

# MAINE MEDICAL CENTER HVAC LAB RENOVATIONS

ISSUED FOR BID  
10-31-08

## LIST OF DRAWINGS

	T01.1	COVER SHEET
ARCHITECTURAL 	A02.1 A05.1 A10.1 A10.2 A10.3 A15.1 A50.1	CODE PLAN FIRST FLOOR CEILING DEMOLITION PLAN FIRST FLOOR SEQUENCE PLAN FIRST FLOOR EQUIPMENT PLAN FIRST FLOOR CEILING PLAN ROOF PLAN DETAILS
MECHANICAL 	P10.1 M00.1 M10.1 M10.1 M10.2 M20.1 M30.1 M30.2 M31.1 M40.1	PLUMBING FIRST AND SECOND FLOOR PLANS MECHANICAL LEGEND AND NOTES MECHANICAL LOWER & FIRST FLOOR DEMOLITION MECHANICAL FIRST FLOOR DUCTWORK MECHANICAL ROOF PLAN MECHANICAL LOWER & FIRST FLOOR PIPING MECHANICAL DETAILS MECHANICAL SCHEDULES
ELECTRICAL 	E00.1 E05.0 E05.1 E10.1 E20.0	ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS ELECTRICAL DEMOLITION LIGHTING GROUND FLOOR PLAN ELECTRICAL DEMOLITION POWER & SYSTEMS FIRST FLOOR PLAN ELECTRICAL NEW LIGHTING FIRST FLOOR PLAN ELECTRICAL CONDUIT ROUTING GROUND FLOOR PLAN

## GENERAL ABBREVIATIONS

SYMBOLS USED AS ABBREVIATIONS	FOC FACE OF CONCRETE	FOS FACE OF STUD	FIN FINISH (ED)	FL FINISH LENGTH	FA FIRE ALARM	FD FIRE DAMPER	FE FIRE EXTINGUISHER	FHS FIRE HOSE STATION	FLG FLASHING	FC FLEXIBLE CONNECTION	FLR FLOOR (ING)	FCL FLOOR CLEANOUT	FCD FLOOR DRAIN	FRR FLOOR RETURN REGISTER	FTG FOOTING	FD FOUNDATION DRAIN	FNI FRESH AIR INTAKE	FY MINIMUM YIELD STRESS (KSI)																																																																																																																																																				
ABT ABOUT	ACB ABOVE CEILING BELOW	AFB ABOVE FINISH FLOOR	AFG ABOVE FINISH GRADE	AD ACCESS DOOR	AP ACCESS PANEL	AC ACoustical	ACT ACoustical TILE	ADJ ADJUSTABLE	A/C AIR CONDITIONING	ALT ALTERNATE	AL ALUMINUM	AB ANCHOR BOLT	APX APPROXIMATE	ARCH ARCHITECT (URAL)	GA GAGE, GAUGE	GPM GALLONS PER MINUTE	GV GENERAL CONTRACT (OR)	GL GLASS	GB GRAB BAR	GPW GYPSUM DRY WALL	H HTG HEATING	HVAC HEATING-VENTILATING-AIR CONDITIONING	HT HEIGHT	HPS HIGH PRESSURE STEAM	HM HOLLOW METAL	HORIZ HORIZONTAL	HD HUB DRAIN	HTW HOT TEMPERATURE WATER	HW HOT WATER	HYD HYDRANT	ID INSIDE DIAMETER	INS INSULATE (D) (ON)	INT INTERIOR	INV INVERT	IPS IRON PIPE SIZE	JC JANITOR'S CLOSET	JT JOINT	K KIPS	KSI KIPS PER SQUARE INCH	KIT KITCHEN	LAB LABORATORY	LAM LAMINATE (D)	LAV (L) LAVATORY	LF LAWN FAUCET	LD LINEAR DIFFUSER	LD LINEAR DUCT	LF LINEAL FEET	LTL LINEAL	LL LIVE LOAD	LG LONG	LPS LOW PRESSURE STEAM	LTV LOW TEMPERATURE STEAM	LTW LIMIT OF WORK	LB (S) POUNDS	MH MANHOLE	MD MANUAL DAMPER	MFR MANUFACTURE (R)	MAS MASONRY	MO MASONRY OPENING	MAX MAXIMUM	MECH MECHANICAL	MED MEDIUM	MET METAL	MT METAL THRESHOLD	M DIAMETER	MM MILLIMETER (S)	MN MINIMUM	MISC MISCELLANEOUS	MR MOP RECEPTOR	MD MOUNTED	MD MOTORIZED DAMPER	MBH 1000 BRITISH THERMAL UNIT	NS NEAR SIDE	NC NORMALLY CLOSED	NO NORMALLY OPEN	N NORTH	NA NOT APPLICABLE	NI NOT IN CONTRACT	NTS NOT TO SCALE	No NUMBER	OFF OFFICE	OC ON CENTER (S)	OED OPEN END DUCT	EXP EXISTING	EB EXPANSION BOLT	EXP EXPANSION JOINT	EJ EXPANSION JOINT	EXT EXTERIOR	OH OVERHEAD	OH OVERHEAD	OT QUARRY TILE	RAD RADIATION	RAB RADIUS	REF REFERENCE	REFR REFRIGERATOR	RA RETURN AIR	RR RETURN REGISTER	RR REVISION (S)	REV REVISION (S)	R ROOF	RD ROOF DRAIN	RL ROOF LEADER	RO ROUGH OPENING	RB RUBBER BASE	S SEC SERVICE SINK	SHT SHEET	SIM SIMILAR	SK SINK	SD SMOKE DAMPER	SOL SOLID MASONRY UNIT	SOUTH	SPR SPRUE PINE FIR SPECIFICATION (S)	SQ SQUARE	SS STAINLESS STEEL	STD STANDARD	STEAM	STL STORM DRAIN	STOR STORM DRAIN	SDMH STORM DRAIN MANHOLE	SA SUPPLY AIR	SA SUPPLY FAN	SG SUPPLY GRILLE	SR SUPPLY REGISTER	SYM SYMMETRY (CAL)	SYS SYSTEM	TKBD TACKBOARD	TEL TELEPHONE	TEL TELEVISION	TV TEST BORING	TEST TEST PIT	T THERMOSTAT	THK THICK (NESS)	TPTN TONGUE & GROOVE	TOC TOP OF CONCRETE	TOF TOP OF FOOTING	TOP OF STEEL	TL TOTAL LOAD	TD TRANSFER DUCT	TD TRANSFER GRILLE	T TREAD	TD TRENCH DRAIN TYPICAL	UD UNDERDRAIN	UGD UNDERGROUND DUCTWORK	UH UNIT HEATER	UNO UNLESS NOTED OTHERWISE	UR URINAL	UNIT UNIT VENTILATOR	VAV VARIABLE AIR VOLUME	VENT VENT THRU ROOF	VERT VERTICAL	VB VINYL BASE	VCT VINYL COMPOSITION TILE	VF VINYL FABRIC	VD VOLUME DAMPER	WCO WALL CLEANOUT	WG WALL GRILLE	WH WALL HUNG	WR WALL REGISTER	WC WATER CLOSET	WCH WATER CLOSET HANDICAP	WWF WELDED WIRE FABRIC	W WEST, WIDTH, WIDE	WIN WINDOW	WITH WITH	WO WITHOUT	WP WORKING POINT

