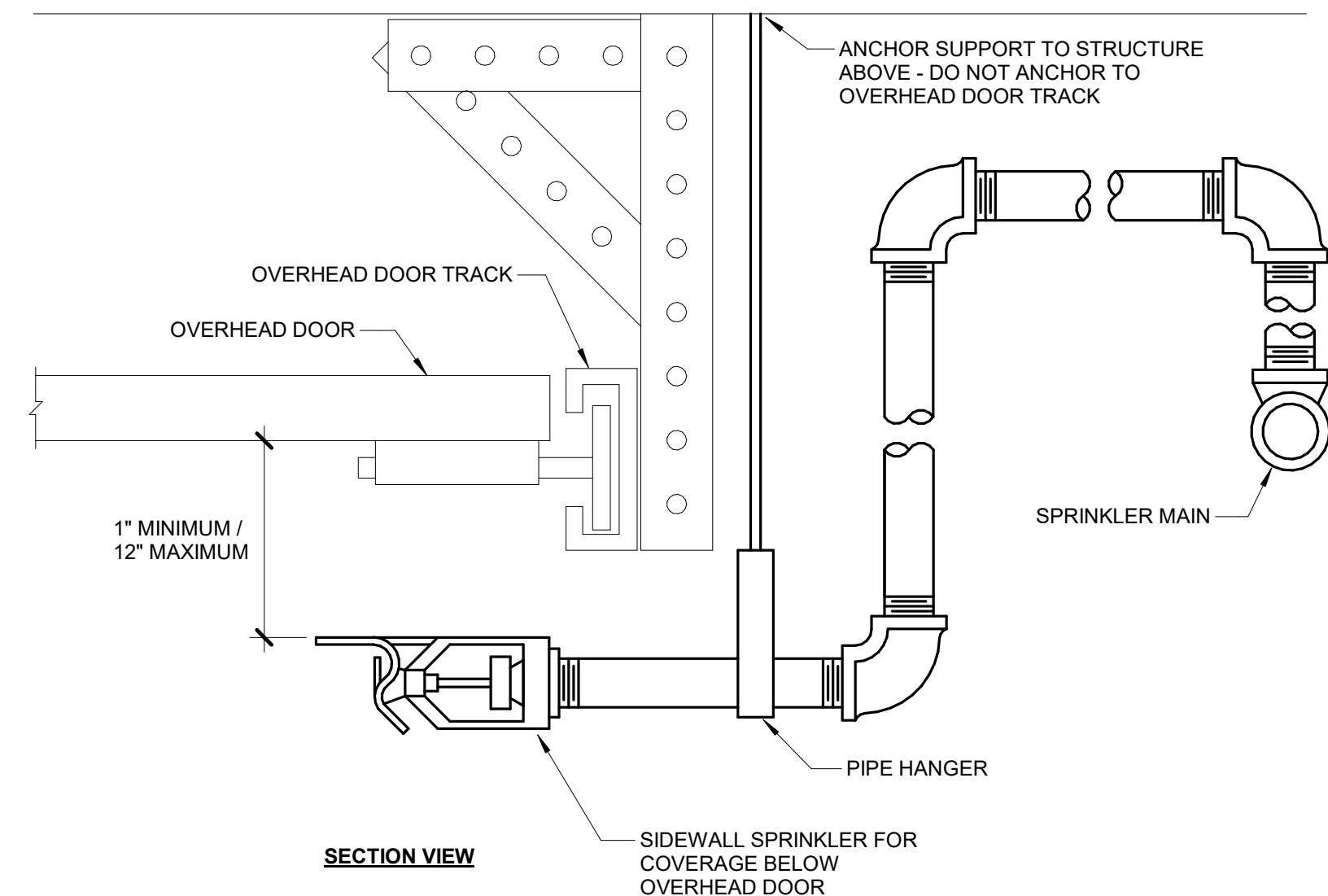
NOTES:

1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO SEAL AIRTIGHT AROUND PIPES FOR NOISE TRANSMISSION CONTROL.
2. SEE SPECIFICATION SECTION 21 05 29 FOR ADDITIONAL INFORMATION.
3. FLOOR OPENINGS ARE SIMILAR. SEE SPECIFICATION SECTION 21 05 29 FOR DIFFERENCES BETWEEN FLOOR AND WALL PENETRATIONS.



NOTES:

1. MOUNT DRAIN VALVE ALONG WALL IN AN ACCESSIBLE LOCATION.



NOTES:

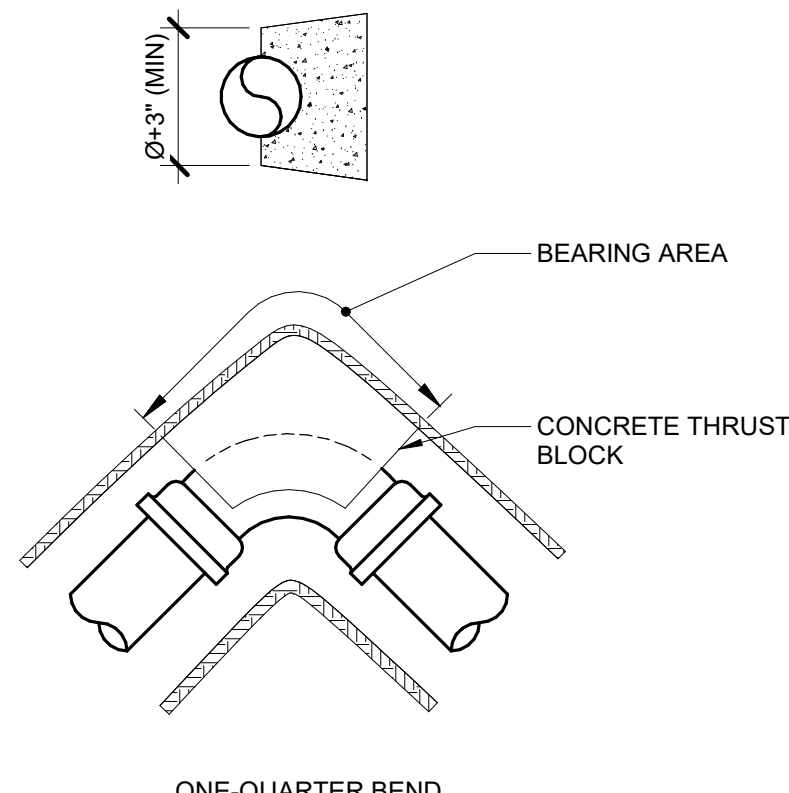
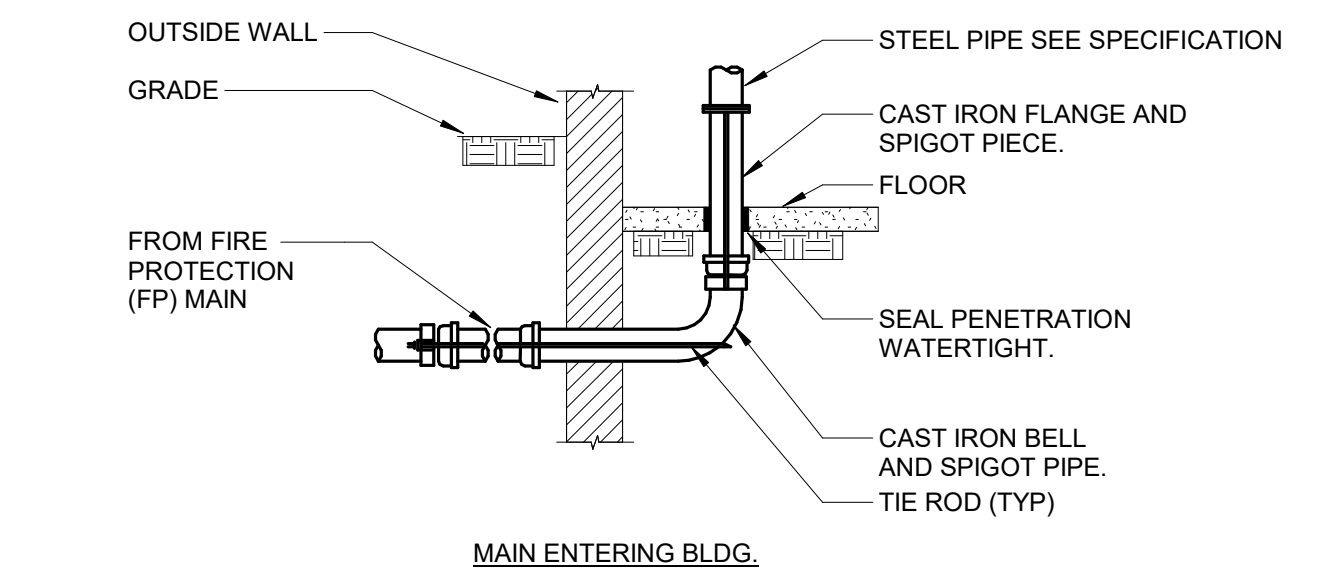
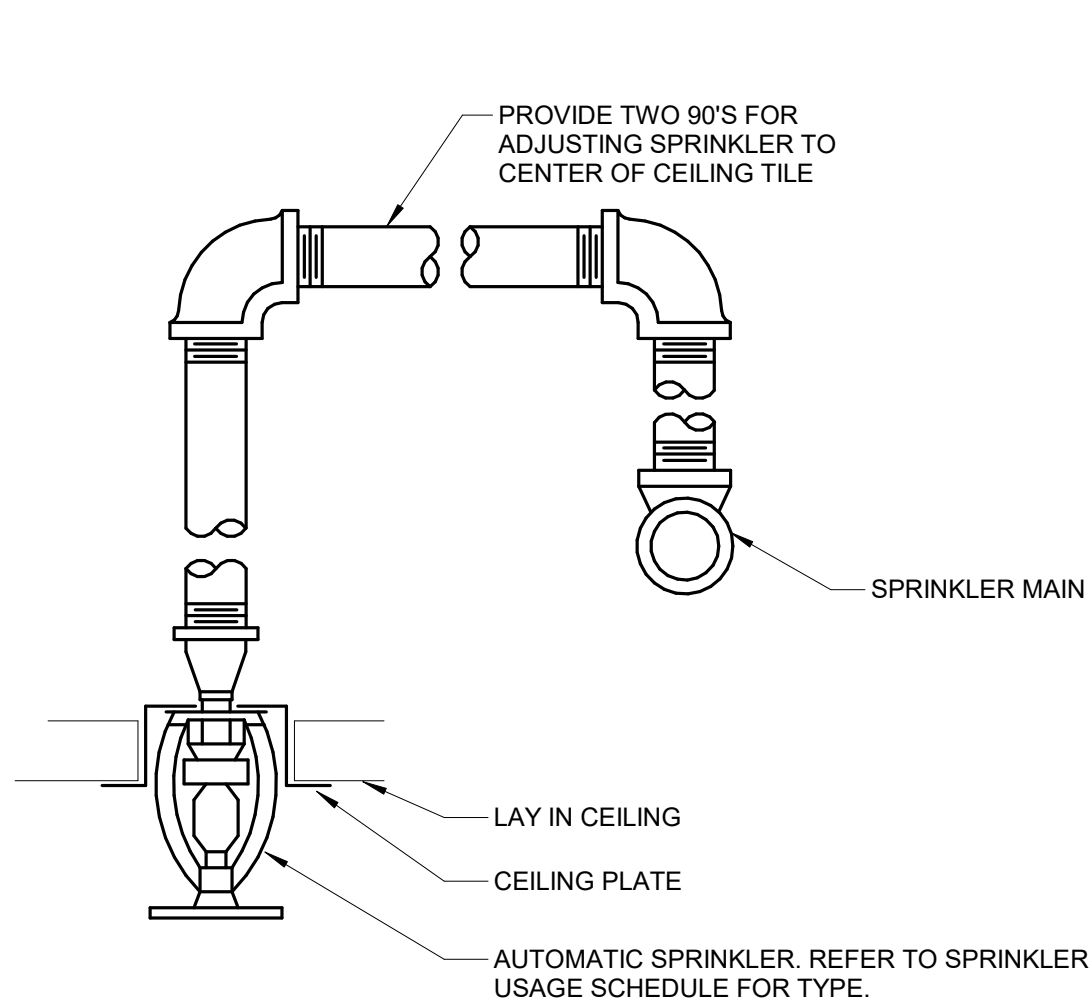
1. SPRINKLERS SHALL BE REQUIRED UNDER GARAGE DOORS THAT PROTRUDE 4\"/>

1 FLOOR/WALL PENETRATION - RATED FIRE BARRIER
NO SCALE

2 WALL PENETRATION - NON-FIRE RATED
NO SCALE

3 DRAIN TO EXTERIOR DETAIL
NO SCALE

4 SPRINKLER HEAD BELOW GARAGE DOOR
NO SCALE



ROD AND CLAMP ANCHORAGE												
PIPING NOMINAL SIZE (IN.)	CLAMP SIZE (IN.)	BOLT SIZE (IN.)	WASHER (IN.)	NUMBER OF RODS AND ROD SIZE(IN.) FOR ROD AND CLAMP ANCHORAGE								
				MECHANICAL JOINT				PUSH ON JOINT				
				CAST IRON	STEEL	90° 1/4 BEND	45° 1/8 BEND	TEE, HYDRANT CAP, PLUG	90° 1/4 BEND	45° 1/8 BEND	TEE, HYDRANT CAP, PLUG	
4	1/2x2	5/8	5/8x3	1/2x3		2	2	2	2	2	2	
6					3/4	3/4	3/4	3/4	3/4	3/4		
8	5/8x 2-1/2	7/8				2	2	2	2	2		
10					3/4	3/4	3/4	3/4	3/4	3/4		
					6	4	4	4	4	4		
					3/4	3/4	3/4	7/8	7/8	7/8		
12	5/8x3	1	3/4x 3-1/2	1/2x 3-1/2		8	6	6	4	4	4	
					3/4	3/4	3/4	1	1	1	1	

NOTES:

1. AFTER INSTALLATION, PROTECT TIE RODS, BOLTS, NUTS, WASHERS AND CLAMPS AGAINST CORROSION WITH A HEAVY COAT OF ASPHALT MATERIAL.
2. THE LENGTH OF THE ROD REQUIRED WILL VARY WITH THE PIPE FITTING, AND MUST BE DETERMINED BY FIELD MEASUREMENT. IF THE DISTANCE BETWEEN THE JOINTS IS LESS THAN 12 FEET, EXTEND THE ANCHORAGE TO THE SECOND BELL.

NOTES:

1. BOTH THRUST BLOCKING AND ANCHOR RODS ARE REQUIRED. REFER TO THE GOVERNING CODE AND NFPA 24 FOR ADDITIONAL REQUIREMENTS.

PIPING NOMINAL SIZE (IN.)	AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS			
	MIN. SQ. FT.			
	1/4 BEND	1/8 BEND	TEES, PLUGS, CAPS, HYDRANTS	
4	3	2	3	
6	7	4	5	
8	11	6	8	
10	17	9	12	
12	24	13	17	

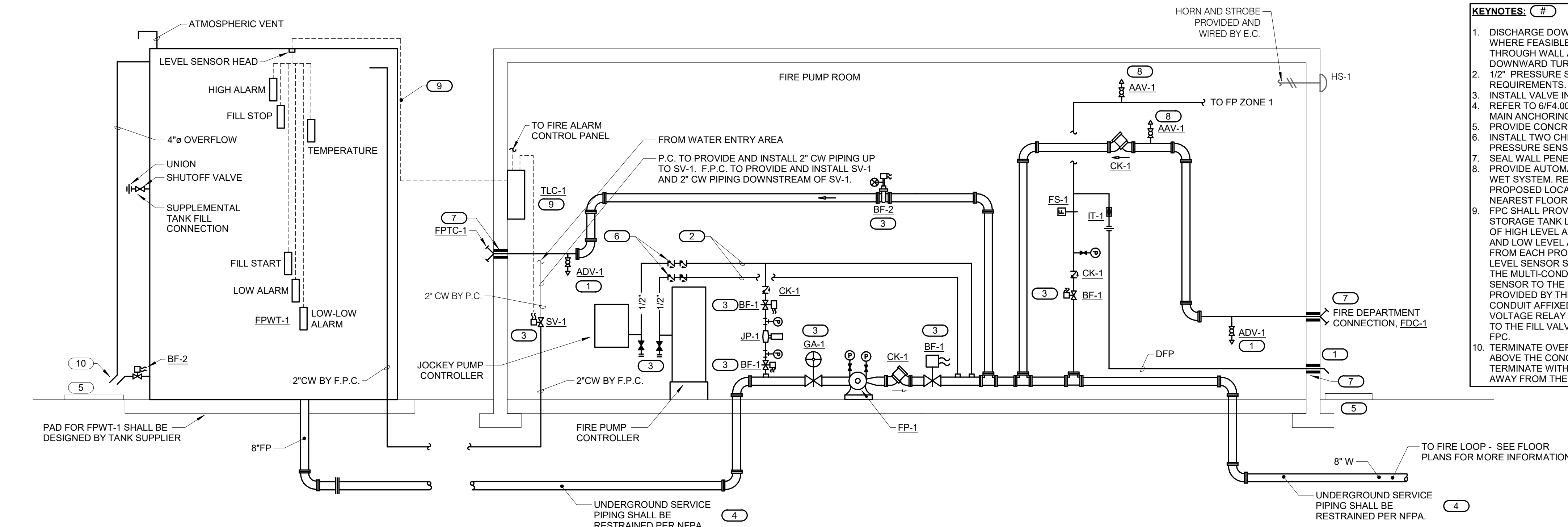
BASIS: 2,000 LB./SQ.FT. SOIL RESISTANCE.
250 PSI WATER PRESSURE.
CORRECTION FACTORS FOR OTHER SOILS:
SOFT CLAY.....0.4
SAND.....0.2
SAND&GRAVEL.....1.33
SHALE.....0.4

5 SPRINKLER HEAD MOUNTING
NO SCALE

6 UNDERGROUND WATER MAIN ANCHORING
NO SCALE

1 FIRE PROTECTION RISER DIAGRAM

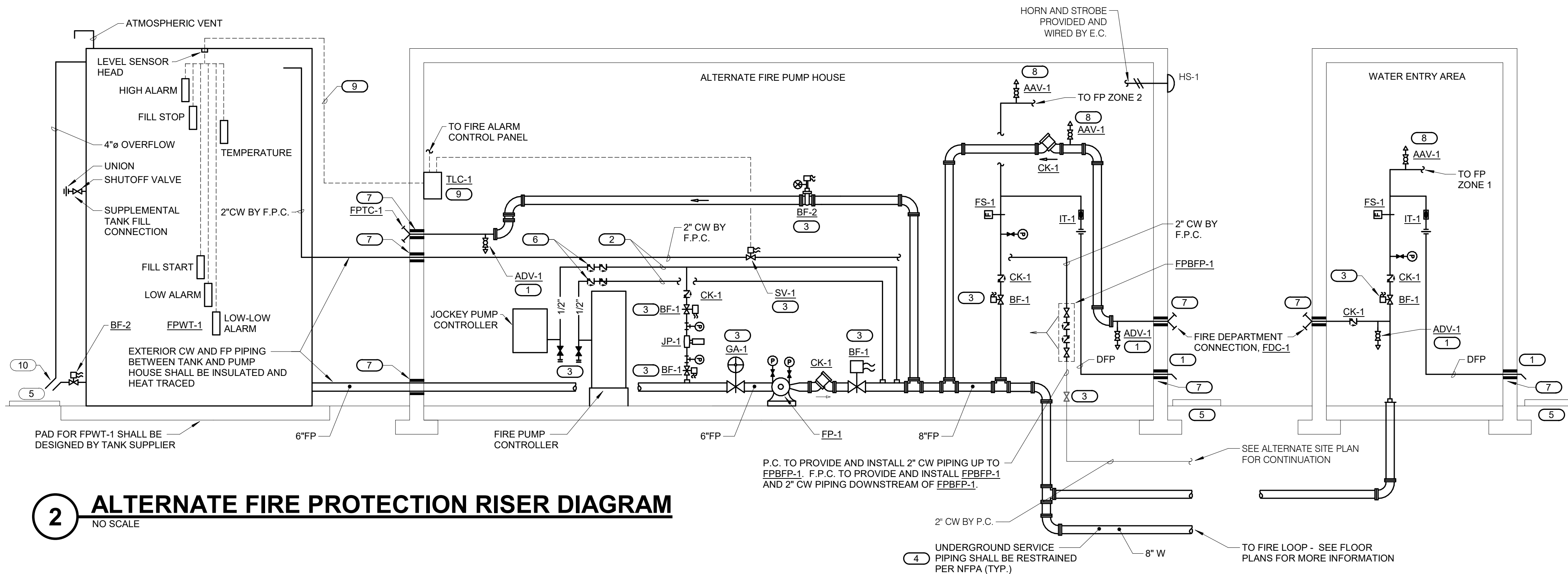
NO SCALE



- KEYNOTES: (#)**
1. DISCHARGE DOWN OVER NEAREST FLOOR SINK WHERE FEASIBLE. OTHERWISE, DISCHARGE THROUGH WALL AND TERMINATE WITH DOWNWARD TURNED 45° ELBOW.
 2. 1/2" PRESSURE SENSING PIPE. INSTALL PER NFPA REQUIREMENTS.
 3. INSTALL VALVE IN ACCESSIBLE LOCATION.
 4. REFER TO 6/F4.00 FOR UNDERGROUND WATER MAIN ANCHORING DETAIL.
 5. PROVIDE CONCRETE SPLASHBLOCK AT GRADE.
 6. INSTALL TWO CHECK VALVES PER NFPA IN EACH PRESSURE SENSING PIPE.
 7. SEAL WALL PENETRATION WATERTIGHT (TYPICAL).
 8. PROVIDE AUTOMATIC AIR VENT AT HIGH POINT OF WET SYSTEM. REFERENCE FLOOR PLANS FOR PROPOSED LOCATION. ROUTE DRAIN TO NEAREST FLOOR DRAIN.
 9. FPC SHALL PROVIDE A FIRE PROTECTION WATER STORAGE TANK LEVEL CONTROLLER CONSISTING OF HIGH LEVEL ALARM, FILL STOP, FILL START, AND LOW LEVEL ALARM. ALL SENSOR WIRING FROM EACH PROBE TO THE MULTI-CONDUCTOR LEVEL SENSOR SHALL BE PROVIDED BY THE FPC. THE MULTI-CONDUCTOR SENSOR WIRE FROM THE SENSOR TO THE CONTROLLER SHALL BE PROVIDED BY THE FPC AND INSTALLED IN CONDUIT AFFIXED TO THE STORAGE TANK. LINE VOLTAGE RELAY WIRING FROM THE CONTROLLER TO THE FILL VALVE SHALL BE PROVIDED BY THE FPC.
 10. TERMINATE OVERFLOW PIPE MAXIMUM 1'-0" ABOVE THE CONCRETE SPLASHBLOCK. TERMINATE WITH 45 DEGREE BEND POINTED AWAY FROM THE TANK.

2 ALTERNATE FIRE PROTECTION RISER DIAGRAM

NO SCALE



- KEYNOTES: (#)**
1. DISCHARGE DOWN OVER NEAREST FLOOR SINK WHERE FEASIBLE. OTHERWISE, DISCHARGE THROUGH WALL AND TERMINATE WITH DOWNWARD TURNED 45° ELBOW.
 2. 1/2" PRESSURE SENSING PIPE. INSTALL PER NFPA REQUIREMENTS.
 3. INSTALL VALVE IN ACCESSIBLE LOCATION.
 4. REFER TO 6/F4.00 FOR UNDERGROUND WATER MAIN ANCHORING DETAIL.
 5. PROVIDE CONCRETE SPLASHBLOCK AT GRADE.
 6. INSTALL TWO CHECK VALVES PER NFPA IN EACH PRESSURE SENSING PIPE.
 7. SEAL WALL PENETRATION WATERTIGHT (TYPICAL).
 8. PROVIDE AUTOMATIC AIR VENT AT HIGH POINT OF WET SYSTEM. REFERENCE FLOOR PLANS FOR PROPOSED LOCATION. ROUTE DRAIN TO NEAREST FLOOR DRAIN.
 9. FPC SHALL PROVIDE A FIRE PROTECTION WATER STORAGE TANK LEVEL CONTROLLER CONSISTING OF HIGH LEVEL ALARM, FILL STOP, FILL START, AND LOW LEVEL ALARM. ALL SENSOR WIRING FROM EACH PROBE TO THE MULTI-CONDUCTOR LEVEL SENSOR SHALL BE PROVIDED BY THE FPC. THE MULTI-CONDUCTOR SENSOR WIRE FROM THE SENSOR TO THE CONTROLLER SHALL BE PROVIDED BY THE FPC AND INSTALLED IN CONDUIT AFFIXED TO THE STORAGE TANK. LINE VOLTAGE RELAY WIRING FROM THE CONTROLLER TO THE FILL VALVE SHALL BE PROVIDED BY THE FPC.
 10. TERMINATE OVERFLOW PIPE MAXIMUM 1'-0" ABOVE THE CONCRETE SPLASHBLOCK. TERMINATE WITH 45 DEGREE BEND POINTED AWAY FROM THE TANK.

FIRE PROTECTION (WITH POWER) MATERIAL LIST

FIRE PROTECTION (WITH POWER) MATERIAL LIST									
TAG NAME	DESCRIPTION	WATTS	VOLTAGE	PHASES	ELECTRICAL			EMERGENCY POWER	MANUFACTURER AND MODEL
					DISCONNECT	TYPE (NOTE B)			
FFC-1	FIRE PUMP CONTROLLER - REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION	0	120	1	MFR	NF	No		REFER TO SPECIFICATIONS
JPC-1	JOCKEY PUMP CONTROLLER - REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION	0	120	1	MFR	NF	No		REFER TO SPECIFICATIONS
SV-1	SOLENOID VALVE (WATER) - NORMALLY OPEN GENERAL SERVICE, BRASS BODY CONSTRUCTION, 2" NPT PIPE CONNECTIONS, SLOW CLOSING, TWO WAY FLT OPERATED, METAL SOLENOID ENCLOSURE, CONTINUOUS DUTY MOLDED CLASS F COIL, SUITABLE FOR USE WITH POTABLE WATER. PROVIDE STRAINER UPSTREAM OF SOLENOID VALVE.	16.1	120	1	MFR	NF	No		ASCO (8221) OR EQUAL
	MINIMUM OPERATING PRESSURE DIFFERENTIAL OF 5 PSI								
	ELECTRICAL REQUIREMENTS - 120 VAC, HARD-WIRED, 16.1 WATTS								
TLC-1	TANK LEVEL CONTROLLER - SIMPLEX FILL CONTROL WITH HIGH & LOW LEVEL ALARMS, DRY CONTACTS FOR FACP SIGNALING, LED INDICATORS, TEST BUTTON, AUDIBLE ALARM, NEMA 4X ENCLOSURE, PVC HEAT-SHRINK STAINLESS STEEL LEVEL PROBES. PROVIDE WITH THE FOLLOWING PROBES: -HIGH ALARM -FILL STOP -FILL START -LOW ALARM PROVIDE ALL PROBE EXTENSION KITS NECESSARY TO MATCH TANK DEPTH REQUIREMENTS. 5-YEAR LIMITED WARRANTY.	0	120	1	MFR	NF	No		WATERLINE CONTROLS (FPT-50T) OR EQUAL

FIRE SPRINKLER USAGE SCHEDULE

- NOTES:**
1. SEE FLOOR PLANS FOR ZONING REQUIREMENTS.
 2. SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.
 3. ALL SPRINKLERS SHALL BE UL LISTED.
 4. CONTRACTOR TO VERIFY SPRINKLER REQUIREMENTS BASED ON ACTUAL INSTALLATION, USAGE, ARCHITECTURAL CEILING PLAN AND NFPA 13 REQUIREMENTS.
 5. TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS. CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED.
 6. AREAS ARE GENERAL IN NATURE. CONTRACTOR TO MATCH UNSCHEDULED AREAS TO SIMILAR SPACES.
 7. SPRINKLERS SHALL HAVE A 3mm QUICK RESPONSE BULB.
 8. SPRINKLERS SPECIFIED WITHIN FIRE SPRINKLER USAGE SCHEDULE ARE STANDARD COVERAGE TYPE. EXTENDED COVERAGE SPRINKLERS ARE PERMITTED PROVIDED SPRINKLERS MEET THE REQUIREMENTS OF UL.

AREA TYPE (NOTE 1 & 6)	AREA HAZARD	TAG NAME (NOTE 4 & 5)	SPRINKLER		RESPONSE CATEGORY	FINISH	TEMPERATURE RATING	MANUFACTURER & MODEL	NOTES
			SPRINKLER TYPE	PENDANT					
AREAS WITH EXPOSED STRUCTURE	SEE PLANS	SPR-1	PENDANT	QUICK	ROUGH BRASS	PER NFPA	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 2, 3, 7, & 8	
AREAS WITH DROP CEILING	SEE PLANS	SPR-2	CONCEALED	QUICK	WHITE	PER NFPA	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 2, 3, 7, & 8	
AREA UNDER STAIRS, ELECTRICAL ROOM, AND UNDER OVERHEAD DOORS THAT EXTEND MORE THAN 4' WASH BAYS	SEE PLANS	SPR-3	SIDEWALL PENDANT	QUICK	ROUGH BRASS	PER NFPA	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 2, 3, 7, & 8	
		SPR-4	PENDANT	QUICK	CORROSION-RESISTANT	PER NFPA	VIKING, RELIABLE, TYCO, VICTAULIC	NOTES 2, 3, 7, & 8	

DIESEL FIRE PUMP SCHEDULE

- NOTES:**
1. MAXIMUM IN-RUSH CURRENT IS BASED ON THE SCHEDULED STARTER TYPE. PROVIDE THIS DATA WITH SUBMITTALS.
 2. SELECTED PUMP PRESSURE AT ZERO FLOW PLUS AVAILABLE STATIC PRESSURE SHALL NOT EXCEED 175 PSI.
 3. IF AN ALTERNATE MANUFACTURER IS USED, THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COST DUE TO LARGER OVERCURRENT PROTECTION DEVICES, WIRING, CONDUITS, ETC.
 4. MINIMUM PERFORMANCE SHALL MEET FLOW AND PRESSURE REQUIREMENTS DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS.

TAG NAME	SERVICE	RATED GPM	RATED PUMP PRESSURE (PSI)	MINIMUM OPERATING PERFORMANCE (NOTE 4)				INLET SIZE (IN)	OUTLET SIZE (IN)	IMPELLER SIZE (IN)	HP	RPM	COOLING TYPE	HEATER VOLTAGE	MUFFLER TYPE	EXHAUST CONNECTION	BATTERY TYPE	BATTERY VOLTAGE	CONTROLLER/ STARTER		PUMP MANUFACTURER	MODEL	DIESEL ENGINE MANUFACTURER	NOTES
				GPM	INLET PRESSURE (PSI)	DISCHARGE PRESSURE (PSI)	PUMP HEAD AT NO FLOW (PSI) (NOTE 2)												BY (NOTE A)	TYPE (NOTE C)				
FP-1	PRIVATE FIRE SERVICE	750	70	1125.0	5	54.86	73.71	6"	5"	12.61	86	1760	HEAT EXCHANGER	120V-1PH	4" RESIDENTIAL GRADE	NPT FLEX EXHAUST	NONE	NONE	MFR	FV	PEERLESS PUMP	SAEF14	CLARKE	

JOCKEY FIRE PUMP SCHEDULE

- NOTES:**
1. MAXIMUM IN-RUSH CURRENT IS BASED ON THE SCHEDULED STARTER TYPE. PROVIDE THIS DATA WITH SUBMITTALS.
 2. SELECTED PUMP PRESSURE AT ZERO FLOW PLUS AVAILABLE STATIC PRESSURE SHALL NOT EXCEED 175 PSI.
 3. IF AN ALTERNATE MANUFACTURER IS USED, THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COST DUE TO LARGER OVERCURRENT PROTECTION DEVICES, WIRING, CONDUITS, ETC.
 4. MINIMUM PERFORMANCE SHALL MEET FLOW AND PRESSURE REQUIREMENTS DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS.