## GRAPHIC LEGEND

	BUILDING SECTION
	WALL SECTION
	ELEVATION
	DETAIL
	THE FOLLOWING APPLIES TO THE ABOVE MARKERS :
	INDICATES SECTION OR DETAIL NUMBER
	INDICATES DRAWING SHEET ON WHICH SECTION OR DETAIL IS SHOWN
	COLUMN REFERENCE GRID
	PARTITION TYPE MARKER - NON-RATED
	PARTITION TYPE MARKER - FIRE-RATED 1 HOUR OR LESS
	PARTITION TYPE MARKER - FIRE-RATED 2 HOURS OR MORE
	INTERIOR ELEVATION MARKER
	ROOM-SPACE NUMBER
	EQUIPMENT NUMBER
	DOOR OR BORROW LIGHT NUMBER
	WINDOW TYPE
	LEVEL LINE
	REVISION
	PROJECT NORTH (MAGNETIC NORTH ARROW USED ON PLOT SITE PLAN ONLY)

## MATERIALS LEGEND

	PLAN - SECTION
	EARTH
	POROUS FILL (STONE OR GRAVEL, ETC)
	ROCK
	LIGHTWEIGHT CONCRETE (OR CONCRETE FILL)
	STRUCTURAL CONCRETE (CAST-IN-PLACE, PRECAST, ETC)
	BRICK (COMMON OR FACE)
	CONCRETE MASONRY UNITS
	METAL (LARGE SCALE)
	PLYWOOD (LARGE SCALE)
	WOOD, FINISHED
	WOOD, ROUGH
	INSULATION (LOOSE OR BATT)
	INSULATION (RIGID)
	GLASS (LARGE SCALE)
	CERAMIC TILE
	GYPSUM WALL BOARD (FIBERBOARD, ETC.)
	PLASTER, SAND, CEMENT, GROUT
	ACOUSTICAL TILE
	RESILIENT FLOORING
	METAL (SMALL SCALE)
	ELEVATIONS
	CONCRETE, PLASTER
	SHEET METAL
	GLAZING
	BRICK
	SPECIAL INDICATIONS
	PARTITION CONSTRUCTION-PLAN
	STEEL STUD
	EXISTING TO REMAIN

## CODE REVIEW

**PROJECT DESCRIPTION**  
RENOVATION OF THE HVAC SYSTEMS SERVING THE LAB

**TOTAL SQUARE FOOTAGE**  
RENOVATED AREA - 3400 SQ FT

**OCCUPANCY CLASSIFICATION**  
INSTITUTIONAL USE GROUP 1 2

**TRAVEL DISTANCE**  
200 FT MAX (BOCA)

**FIRE SUPPRESSION**  
PARTIALLY SPRINKLERED SYSTEM IN BUILDING  
RENOVATED SMOKE COMPARTMENT FULLY SPRINKLERED AND SUPERVISED

**BUILDING IS DESIGNED TO THE FOLLOWING CODES:**  
AMERICANS WITH DISABILITIES ACT (ADA) 1  
IBC 2003  
NFPA 101 LIFE SAFETY CODE 2000  
NFPA 70 NATIONAL ELECTRICAL CODE 1999  
NFPA 72 NATIONAL FIRE ALARM CODE 1999  
NFPA 10 PORTABLE FIRE EXTINGUISHERS 1999  
NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS 1999  
NFPA 99 HEALTH CARE FACILITIES 1999  
STATE OF MAINE INTERNAL PLUMBING RULES 2000  
MECHANICAL CODE NMC 1993

**CONSTRUCTION TYPE**  
TYPE 2B PROTECTED NON-COMBUSTIBLE  
22,500 SF MAX PER SMOKE COMPARTMENT  
SHAFTS AND STAIRWELLS - 2 HOUR  
COLUMNS - 2 HOUR  
FLOOR CONSTRUCTION - 2 HOUR  
ROOF CONSTRUCTION - 2 HOUR

## HARRIMAN

Architects + Engineers

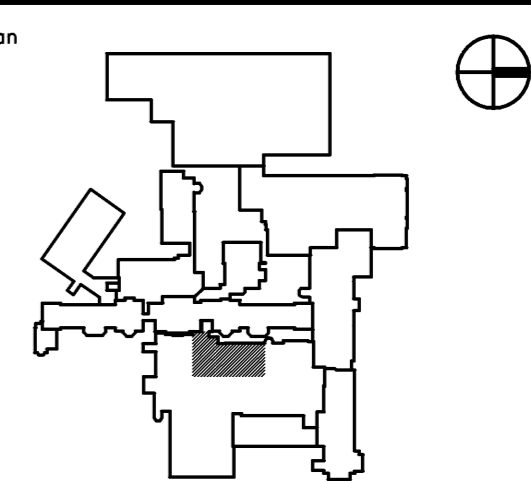
Auburn Business Park  
46 Harriman Drive  
Auburn, Maine 04210  
207.784.5100 tel  
207.782.3017 fax

123 Middle Street  
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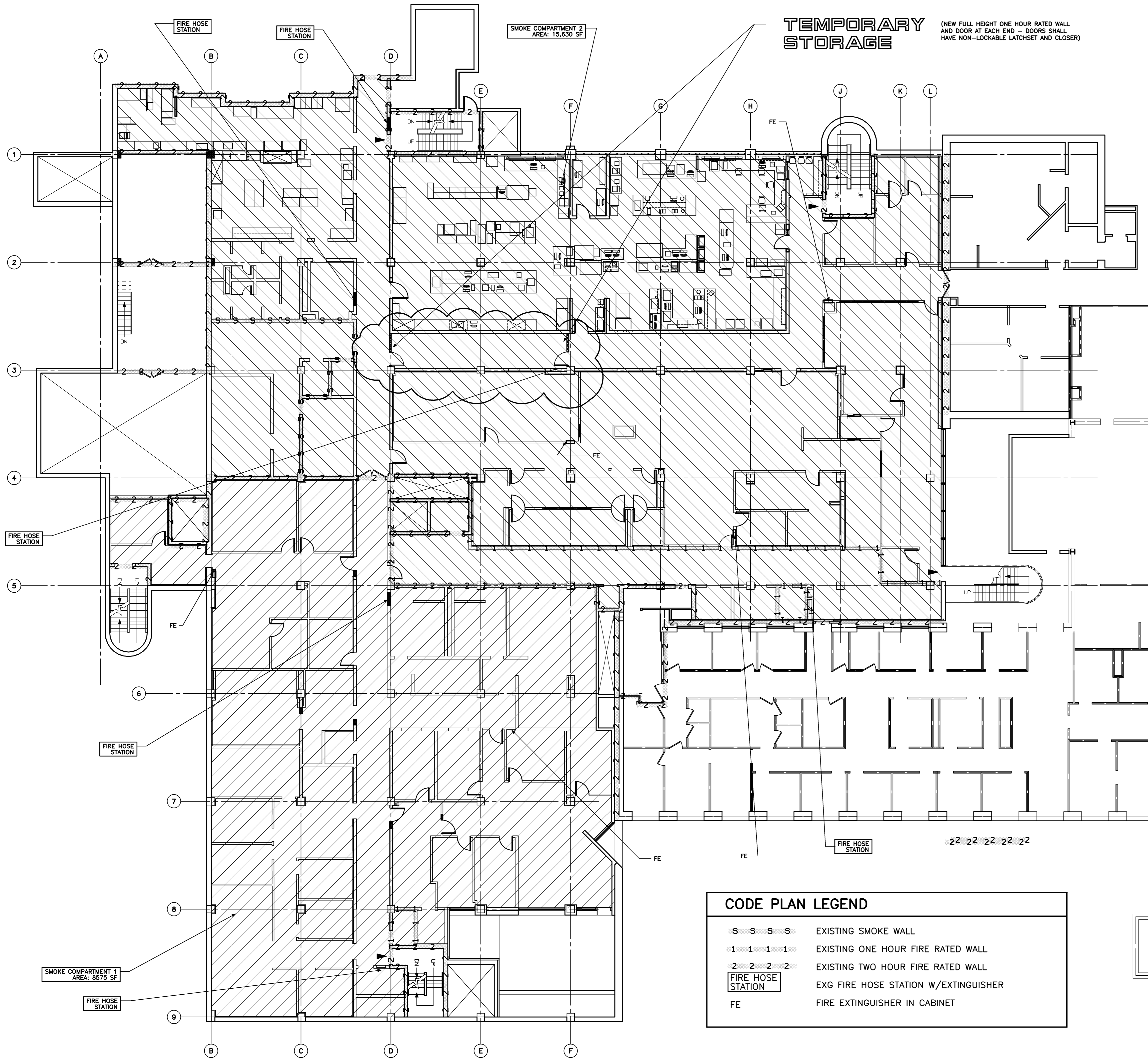
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Key Plan



COVER SHEET

T01.1



**CODE PLAN LEGEND**

S S S S	EXISTING SMOKE WALL
1 1 1 1	EXISTING ONE HOUR FIRE RATED WALL
2 2 2 2	EXISTING TWO HOUR FIRE RATED WALL
FIRE HOSE STATION	EXG FIRE HOSE STATION W/EXTINGUISHER
FE	FIRE EXTINGUISHER IN CABINET

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Architects + Engineers

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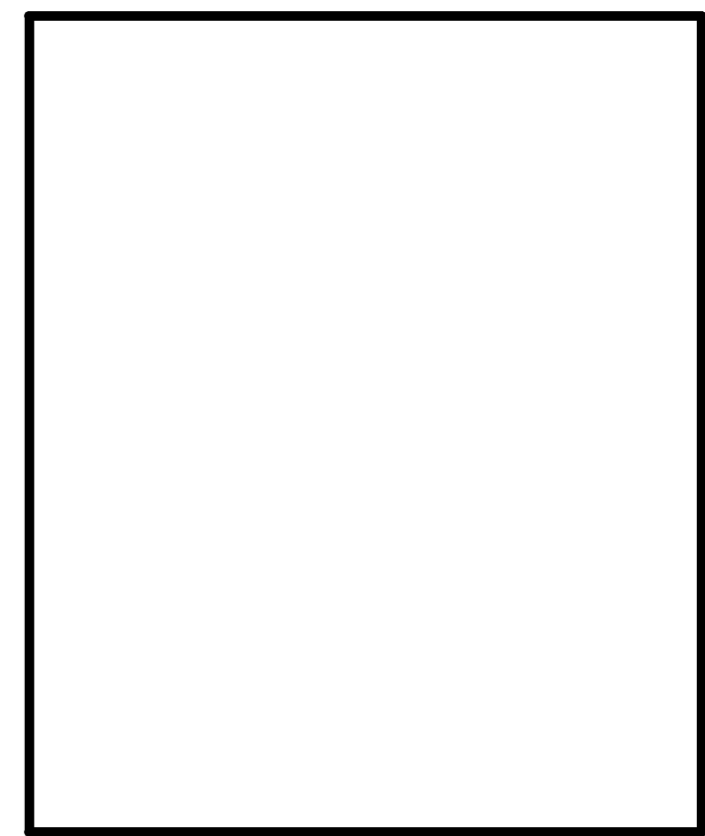
46 West St., Suite 301  
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**REGISTERED ARCHITECT**  
PATRICK SEAN  
COSTIN  
No. 2028  
STATE OF MAINE