MINIMUM OPERATING PERFORMANCE (NOTE 4)													ELECTRICAL										MEG RESERVES PROPRIETARY RIGHTS, INCLUDING COPYRIGHTS, IN THE DRAWING AND THE DATA SHOWN THEREON. S&B DRAWING AND/OR DATA ARE THE EXCLUSIVE PROPERTY OF MEG AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE EXPRESS WRITTEN APPROVAL AND PARTICIPATION OF MEG. ©2025 MEG CONSULTANTS CORP.									
TAG NAME		SERVICE	RATED GPM	RATED PUMP PRESSURE (PSI)	INLET DISCHARGE PUMP HEAD AT NO FLOW PRESSURE PRESSURE PRESSURE (PSI) (PSI) (PSI) (NOTE 2)				INLET SIZE (IN)	OUTLET SIZE (IN)	IMPELLER SIZE (IN)	HP	RPM	VOLTAGE	PHASES	DISCONNECT		CONTROLLER/ STARTER		PUMP MANUFACTURER	MODEL	NOTES										
					GPM	INLET PRESSURE (PSI)	DISCHARGE PRESSURE (PSI)	PUMP HEAD AT NO FLOW PRESSURE (PSI) (NOTE 2)								BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE C)				SCCR									
JP-1	PRIVATE FIRE SERVICE	10	80	10.0	2.3	85.3	95.13	1"	1"	3.66	1.2	3450	120	1	MFR	NF	MFR	FV	SCCR	5000	GRUNDFOS	G53-3	NOTES 1 & 3									

SCHEDULE GENERAL NOTES:

- A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:**
MFR = MANUFACTURER
EC = ELECTRICAL CONTRACTOR
MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR
MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR
TCC = TEMPERATURE CONTROL CONTRACTOR
- B. DISCONNECT TYPE:**
CB = CIRCUIT BREAKER
F = FUSED
NF = NON-FUSED
PLUG = PLUG AND CORD
- C. CONTROLLER STARTER TYPE:**
FV = FILL VOLTAGE
WYE = WYE-DELTA
SS = SOLID STATE (SOFT START)
MS = MANUAL STARTER
VFD = VARIABLE FREQUENCY DRIVE
VFD/B = VARIABLE FREQUENCY DRIVE WITH BYPASS
YD = WYE - DELTA
ECM = ELECTRONICALLY COMMUTATED MOTOR
- D. FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VALUE, WITH THE SCHEDULED WHEEL TYPE. SUBSTITUTION OF BI OR BIA FANS FOR FC IS ACCEPTABLE IF EFFICIENCY IS NOT LOWER.**
- E. NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAME PLATE RATING.**
- F. MUST BE WITHIN +/- 10% OF SCHEDULED RPM.**
- G. CURB TYPE:**
MFR = STANDARD CURB BY MANUFACTURER
SG = BY GENERAL CONTRACTOR
SC = SOUND ATTENUATOR CURB

FIRE PROTECTION MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
AAV-1	AUTOMATIC AIR VENT, 175 PSI, CAST IRON BODY, STAINLESS STEEL ORIFICE, LINKAGE, AND FLOAT, CAST IRON VALVE COVER WITH GASKET, THREADED NPT INLET AND OUTLET, 1/2 BALL VALVE AND 1/2" STRAINER, UL/FM.	METRALEX MWC-1, POTTER PAV, AGF-M780AAV
ADV-1	AUTOMATIC DRIP VALVE, FOR USE ON INLET SIDE OF FDC OR PUMPER CONNECTION, 175 PSI, BRASS OR BRONZE BODY, STAINLESS STEEL OR BERYLLIUM COPPER SPRING AND RETAINING RING, MIN. CLOSING PRESSURE 7 PSI WITH INCREASING PRESSURE, MIN. OPENING PRESSURE 5 PSI WITH DECREASING PRESSURE, 1/2" NPT INLET AND 1/4" NPT DRAIN OUTLET, VALVE ORIENTATION SHALL BE INSTALLED ACCORDING TO MFR. RECOMMENDATIONS, UL/FM.	VIKING B-1, TYCO AD-2, RELIABLE MODEL C
BF-1	INDICATING BUTTERFLY VALVE, NORMALLY OPEN, 175 PSI WW/P, GROOVED TYPE, DUCTILE IRON BODY WITH PROTECTIVE COATING, ELECTROLESS NICKEL OR EPDM COATED DUCTILE IRON DISC, STAINLESS STEEL STEM AND SCREWS, CAST OR DUCTILE IRON HANDWHEEL, EPDM SEAT, INDICATOR FLAG, FACTORY MOUNTED INTEGRAL MONITOR SWITCHES, UL/FM.	NIBCO GD-4765-8N, VICTAULIC SERIES 705, TYCO BFFV-300, KENNEDY G300, GLOBE GLR300G, REL-BFG-300
BF-2	INDICATING BUTTERFLY VALVE, NORMALLY OPEN, 300 PSI WW/P, GROOVED TYPE, DUCTILE IRON BODY WITH PROTECTIVE COATING, ELECTROLESS NICKEL OR EPDM COATED DUCTILE IRON DISC, STAINLESS STEEL STEM AND SCREWS, CAST OR DUCTILE IRON HANDWHEEL, EPDM SEAT, INDICATOR FLAG, FACTORY MOUNTED INTEGRAL MONITOR SWITCHES, UL/FM.	NIBCO GD-4865-8N, VICTAULIC SERIES 765, TYCO BFFV-300, KENNEDY G300, GLOBE GLR300G, REL-BFG-300
CK-1	FLUSH CHECK VALVE, 300 PSI WW/P, GROOVED/FLANGED TYPE, DUCTILE IRON BODY, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE, RING, ACCESS COVER, 1/2" OR 3/4" TAPPED BOSSES, VALVE LISTED FOR HORIZONTAL OR VERTICAL INSTALLATION, UL/FM.	VIKING G-1, TYCO CV-1F
FDC-1	FLUSH TWO WAY FIRE DEPT. INLET CONNECTION, CAST BRASS BODY WITH POLISHED BRASS FINISH, 4" OR 6" OUTLET WITH TWO 2-1/2" INLETS AND DROP CLAPPERS, DOUBLE FEMALE SNOTS WITH RIGID END N.P.T. X PIN LUG HOSE THREAD SWIVELS, PLUGS AND CHAINS, WALL PLATE WITH SAME FINISH AS BODY LABELED "AUTO SPRK", UL.	FDC: POTTER ROEMER 5020 SERIES, ELKHART BRASS MODEL 166, CROKER SERIES 6010/6020, GUARDIAN SERIES 6020
FH-1	FIRE HYDRANT - POST DRY BARREL TYPE, 350 PSIG MAXIMUM WORKING PRESSURE, 700 PSIG STATIC TEST PRESSURE, DRY TOP DESIGN WITH O-RING SEALED OIL RESERVOIR, COMPRESSION-TYPE MAIN VALVE WITH POSITIVE SEAL, CLOSE, FIELD REPLACABLE HOSE AND PUMPER NOZZLES WITH FULL FLOW OPENINGS WITH LOW FRICTION LOSS.	LOCKING CAP: KNOX COMPANY 3041
FPBFP-1	REDUCED PRESSURE ZONE BACK FLOW PREVENTER - LISTED FOR USE IN FIRE PROTECTION SYSTEM, 175 PSI WW/P AT 33°F TO 140°F, STAINLESS STEEL CONSTRUCTION, SIZE SAME AS PIPE 2" LEAD FREE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE, BETWEEN SPRING-LOADED CHECK VALVES, GATE STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBOCI LISTED.	MUELLER (SUPER CENTURION) OR EQUAL
FPTC-1	FLUSH FOUR WAY FIRE PUMP TEST OUTLET CONNECTION, SQUARE ORIENTATION, CAST BRASS OR DUCTILE IRON BODY WITH POLISHED BRASS FINISH, 6" INLET WITH FOUR 2-1/2" OUTLETS, BRASS NON RISING STEM HOSE VALVES, 3" FEMALE NPT INLET X 2-1/2" MALE HOSE THREAD OUTLETS, CAPS AND CHAINS, WALL PLATE WITH SAME FINISH AS BODY LABELED "PUMP TEST CONNECTION".	AMES C400, ZURN WILKINS 375AST, APOLLO RPL4A
FPWT-1	FIRE PROTECTION WATER STORAGE TANK - 4000 GALLON USABLE CAPACITY WITH 12" TOTAL FREEBOARD SPACE IN TOP OF TANK AND 6" AT BOTTOM OF TANK.	POTTER ROEMER 5064, CROKER, GUARDIAN SERIES
FS-1	FLOW SWITCH - VANE TYPE, 450 PSI, FLOW SENSITIVITY OF 4-10 GPM, TWO SINGLE POLE DOUBLE THROW SWITCHES, PNEUMATIC RETARD ADJUSTABLE FROM 0-80 SECONDS WITH AUTOMATIC RESET, NEMA 4 INDOOR/OUTDOOR RATED METAL HOUSING, UL/FM.	SEE SPEC. SECTION 21 41 23 FOR ADDITIONAL INFORMATION.
FT-1	FUEL TANK - 120 GALLON CAPACITY, DOUBLE WALL CONSTRUCTION, 28" DIAMETER X 61" LENGTH, H.R. CARBON STEEL, ATMOSPHERIC PRESSURE, UL 142 LISTED.	PATTERSON 120 GALLON DW OR EQUAL
GA-1	GATE VALVE, OUTSIDE STEM AND YOKE (OS&Y), RESILIENT WEDGE, MINIMUM 200 PSI WW/P, FLANGED OR GROOVED JOINTS, DUCTILE/CAST IRON BODY AND BONNET/YOKE WITH PROTECTIVE COATING, DUCTILE/CAST IRON HANDWHEEL, DUCTILE IRON ENCAPSULATED DISC, STAINLESS STEEL/BRONZE-BRASS STEM, STAINLESS STEEL BOLTS AND NUTS, ADJUSTABLE PACKING, COUNTERCLOCKWISE TO OPEN, UL/FM.	MUELLER R-2381, KENNEDY KS-RW, VICTAULIC 771, WATTS 408-RW, NIBCO F-607-RWS
IT-1	COMBINATION INSPECTOR'S TEST AND DRAIN VALVE, 300 PSI, INTEGRAL SIGHT GLASS, BALL VALVE PLATE INDICATING OFF-TEST-DRAIN POSITIONS, FURNISHED WITH TEST ORIFICE GIVING FLOW EQUIVALENT TO ONE SPRINKLER OF A TYPE HAVING THE SMALLEST ORIFICE INSTALLED ON THE SYSTEM, PRESSURE RELIEF VALVE, UL/FM.	AGF M1011A, RELIABLE MODEL TO, VICTAULIC TESTMASTER, GLOBE LTD W/ MODEL ARV PRV
SC-1	SPRINKLER CABINET - PROVIDE SPRINKLER HEAD STORAGE CABINET(S), SIZE AS REQUIRED FOR QUANTITY OF SPARE SPRINKLERS REQUIRED BY CODE AND SPRINKLER WRENCH(S), CABINET SHALL BE MINIMUM 22 GAUGE STEEL WITH RED ENAMEL OR POWDERCOAT FINISH.	RELIABLE (RHBI), VIKING, TYCO, VICTAULIC, RELIABLE

REFER TO NFPA 13 AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

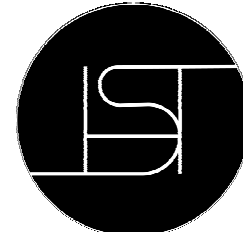


ENGINEER



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SECONDARY ROADS MAINTENANCE FACILITY - FIRE PROTECTION UPGRADES

11950 NEVADA ST.
INDIANOLA, IA 50125

REVISIONS

Revisions / Issues

Date

No.

SHEET INFORMATION

Issue: **100% CD - REBID**
Date: **10/22/2025**
Project #: **24006360.00**
Drawn: **LUCHIE**
Checked: **DELLIE**
Approved: **DELLIE**

SHEET TITLE
**FIRE PROTECTION
DETAILS, DIAGRAMS, &
SCHEDULES**

SCALE

Scale: **12" = 1'-0"**

SHEET NUMBER



2882 106TH STREET
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REF. SCALE IN INCHES

F4.01

NAME

LEVEL NAME

10'-0" →

HEIGHT ABOVE PROJECT 0'-0"

→

KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH

PLAN OR DETAIL NUMBER

PLAN OR DETAIL NAME

VIEW NAME

1/8" = 1'-0"

PLAN OR DETAIL SCALE

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

DETAIL REFERRED TO BY SECTION CUT

DETAIL REFERRED TO BY SECTION CUT

SHEET DETAIL IS LOCATED ON

M101

T101

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)
NEW
----- EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
--- NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)
EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
----- EXISTING
--- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
--- EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)
HALFTONING DOES NOT MODIFY SCOPE.
TAG-E TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING
TAG-I UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST
INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

FIRE / SMOKE BARRIER DESIGNATIONS

THE LINE TYPES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY RATINGS WITH THE LATEST SET OF ARCHITECTURAL PLANS AND FURNISH ALL MATERIALS REQUIRED TO COMPLY WITH THOSE RATINGS WHETHER SHOWN OR NOT.
ALL FLOOR, FLOOR CEILING, AND ROOF CEILING ASSEMBLIES SHALL BE DESIGNATED AS 1, 2, HOUR FIRE, BARRIER(S), UNLESS NOTED OTHERWISE ON THE PLANS. RATINGS WERE ACQUIRED FROM THE ARCHITECTURAL PLANS DATED 05/28/2025.

FIRE PARTITION

1 HOUR FIRE BARRIER

3 HOUR FIRE BARRIER OR WALL

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

BUILDING CODE: IBC 2015 EDITION

FIRE CODE: IFC 2015 EDITION

MECHANICAL CODE: IMC 2024

PLUMBING CODE: UPC 2024

ELECTRICAL CODE: NFPA 70 (NEC) 2023 EDITION

ENERGY CONSERVATION CODE: IECC 2012

LOCAL BUILDING CODE: CURRENT EDITION

CONTRACTOR ABBREVIATION KEY

ABBR:

DESCRIPTION:

C.C.

CIVIL CONTRACTOR

E.C.

ELECTRICAL CONTRACTOR

F.P.C.

FIRE PROTECTION CONTRACTOR

G.C.

GENERAL CONTRACTOR

M.C.

MECHANICAL CONTRACTOR

T.C.C.

TEMPERATURE CONTROLS CONTRACTOR

CONTACT PERSONS:

DESCRIPTION:

PERSON:

PROJECT MANAGER

DELLAN LLEWELLYN

MECHANICAL

DELLAN LLEWELLYN

ELECTRICAL

CHRIS MARTING

HVAC SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:

DESCRIPTION:

CA

COMPRESSED AIR

DPP

DRAIN

G

NATURAL GAS

GV

GAS REGULATOR VENT

HWR

HEATING WATER RETURN

HWS

HEATING WATER SUPPLY

PIPE CAP

PIPE DOWN

PIPE UP OR UP/DOWN

PITCH PIPE IN DIRECTION

DIRECTION OF FLOW IN PIPE

DIELECTRIC CONNECTION

UNION/FLANGE

SHUTOFF VALVE NORMALLY OPEN

SHUTOFF VALVE NORMALLY CLOSED

THROTTLING VALVE

CONTROL VALVE (THREE-WAY)

CONTROL VALVE (TWO-WAY)

SOLENOID VALVE

CHECK VALVE

BACKFLOW PREVENTER

"WYE" - STRAINER

"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP

SEAL ALL WALL, FLOOR, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE

PRESSURE/TEMPERATURE TEST PLUG

REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB

METER

DIRECTION OF AIR FLOW

FLEXIBLE DUCT

MANUAL VOLUME DAMPER

RISE IN DIRECTION OF AIR FLOW

DROP IN DIRECTION OF AIR FLOW

DUCT CAP

DUCT DOWN

DUCT UP

SUPPLY/OUTSIDE AIR DUCT SECTION

RETURN AIR DUCT SECTION

EXHAUST/RELIEF AIR DUCT SECTION

AIR TERMINAL PROPERTIES SYMBOL
NECK SIZE/CFM

OPPOSED BLADE DAMPER (REFER TO SCHEDULE)

PARALLEL BLADE DAMPER (REFER TO SCHEDULE)

THERMOSTAT/SENSOR

HVAC ABBREVIATION KEY

ABBR:

DESCRIPTION:

AD

ACCESS DOOR

AFF

ABOVE FINISHED FLOOR

CO

CLEANOUT

DN

DOWN

N.C.

NORMALLY CLOSED

NIC

NOT IN CONTRACT

N.O.

NORMALLY OPEN

SCCR

SHORT CIRCUIT CURRENT RATING

TD

TRANSFER DUCT

TYP

TYPICAL

UON

UNLESS OTHERWISE NOTED

DUCT ABBREVIATION KEY

ABBR.

DESCRIPTION

EA

EXHAUST AIR

EE

ENGINE EXHAUST

OA

OUTSIDE AIR

RA

RETURN/RELIEF AIR

TA

TRANSFER AIR

HVAC SHEET INDEX

M0.00

MECHANICAL COVERSHEET

M2.00

FLOOR PLAN - HVAC

M2.02

FLOOR PLAN - PLUMBING

M4.00

MECHANICAL DETAILS

M4.01

MECHANICAL DETAILS, SCHEDULES, & DIAGRAMS

GRAND TOTAL: 5

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION AND HVAC.

1.

DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.

2.

CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.

3.

DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY GREATER NUMBER SHALL GOVERN.

4.

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.

5.

COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.

6.

REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.

7.

ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.

8.

EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.

9.

REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIOVISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.

10.

EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.

11.

IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.

12.

SEAL ALL WALL, FLOOR, AND ROOF PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.

13.

CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.

14.

WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.

15.

EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.

16.

DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.

17.

MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.

18.

MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING DUCTWORK, PIPING, ETC.

19.

PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT EXCEPT WHERE PAD EXTENSION WOULD INTERFERE WITH WORKING SPACE AT EQUIPMENT CONTROL PANELS AND ELECTRICAL PANELS.

20.

DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION AND HVAC.

1.

EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.

2.

NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.

3.

FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.

4.

EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH THEIR WORK.

5.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.

6.

WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

7.

OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.

8.

MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.

9.

DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

10.

PROPERLY RECLAIM AND DISPOSE OF ALL REFRIGERANT IN REMOVED EQUIPMENT/ REFRIGERANT PIPING. RECLAIMED REFRIGERANT SHALL HAVE DOCUMENTATION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ).

PIPING GENERAL NOTES:

1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.

2. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.

3. INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

VENTILATION GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.

2. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.

3. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.

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SECONDARY ROADS MAINTENANCE FACILITY - FIRE PROTECTION UPGRADES

11950 NEVADA ST.
INDIANOLA, IA 50125

REVISIONS

Project Name

Date

Rev.

Issue

SHEET INFORMATION

Issue

100% CD - REBID

Date

10/22/2025

Project #

24006360.00

Drawn

LUCHEI

Checked

DELLIE

Approved

DELLIE

SHEET TITLE

MECHANICAL COVERSHEET

SCALE

Scale:

As indicated.

SHEET NUMBER

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REF. SCALE IN INCHES

PROJECT #24006360.00

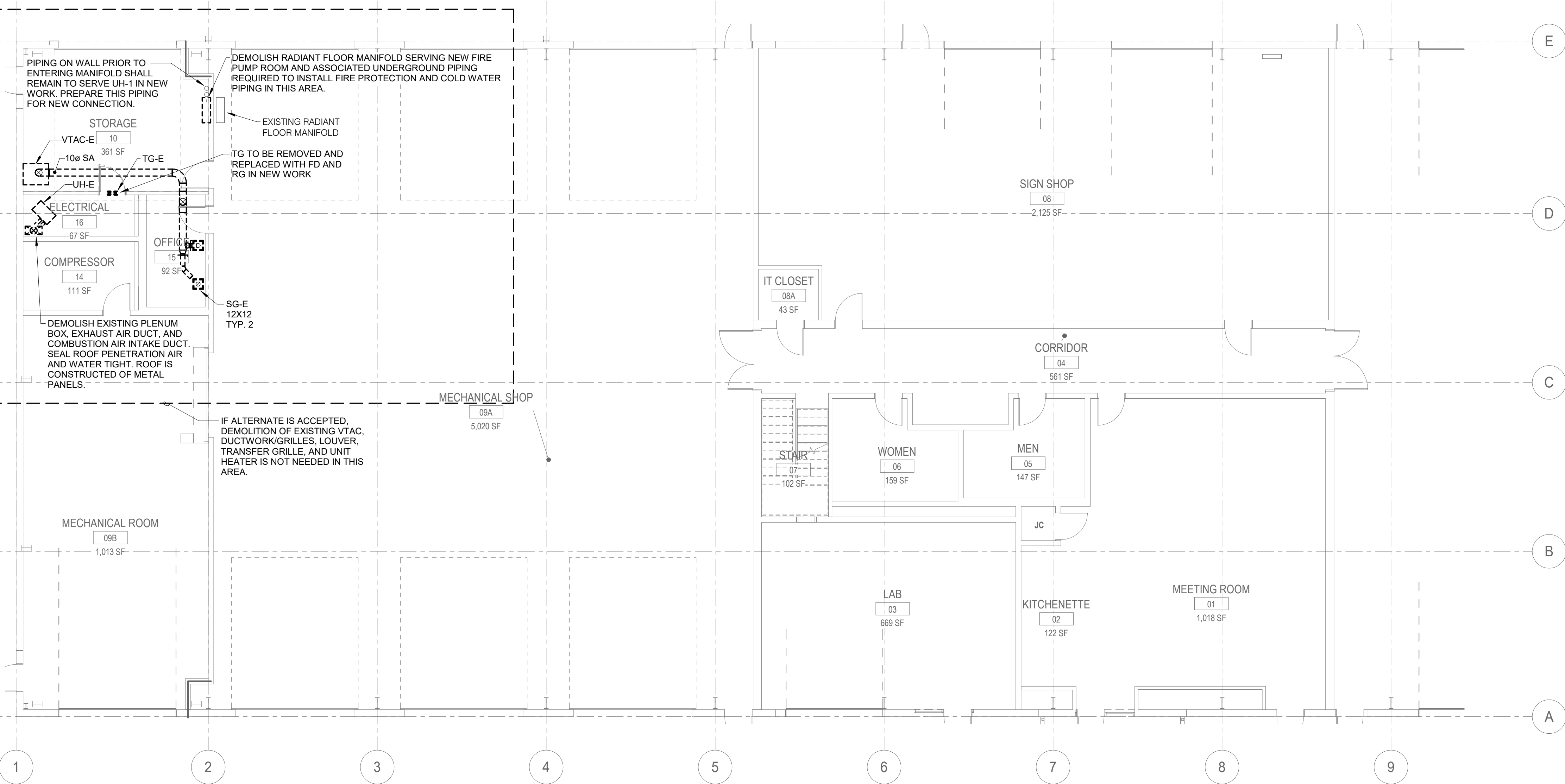
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24006360.00 10/16/2025 3:30:26 PM SECONDARY ROADS MAINTENANCE FACILITY - FIRE PROTECTION UPGRADES



1 FIRST FLOOR PLAN - HVAC

1/8" = 1'-0"



2 FIRST FLOOR DEMOLITION PLAN - HVAC

1/8" = 1'-0"

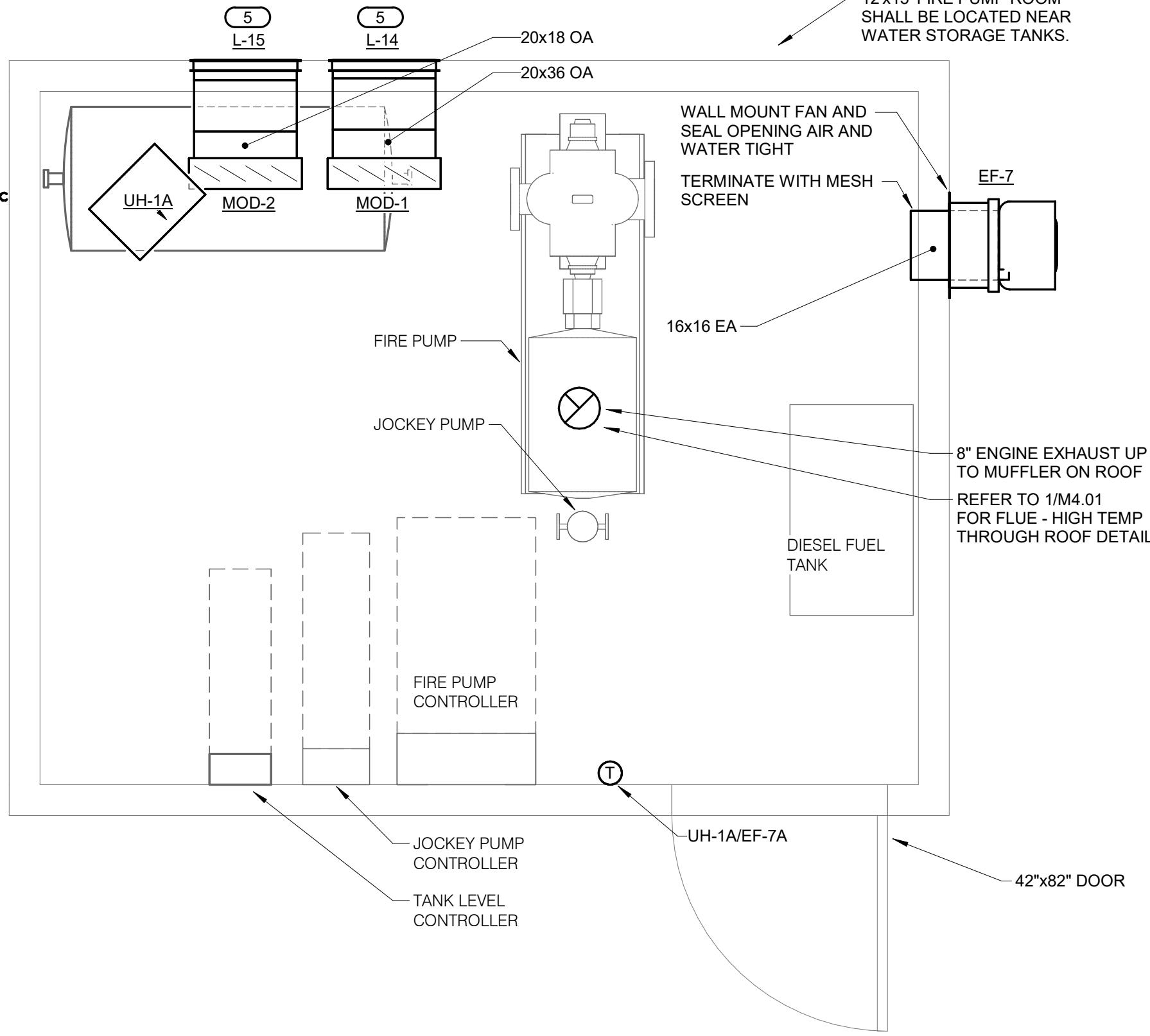


KEYNOTES: (#)

1. MOUNT UNIT HEATER AND LOUVER AT SAME ELEVATION (15' AFF). LOCATE UNIT HEATER IN LOCATION ABOVE ELECTRICAL ROOM.
2. WALL MOUNT SS-1 OUTDOOR UNIT AT ROUGHLY 3'-0" AFF.
3. TIE NEW UH HWSHWR PIPING INTO PIPING PREVIOUSLY SERVING RADIANT FLOOR MANIFOLD.
4. REUSE EXISTING OPENING FOR NEW RG AND FD. REFER TO 2/M4.01 FOR FIRE DAMPER - DYNAMIC CURTAIN - WALL GRILLE DETAIL.
5. REFER TO 5/M4.00 FOR LOUVER INSTALLATION DETAIL.
6. REFER TO 3/M4.01 FOR UNIT HEATER PIPING DETAIL.

SHEET NOTES:

1. REFER TO 1/M4.00 FOR DUCT - ELBOW CONSTRUCTION DETAIL.
2. REFER TO 2/M4.00 FOR DUCT - HANGERS WRAPPED DETAIL.
3. REFER TO 4/M4.00 FOR DUCT - TRANSVERSE REINFORCEMENT DETAIL.
4. REFER TO 9/M4.00 FOR DUCT - LONGITUDINAL SEAMS DETAIL.



3 PUMP HOUSE PLAN - HVAC - ALTERNATE 1

1/2" = 1'-0"



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REVISIONS

Rev. Date App. By

SHEET INFORMATION	
Issue	100% CD - REBID
Date	10/22/2025
Project #	24006360.00
Drawn	LUCHEI
Checked	DELLIE
Approved	DELLIE

SHEET TITLE
FLOOR PLAN - HVAC

Scale: As indicated.

SHEET NUMBER

M2.00



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VISIONS

SHEET TITLE

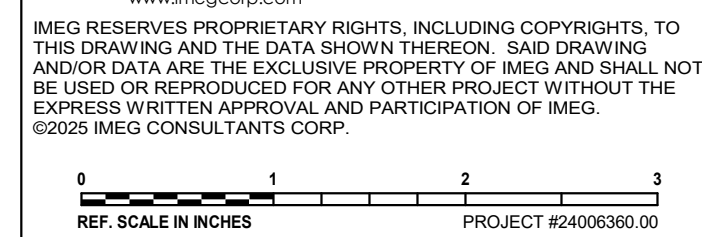
FLOOR PLAN - PLUMBING

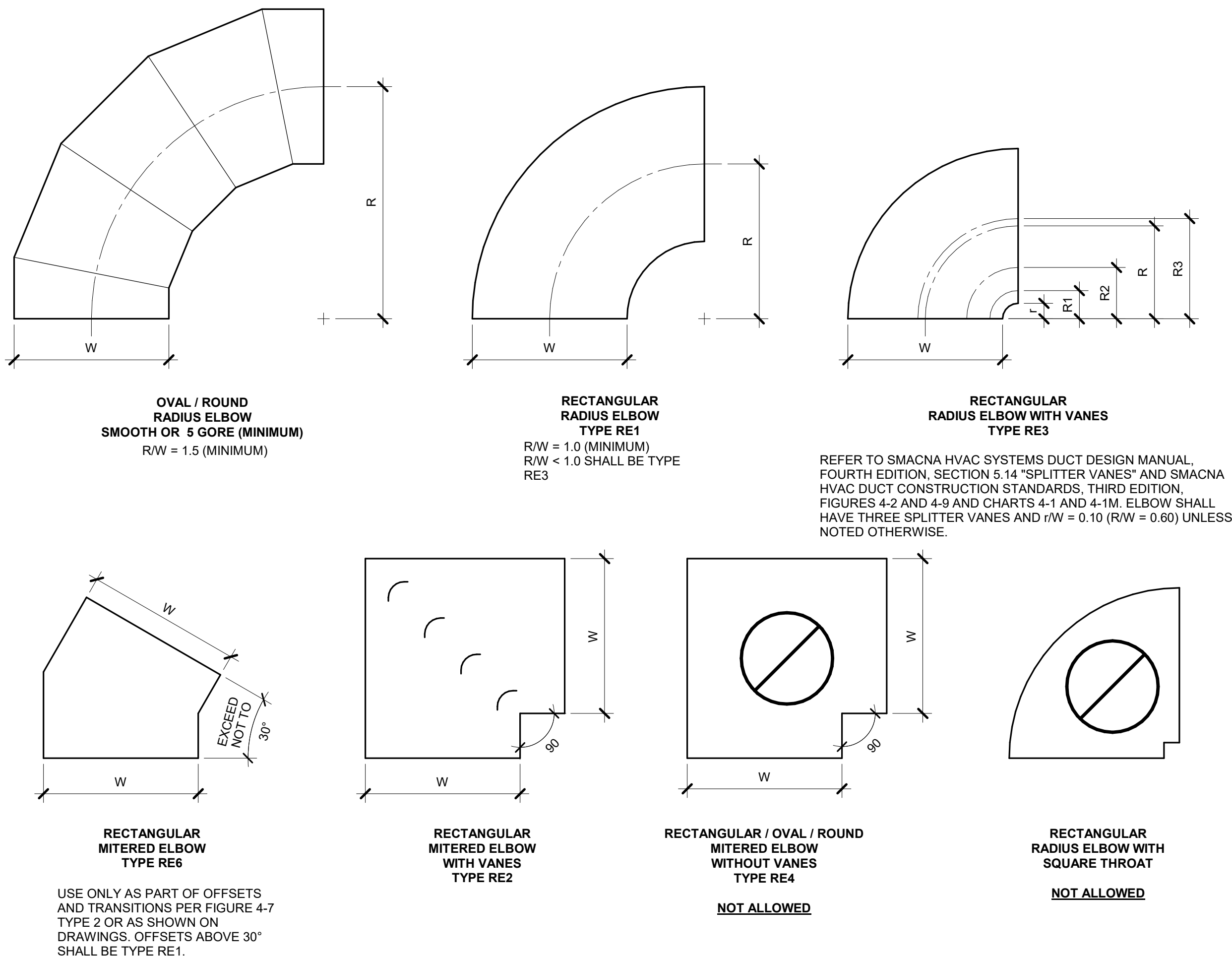
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Scale: _____ **As indicated**

SHEET NUMBER

M2.02

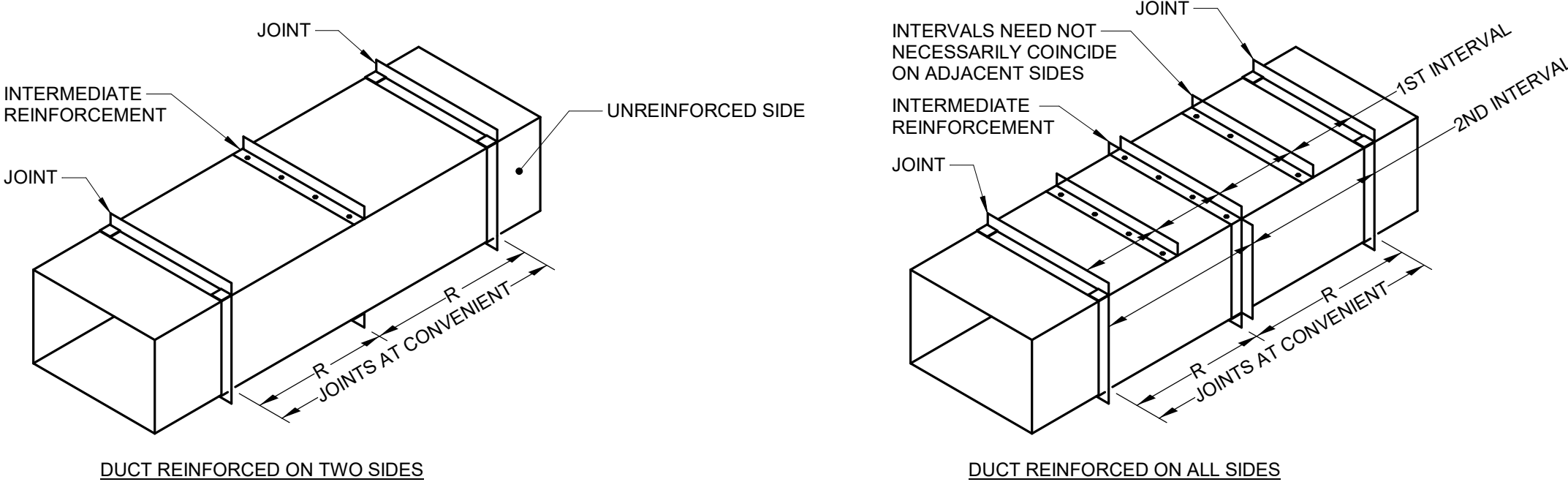




NOTES:

1. BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES IN STRAIGHT DUCT.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. DEFAULT ELBOW SHALL BE TYPE "RE1".
4. ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.