Project Title  
**MAINE MEDICAL CENTER HVAC LAB RENOVATIONS**  
PORTLAND, MAINE

HA Project No. **08101**

Key Plan



Mark	Date	Description
-	10-31-08	ISSUED FOR BID
-	10-10-08	75% REVIEW

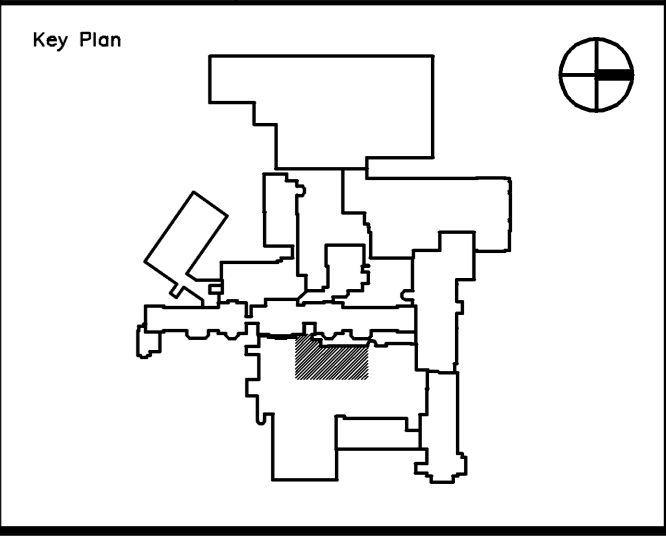
Issue Dates

Drawing Status

Drawing Title  
**CODE PLAN**

PA / PE: \_\_\_\_\_ Drawn By: \_\_\_\_\_

Drawing Number  
**A02.1**

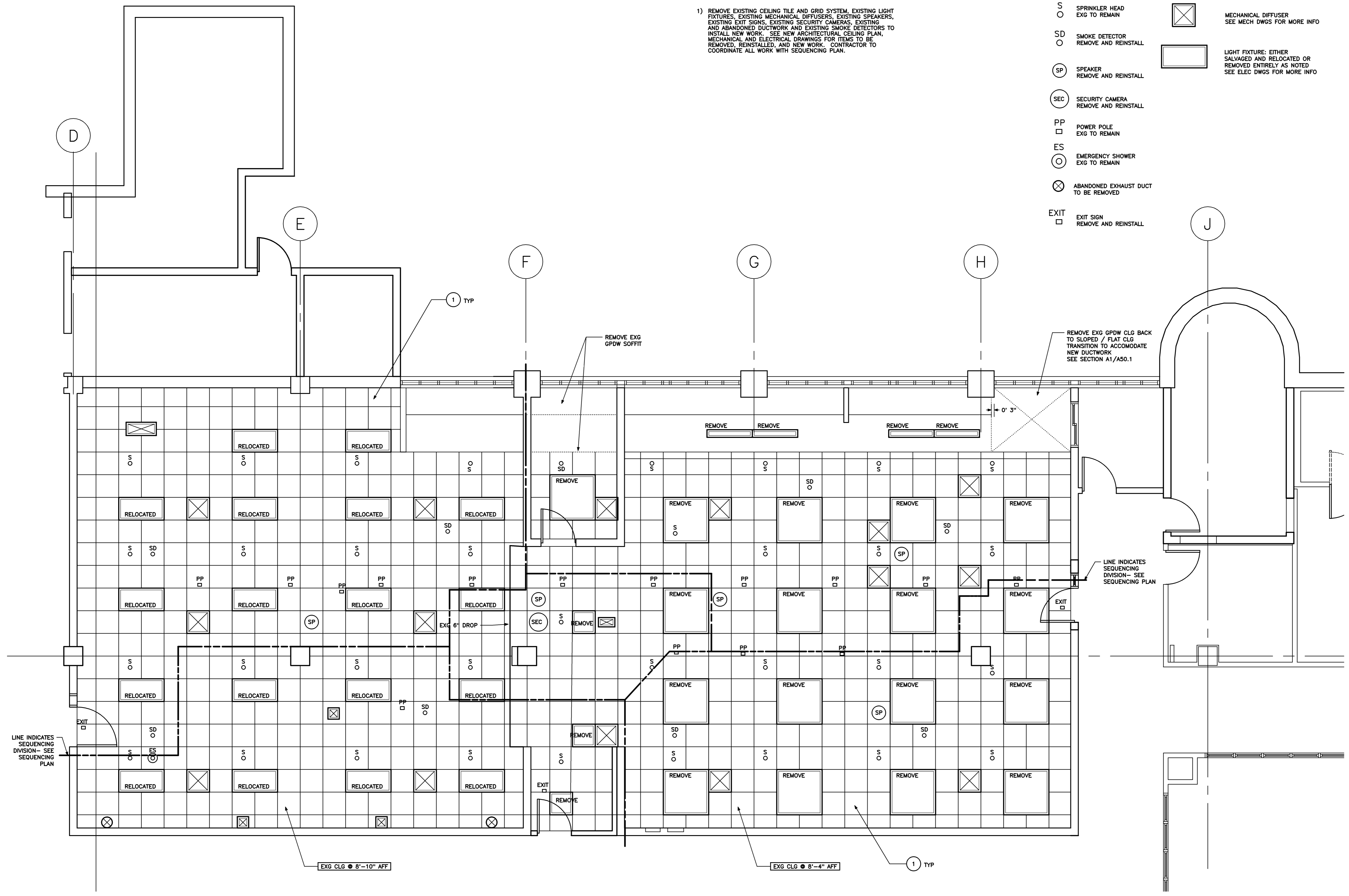


**DEMOLITION KEY NOTES:**

1) REMOVE EXISTING CEILING TILE AND GRID SYSTEM, EXISTING LIGHT FIXTURES, EXISTING MECHANICAL DIFFUSERS, EXISTING SPEAKERS, EXISTING EXIT SIGNS, EXISTING SECURITY CAMERAS, EXISTING AND ABANDONED DUCTWORK AND EXISTING SMOKE DETECTORS TO INSTALL NEW WORK. SEE NEW ARCHITECTURAL CEILING PLAN, MECHANICAL AND ELECTRICAL DRAWINGS FOR ITEMS TO BE REMOVED, REINSTALLED, AND NEW WORK. CONTRACTOR TO COORDINATE ALL WORK WITH SEQUENCING PLAN.

**LEGEND**

- S ○ SPRINKLER HEAD  
EXG TO REMAIN
- SD ○ SMOKE DETECTOR  
REMOVE AND REINSTALL
- SP ○ SPEAKER  
REMOVE AND REINSTALL
- SEC ○ SECURITY CAMERA  
REMOVE AND REINSTALL
- PP □ POWER POLE  
EXG TO REMAIN
- ES ○ EMERGENCY SHOWER  
EXG TO REMAIN
- ⊗ ABANDONED EXHAUST DUCT  
TO BE REMOVED
- EXIT □ EXIT SIGN  
REMOVE AND REINSTALL
- ⊗ MECHANICAL DIFFUSER  
SEE MECH DWGS FOR MORE INFO
- LIGHT FIXTURE: EITHER SALVAGED AND RELOCATED OR REMOVED ENTIRELY AS NOTED  
SEE ELEC DWGS FOR MORE INFO

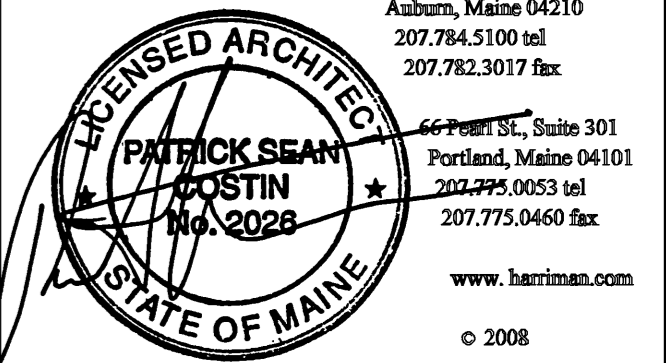


Issue Dates		
–	10-31-08	ISSUED FOR BID
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Mark	Date	Description

Drawing Status	
Drawing Title	<b>FIRST FLOOR CEILING DEMOLITION PLAN</b>
PA / PE:	<b>JBL</b>
Drawn By:	<b>MCM</b>
Drawing Number	

Issue Dates		
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Drawing Title	<b>FIRST FLOOR CEILING DEMOLITION PLAN</b>
PA / PE:	<b>JBL</b>
Drawn By:	<b>MCM</b>
Drawing Number	

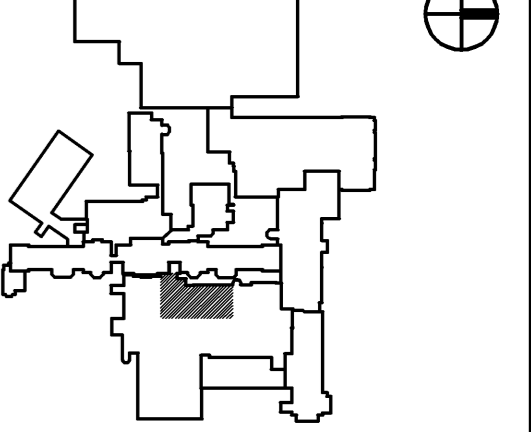


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Key Plan

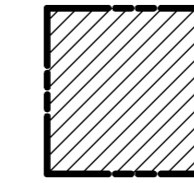


**WORK SEQUENCE NOTES:**

COMPLETE WORK IN LAB G527, G535, SPECIMEN MANAGEMENT G513, OFFICE G529, IN ACCORDANCE WITH THE SEQUENCE OF WORK LISTED BELOW. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE A FIRE RETARDANT PLASTIC DUST BARRIER SHEETING AT BOUNDARIES BETWEEN AREAS OF WORK. - REMOVE EXISTING CEILING AND EXTEND BARRIERS TO UNDERSIDE OF CONCRETE STRUCTURE ABOVE.

- 1 INSTALL NEW ROOFTOP MECHANICAL EQUIPMENT AND POWER TO ROOFTOP EQUIPMENT. SEE ROOF PLAN, AND MECHANICAL AND ELECTRICAL PLANS.
- 2 AREA PHASE 2: REMOVE EXISTING CEILING AND GRID. INSTALL NEW MECHANICAL DUCTWORK, LIGHTING, AND CEILINGS.
- 3 AREA PHASE 3: REMOVE EXISTING CEILING AND GRID. INSTALL NEW MECHANICAL DUCTWORK, LIGHTING, AND CEILINGS.
- 4 AREA PHASE 4: REMOVE EXISTING CEILING AND GRID. INSTALL NEW MECHANICAL DUCTWORK, LIGHTING, AND CEILINGS.
- 5 AREA PHASE 5: REMOVE EXISTING CEILING AND GRID. INSTALL NEW MECHANICAL DUCTWORK, LIGHTING, AND CEILINGS.
- 6 AREA PHASE 6: REMOVE EXISTING CEILING AND GRID. INSTALL NEW MECHANICAL DUCTWORK, LIGHTING, AND CEILINGS.

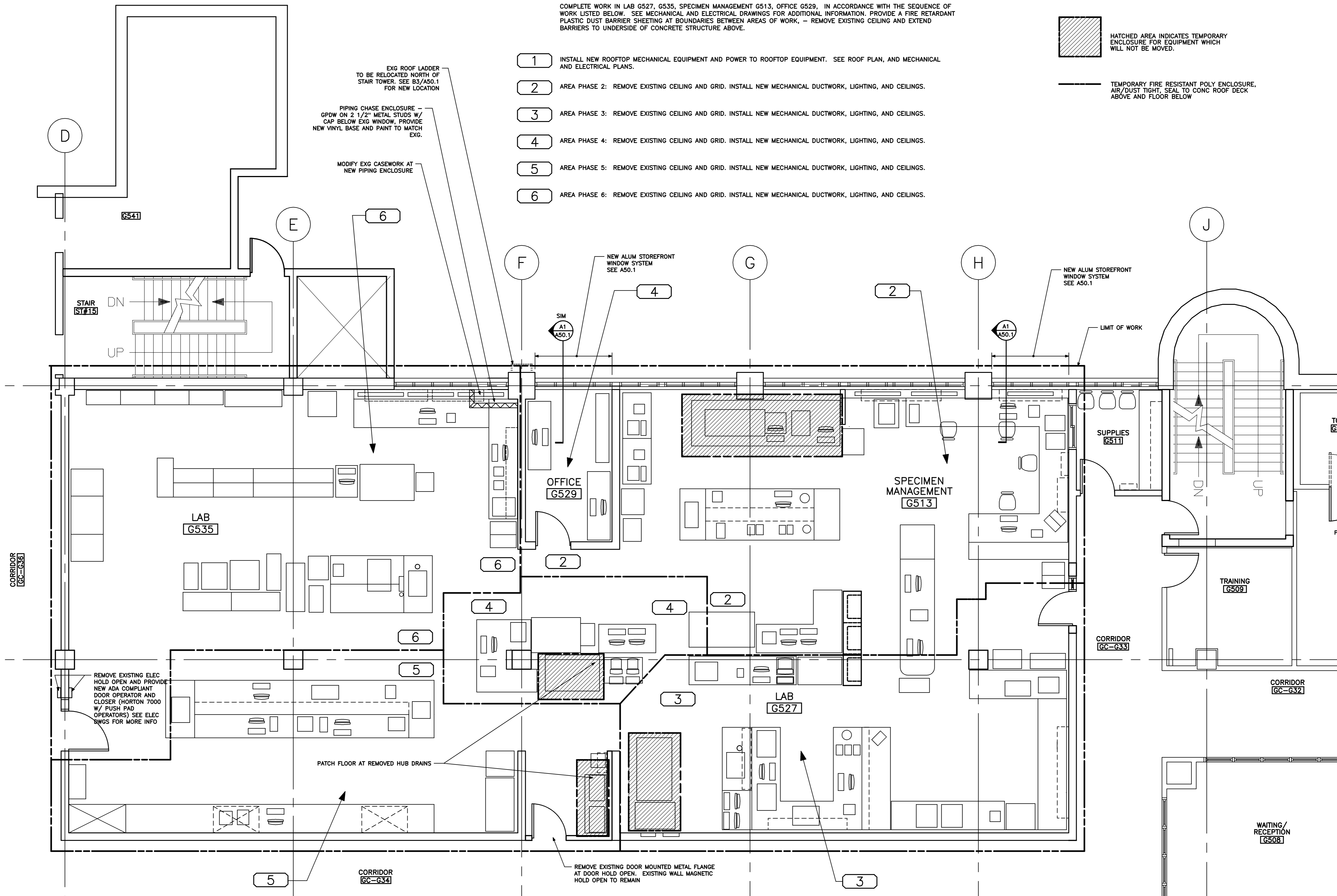
**LEGEND**



HATCHED AREA INDICATES TEMPORARY ENCLOSURE FOR EQUIPMENT WHICH WILL NOT BE MOVED.