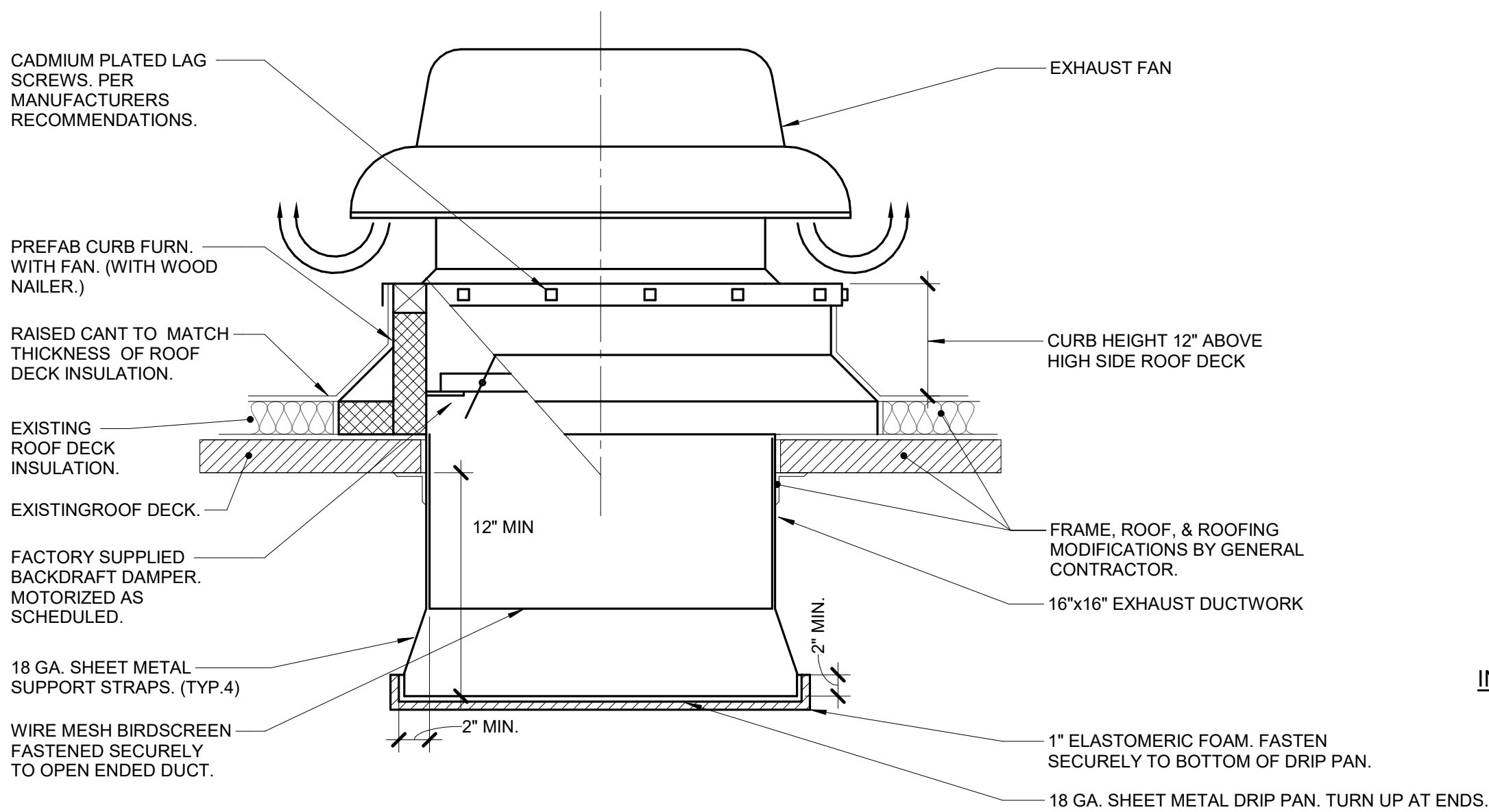
1 DUCT - ELBOW CONSTRUCTION
NO SCALE



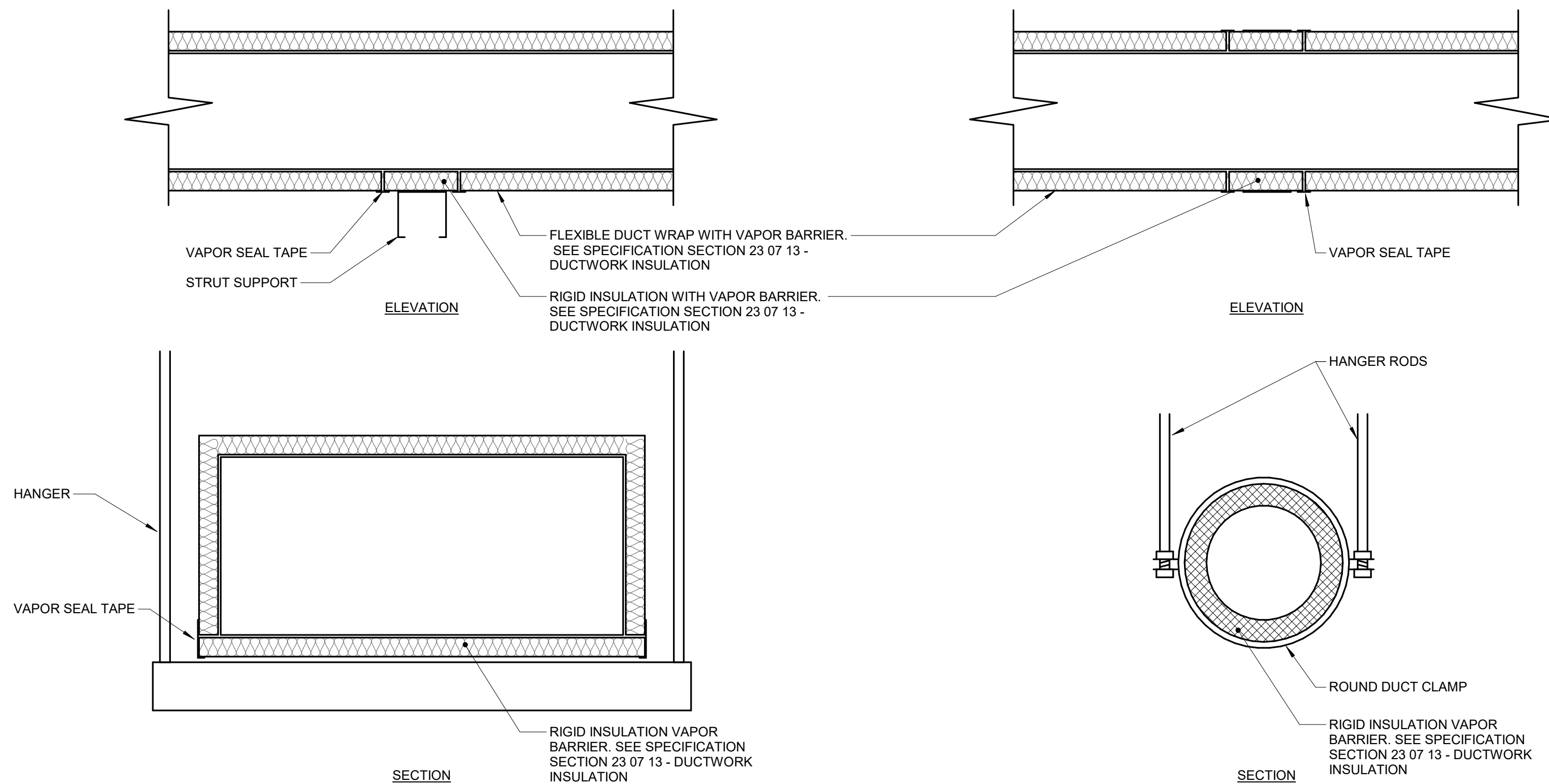
NOTES:

1. "R" IS AN ALLOWABLE REINFORCEMENT INTERVAL.
2. TOP AND BOTTOM JOINTS MUST QUALIFY AS REINFORCEMENT
3. DUCT SIZES THAT ARE 19 INCHES (483 mm) AND OVER ARE 20 GA (1.00 mm) OR LESS, WITH MORE THAN 10 SQUARE FEET (0.93 SQUARE METER) OF UNBRACED PANEL AREA, SHALL BE CROSSBROKEN OR BEADED UNLESS THEY ARE LINED OR EXTERNALLY INSULATED. DUCTS THAT ARE OF HEAVIER GAGE, SMALLER DIMENSIONS, AND SMALLER PANEL AREA AND THOSE THAT ARE LINED OR EXTERNALLY INSULATED ARE NOT REQUIRED TO HAVE CROSSBREAKING OR BEADING.
4. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

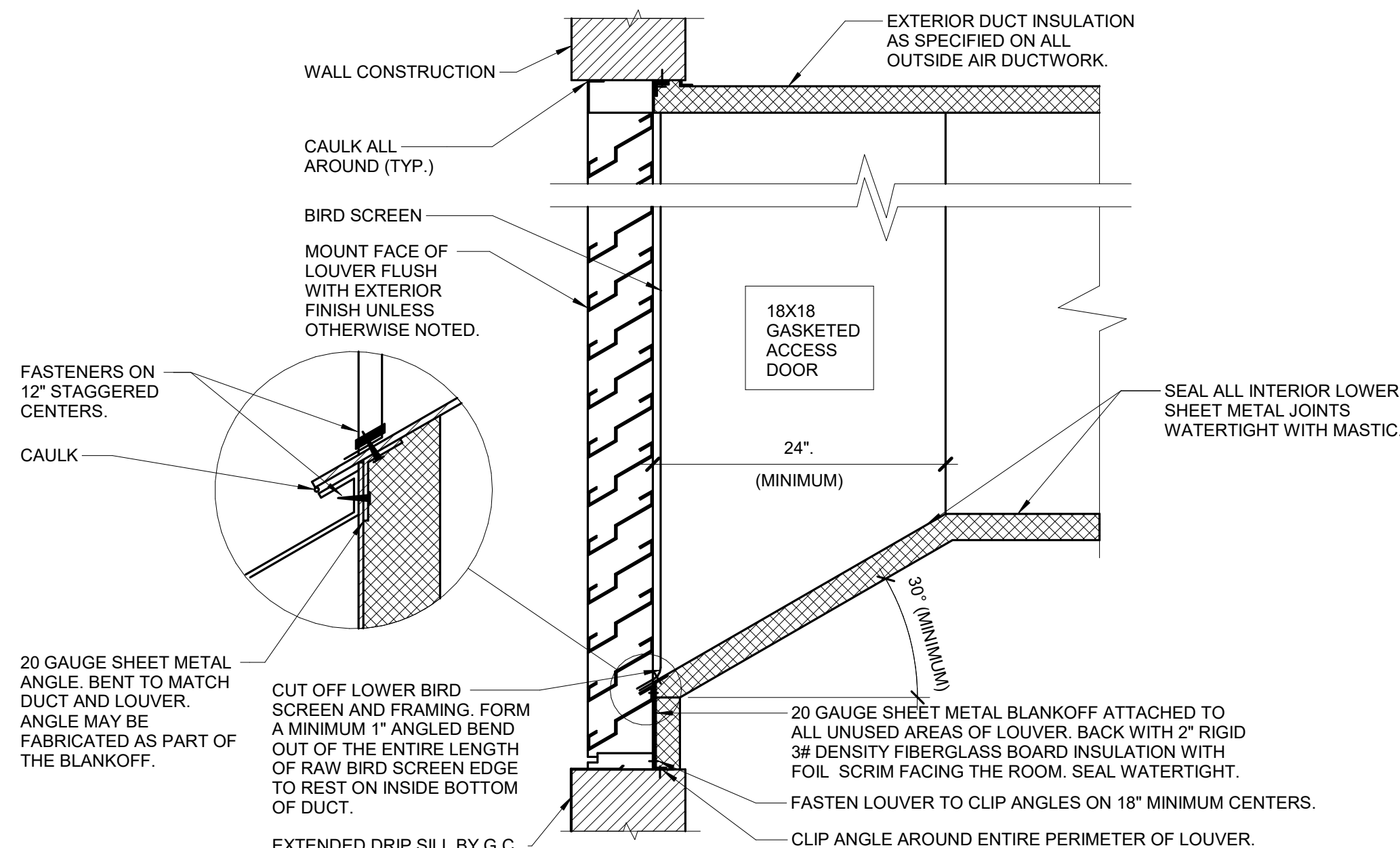
4 DUCT - TRANSVERSE REINFORCEMENT
NO SCALE



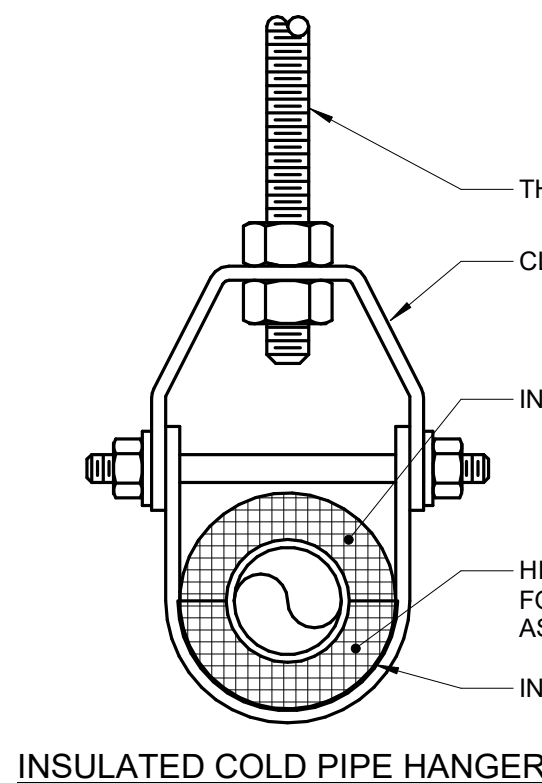
7 ROOF FAN CURB W/ DRIP PAN
NO SCALE



2 DUCT - HANGERS WRAPPED
NO SCALE



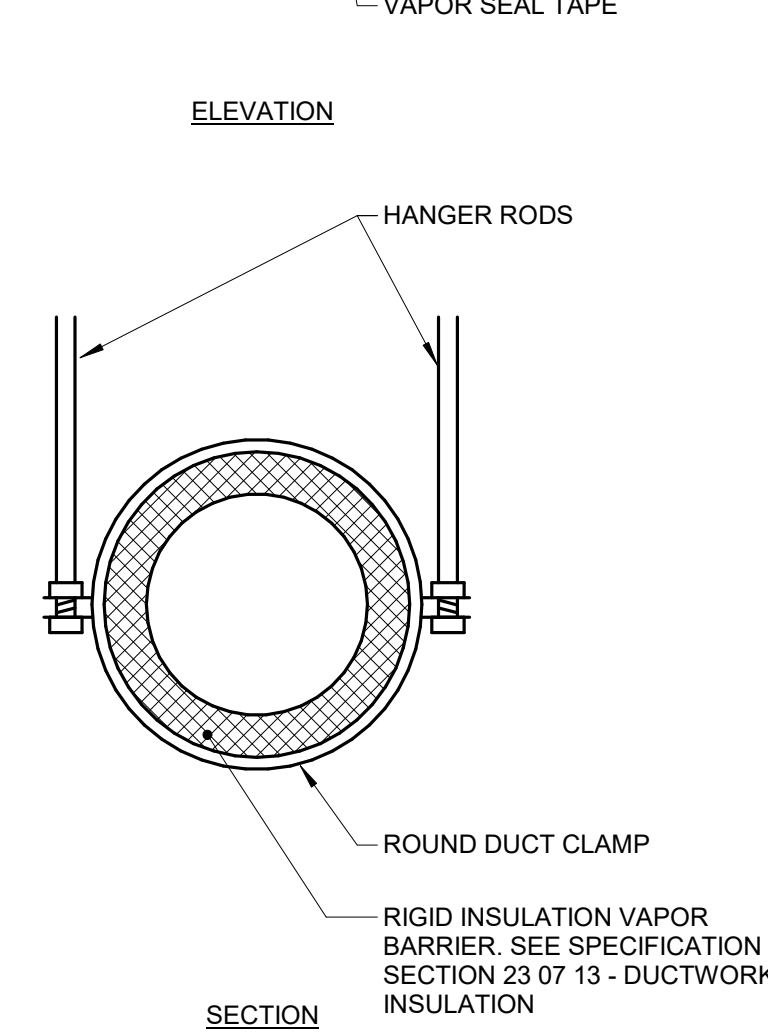
5 LOUVER INSTALLATION
NO SCALE



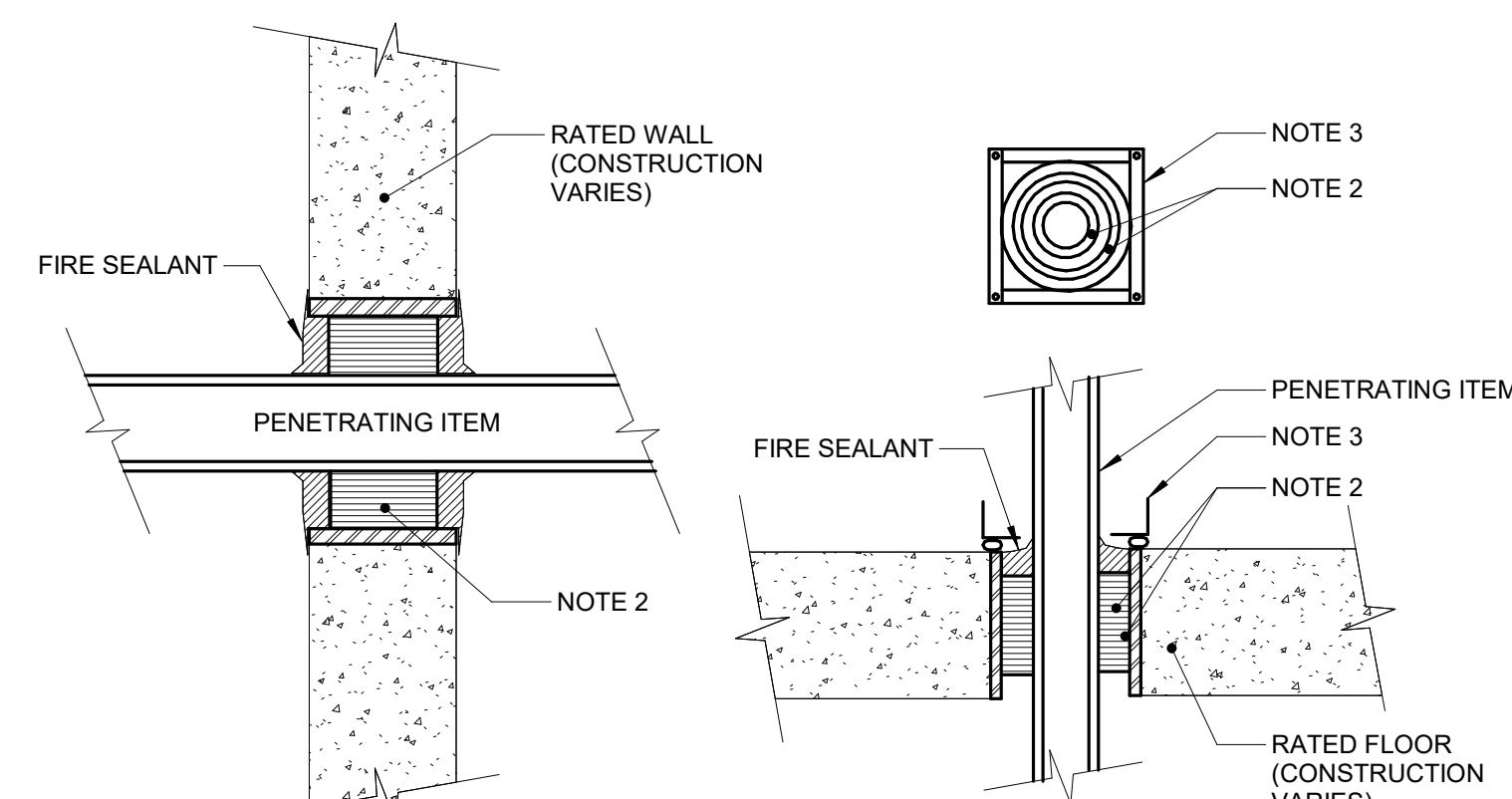
NOTES:

1. REFER TO SPECIFICATION SECTIONS 22 05 29-PLUMBING, 23 05 29-HVAC & SECTIONS 23 07 19-PLUMBING, 23 07 19-HVAC.

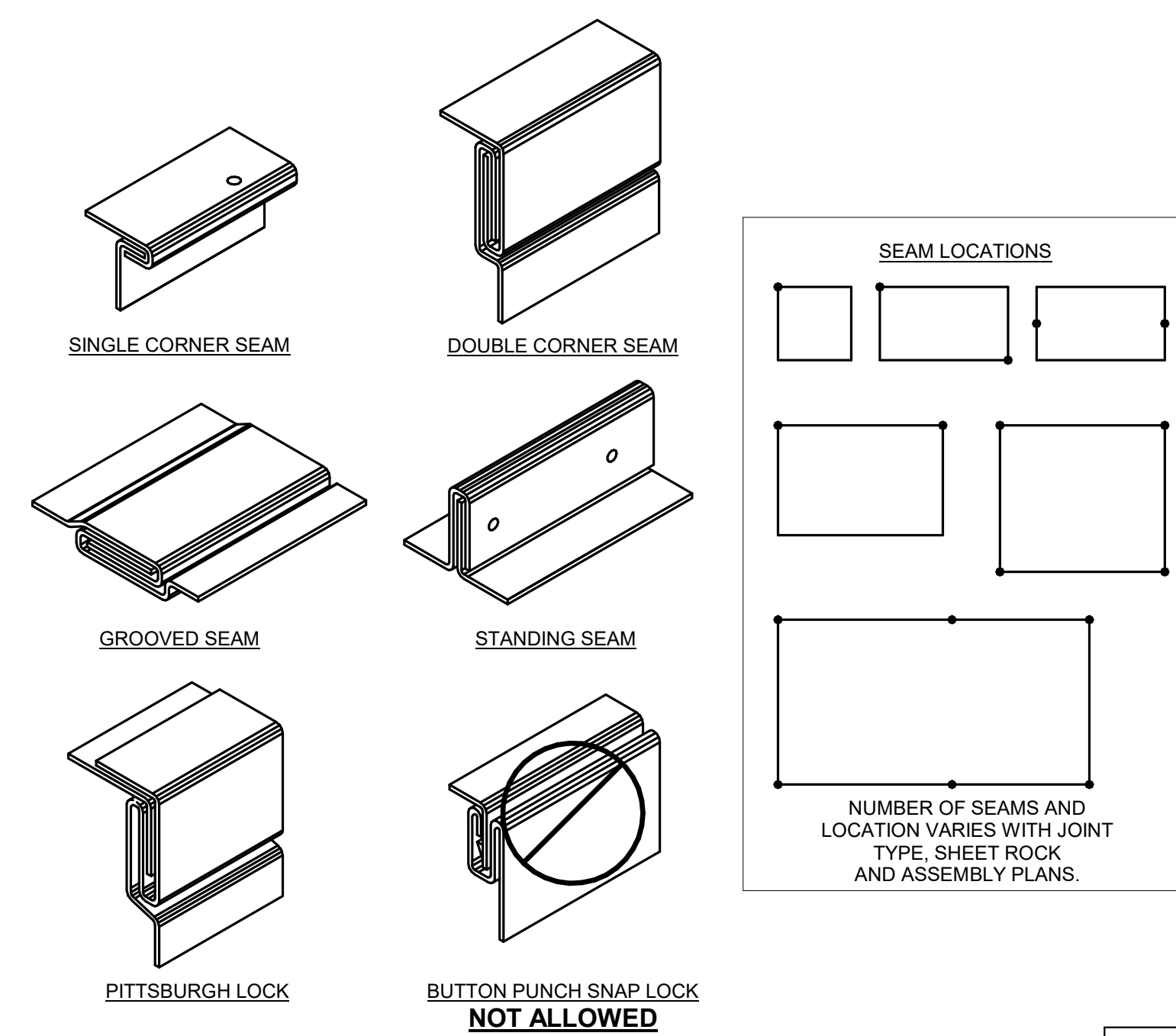
8 PIPE - HANGERS AND SUPPORTS
NO SCALE



3 VENT PIPE FLASHING
NO SCALE



6 FLOOR/WALL PENETRATION - RATED FIRE BARRIER
NO SCALE



9 DUCT - LONGITUDINAL SEAMS
NO SCALE

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PROJECT #24006360.00

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REVISIONS

Revised / Issue	Date	By
SHEET INFORMATION		
Issue	100% CD - REBID	
Date	10/22/2025	
Project #	24006360.00	
Drawn	LUCHEI	
Checked	DELLIE	
Approved	DELLIE	
SHEET TITLE		
MECHANICAL DETAILS		
SCALE		
Scale:	12" = 1'-0"	
SHEET NUMBER		

M4.00

UNIT HEATER SCHEDULE - HOT WATER

NOTES:
1. REFER TO CONTROL DRAWINGS FOR CONTROL SEQUENCE INFORMATION.
2. CAPACITY BASED ON ENTERING AIR TEMPERATURE OF 70F.

TAG NAME	AREA SERVED	CONFIGURATION	CFM	MBH	GPM	EWT °F	LWT °F	W.P.D. FT. HEAD	ELECTRICAL						CONTROL	MAX. DIMENSIONS (IN.)			WEIGHT (LBS.)	MANUFACTURER	MODEL	NOTES		
									HP	VOLTAGE	PHASES	DISCONNECT		CONTROLLER/ STARTER		EMERGENCY POWER	LENGTH	WIDTH					HEIGHT	DRY
												BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)					SCCR					
UH-1	FIRE PUMP ROOM	HORIZONTAL	2900	31.9	3.2	100	8	0.1	0.25	240	1	MFR	NF	MFR	5000	No	UH	18.4	31.9	27	115	RITTLING	RH-193	NOTE 1, 2

SPLIT SYSTEM UNIT SCHEDULE

NOTES:
1. UNIT SHALL BE PROVIDED WITH INTEGRAL LIFT/PUMP FOR CONDENSATE REMOVAL. IF NOT PROVIDED INTEGRAL WITH UNIT, CONTRACTOR SHALL PROVIDE SEPARATE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE POWERED BY UNIT. IF NOT, MECHANICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE POWER FOR CONDENSATE PUMP.

		INDOOR UNIT										OUTDOOR UNIT										ELECTRICAL							
TAG NAME	AREA SERVED	CFM	NOMINAL COOLING CAPACITY MBH	NOMINAL HEATING CAPACITY MBH (AT 4°F)	MAX. DIMENSIONS			WEIGHT LBS	MODEL	SEER	MAX. DIMENSIONS			WEIGHT (LBS.)	MODEL	VOLTAGE	PHASE	MCA	MCCP AMPS	DISCONNECT		CONTROLLER/ STARTER		MANUFACTURER	NOTES				
					LENGTH	WIDTH	HEIGHT				LENGTH	WIDTH	HEIGHT							BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	SCCR						
SS-1	OFFICE	283	9	10	22.5"	22.5"	10"	26	AC008BNNDC/HAA	21	1'-9 1/2"	2'-7"	11"	75	AC008BXADCH/A	240	1	10.9	15	MFR	NF	MFR	5000	SAMSUNG	NOTE 1				

FAN SCHEDULE

NOTES:
1. BACKDRAFT DAMPER SHALL BE LINE VOLTAGE WIRED IN SERIES WITH FAN POWER.
2. PROVIDE WITH SPEED CONTROLLER.

TAG NAME	AREA SERVED	CFM	S.P. IN. W.C.	FAN RPM (NOTE F)	DRIVE TYPE	MAX. AMCA SONES	BACKDRAFT DAMPER TYPE	CURB TYPE (NOTE G)	ELECTRICAL										WEIGHT (LBS.)	MANUFACTURER	MODEL	NOTES
									BHP (NOTE E)	MHP (NOTE E)	VOLTAGE	PHASES	DISCONNECT		CONTROLLER/ STARTER		EMERGENCY POWER					
													BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE C)						
EF-7	FIRE PUMP ROOM	2000	0.75	1394	DIRECT	12.8	MOTORIZED	MFR	0.55	1	240	1	MFR	NF	MFR	FV	5000	No	125	GREENHECK	G-140-VG	NOTE 1, 2

MOTOR OPERATED DAMPER SCHEDULE

NOTES:
1. COORDINATE DAMPER ACTUATOR LOCATION AND MOUNTING REQUIREMENTS WITH TEMPERATURE CONTROL CONTRACTOR.

TAG NAME	AREA SERVED	WIDTH	HEIGHT	BLADE CONFIGURATION	BLADE ORIENTATION	INSULATED	ACTUATOR TYPE (NOTE 1)	ACTUATOR STYLE	POWER FAILURE POSITION	POSITIVE POSITION FEEDBACK REQUIRED	NOTES
MOD-1	FIRE PUMP ROOM	20	36	PARALLEL	HORIZONTAL	Yes	ELECTRIC	TWO POSITION	NORMALLY CLOSED (NC)	No	
MOD-2	FIRE PUMP ROOM	20	18	PARALLEL	HORIZONTAL	Yes	ELECTRIC	TWO POSITION	NORMALLY OPEN (NO)	No	

LOUVER SCHEDULE

NOTES:
1. FINISH TYPES: TYPE 1 - MILL FINISH, STANDARD COLOR - SELECTION BY ARCHITECT.
2. PROVIDE LOUVER WITH GRAVITY BACKDRAFT DAMPER.

TAG NAME	AREA SERVED	CFM	SIZE (INCHES)		FREE AREA VELOCITY	S.P. IN. W.C.	FINISH (NOTE 1)	MANUFACTURER	MODEL	NOTES
			WIDTH	HEIGHT						
L-13	OFFICE	20	20	18	96	0.01	TYPE 1	RUSKIN	ELF6375DX	NOTE 2
L-14	FIRE PUMP ROOM	2000	20	66	395	0.03	TYPE 1	RUSKIN	ELF6375DX	
L-15	FIRE PUMP ROOM	465	20	30	227	0.01	TYPE 1	RUSKIN	ELF6375DX	

PIPE INSULATION SCHEDULE (HVAC)

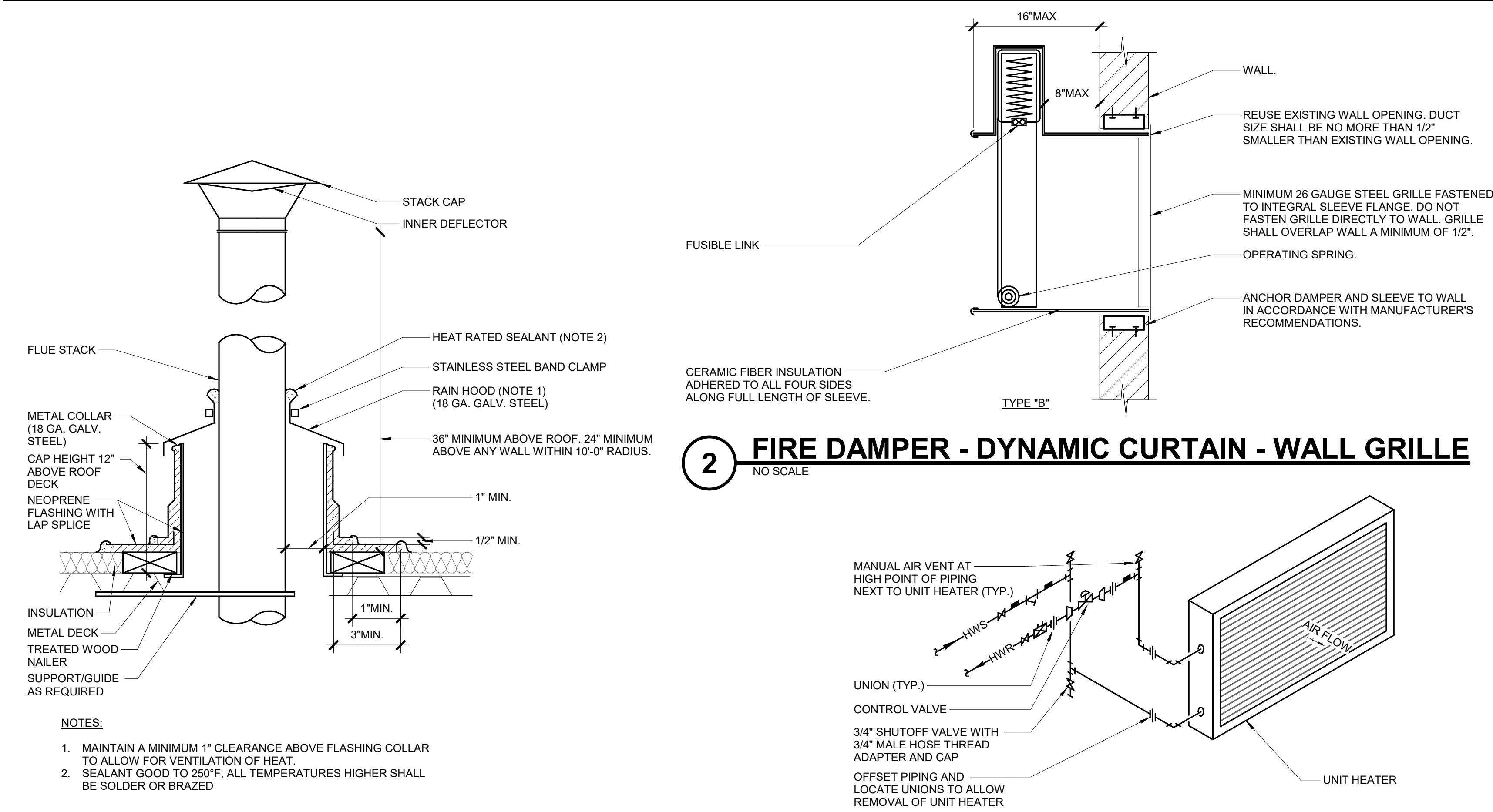
GENERAL NOTES:
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS. VALUES LISTED BELOW ARE BASED ON ASHRAE / IECC REQUIREMENTS.
2. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.
3. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS) OR TYPE C INSULATION. SEE SPEC. FOR MORE DETAILS.
4. ALL ENGINE EXHAUST SHALL BE COVERED WITH ALUMINUM JACKET.

PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE			NOTES
		< 1"	1" TO < 1.5"	1.5" TO < 4"	
23 PIPING - COOLING					
DPP - DRAIN - PIPING	B (Elasto), C (CelGla)	0.5"	0.5"	1"	APPLY INSULATION ONLY TO LOW TEMP DRAINS (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
23 PIPING - HEATING					
HWR - HEATING WATER RETURN	A (GlsFbr)	1.5"	1.5"	2"	
HWS - HEATING WATER SUPPLY	A (GlsFbr)	1.5"	1.5"	2"	
23 PIPING - OTHER					
ENGINE EXHAUST - ENGINE TO MUFFLER	D (CalSil)	4"	4"	4"	
ENGINE EXHAUST - MUFFLER TO DISCHARGE	D (CalSil)	4"	4"	4"	TYPES I (MinFib) AND J (FibBla) CAN BE 2" THICK FOR ALL PIPE SIZES
23 PIPING - REFRIGERANT					
LIQ - REFRIGERANT LIQUID	B (Elasto), C (CelGla)	0.5"	0.5"	1"	
SUC - REFRIGERANT SUCTION	B (Elasto), C (CelGla)	0.5"	0.5"	1"	

UNIT HEATER SCHEDULE - ELECTRIC

NOTES:
1. UNIT HEATER SHALL ONLY BE PART OF THE ALTERNATE 1 PACKAGE.
2. UNIT SHALL BE CONTROLLED BY THERMOSTAT MOUNTED ON WALL AS SHOWN IN ALTERNATE FLOOR PLAN.