TEMPORARY FIRE RESISTANT POLY ENCLOSURE. AIR/DUST TIGHT, SEAL TO CONC ROOF DECK ABOVE AND FLOOR BELOW



FIRST FLOOR SEQUENCE PLAN

1/4" = 1'-0" REF: NA

A1

Mark	Date	Description
-	10-31-08	ISSUED FOR BID
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Issue Dates

Drawing Title  
**FIRST FLOOR SEQUENCE PLAN**

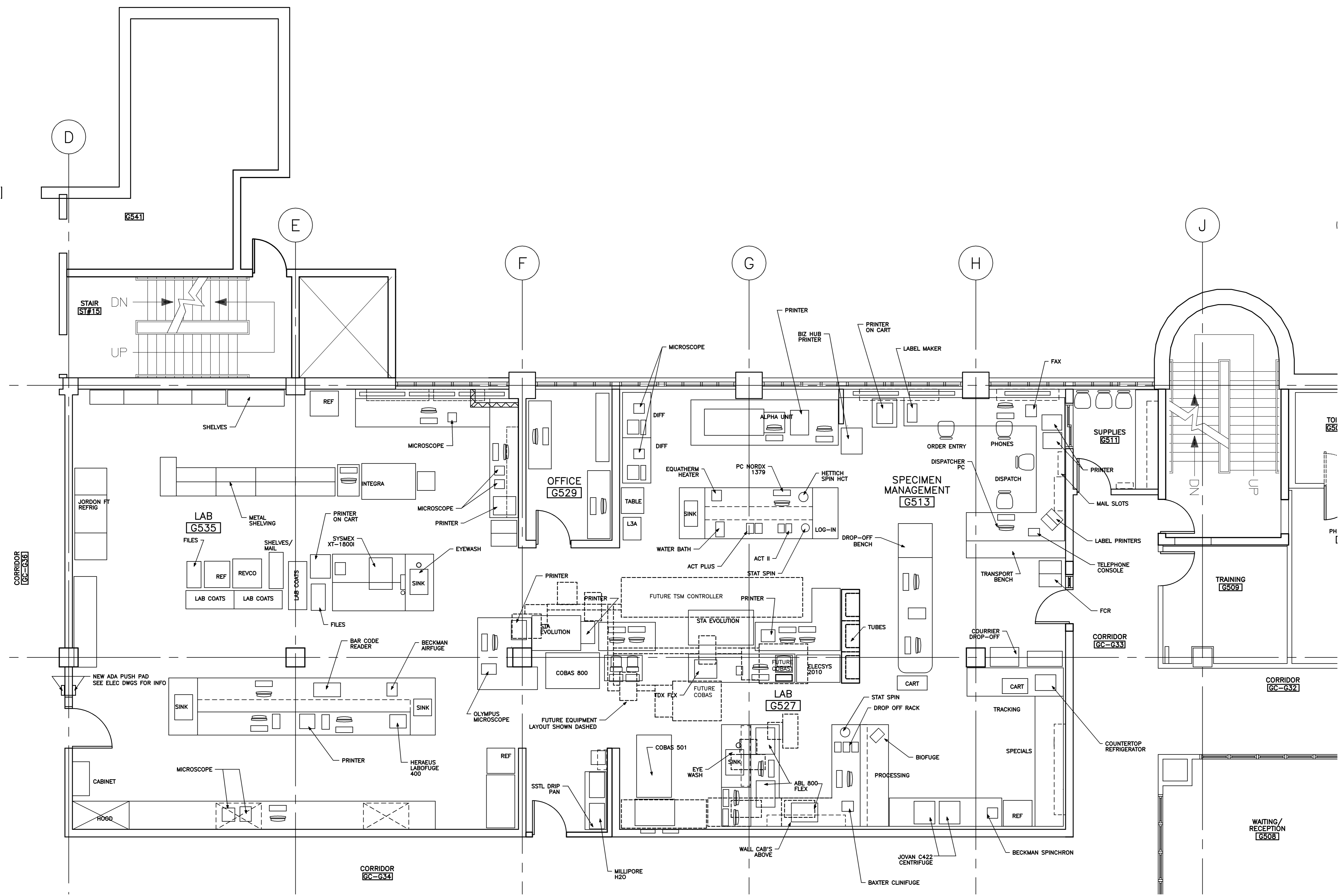
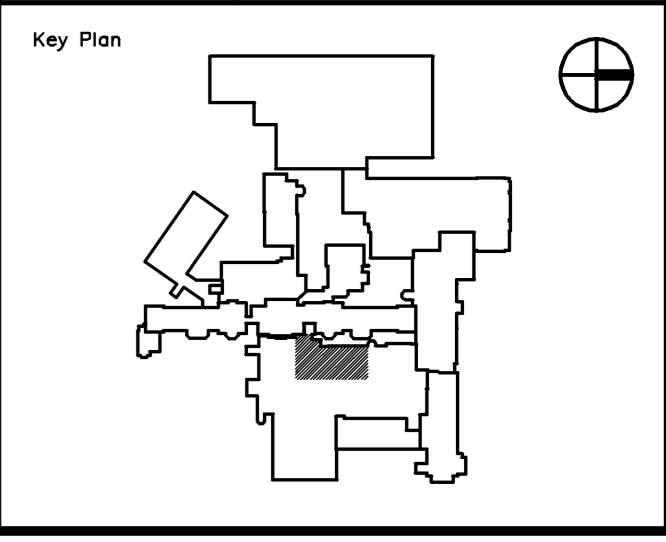
PA / PE: **JBL** Drawn By: **MCM**

Drawing Number

**A10.1**

Project Title  
**MAINE MEDICAL CENTER HVAC LAB RENOVATIONS**  
PORTLAND, MAINE

HA Project No. **08101**



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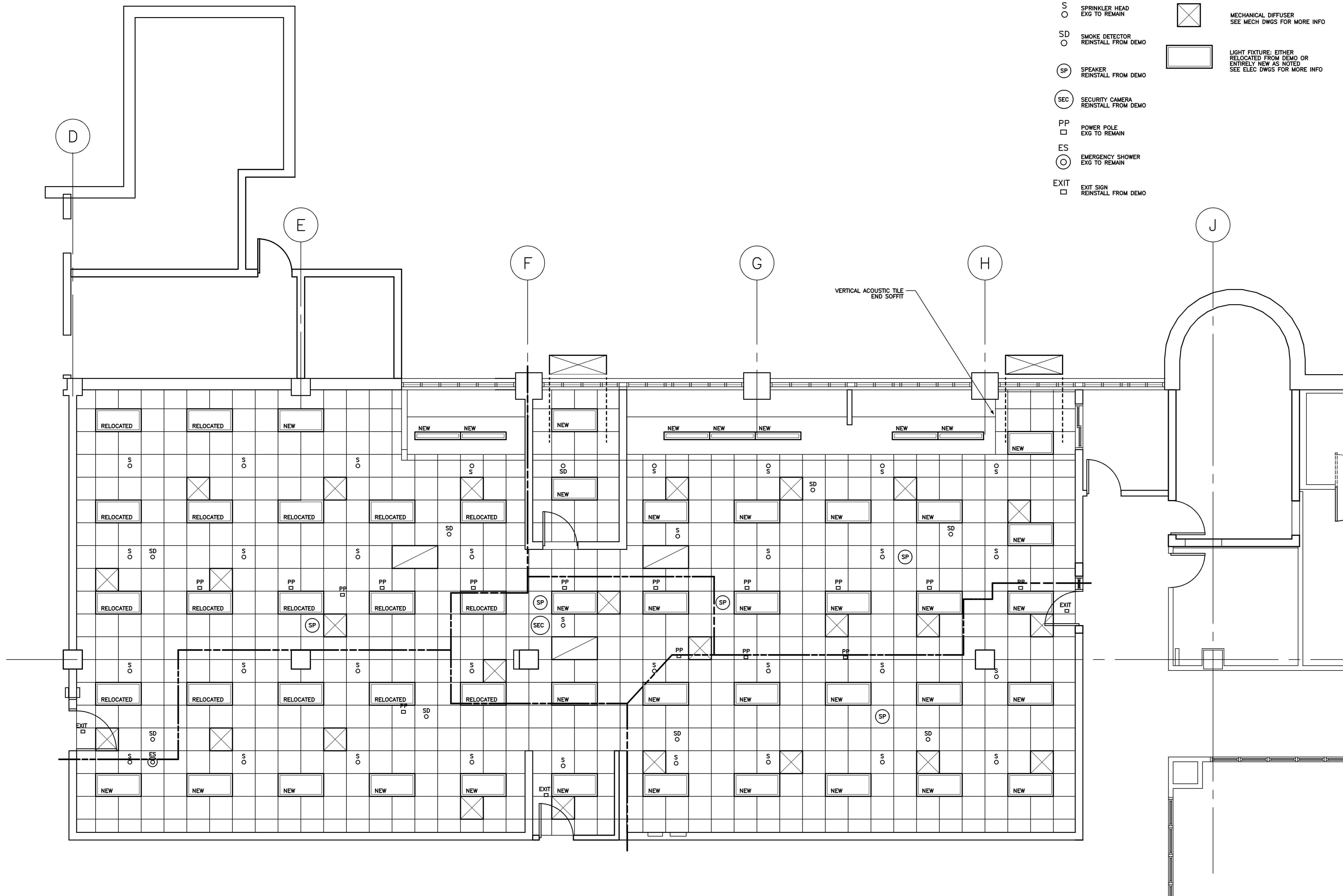
Drawing Title  
**FIRST FLOOR EQUIPMENT PLAN**

PA / PE: **JBL** Drawn By: **MCM**

Drawing Number  
**A10.2**

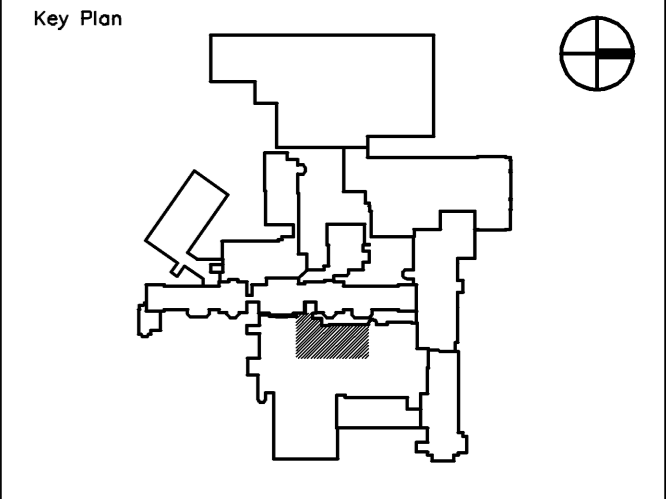
**LEGEND**

- S  
O SPRINKLER HEAD  
EXG TO REMAIN
- SD  
O SMOKE DETECTOR  
REINSTALL FROM DEMO
- SP  
O SPEAKER  
REINSTALL FROM DEMO
- SEC  
O SECURITY CAMERA  
REINSTALL FROM DEMO
- PP  
□ POWER POLE  
EXG TO REMAIN
- ES  
O EMERGENCY SHOWER  
EXG TO REMAIN
- EXIT  
□ EXIT SIGN  
REINSTALL FROM DEMO
- MECHANICAL DIFFUSER  
SEE MECH DWGS FOR MORE INFO
- LIGHT FIXTURE: EITHER  
RELOCATED FROM DEMO OR  
ENTIRELY NEW AS NOTED  
SEE ELEC DWGS FOR MORE INFO



Project Title  
**MAINE MEDICAL  
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PORTLAND, MAINE

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Issue Dates		

Drawing Status

Drawing Title  
**FIRST FLOOR  
NEW CEILING  
PLAN**

PA / PE: **JBL** Drawn By: **MCM**

Drawing Number

**FIRST FLOOR NEW CEILING PLAN**  
1/8" = 1'-0" REF: NA

**A1**

**A10.3**

Project Title  
**MAINE MEDICAL CENTER HVAC LAB RENOVATIONS**  
PORTLAND, MAINE

HA Project No. **08101**

Key Plan

**GENERAL NOTE:**  
SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR PIPING AND CONDUIT PENETRATIONS AT EXISTING WALLS OR ROOFS.