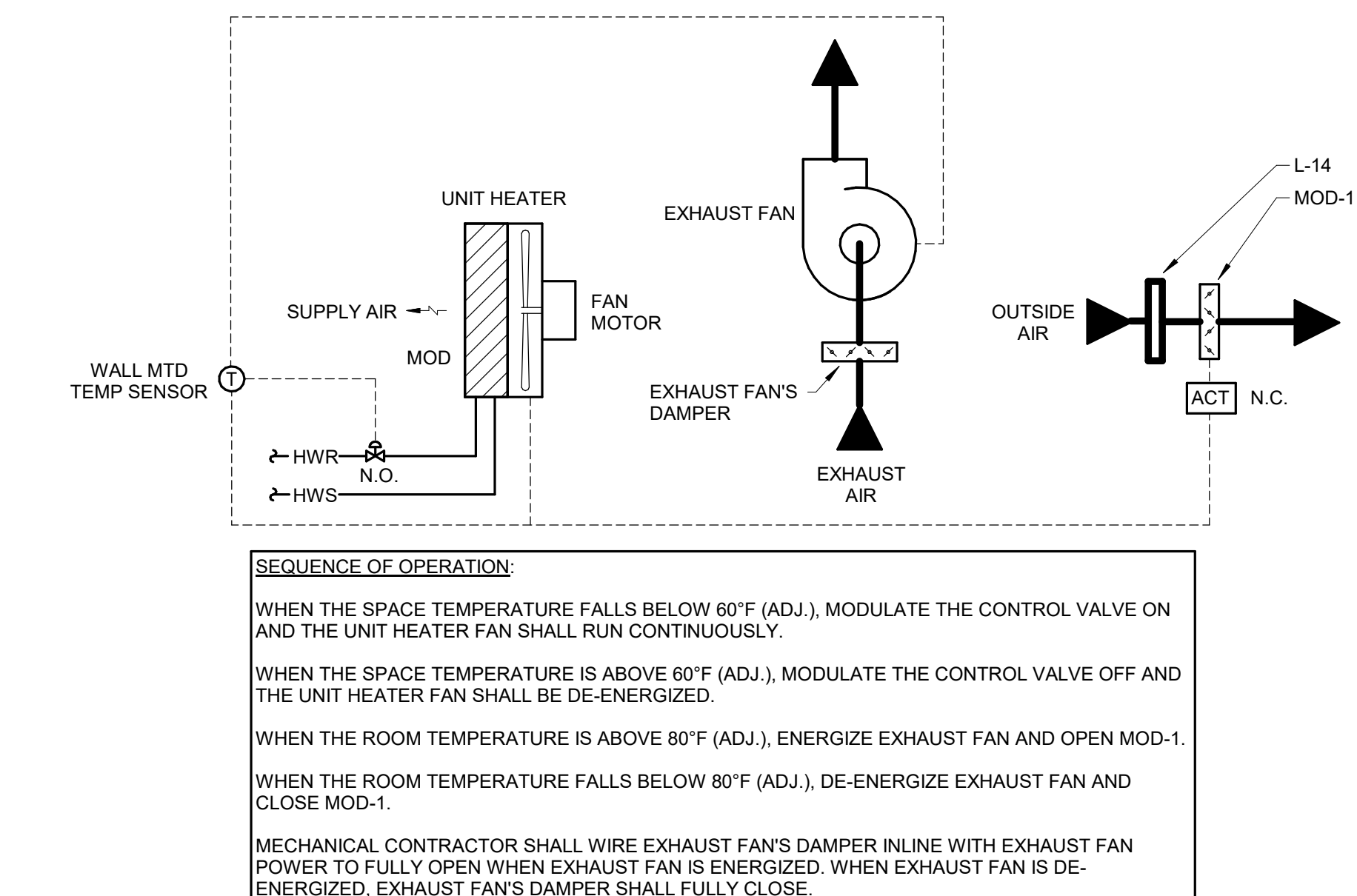
TAG NAME	AREA SERVED	CONFIGURATION	HEATING ELEMENT			ELECTRICAL						CONTROL	MAX. DIMENSIONS (IN.)			WEIGHT (LBS)	MANUFACTURER	MODEL	NOTES	
			NUMBER OF STAGES	TOTAL KW (QTY * KW)		VOLTAGE	PHASES	FLA	DISCONNECT		CONTROLLER/ STARTER		LENGTH	WIDTH	HEIGHT					
				QTY	KW				BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)									SCCR
UH-1A	ALTERNATE FIRE PUMP HOUSE	HORIZONTAL	1	1	7.5	240	1	31.3	MFR	NF	MFR	5000	NOTE 2	20"	14"	13"	30	BRASCH	925 SERIES	NOTES 1 & 2



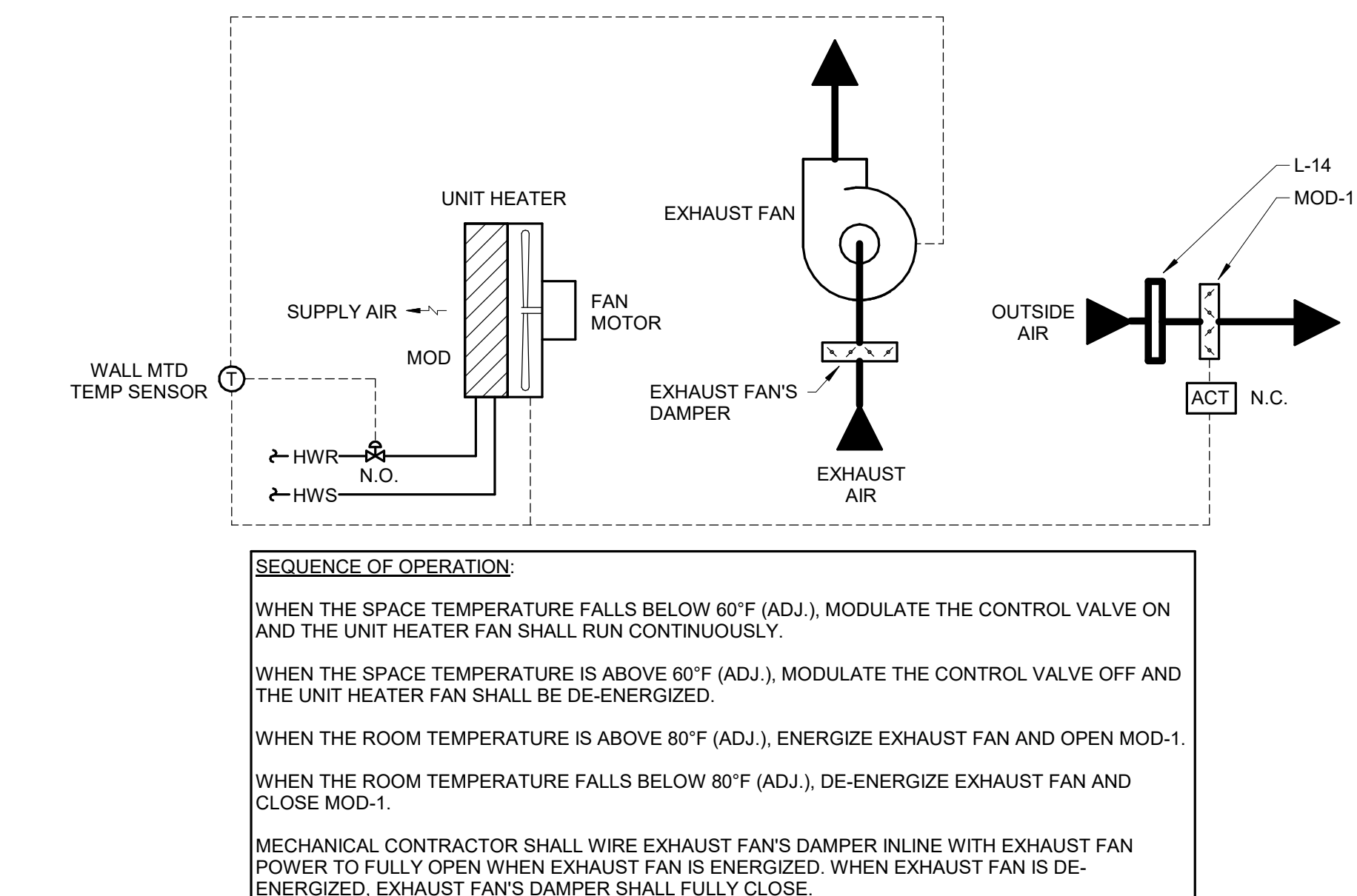
1 FLUE - HIGH TEMP THROUGH ROOF
NO SCALE

3 UNIT HEATER PIPING DIAGRAM
NO SCALE

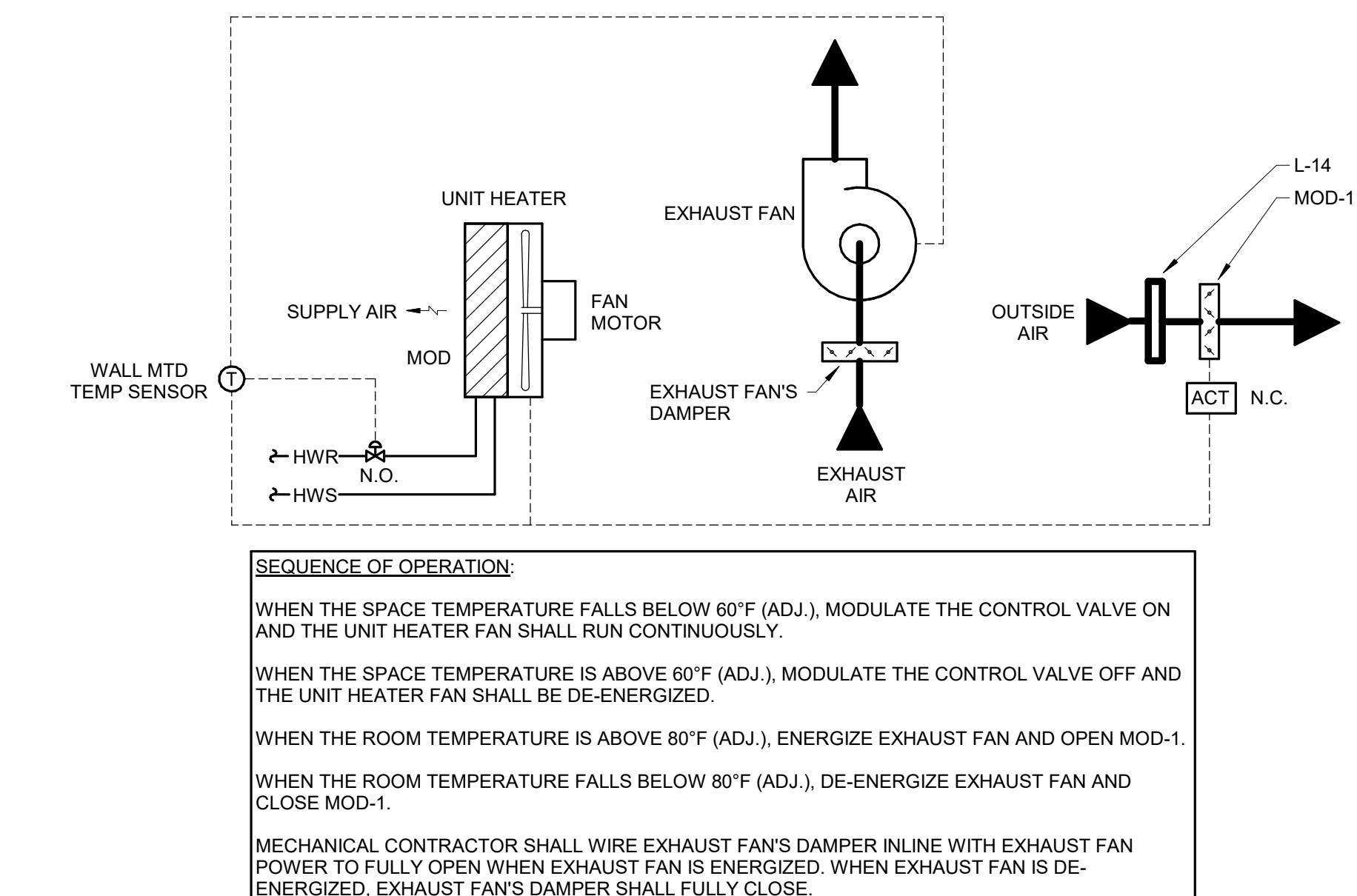
4 FIRE PUMP ROOM TEMPERATURE CONTROL DIAGRAM
NO SCALE



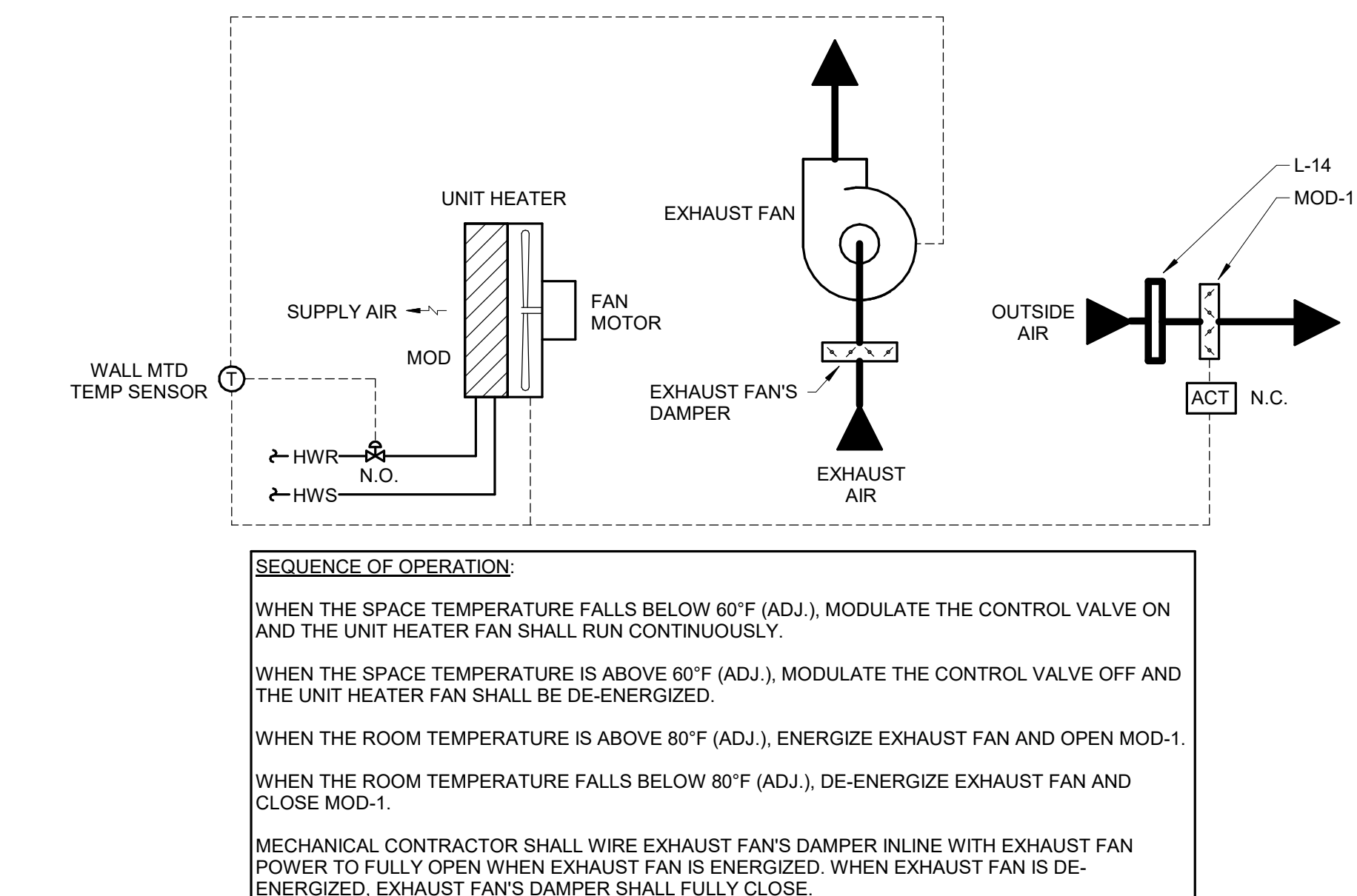
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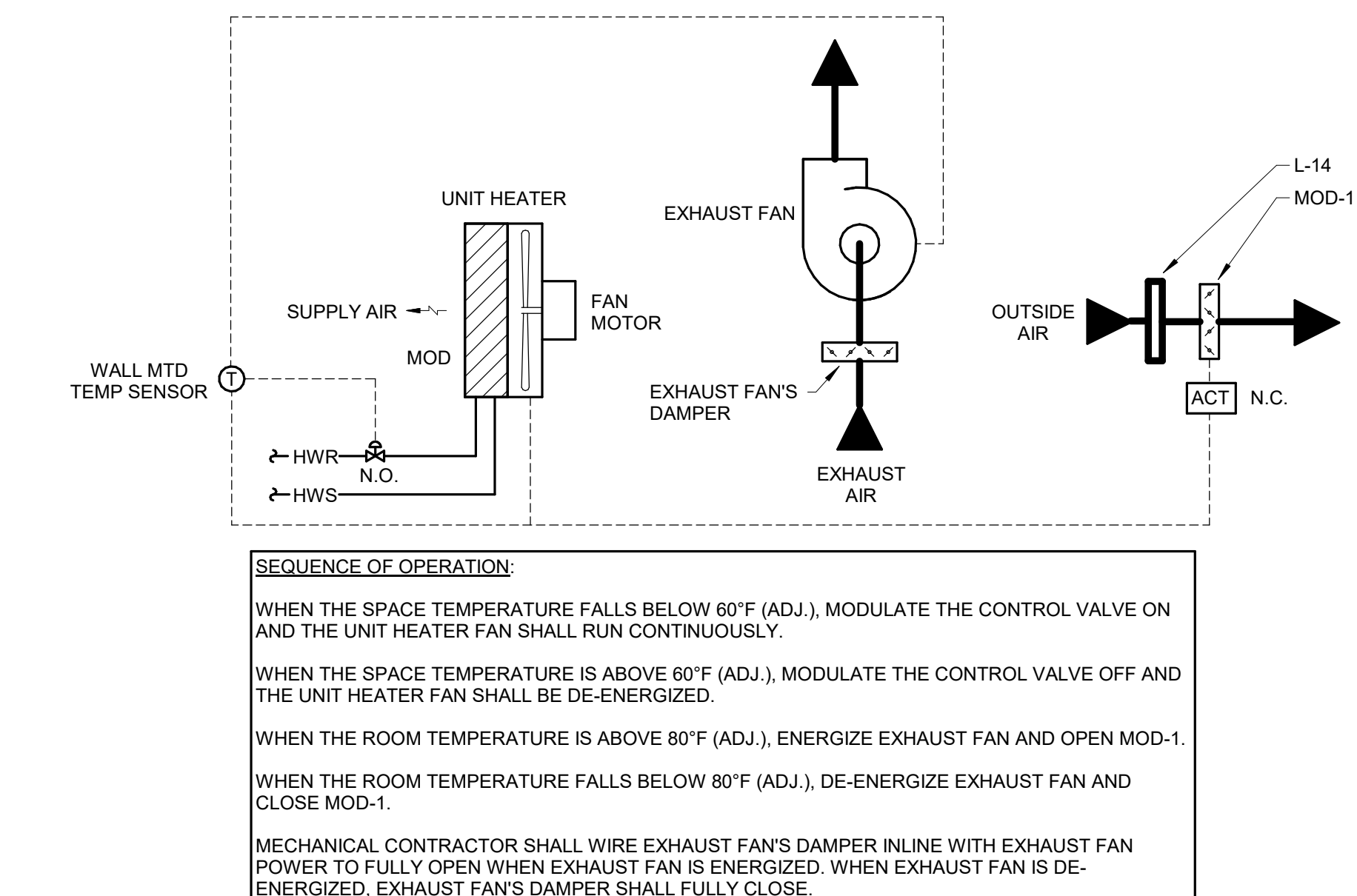
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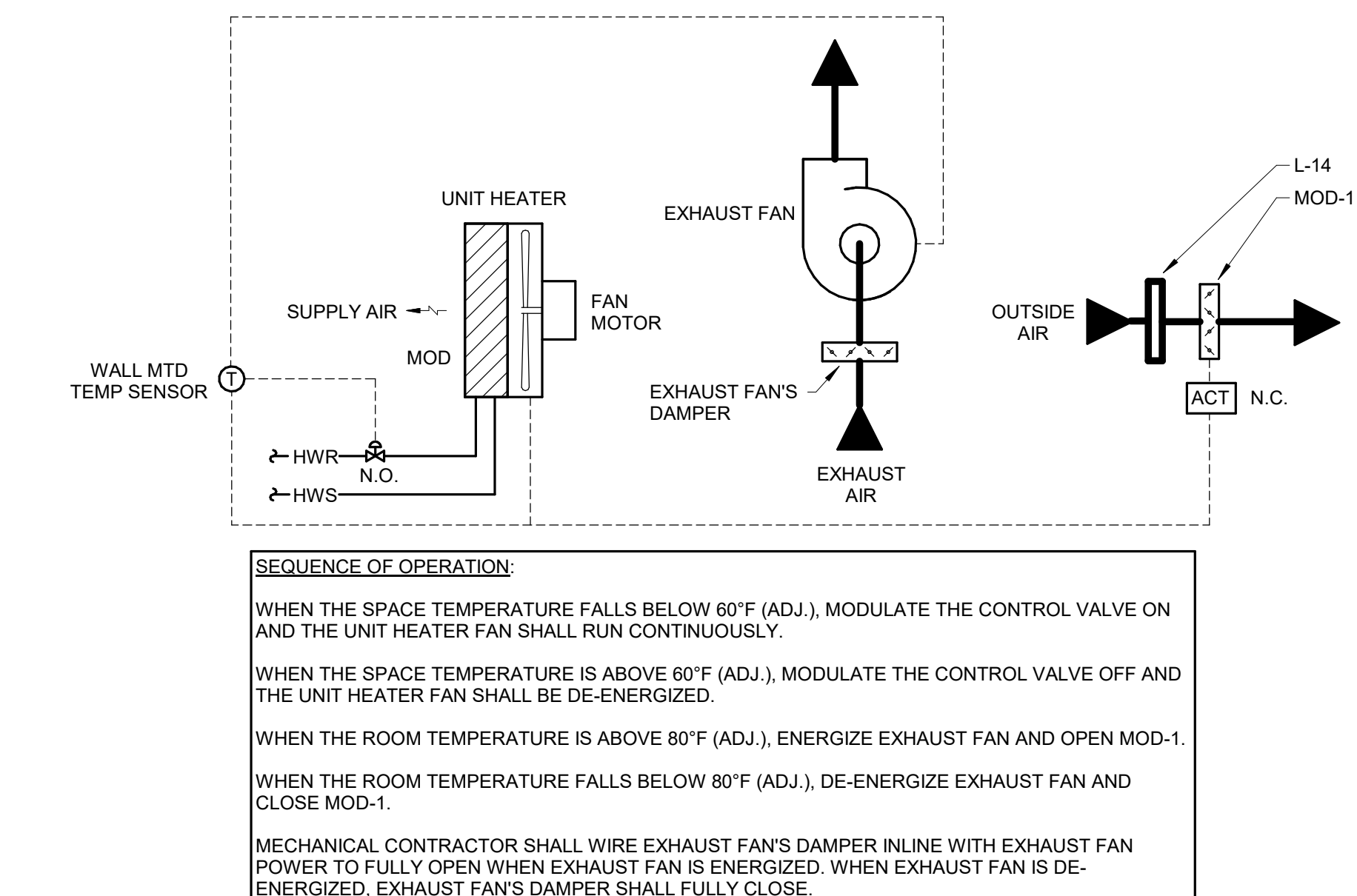
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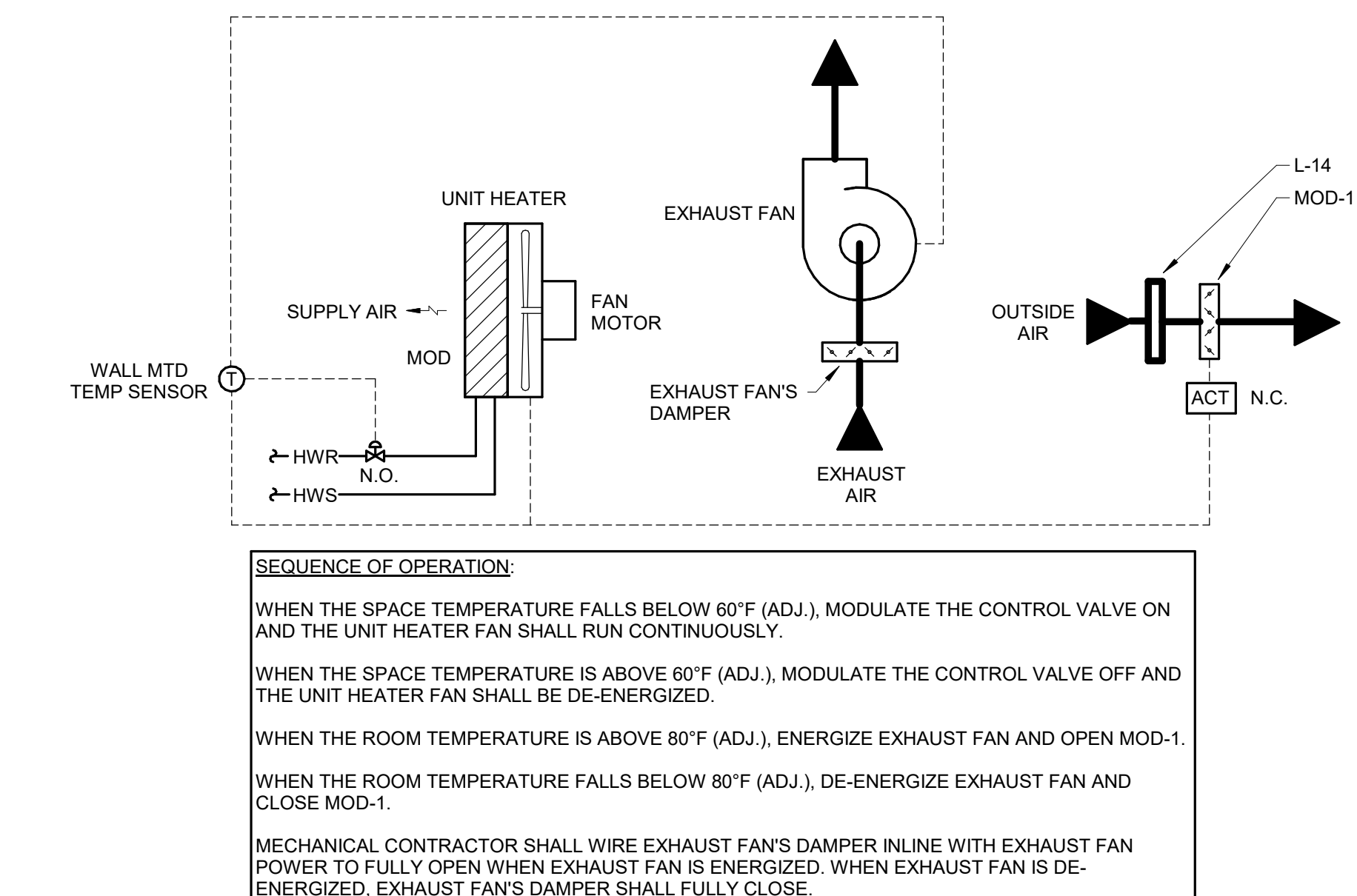
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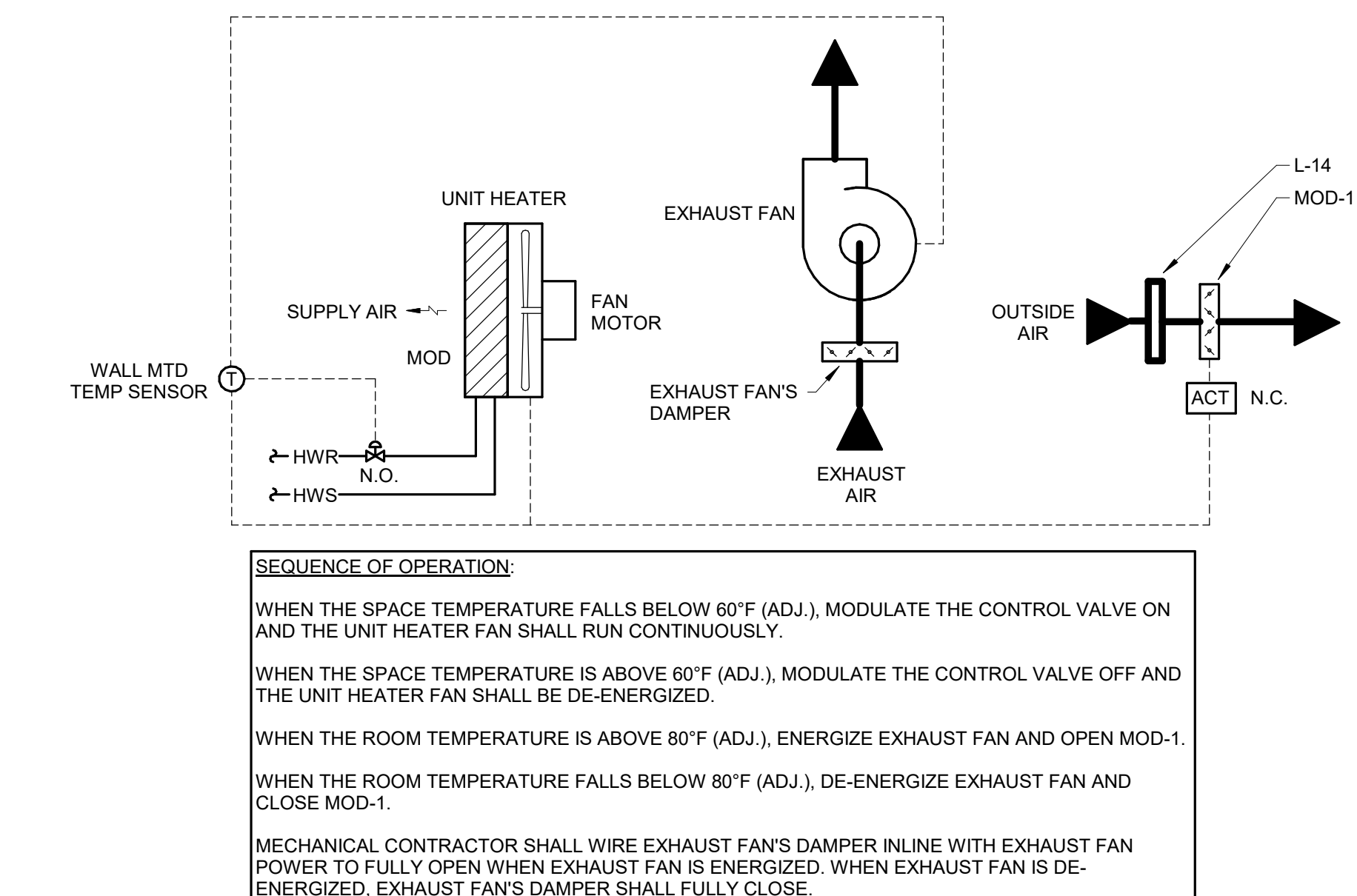
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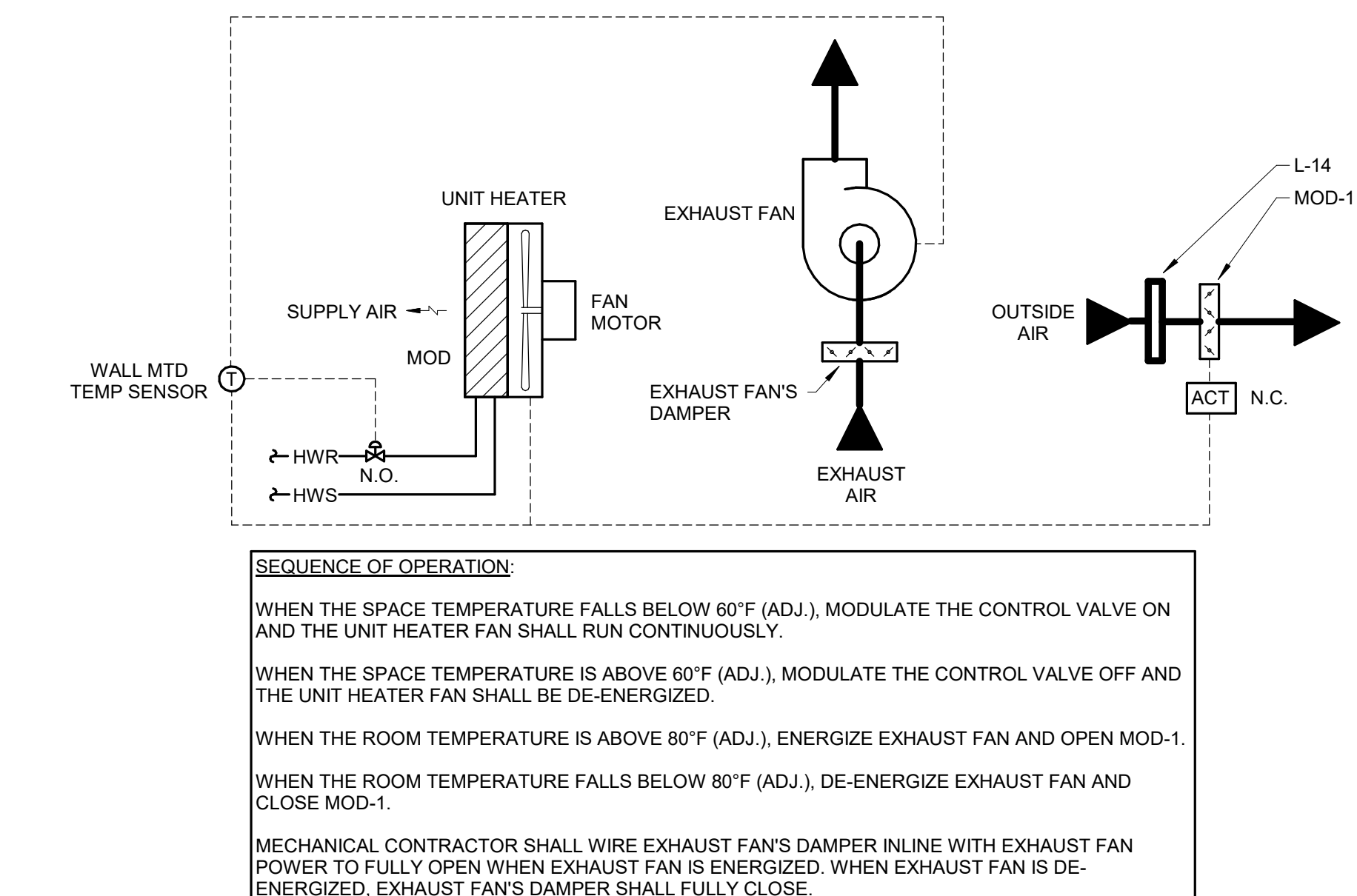
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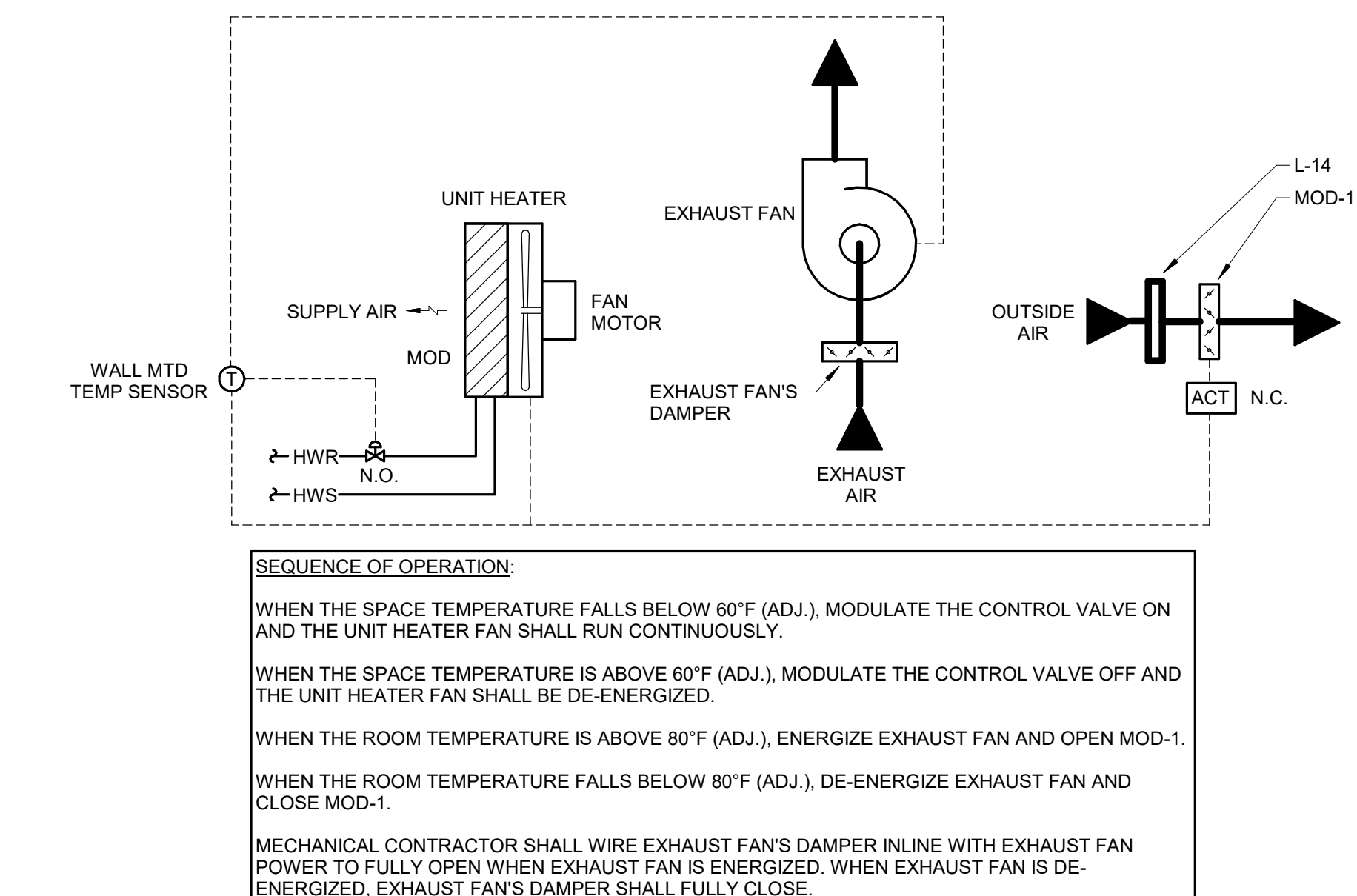
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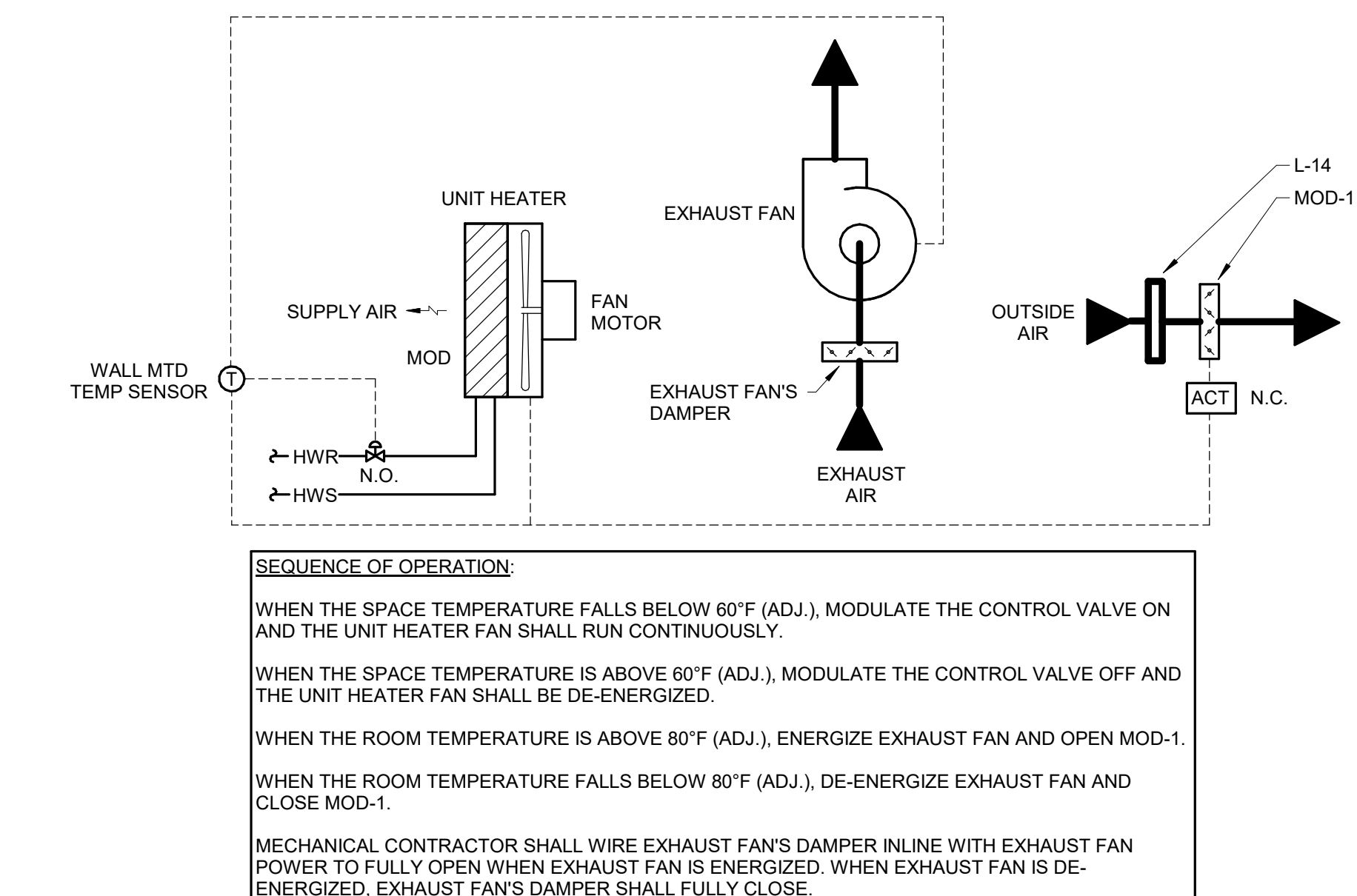
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NO SCALE



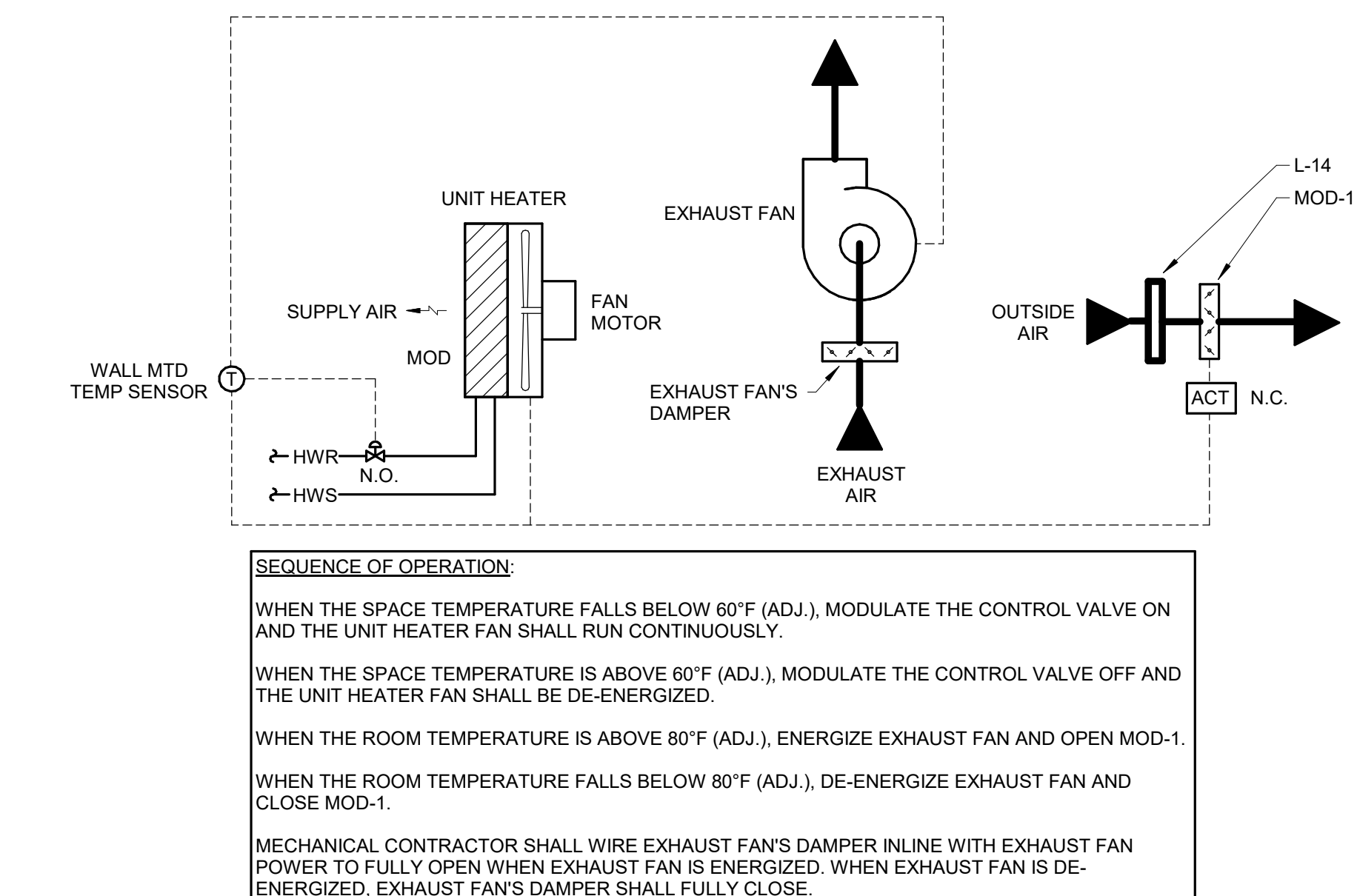
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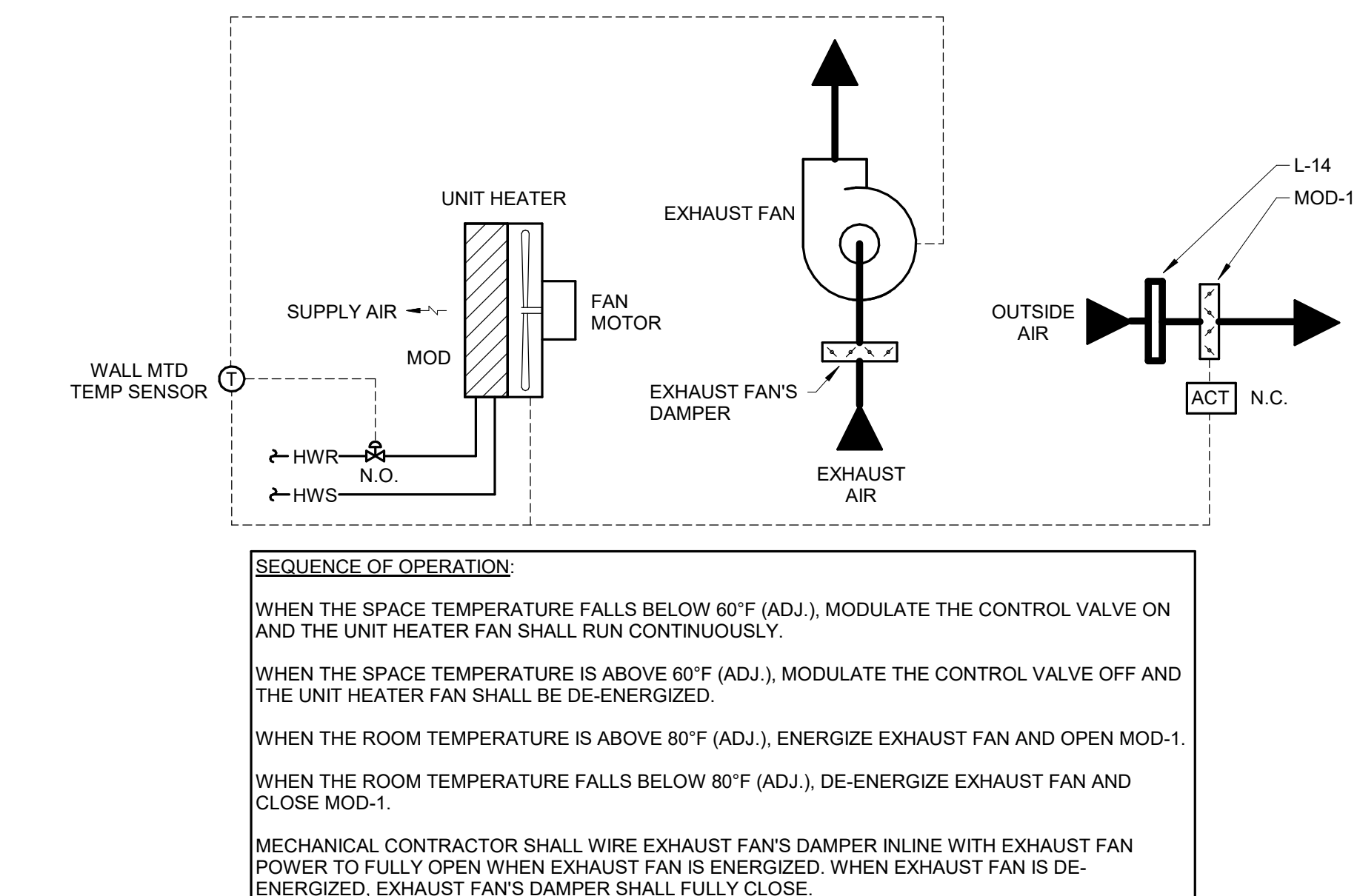
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NO SCALE



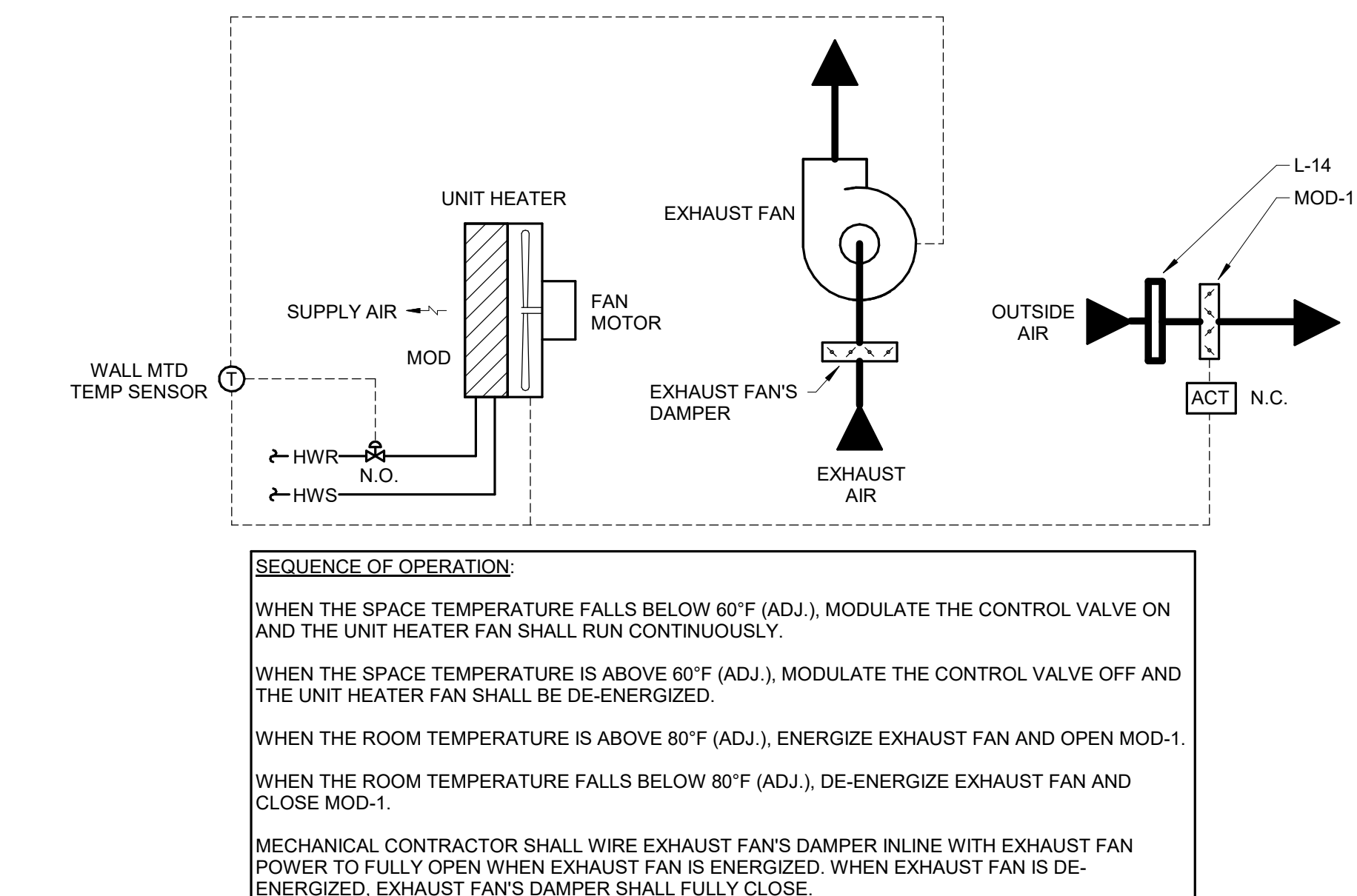
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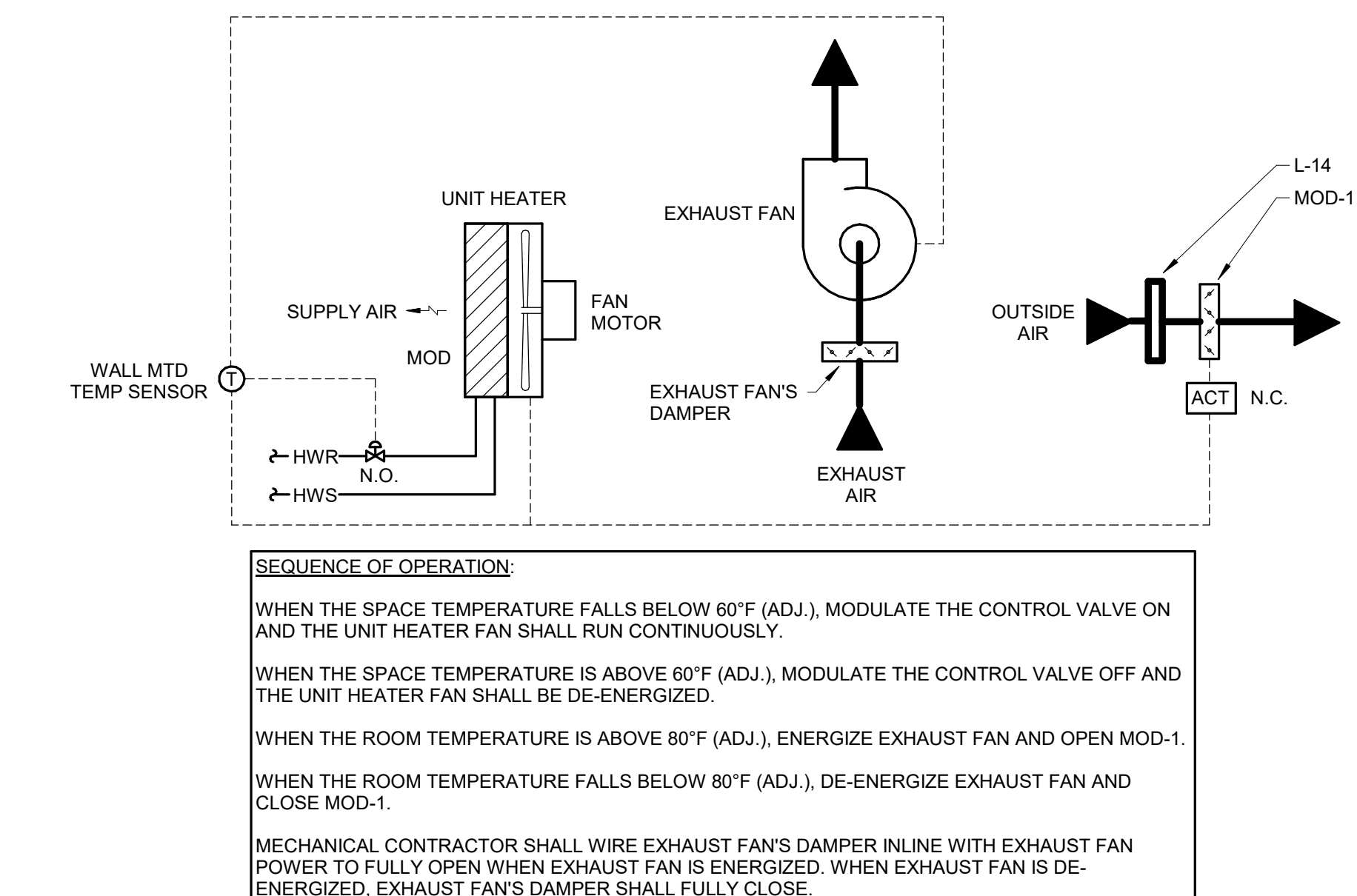
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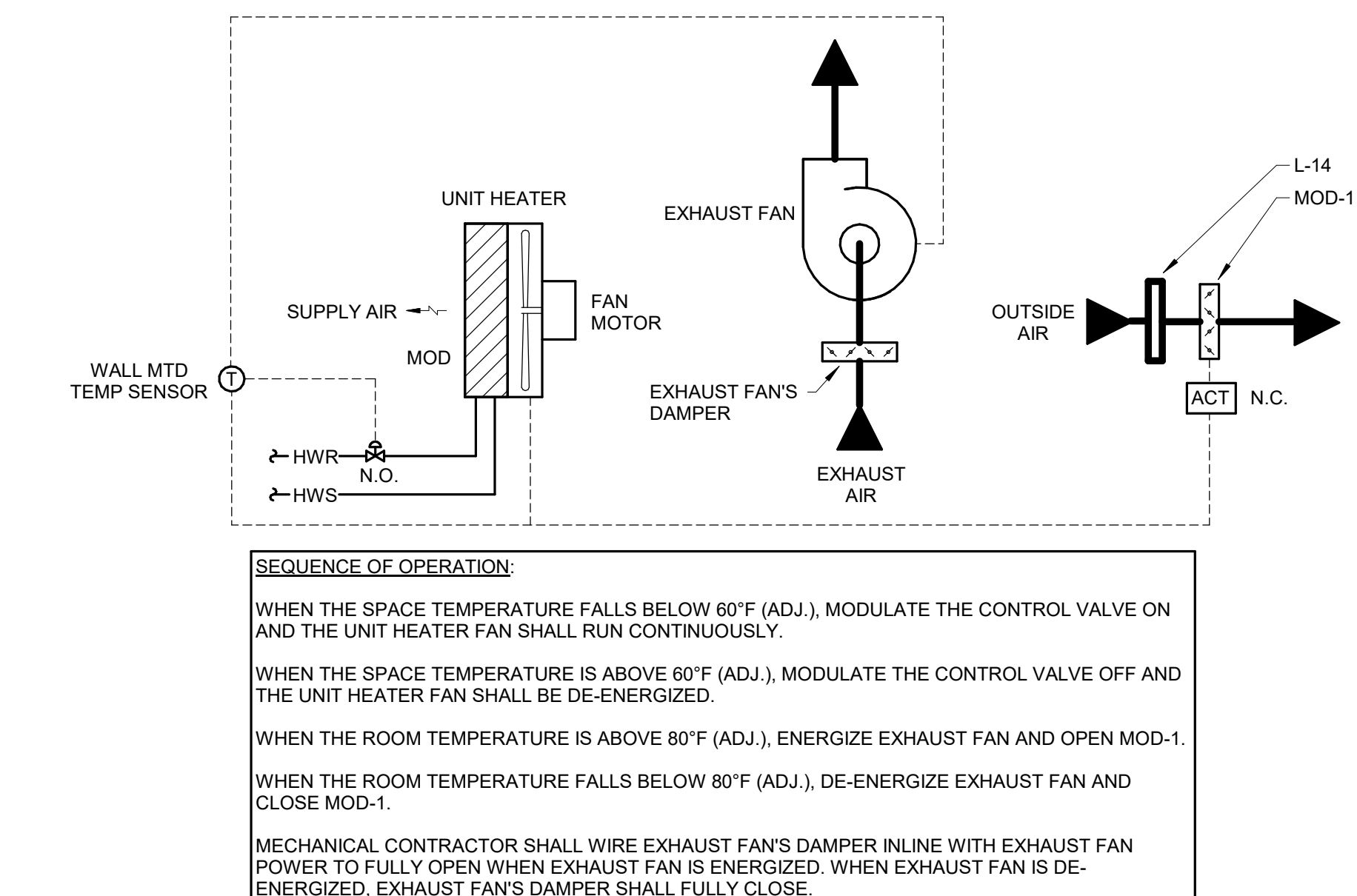
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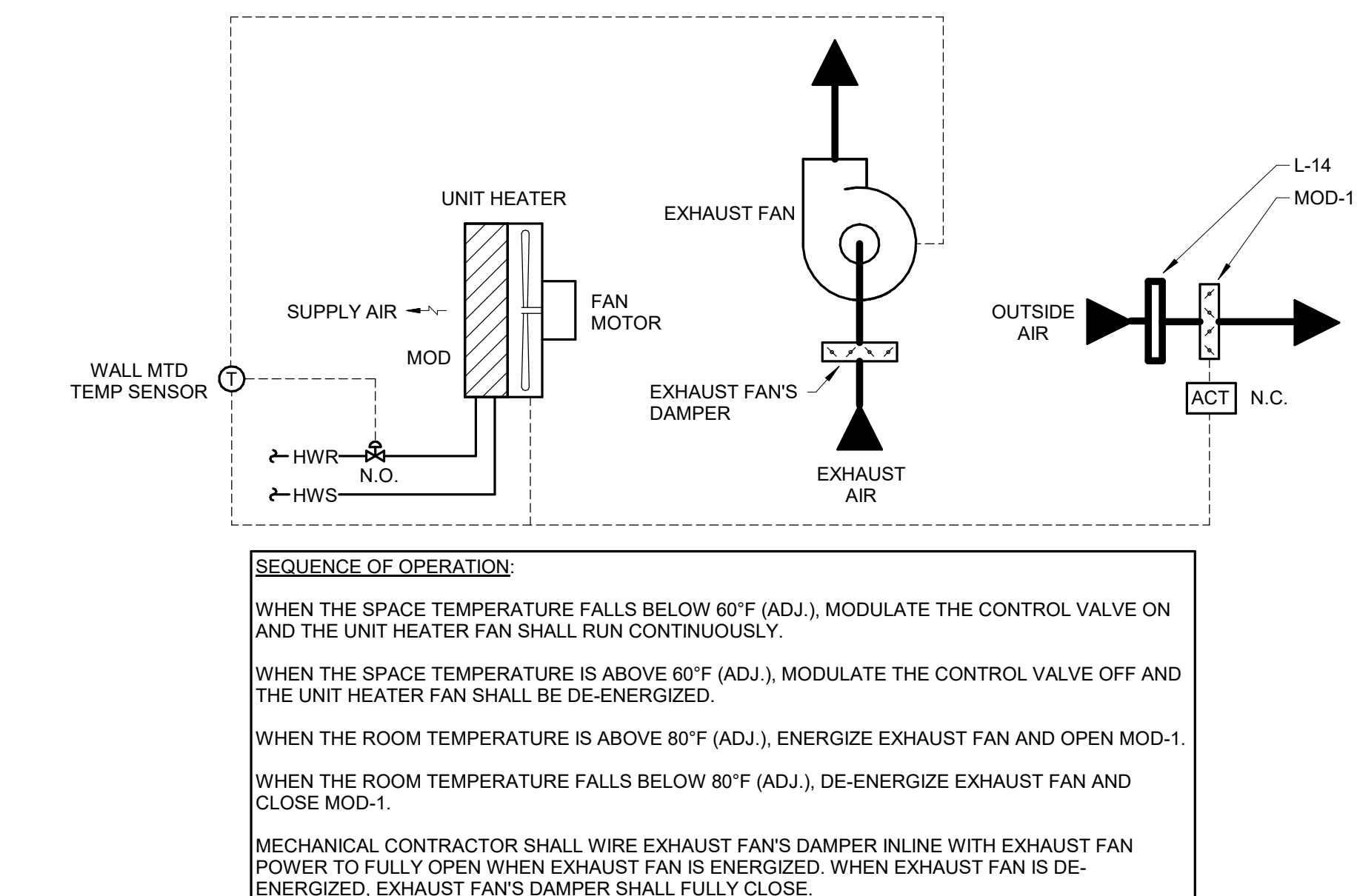
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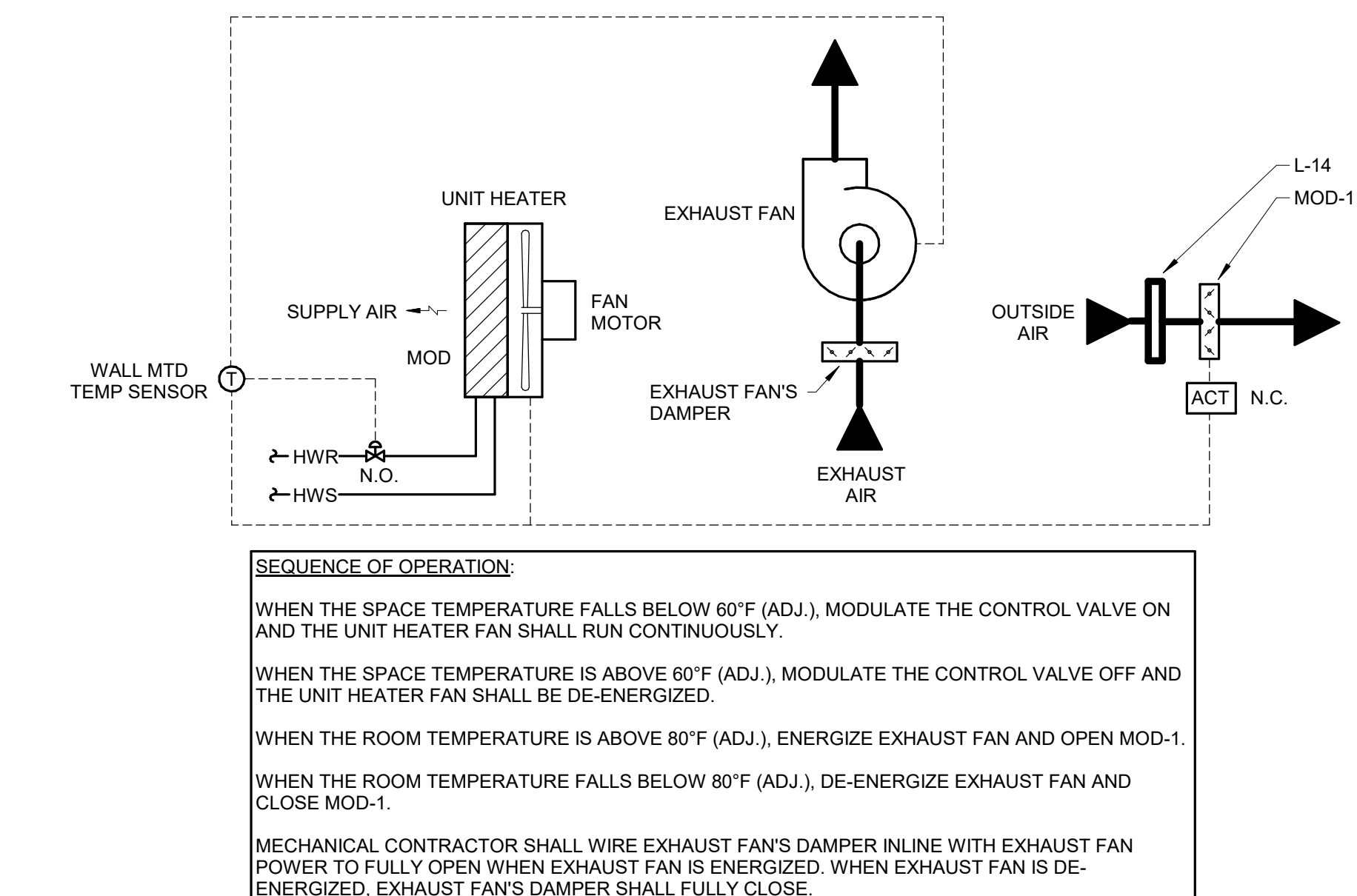
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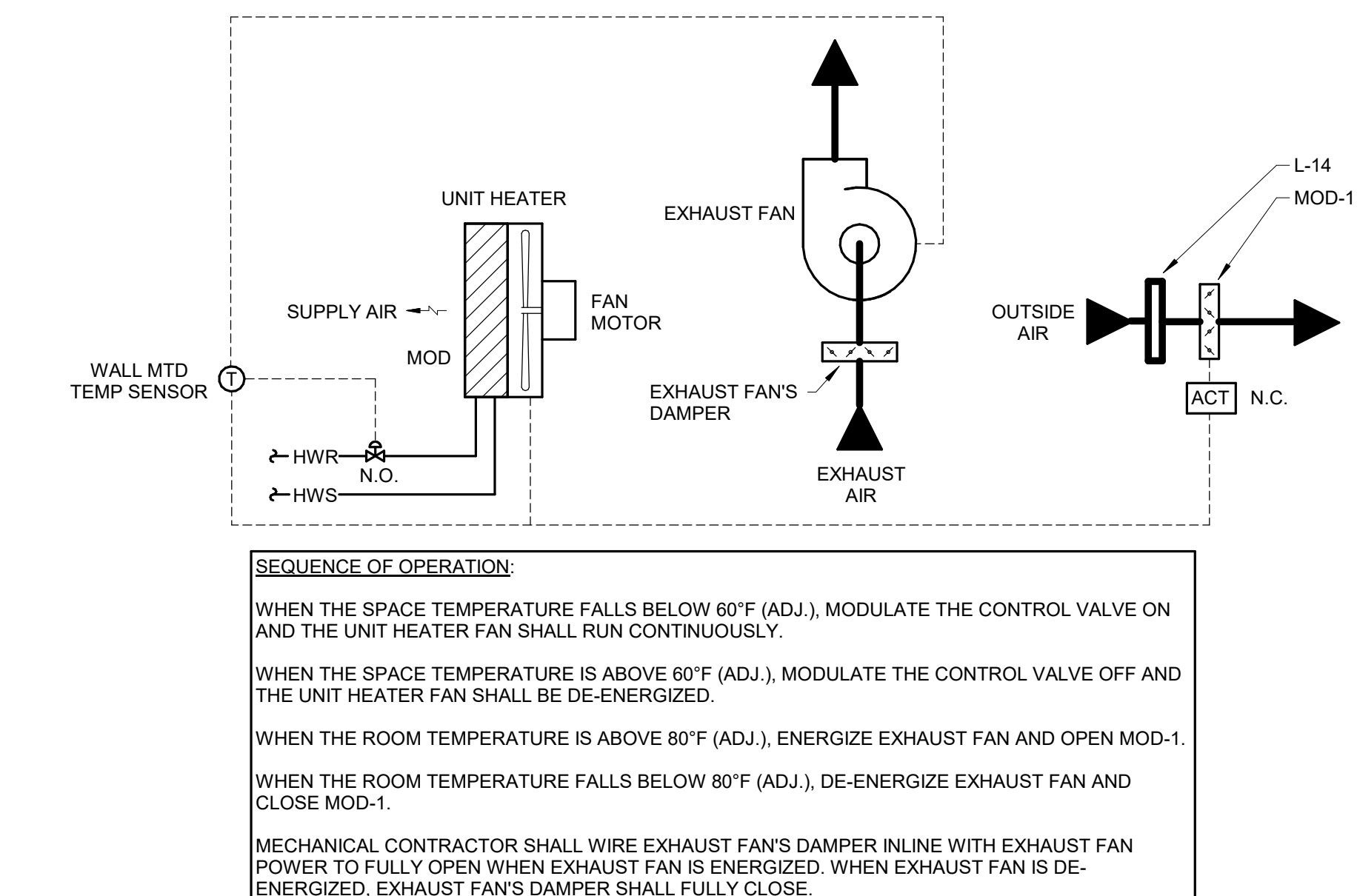
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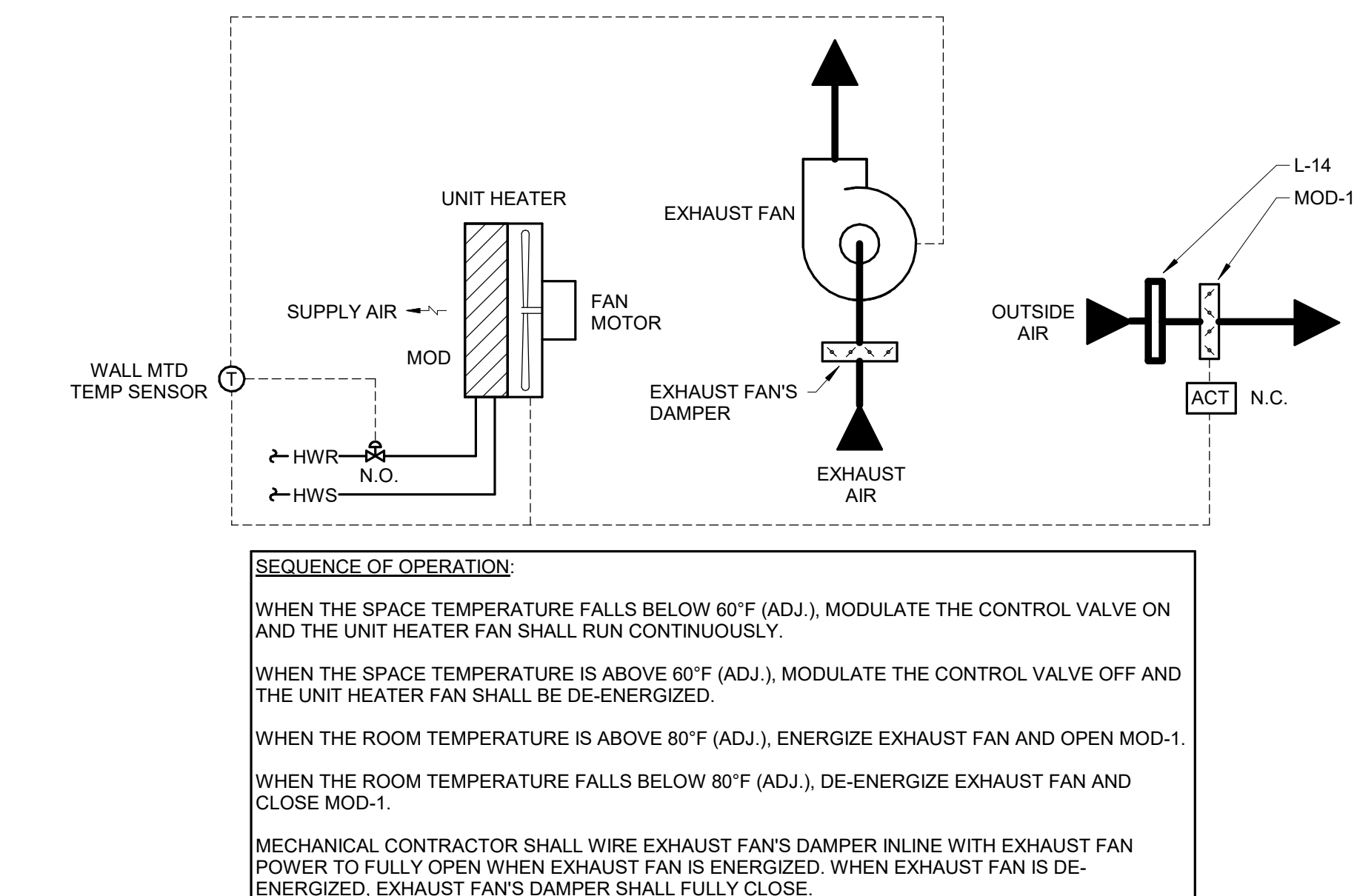
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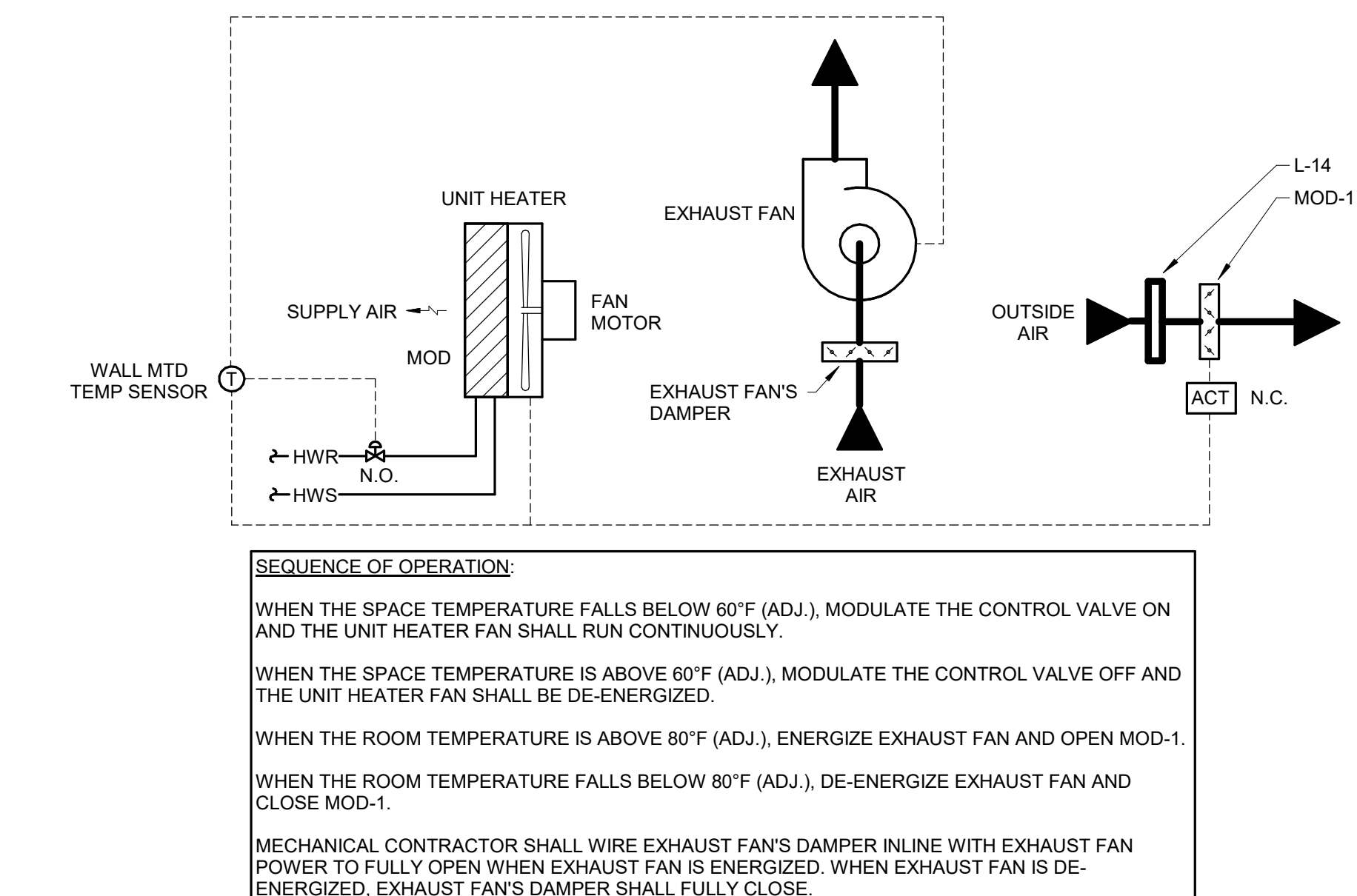
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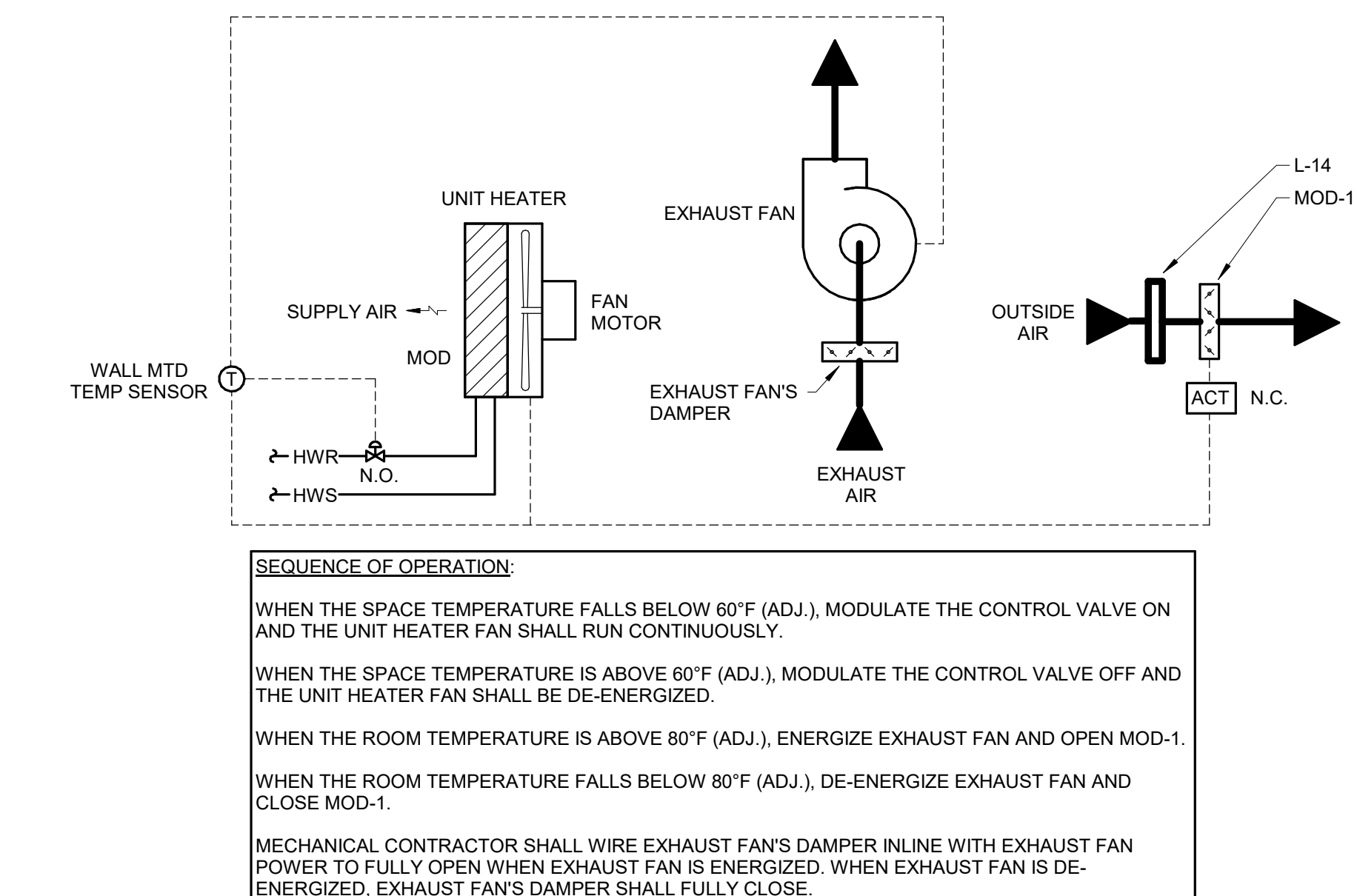
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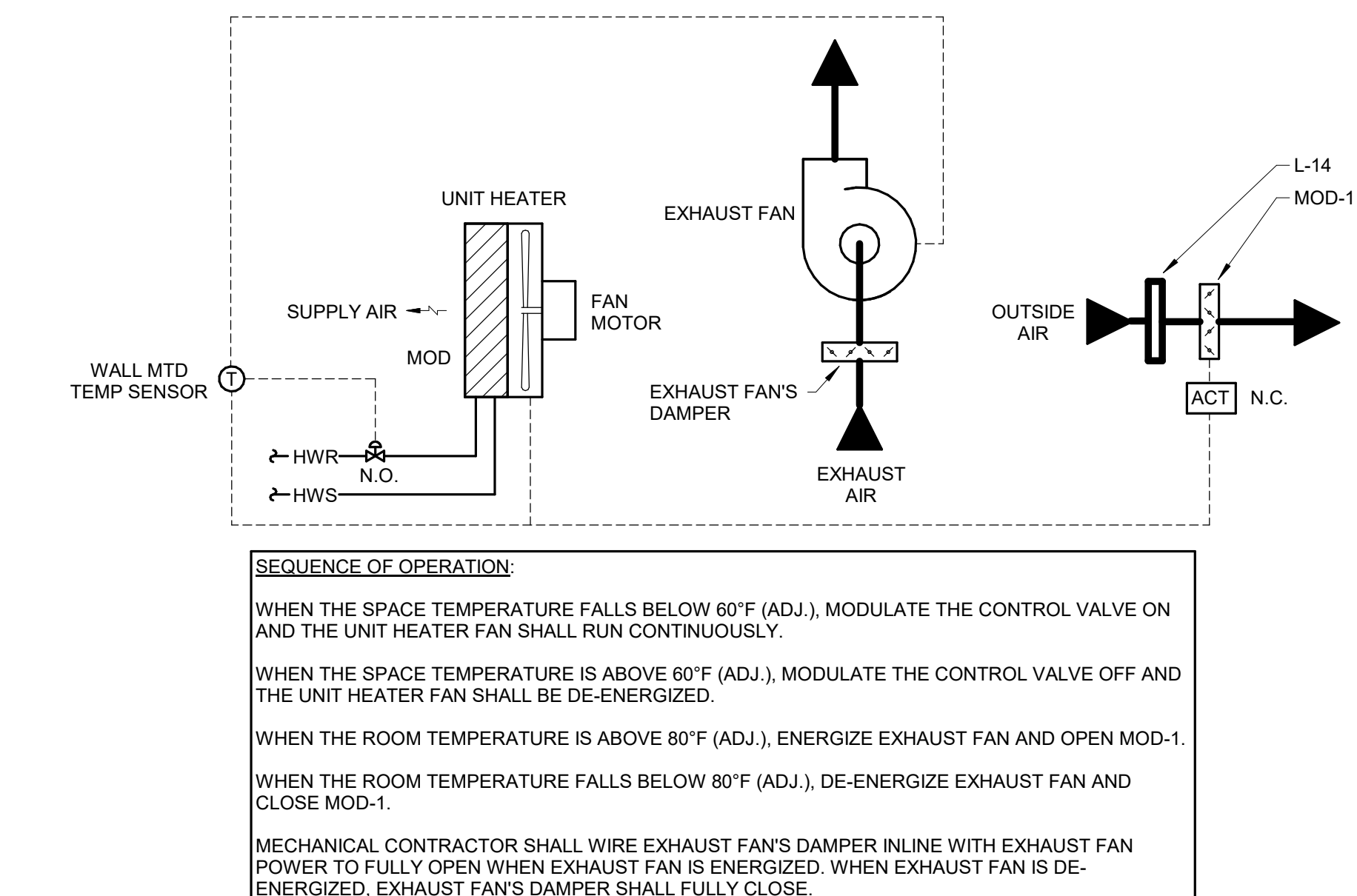
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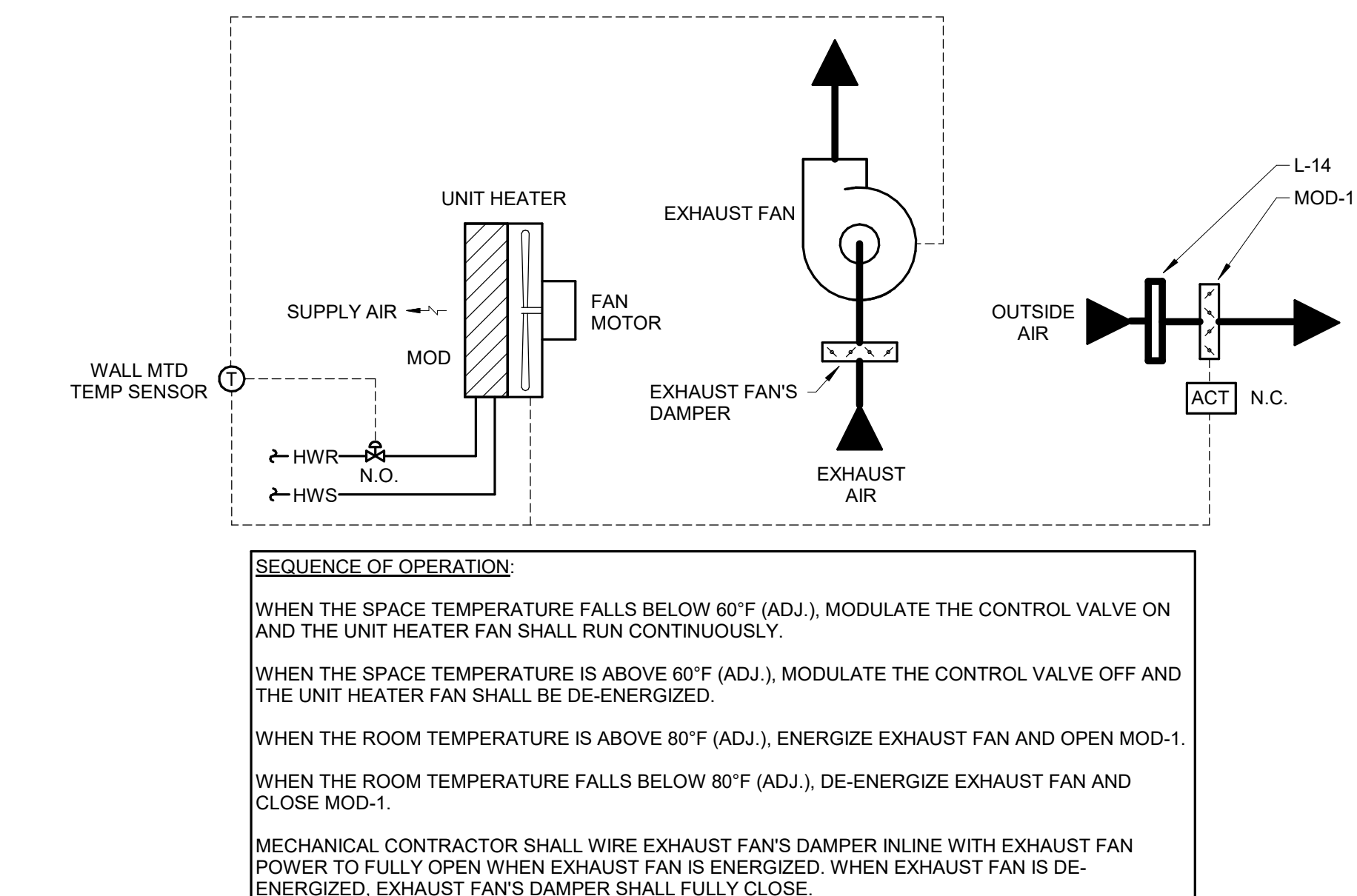
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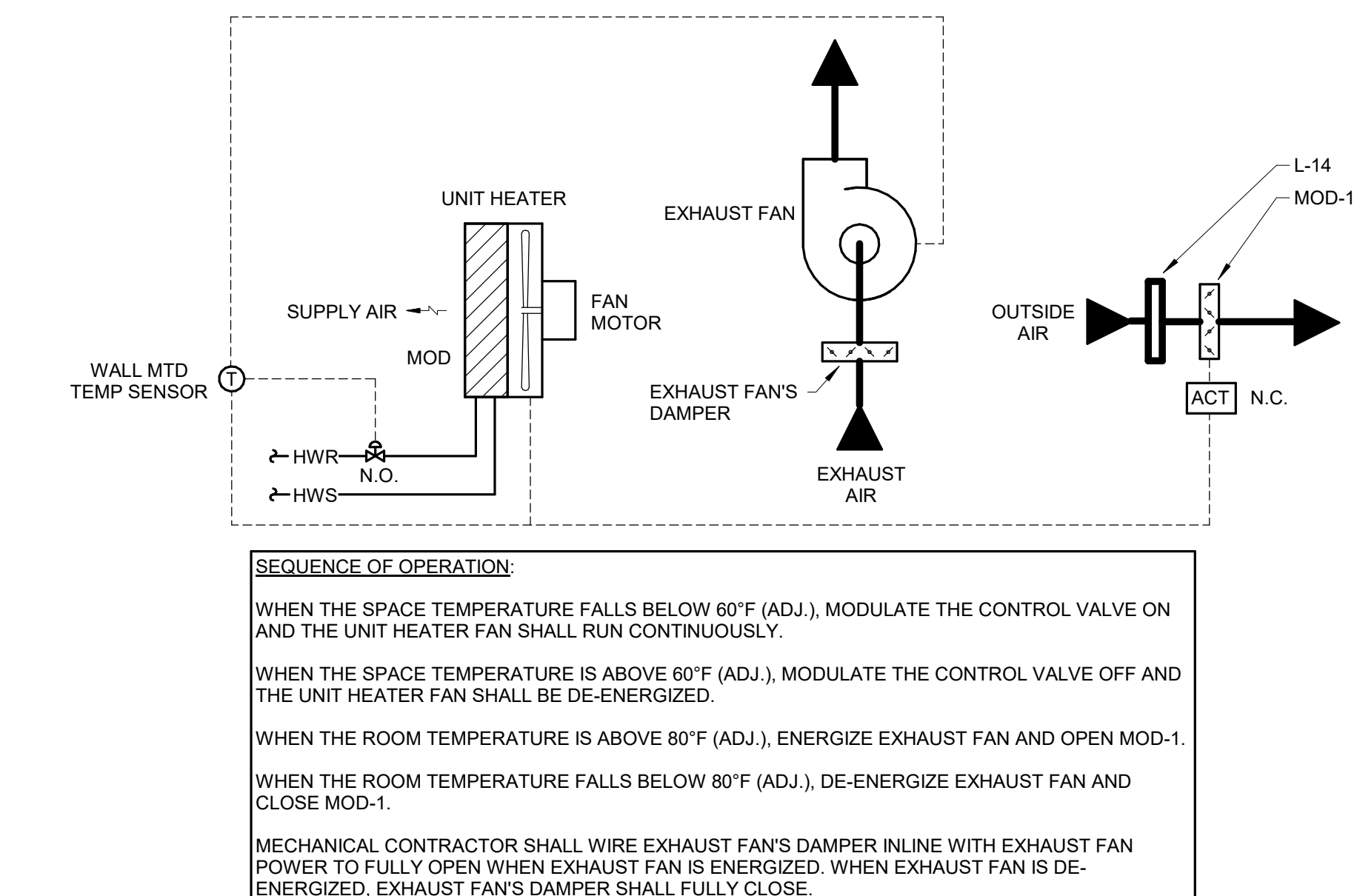
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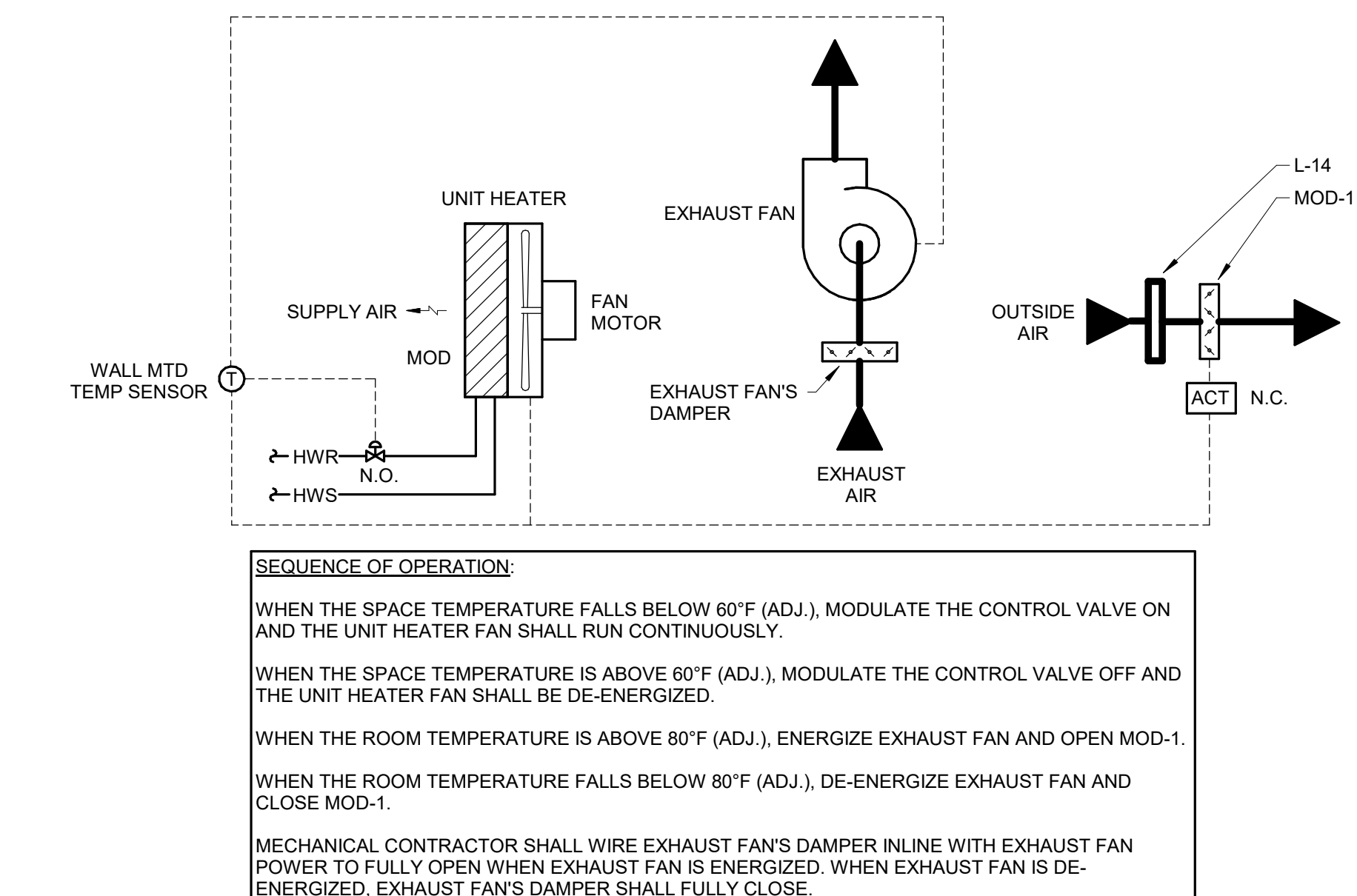
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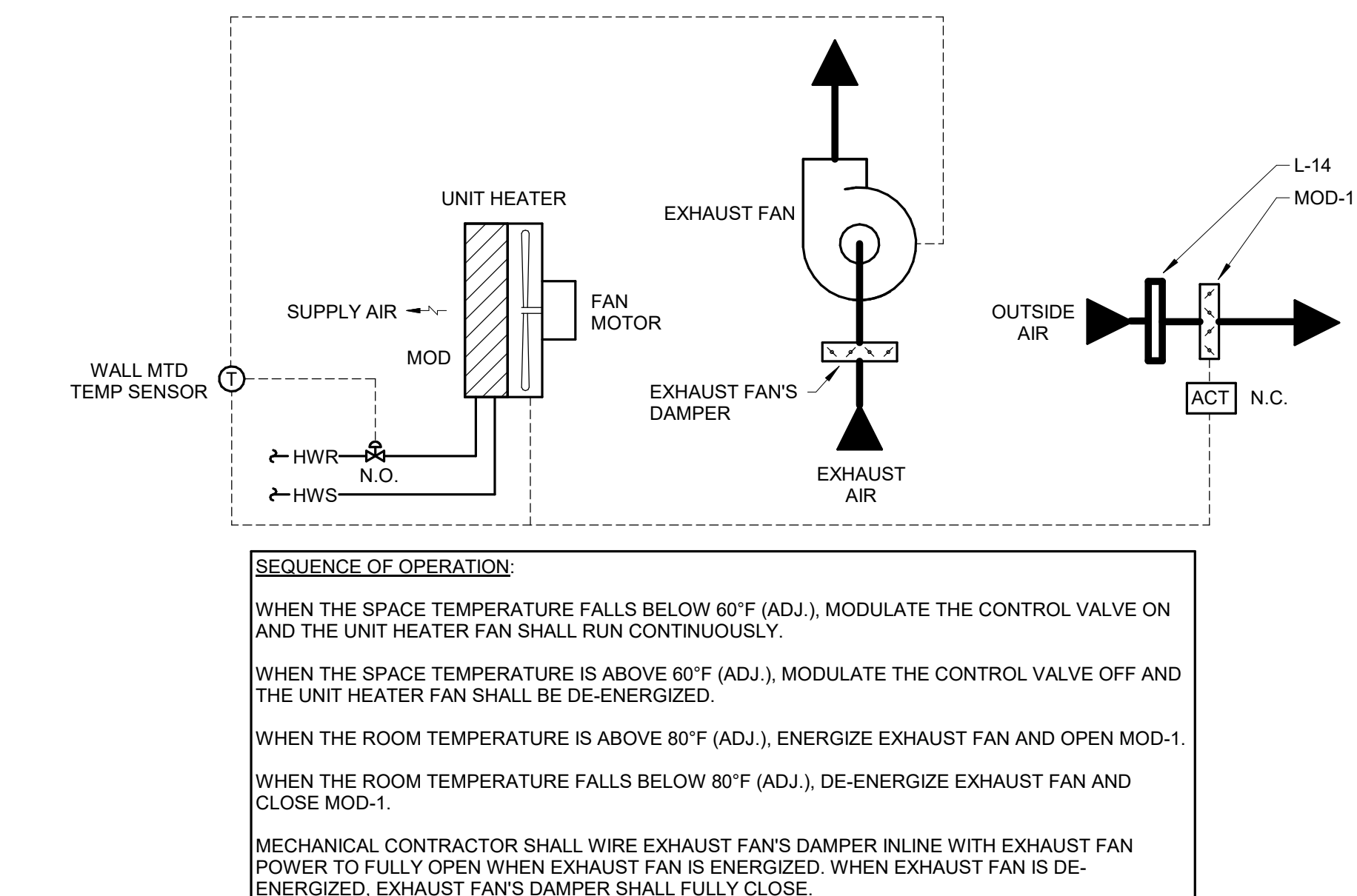
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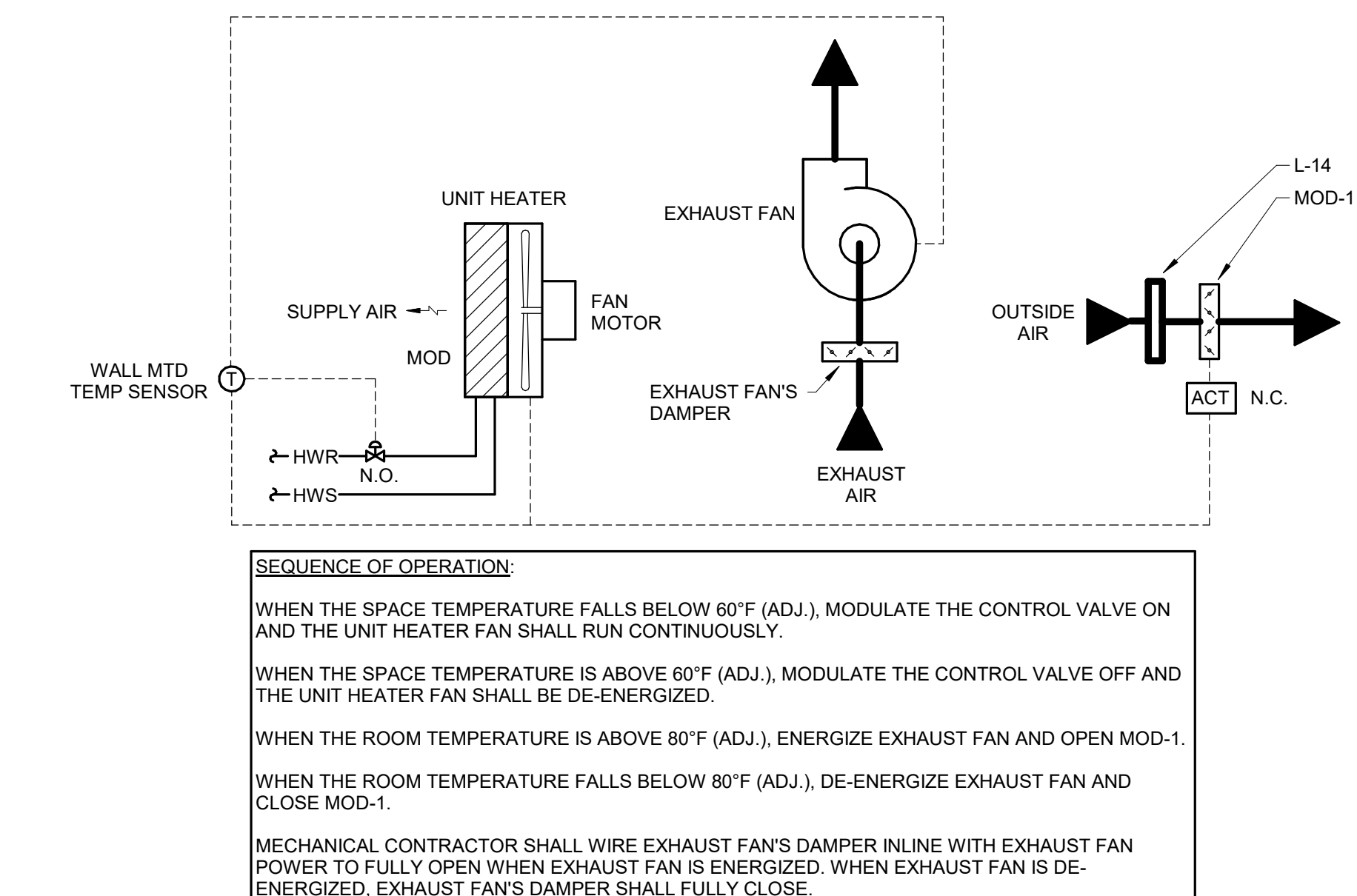
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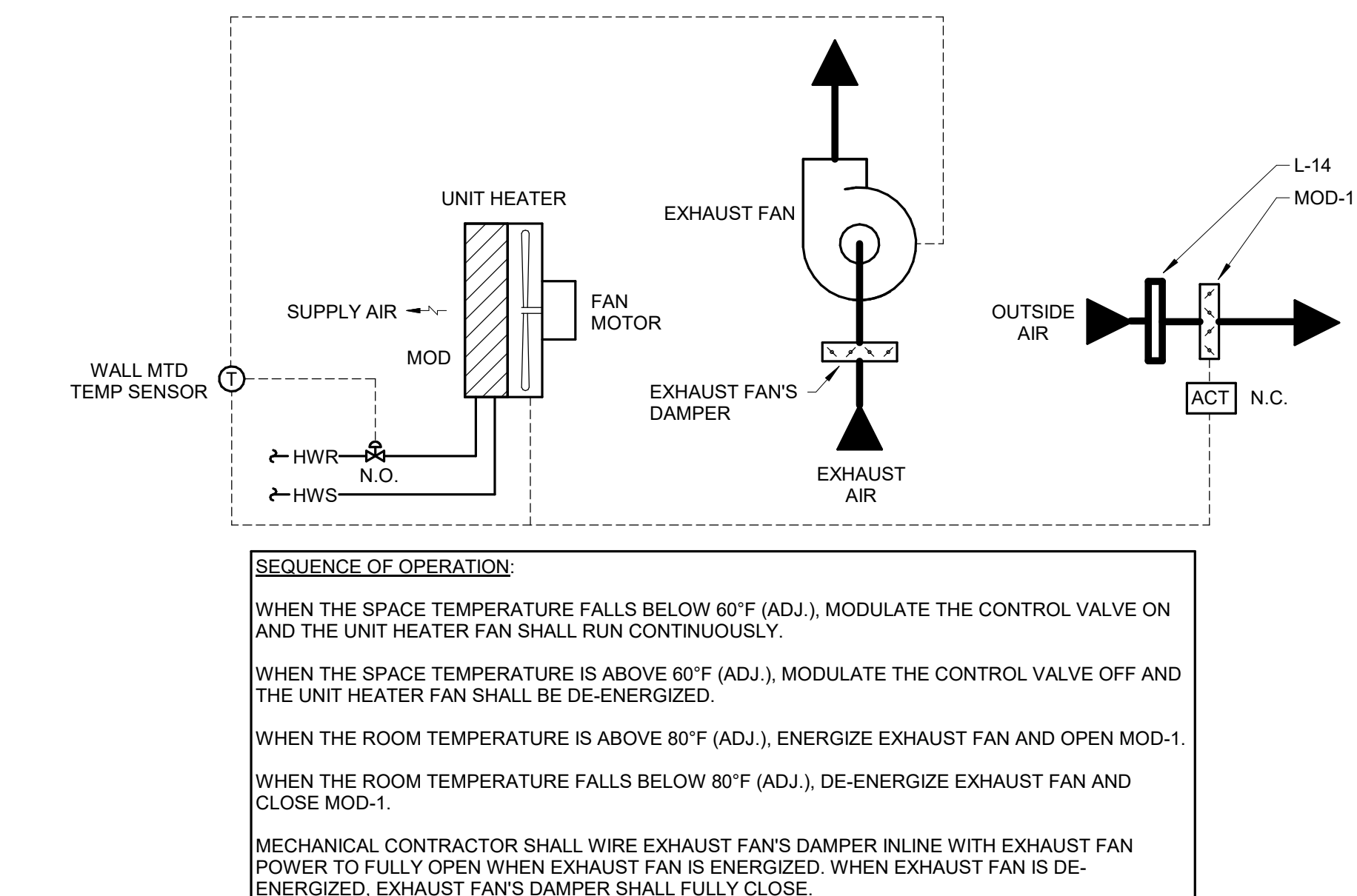
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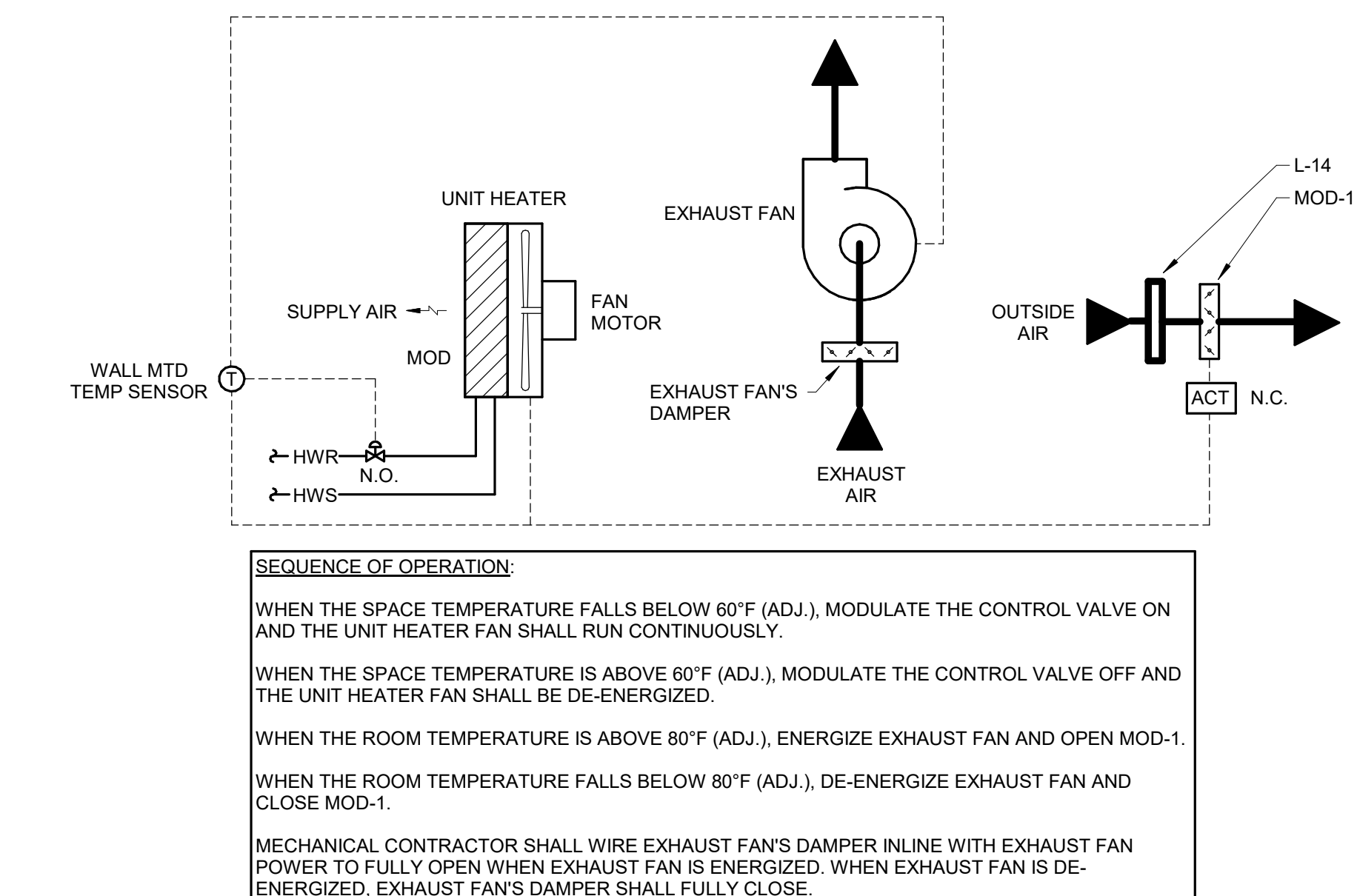
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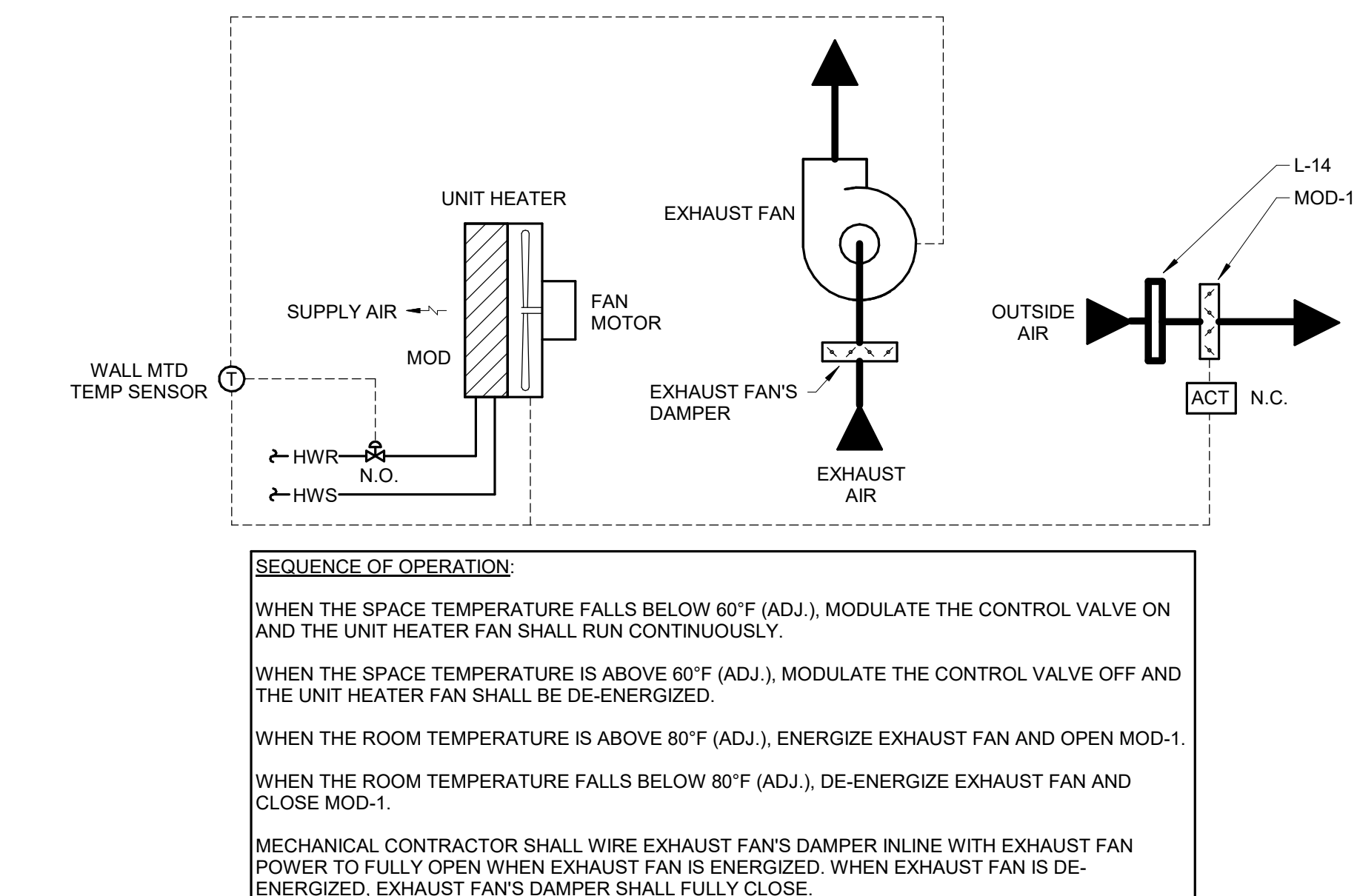
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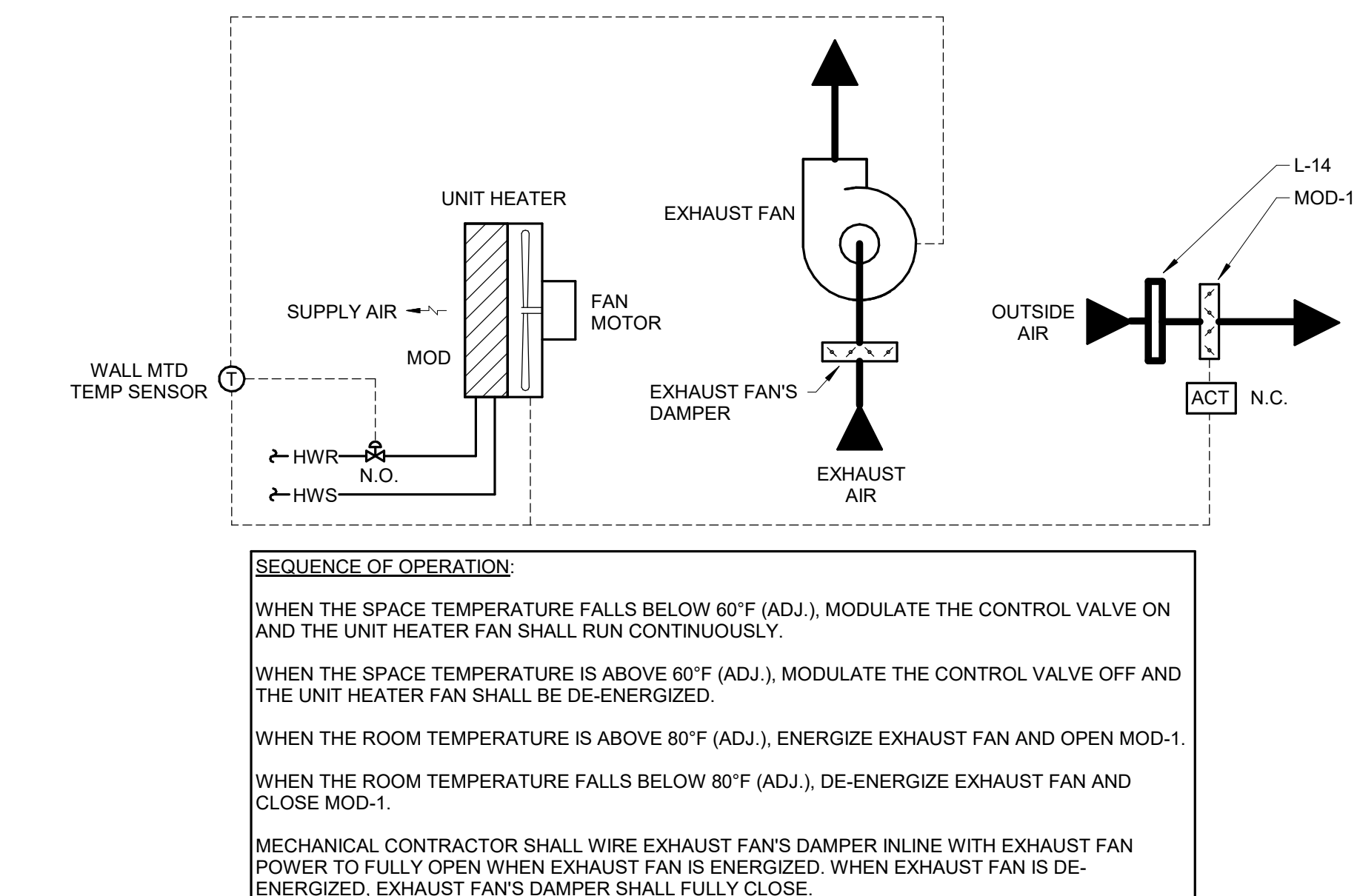
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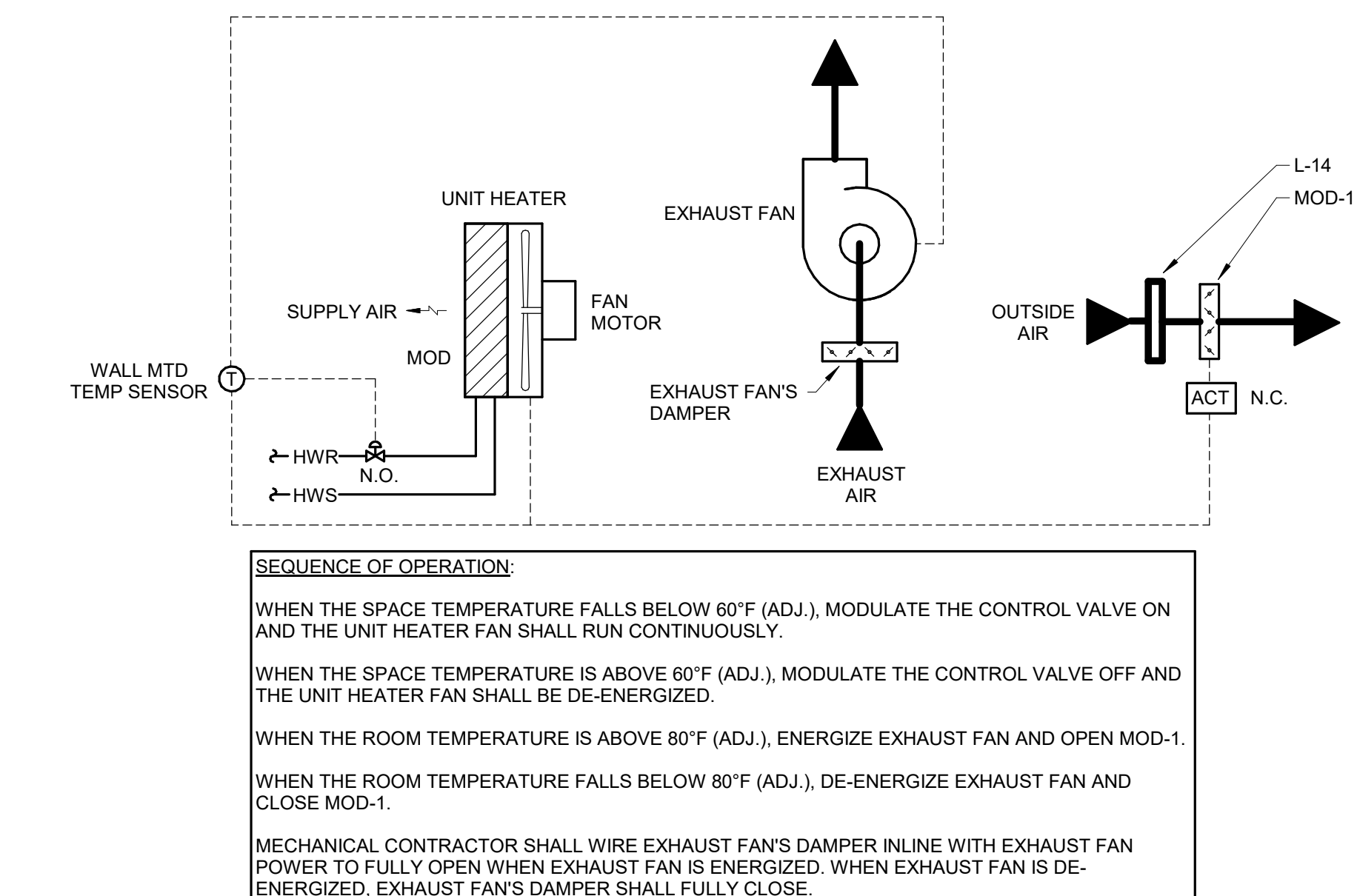
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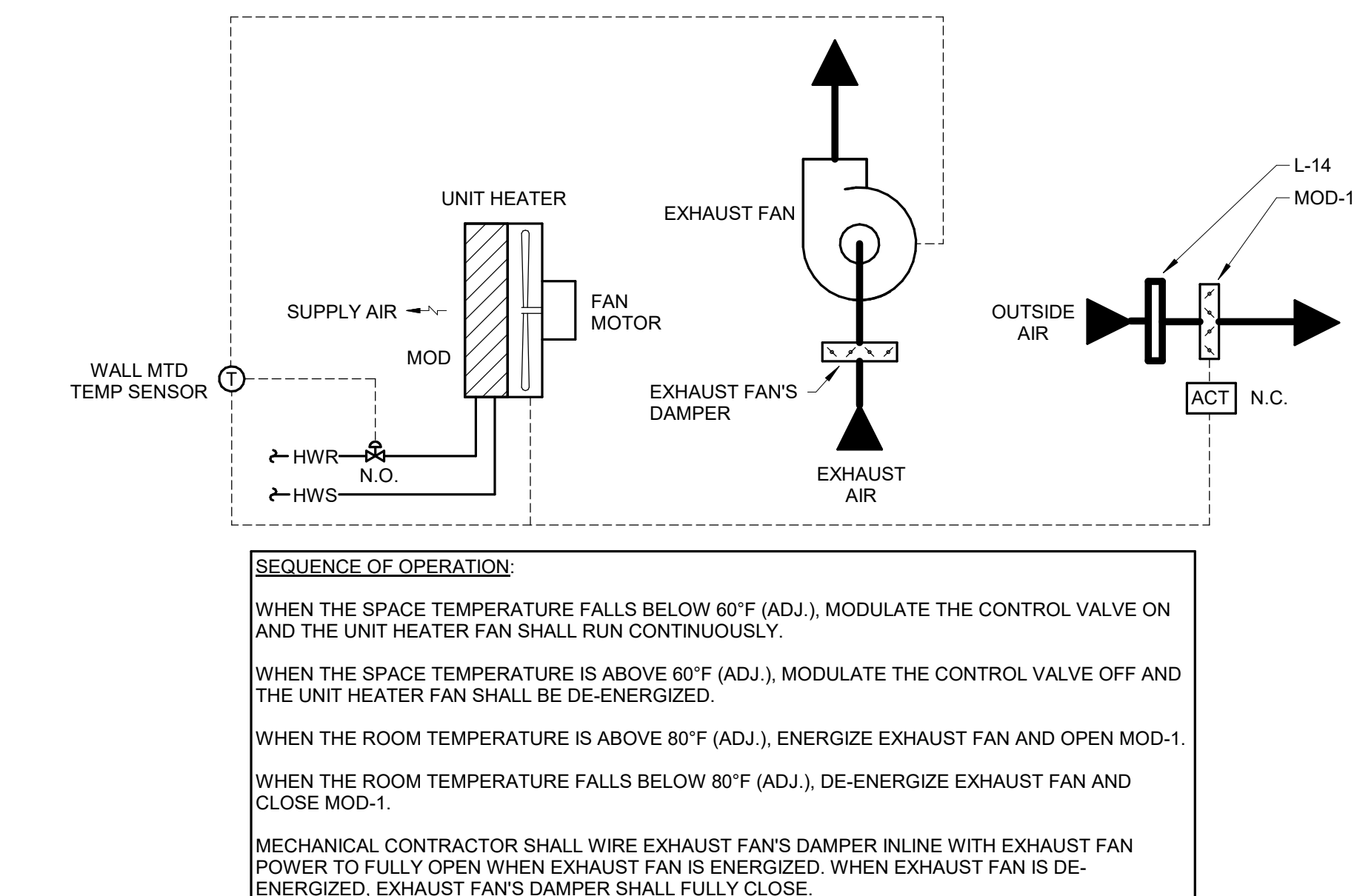
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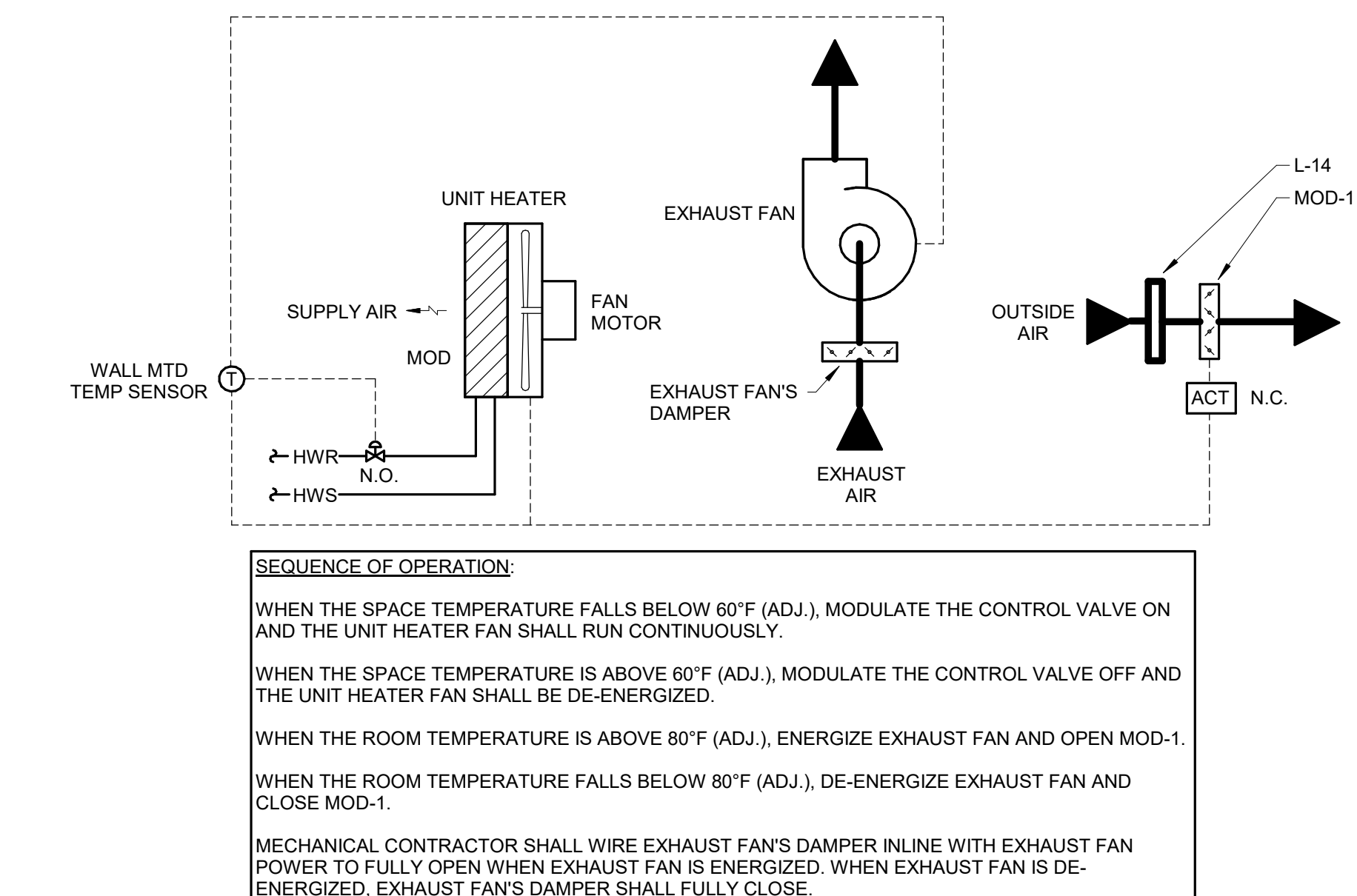
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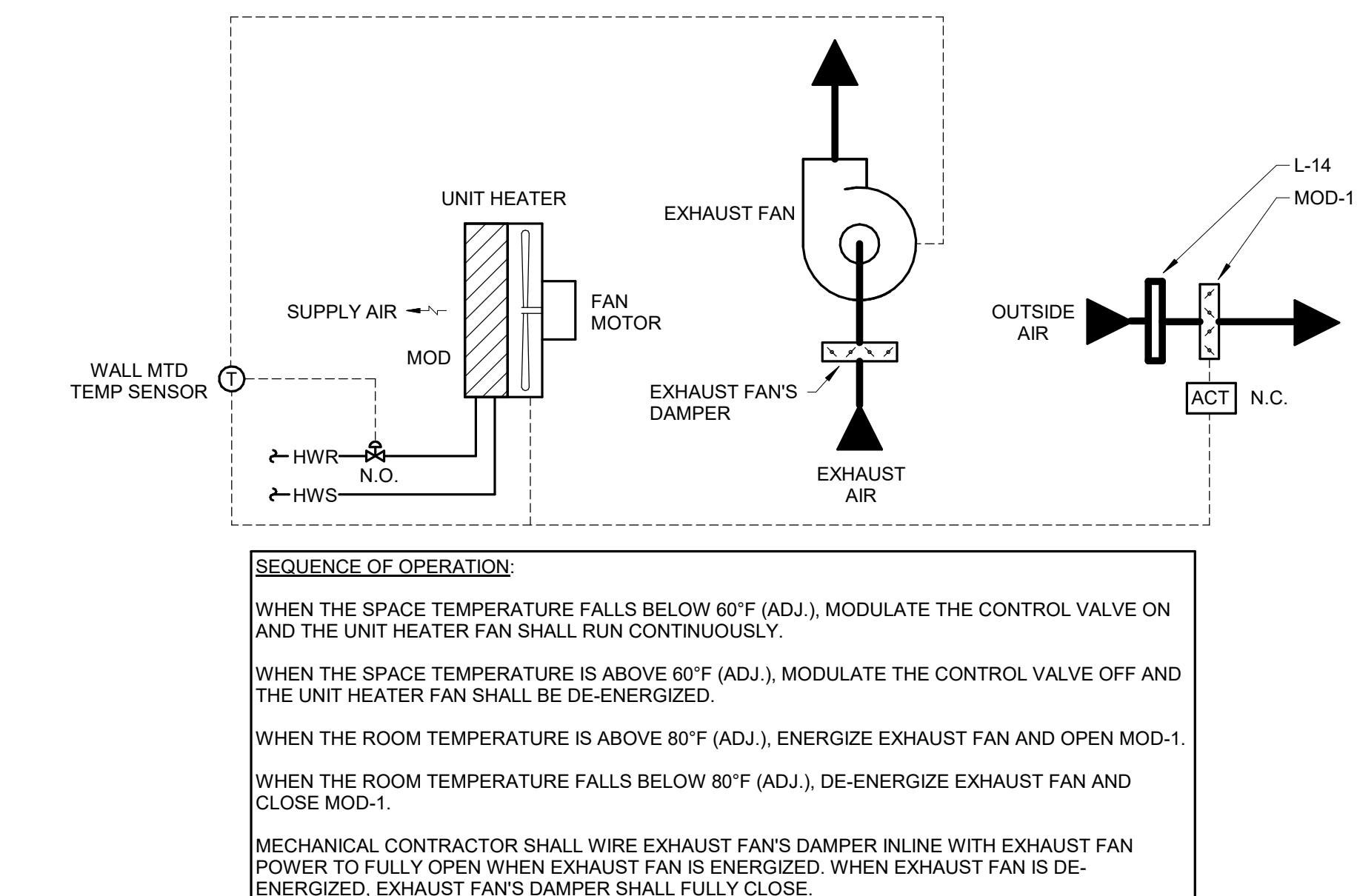
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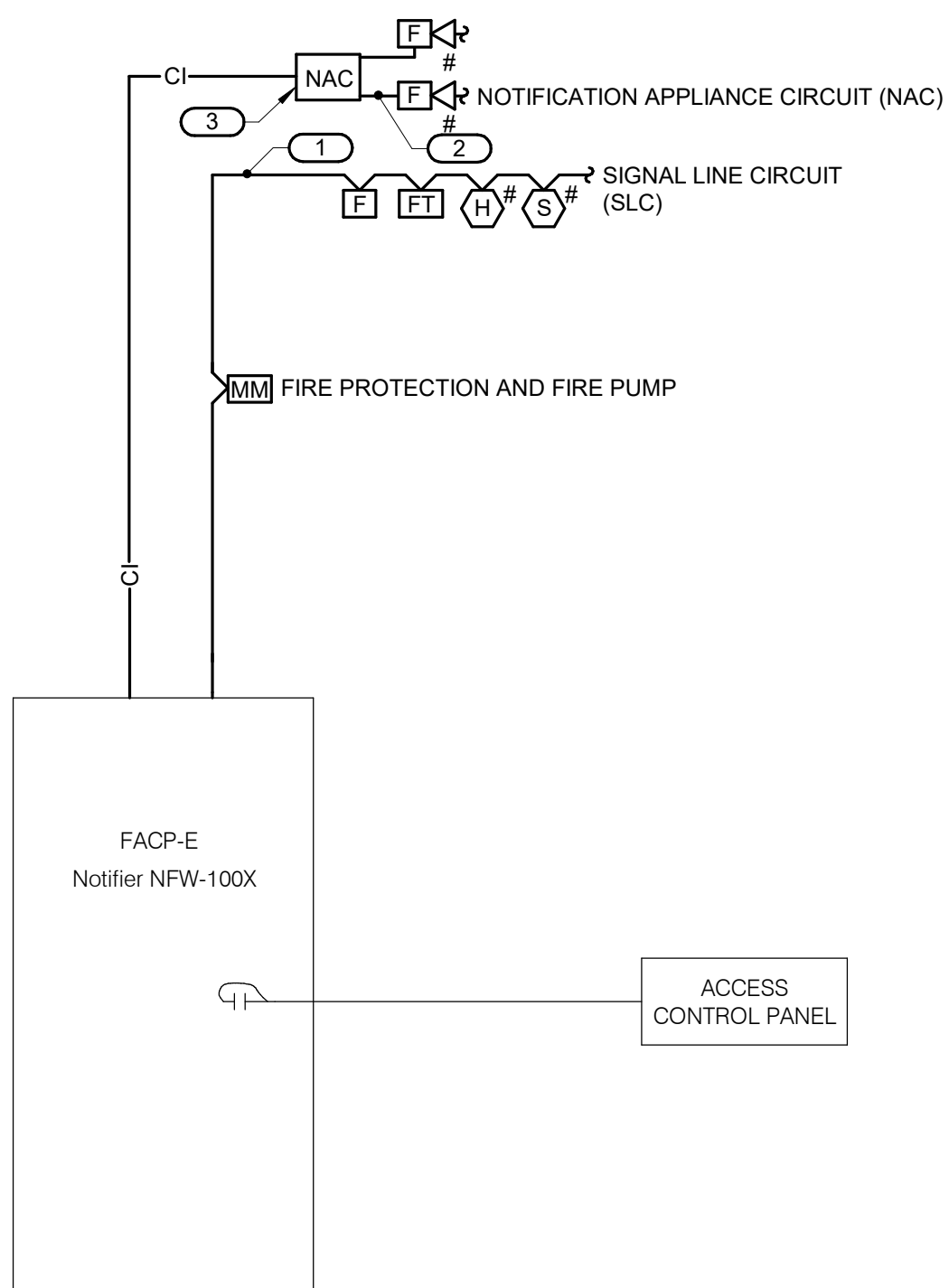
SEQUENCE OF OPERATION	PANEL/ANNUNCIATOR ALARM INDICATION	PANEL/ANNUNCIATOR SUPERVISORY INDICATION	PANEL/ANNUNCIATOR TROUBLE INDICATION	AUDIO ALARMS SUBSEQUENCE	VISUAL ALARMS SUBSEQUENCE	ELECTRIC SPRINKLER BELL SEQUENCE	SPRINKLER PREACTION ACTIVATION SEQUENCE	#	#
FIRE ALARM PANEL, TRANSDUCER, NAC PANEL LOW BATTERY		X							
FIRE ALARM PANEL, TRANSDUCER, NAC PANEL BATTERY OR CHARGER FAILURE			X						
FIRE ALARM PANEL, TRANSDUCER, NAC PANEL ABNORMAL SWITCH OR CONTROL POSITION		X							
FIRE ALARM PANEL, TRANSDUCER, NAC PANEL GROUND FAULT, OPEN CIRCUIT, SHORT CIRCUIT			X						
FIRE ALARM PANEL, TRANSDUCER, NAC PANEL AC POWER LOSS OR IRREGULARITY			X						
NOTIFICATION APPLIANCE CIRCUIT OR SLC LOOP GROUND FAULT, OPEN CIRCUIT, SHORT CIRCUIT			X						
INITIATING DEVICE FAILURE OR COMMUNICATION ERROR			X						
FIRE ALARM PANEL MANUAL FIRE DRILL		X		X	X				
FIRE ALARM PANEL FLOW SWITCH	MM FS			X	X	X	X		
SPRINKLER SYSTEM MONITOR SWITCH	MM TS _{PIV}		X						
SPRINKLER SYSTEM CABINET MONITOR	MM TS		X						
FIRE PUMP - RUN	MM		X						
FIRE PUMP - ALTERNATE SOURCE [MANUAL]	MM		X						
FIRE PUMP - PHASE REVERSAL [TROUBLE]	MM			X					
FIRE PUMP - POWER FAILURE [LOW FUEL]	MM		X						

NOTES:

- ALL SYSTEM EVENTS SHALL BE LOGGED, AND DISPLAYED ON THE INTERFACE, IF APPLICABLE. SEE SPECIFICATIONS FOR MORE INFORMATION AND DESCRIPTIONS OF SEQUENCES OF OPERATION.

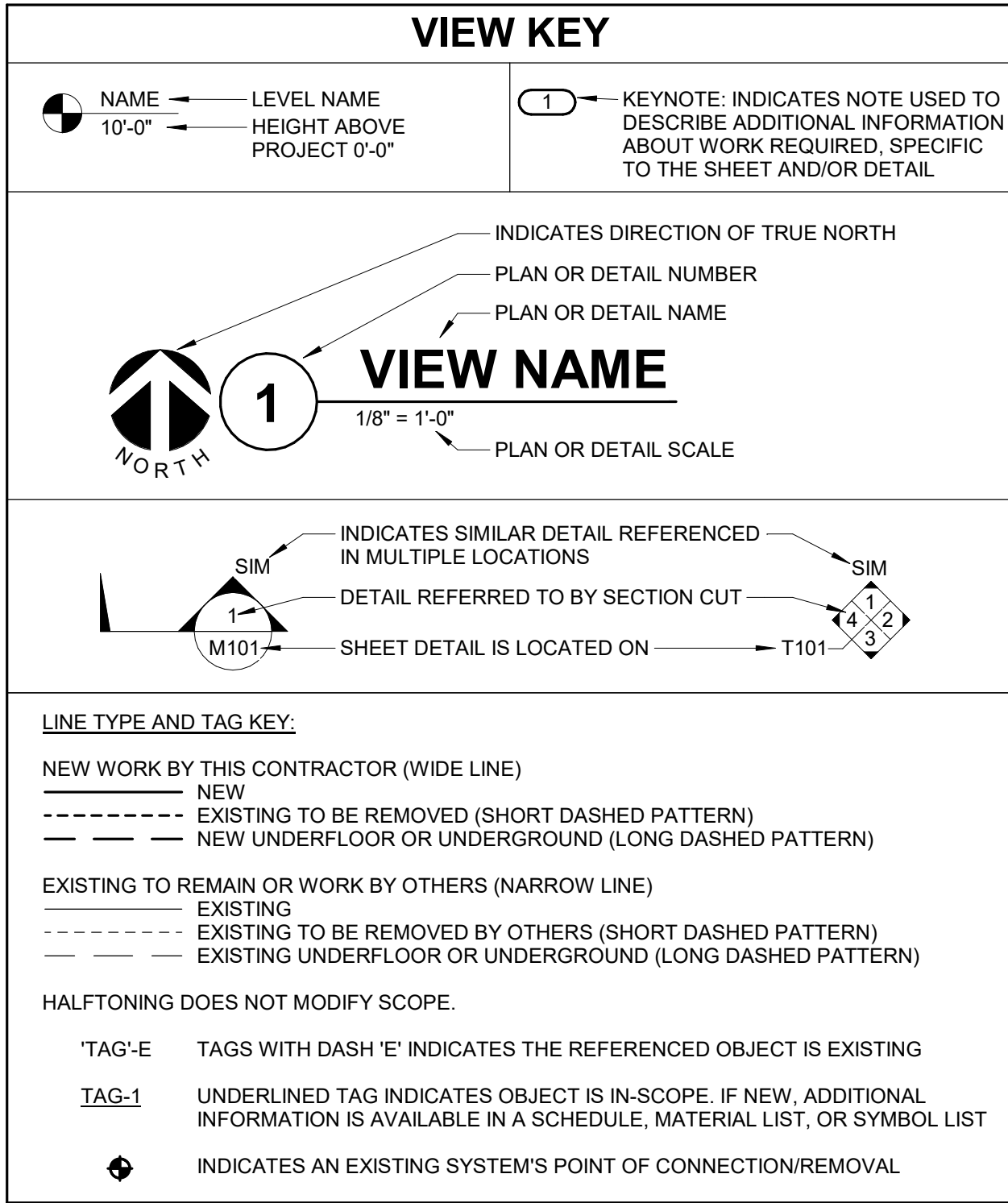
1 FIRE ALARM OPERATION MATRIX

NO SCALE



2 FIRE ALARM RISER

NO SCALE



FIRE / SMOKE BARRIER DESIGNATIONS

THE LINE TYPES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY RATINGS WITH THE LATEST SET OF ARCHITECTURAL PLANS AND FURNISH ALL MATERIALS REQUIRED TO COMPLY WITH THOSE RATINGS WHETHER SHOWN OR NOT.

ALL FLOOR, FLOOR CEILING, AND ROOF CEILING ASSEMBLIES SHALL BE DESIGNATED AS 1, 2, HOUR FIRE BARRIERS, UNLESS NOTED OTHERWISE ON THE PLANS. RATINGS WERE ACQUIRED FROM THE ARCHITECTURAL PLANS DATED 05/28/2025.

FIRE PARTITION	-----
1 HOUR FIRE BARRIER	-----
3 HOUR FIRE BARRIER OR WALL	-----

ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	EC-###	26 05 33	ELECTRICAL CONNECTION
	JB	26 05 33	JUNCTION BOX
	PANEL-###	EXISTING	PANELBOARD - RECESS MOUNT
	PANEL-###	EXISTING	PANELBOARD - SURFACE MOUNT
	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE 125V

NOTES:

- THE RISER DIAGRAM IS INTENDED TO CONVEY THE TYPES OF FIRE ALARM CONNECTIONS AND SPECIFICALLY DOES NOT INDICATE QUANTITIES, NUMBER OF CIRCUITS REQUIRED OR DISTANCES.
- THE COMPLETE FIRE ALARM SYSTEM SHALL MEET ALL APPLICABLE CODES AND MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL COORDINATE ALL WIRE SIZES, TYPES AND REQUIREMENTS WITH THE VENDOR PRIOR TO BID. REFER TO SPECIFICATIONS TO DETERMINE CIRCUIT STYLES AND IF CONDUIT IS REQUIRED OR PLENUM RATED CABLE IS ACCEPTABLE.
- ALL +120VAC WIRING REQUIRED FOR OPERATION OF THE SYSTEM AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- ALL NECESSARY RELAYS MAY NOT BE SHOWN ON THIS PLAN, BUT WHERE REQUIRED FOR PROPER OPERATION OF THE SYSTEM THEY SHALL BE PROVIDED BY THE CONTRACTOR.

KEYNOTES:

- REFER TO SPECIFICATION FOR REQUIREMENTS OF EACH INITIATION LOOP AND WIRING STYLE. REFER TO FLOOR PLANS FOR DEVICES AND THEIR LOCATIONS.
- REFER TO SPECIFICATION FOR REQUIREMENTS OF EACH NOTIFICATION APPLIANCE CIRCUIT AND WIRING STYLE. REFER TO FLOOR PLANS FOR DEVICES AND THEIR LOCATIONS.
- PROVIDE NOTIFICATION APPLIANCE EXTENDER PANELS AS REQUIRED. DETERMINATION OF NEED TO BE MADE BY FIRE ALARM VENDOR. REFER TO SPECIFICATIONS FOR REQUIREMENTS AND ACCEPTABLE MOUNTING LOCATIONS.

APPLICABLE CODES	
CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:	
BUILDING CODE:	IBC 2015 EDITION
FIRE CODE:	IFC 2015 EDITION
MECHANICAL CODE:	IMC 2024
PLUMBING CODE:	UPC 2024
ELECTRICAL CODE:	NFPA 70 (NEC) 2023 EDITION
ENERGY CONSERVATION CODE:	IECC 2012
LOCAL BUILDING CODE:	CURRENT EDITION

CONTRACTOR ABBREVIATION KEY	
ABBR:	DESCRIPTION:
C.C.	CIVIL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

CONTACT PERSONS:	
DESCRIPTION:	PERSON:
PROJECT MANAGER	DELLAN LLEWELLYN
MECHANICAL	DELLAN LLEWELLYN
ELECTRICAL	CHRIS MARTING

ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
			SUBSCRIPTS: TYPE / PROGRAMMING
			WG = WIRE GUARD IS REQUIRED
			W = WEATHERPROOF
			A = ATRIUM
			CA = CLEAN AGENT SYSTEM
			CR = COMPUTER ROOM
			E = ELEVATOR RECALL
			D = HVAC CONTROL
			DH = DOOR HOLD RELEASE
			DIPS = DUAL INTERLOCK PREACTION SYS
	FA-CP-#	EXISTING	FIRE ALARM CONTROL PANEL
	FA-120	EXISTING	FIRE ALARM SMOKE DETECTOR, CEILING OR WALL MOUNT
			BLANK = PHOTOELECTRIC
			AT = ATTIC (LOCATED IN)
			BR = BEAM RECEIVER
			BT = BEAM TRANSMITTER
			CO = COMBINATION SMOKE / CARBON MONOXIDE
			COH = COMBINATION SMOKE / CARBON MONOXIDE / HEAT
			COS = COMBINATION SMOKE / CARBON MONOXIDE / STROBE
			H = COMBINATION SMOKE / HEAT DETECTOR
	FA-140	EXISTING	FIRE ALARM HEAT DETECTOR
			BLANK = COMBINATION RATE OF RISE
			/ FIXED TEMP
			AT = ATTIC (LOCATED IN)
			F = FIXED TEMP
			RC = RATE COMPENSATED
			X = EXPLOSION PROOF
	FA-130	EXISTING	FIRE ALARM MANUAL PULL STATION
	FA-210	EXISTING	AUDIO HORNCHIME ALARM DEVICE, CEILING OR WALL MOUNTED
	FA-211	28 31 00	COMBINATION AUDIO HORNCHIME AND VISUAL ALARM DEVICE, CEILING OR WALL MOUNTED
	FA-160	28 31 00	FIRE ALARM ADDRESSABLE MONITOR MODULE
	FA-161	28 31 00	FIRE ALARM ADDRESSABLE CONTROL MODULE
			BLANK = REFER TO PLANS
			KB = KNOX BOX MONITOR
	FA-122	28 31 00	FIRE ALARM DUCT SMOKE DETECTOR
			# = EQUIP OR SYSTEM
			ION = IONIZATION TYPE
			ID = IN DUCT DETECTOR
			SA = STAND ALONE WITH SOUNDER
			SB = SOUNDER BASE
	FA-160	28 31 00	FIRE ALARM ADDRESSABLE MONITOR MODULE
	FA-161	28 31 00	FIRE ALARM ADDRESSABLE CONTROL MODULE
			BLANK = REFER TO PLANS
			LC = LIGHTING CONTROL OVERRIDE
			DH = DOOR HOLD OPEN
			PD = HOLD OPEN OVERRIDE
			FIRE ALARM DUCT SMOKE DETECTOR
			# = EQUIP OR SYSTEM
			ION = IONIZATION TYPE
			ID = IN DUCT DETECTOR

ELECTRICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, FIRE ALARM, AND OTHER LOW VOLTAGE SYSTEMS.

- EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS.
- NOT ALL EXISTING EQUIPMENT, LUMINAIRES, AND CONDUIT ARE SHOWN. CONTRACTOR SHALL REVIEW EXISTING CONDITIONS AND REPORT CONFLICTS.
- CONTRACTOR SHALL REVIEW EXISTING CONDITIONS PRIOR TO FABRICATION OF CABLE TRAY, BUSWAY, CONDUIT RACKS, AND OTHER SYSTEMS. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
- ELECTRICAL CONTRACTOR SHALL REVIEW EXISTING CONDITIONS TO VERIFY ACCESSIBILITY TO THE AREAS OF THEIR WORK INCLUDING WALLS, FLOOR, CEILING, CEILING TILES, ROOF, AND ROOF. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE CUTTING, REMOVAL, PATCHING, AND REINSTALLATION OF AFFECTED AREAS ASSOCIATED WITH THEIR WORK BY COORDINATING WITH THE GENERAL CONTRACTOR OR QUALIFIED CONTRACTOR. CONTRACTOR SHALL NOTIFY THE PRIME CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
- WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

EQUIPMENT ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	AUTOMATIC DOOR OPERATOR WITH SENSOR
ATM	AUTOMATIC TELLER MACHINE
COF	COFFEE
COPY	COPIER
DB	DOOR BELL
DISP	GARBAGE DISPOSAL
DLVL	DOCK LEVELER
DOOR	DOOR OPERATOR, ELECTRIC
DRY	DRYER, CLOTHS
DW	DISHWASHER
ELEV	ELEVATOR
ELVC	ELEVATOR CAB CONNECTION
ELVD	ELEVATOR AUDIO VISUAL DATA SYSTEM
EPT	ELECTRONIC PAPER TOWEL DISPENSER (NON-BATTERY)
ESP	ESPRESSO MACHINE
EWC	ELECTRIC WATER COOLER
EWCC	ELECTRIC WATER COOLER CONDENSER
FAN	CEILING FAN
FDO	FIRE DOOR OPERATOR
FFE	OWNER FURNISHED FIXTURES, FURNITURE, AND EQUIPMENT
FURN	OWNER FURNITURE
HD	HAND DRYER
HOOD	KITCHEN EXHAUST HOOD
ICE	ICE MACHINE
MS	MOTORIZED SHADE
MW	MICROWAVE
OHD	OVERHEAD DOOR
OVEN	OVEN, WALL
PFR	PLUMB FIXTURE RECEPT FOR LV VALVE POWER
PP	PUSH PAD AUTOMATIC DOOR OPERATOR (REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATION)
PW	POWER WASHER SPECIAL RECEPTACLE
RANGE	ELECTRICAL COOKTOP RANGE
REF	REFRIGERATOR
SIGN	DEDICATED SIGNAGE CIRCUIT
SINK	SCRUB SINK
STOVE	RANGE / OVEN APPLIANCE
TCP	TEMPERATURE CONTROLS PANEL
TRSH	TRASH COMPACTOR
TV	TELEVISION - MONITOR - DISPLAY
UCF	UNDERCOUNTER FREEZER
UCM	UNDERCOUNTER MICROWAVE
UCR	UNDERCOUNTER REFRIGERATOR
VEND	VENDING MACHINE

ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
			LINEAR LUMINAIRES
			TROFFER
			DOWNLIGHT LUMINAIRE

ELECTRICAL INSTALLATION NOTES:

- CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
- EMERGENCY BRANCH WIRING FOR FEEDERS AND BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE RACEWAY, JUNCTION BOXES, PULL BOXES, AND CABINETS. WIRING FOR EACH BRANCH SHALL BE INDEPENDENT FROM OTHER BRANCHES, INCLUDING THE NORMAL BRANCH.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPPERS. REFER TO 26 05 03 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
- MOUNT ALL FIRE ALARM PULL STATIONS AT +42" FROM FLOOR (CENTERLINE DIMENSION) EXCEPT WHERE OTHERWISE NOTED.
- INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90" ABOVE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER, EXCEPT WHERE OTHERWISE NOTED. HEIGHT SHALL BE MEASURED TO THE TOP OF THE DEVICE.
- CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS, CARBON MONOXIDE DETECTORS, AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE. CARBON MONOXIDE DETECTORS SHALL BE LOCATED 10 PLUS FT FROM FIRE PLACES, COOKING, AND SIMILAR FUEL-BURNING APPLIANCES.
- CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- ELECTRICAL EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILING, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
- ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

ELECTRICAL ABBREVIATION KEY	
ABBR:	DESCRIPTION:
ABV	ABOVE
AFB	ABOVE FINISHED CEILING
AFD	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ASR	ARCHITECTURAL SURFACE RACEWAY
BC	BELOW COUNTER
C	CONDUIT (BRANCH CIRCUIT OR FEEDER CONTEXT)
CO	CONDUIT AND BOX ROUGH-IN ONLY (ROUGH-IN ONLY)
EG	EQUIPMENT GROUND
EGC	EQUIPMENT GROUNDING CONDUCTOR
EOL	END OF LINE
EPO	EMERGENCY POWER OFF
GFR	GROUND FAULT REMOTE
HOA	HAND/OFF/AUTO
ITR	IT RACK MOUNTED RECEPTACLE
NC	NORMALLY CLOSED
NEMA #	NEMA RATING
NIC	NOT IN CONTRACTED SCOPE
NO	NORMALLY OPEN
ROOF	EQUIPMENT LOCATED ON ROOF ABOVE
SM	SURFACE MOUNTED
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED

ELECTRICAL SHEET INDEX	
E0.00	ELECTRICAL COVERSHEET
E1.00	DEMOLITION FLOOR PLAN - ELECTRICAL
E2.00	FLOOR PLAN - POWER & SYSTEMS
E2.01	FLOOR PLAN - LIGHTING
E4.00	ELECTRICAL DETAILS & SCHEDULES
GRAND TOTAL 5	

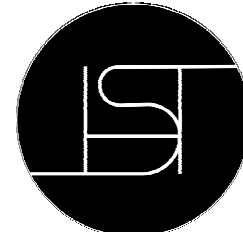


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REVISIONS

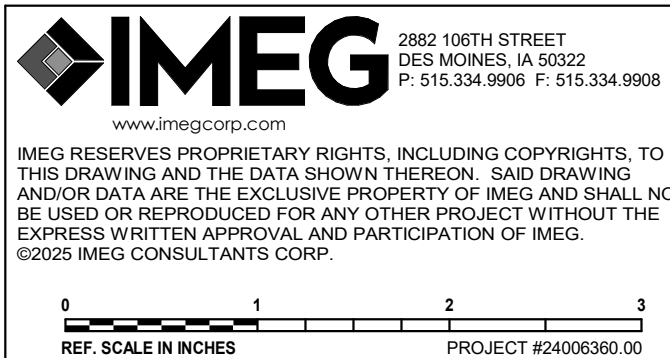
REVISIONS	
Issue	100% CD - REVIEW - REBID
Date	09/12/2025
Project #	24006360.00
Drawn	CHRMAR
Checked	TONDEL
Approved	TONDEL

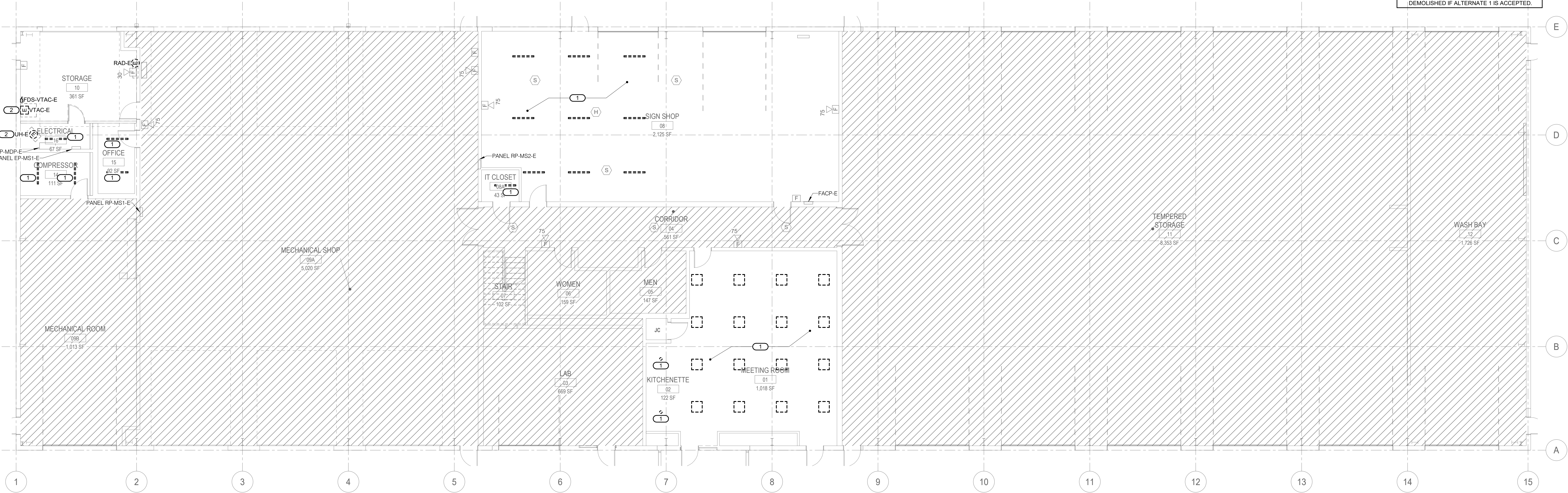
SHEET TITLE
ELECTRICAL COVERSHEET

Scale: As indicated.

SHEET NUMBER

E0.00





1 FIRST FLOOR DEMOLITION PLAN - ELECTRICAL
1/8" = 1'-0"

- SHEET NOTES:**
1. HATCHED REGION INDICATES AREAS NOT IN SCOPE OF WORK.
- KEYNOTES:** (1)
1. DISCONNECT AND SALVAGE LIGHT FIXTURES IN A SAFE SPACE FOR REINSTALLATION. EXISTING CIRCUITS AND CONTROLS TO BE MAINTAINED FOR REUSE. REFER TO SHEET E2.01 FOR NEW LOCATIONS.
 2. CONNECTIONS FOR VTAC-E, UH-E, AND ASSOCIATED EQUIPMENT NOT TO BE DEMOLISHED IF ALTERNATE 1 IS ACCEPTED.

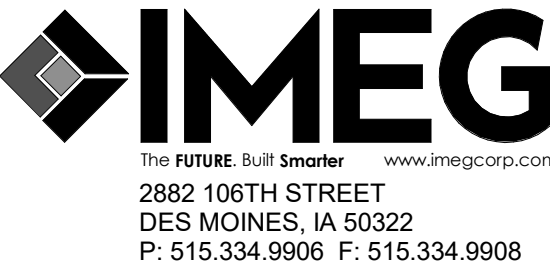
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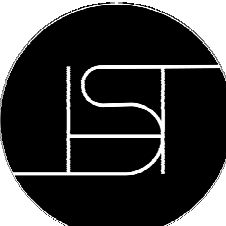
REF. SCALE IN INCHES 0 1 2 3
PROJECT #24006360.00



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REVISIONS

No. Date Revision / Issue

SHEET INFORMATION	
Issue	100% CD - REVIEW - REBID
Date	09/12/2025
Project #	24006360.00
Drawn	CHRMAR
Checked	TONDEL
Approved	TONDEL

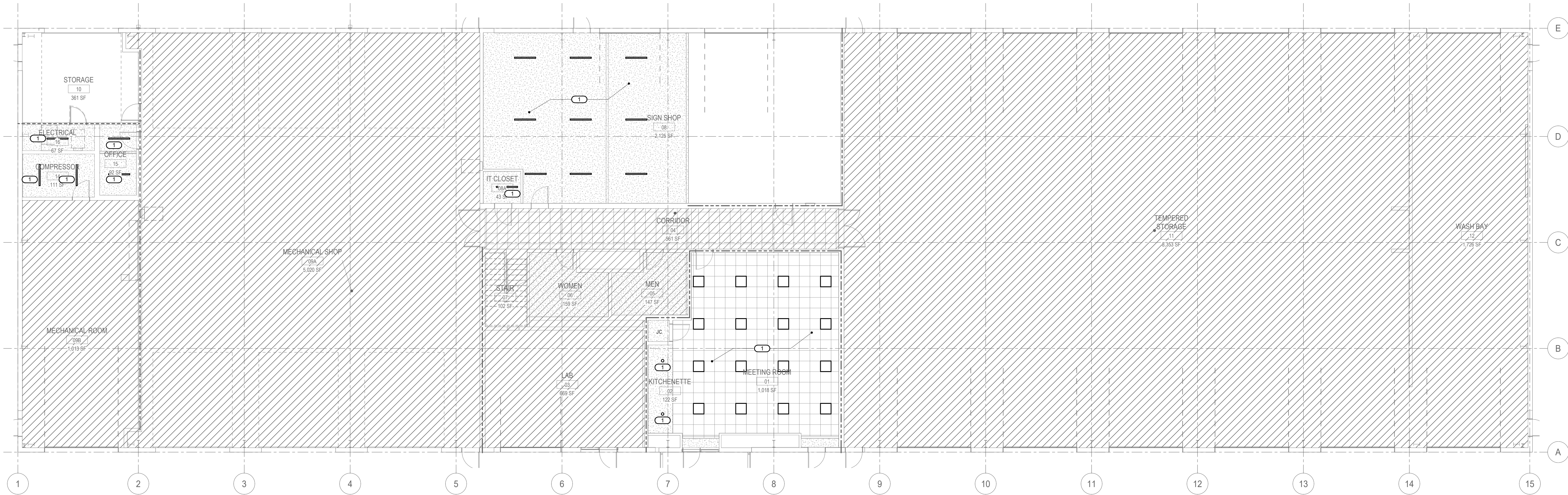
SHEET TITLE
**DEMOLITION FLOOR
PLAN - ELECTRICAL**

SCALE
Scale: 1/8" = 1'-0"

SHEET NUMBER

E1.00

24006360.00 9/11/2025 3:13:17 PM SECONDARY ROADS MAINTENANCE FACILITY - FIRE PROTECTION UPGRADES



KEYNOTES: (#)
1. SALVAGED LIGHT FIXTURES TO BE RECONNECTED TO EXISTING CIRCUIT AND CONTROLS.

1 FIRST FLOOR PLAN - LIGHTING
1/8" = 1'-0"

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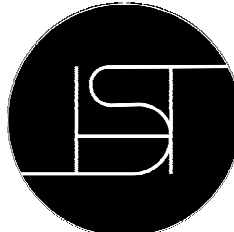
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REVISIONS

No. Date Revision / Issue

SHEET INFORMATION	
Issue	100% CD - REVIEW - REBID
Date	09/12/2025
Project #	24006360.00
Drawn	CHRMAR
Checked	TONDEL
Approved	TONDEL

SHEET TITLE
FLOOR PLAN - LIGHTING

SCALE
Scale: 1/8" = 1'-0"

SHEET NUMBER

E2.01

ENCLOSURE: NEMA 1

LOCATION: ELECTRICAL 16

SOLID NEUTRAL
GROUND BUS

MAIN: 800 MCB
VOLTS: 120/240 Single
PHASE: 1
WIRE: 3

NOTES: SEE ELECTRICAL DISTRIBUTION AND PANEL SCHEDULE NOTES FOR PANEL KEY. EXISTING SQUARE D I-LINE PANELBOARD.

CKT	LOAD DESCRIPTION	Load	POLES	FRAME	TRIP	TYPE	ACC.	WIRE AND RACEWAY			CIRCUIT KEY
1	ATS (PANEL EP-MS1)	53 kVA	2	400	225	--	--	--			--
2	PANEL RP-MS2	40.9 kVA	2	400	225	--	--	--			--
3	PANEL RP-MS1	19 kVA	2	400	225	--	--	--			--
4	SPARE	0 kVA	2	400	225	--	--	--			--
5	PANEL RP-MS3	31.1 kVA	2	400	225	--	--	--			--
6	SPARE	0 kVA	2	400	100	--	--	--			--
7	FUTURE HS-1	28.6 kVA	2	400	225	--	--	--			--
8	FUTURE EP-HS	26.1 kVA	2	400	100	--	--	--			--
9	FUTURE CS-1	9.3 kVA	2	400	225	--	--	--			--
10	FUTURE CS-E	4.1 kVA	2	400	20	--	--	--			--
11	SPARE	0 kVA	2	400	20	--	--	--			--
12	SPARE	0 kVA	2	400	20	--	--	--			--
LOAD SUMMARY (INCLUDES ALL TUBS IN THIS PANEL)											
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND		TOTALS*					
Spare		212.1 kVA	80.00%	169.68 kVA							
						TOTAL CONNECTED LOAD:		212.10 kVA			
						TOTAL ESTIMATED DEMAND LOAD:		169.68 kVA			
						TOTAL CONNECTED AMPS:		883.75 A			
						TOTAL ESTIMATED DEMAND AMPS:		707			
*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.											
CIRCUIT KEY NOTES:											

PANEL RP-MS2-E												MAIN: 225 MCB VOLTS: 120/240 Single PHASE: 1 WIRE: 3							
MOUNTING: RECESSED ENCLOSURE: NEMA 1				SINGLE TUB SOLID NEUTRAL GROUND BUS															
LOCATION: MECHANICAL SHOP 09A																			
NOTES: SEE ELECTRICAL DISTRIBUTION AND PANEL SCHEDULE NOTES FOR PANEL KEY. EXISTING SQUARE D NQ PANELBOARD. ITEMS LABEL "(ALTERNATE 1)" ARE ONLY TO BE PROVIDED IF ALTERNATE 1 IS ACCEPTED.																			
K E Y	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	H	WIRE SIZE N G	VD %	A	B	VD %	G	N	H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	K E Y	
--	1	RECEPT PANEL (RP-MS-1)	20	1	--	--	--	0.2	0.7	--	--	--	1	20	RECEPT RM 09-1, 03-1	2	--		
--	3	RECEPTACLE RM 03-1, 02	20	1	--	--	--	0.9	0.4	--	--	--	1	20	RECEPT LAB-1 03-1	4	--		
--	5	MD-1 MECH SHOP 09A	20	1	--	--	--	0	--	--	--	--	1	--	SPACE	6	--		
--	7	SPACE	--	1	--	--	--	--	0.2	--	--	--	2	50	LAB RANGE	8	--		
--	9	RECEPT MECH SHOP-1 09-1	20	1	--	--	--	0.2	0.2	--	--	--	1	20	RECEPT	10	--		
--	11	RECEPT MECH SHOP-1 09-1	20	1	--	--	--	0.9	0.4	--	--	--	1	20	RECEPT	12	--		
--	13	MEETING RM TV	20	1	--	--	--	0.2	0.2	--	--	--	1	20	MICROWAVE	14	--		
--	15	RECEPT RM 04, 08	20	1	--	--	--	1.3	0.7	--	--	--	1	20	RECEPT RM 01-1, 02	16	--		
--	17	RECEPT REFRIDGE	20	1	--	--	--	0.2	0	--	--	--	1	20	UH4	18	--		
--	19	RECEPT RM 05, 06, 04-1	20	1	--	--	--	0.4	1.5	--	--	--	1	20	RECEPT RM 22, 23	20	--		
--	21	RECEPT PARTS/STORAGE 23	20	1	--	--	--	0.7	0.7	--	--	--	1	20	RECEPT OFFICE 22	22	--		
--	23	RECEPT RM 22, 23	20	1	--	--	--	0.9	0	--	--	--	1	20	RECEPT MECH SHOP-2, 09-2	24	--		
--	25	RECEPT MECH SHOP-2 09-2	20	1	--	--	--	0	0.7	--	--	--	1	20	RECEPT RM 09-1, 08-1	26	--		
--	27	RECEPT SPACE 11-3	20	1	--	--	--	0	1.8	--	--	--	1	30	LIGHTS	28	--		
--	29	LIGHTS	20	1	--	--	--	0.3	0.8	--	--	--	1	20	LIGHTS SPACE 11-3	30	--		
--	31	LIGHTS	20	1	--	--	--	1.4	0	--	--	--	1	20	RECEPT	32	--		
--	33	LIGHTS	20	1	--	--	--	1.2	0.5	--	--	--	1	20	RECEPT PARTS/STORAGE 23	34	--		
--	35	WATER COOLER CORR	20	1	--	--	--	0.2	0	--	--	--	1	20	MEETING RM FLOOR BOX	36	--		
--	37	MEETING RM FLOOR BOX	20	1	--	--	--	0	0.5	--	--	--	1	20	LIGHTS	38	--		
--	39	SPACE	--	1	--	--	--	--	0.2	--	--	--	1	20	LIGHTS	40	--		
--	41	MEETING RM FLOOR BOX	20	1	--	--	--	0	0	--	--	--	1	20	MEETING RM FLOOR BOX	42	--		
--	43	B-1 & B-2	20	1	--	--	--	0.9	0.2	--	--	--	1	20	RECEPT LAB 03-1 EXTERNAL	44	--		
--	45	EXTERIOR LIGHTS	20	1	--	--	--	0.2	0.5	--	--	--	2	20	P-1 PARTS/STORAGE 23	46	--		
--	47	RECEPT SIGN SHOP 08	20	1	--	--	--	0.2	0.5	--	--	--	1	20	SENSOR PANEL	48	--		
--	49	WATER COOLER	20	1	--	--	--	0.2	0	--	--	--	1	20	MEN 05 TOILET	50	--		
--	51	EF-1	20	1	--	--	--	0.5	0	--	--	--	1	20	WH-2	52	--		
--	53	EF-5	15	1	--	--	--	0.5	0	--	--	--	1	20	FS	54	--		
--	55	SPARE	20	1	--	--	--	0	0	--	--	--	1	20	WH-2	56	--		
--	57	WH-1	20	1	--	--	--	0	3.4	--	--	--	2	50	EF-3	58	--		
--	59	UH-3 PARTS/STORAGE 23	20	1	--	--	--	5.5	3.4	--	--	--	1	20	SIGN SHOP	60	--		
--	61	SPARE	20	1	--	--	--	0	0	--	--	--	1	20	WELDER	62	--		
--	63	ERV-1	20	1	--	--	--	0.7	0	--	--	--	1	20	LIGHTS RM 23	64	--		
--	65	HWCP-1	20	1	--	--	--	0	0	--	--	--	1	20	LIGHTS RM 01-2	66	--		
--	67	UH-1 STORAGE 10	20	1	--	--	--	5.6	0	--	--	--	1	20	FIRE PUMP CONTROL PANEL	68	--		
--	69	SPACE	--	1	--	--	--	--	0.5	--	--	--	1	20	JOCKEY PUMP CONTROL PANEL	70	NB		
--	71	WOMEN 06 TOILET	20	1	--	--	--	0	0.5	1.17	12	12	12	1	20	MOD-1	72	NB	
NB	73	JP-1	20	2	12	--	12	1.24	0.96	0.5	1.42	12	12	1	20	MOD-2	74	NB	
NB	75	HEAT TAPE (ALTERNATE 1)	20	1	12	12	12	0.37	0.05	0.5	1.73	12	12	1	20	FWF-1	76	NB	
--	79	SPACE	--	1	--	--	--	--	--	--	--	--	1	--	SPACE	80	--		
--	81	SPACE	--	1	--	--	--	--	--	--	--	--	1	--	SPACE	82	--		
--	83	SPACE	--	1	--	--	--	--	--	--	--	--	1	--	SPACE	84	--		
Total Load: 14.61 kVA 30.66 kVA																			
Total Amps: 121.75 255.50																			
LOAD SUMMARY																			
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND		TOTALS*													
Power		4.47 kVA	100.00%	4.47 kVA		TOTAL CONNECTED LOAD:		45.27 kVA											
Spare		40.8 kVA	80.00%	32.64 kVA		TOTAL ESTIMATED DEMAND LOAD:		37.11 kVA											
						TOTAL CONNECTED AMPS:		188.63 A											
						TOTAL ESTIMATED DEMAND AMPS:		154.6											
*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.																			
CIRCUIT KEY NOTES:																			

ELECTRICAL DISTRIBUTION AND PANEL SCHEDULE NOTES:

- BRANCH PANEL KEY:
 - "A" = ARC FAULT CIRCUIT INTERRUPT
 - "G" = GROUND FAULT CIRCUIT INTERRUPT
 - "I" = ISOLATED GROUND
 - "P" = PADLOCK HASP
 - "R" = RED HANDLE
 - "S" = SHUNT TRIP
 - "NB" = NEW BREAKER
 - "RB" = REPLACE EXISTING BREAKER WITH NEW BREAKER
 - "EB" = EXISTING BREAKER
 - "GP" = NEW GROUND FAULT PROTECTION FOR EQUIPMENT BREAKER.

MOUNTING: SURFACE ENCLOSURE: NEMA 1			PANEL EP-MS1-E SINGLE TUB SOLID NEUTRAL GROUND BUS				MAIN: 225 MCB VOLTS: 120/240 Single PHASE: 1 WIRE: 3					
LOCATION: ELECTRICAL 16												
NOTES: SEE ELECTRICAL DISTRIBUTION AND PANEL SCHEDULE NOTES FOR PANEL KEY. EXISTING SQUARE D NQ PANELBOARD.												

K E Y	CKT NO.	LOAD DESCRIPTION	OCPD AMPS	P	H	WIRE SIZE N G	VD %	A	B	VD %	G	N	H	P	OCPD AMPS	LOAD DESCRIPTION	CKT NO.	K E Y
--	1	EP-MS2	100	2	--	--	--	12	1.2	--	--	--	1	20	OHD-SS	2	--	
--	3	OHD-2	20	1	--	--	--	1.2	1.2	--	--	--	1	20	OHD-3S	4	--	
--	7	OHD-3	20	1	--	--	--	1.2	1.2	--	--	--	1	20	OHD-3S	8	--	
--	9	OHD-4	20	1	--	--	--	1.2	0.9	--	--	--	1	20	EM LIGHTS	10	--	
--	11	OHD-5	20	1	--	--	--	1.2	0.4	--	--	--	1	20	RECEPT RM 16,15	12	--	
--	13	F-3	20	1	--	--	--	0.7	0	--	--	--	1	20	GRH-01,02,03	14	--	
--	15	F-2	20	1	--	--	--	0.7	0.3	--	--	--	1	20	EM LIGHTS	16	--	
--	17	F-1	20	1	--	--	--	0.7	0	--	--	--	1	20	BATTERY CHARGER	18	--	
--	19	EM LIGHTS CORR-1 04-1	20	1	--	--	--	0.1	1	--	--	--	1	20	EM LIGHTS RM 10-1, 09-1	20	--	
--	21	EM LIGHTS RM 01-1	20	1	--	--	--	0.2	1.2	--	--	--	1	20	LAB OHD	22	--	
--	23	BLOCK HEAT GEN	20	2	--	--	--	0	1.2	--	--	--	1	20	SPEC SIGN OHD	24	--	
--	25							0	3.4	--	--	--	2	50	MAU-1	26	--	
--	27	SIGN SHOT OHD	20	1	--	--	--	2.9	0	0	3.4	--	--	1	20	MECH SHOP BSA COOLER	30	--
--	29	EF-2	20	2	--	--	--	2.9	0	2.9	0	--	--	1	20	MECH SHOP BSA OHD	32	--
--	33	DEFIBRILLATOR	20	1	--	--	--	0	0	--	--	--	1	20	ACCESS CONTROL PANEL	34	--	
--	35	SPARE	20	1	--	--	--	0	0	0	0	--	--	1	20	FACP	36	--
--	37	SPARE	20	1	--	--	--	0	0	0	0	--	--	1	20	SPARE	38	--
--	39	SPARE	20	1	--	--	--	0	0	0	0	--	--	1	20	SPARE	40	--
--	41	SPD	20	1	--	--	--	0	0	0	0	--	--	1	20	SPARE	42	--
Total Load:								26.80 KVA	26.90 KVA									
Total Amps:								223.33	224.17									

LOAD SUMMARY					
LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS*	
Spare	53.7 KVA	80.00%	42.96 KVA	TOTAL CONNECTED LOAD:	53.70 KVA
				TOTAL ESTIMATED DEMAND LOAD:	42.96 KVA
				TOTAL CONNECTED AMPS:	223.75 A
				TOTAL ESTIMATED DEMAND AMPS:	179
*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.					
CIRCUIT KEY NOTES:					