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-	10-31-08	ISSUED FOR BID
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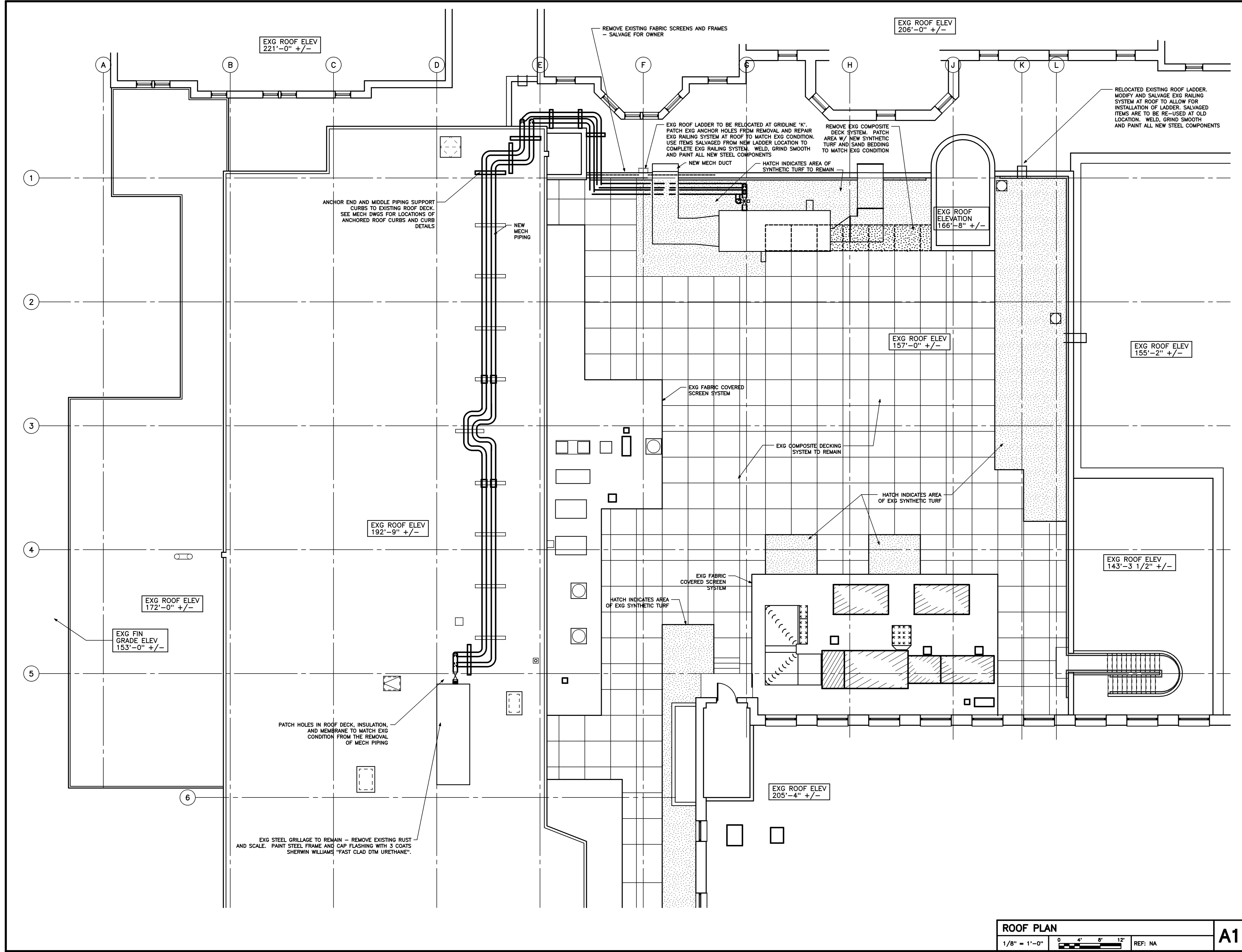
Issue Dates

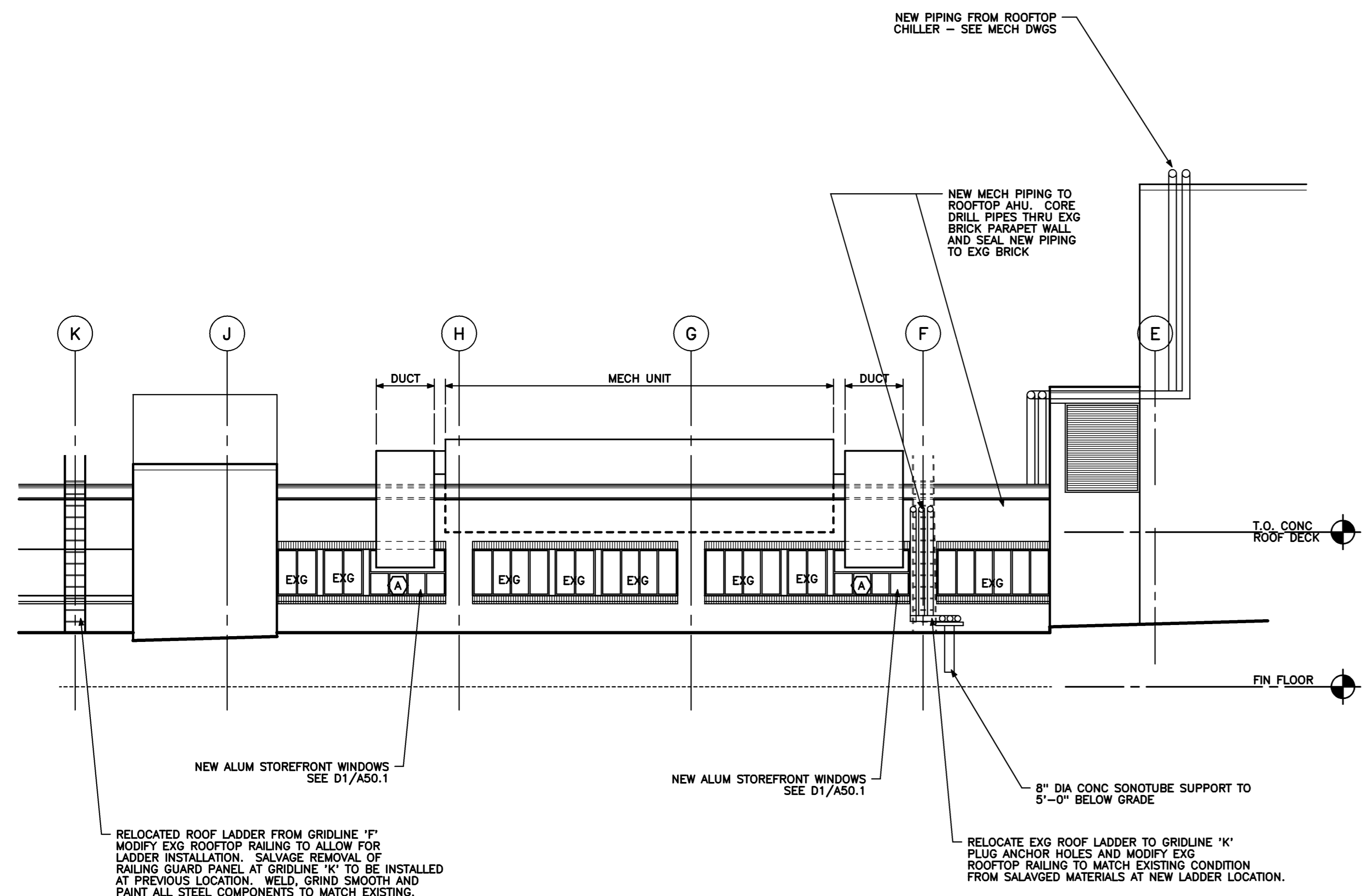
Drawing Status

Drawing Title  
**ROOF PLAN**

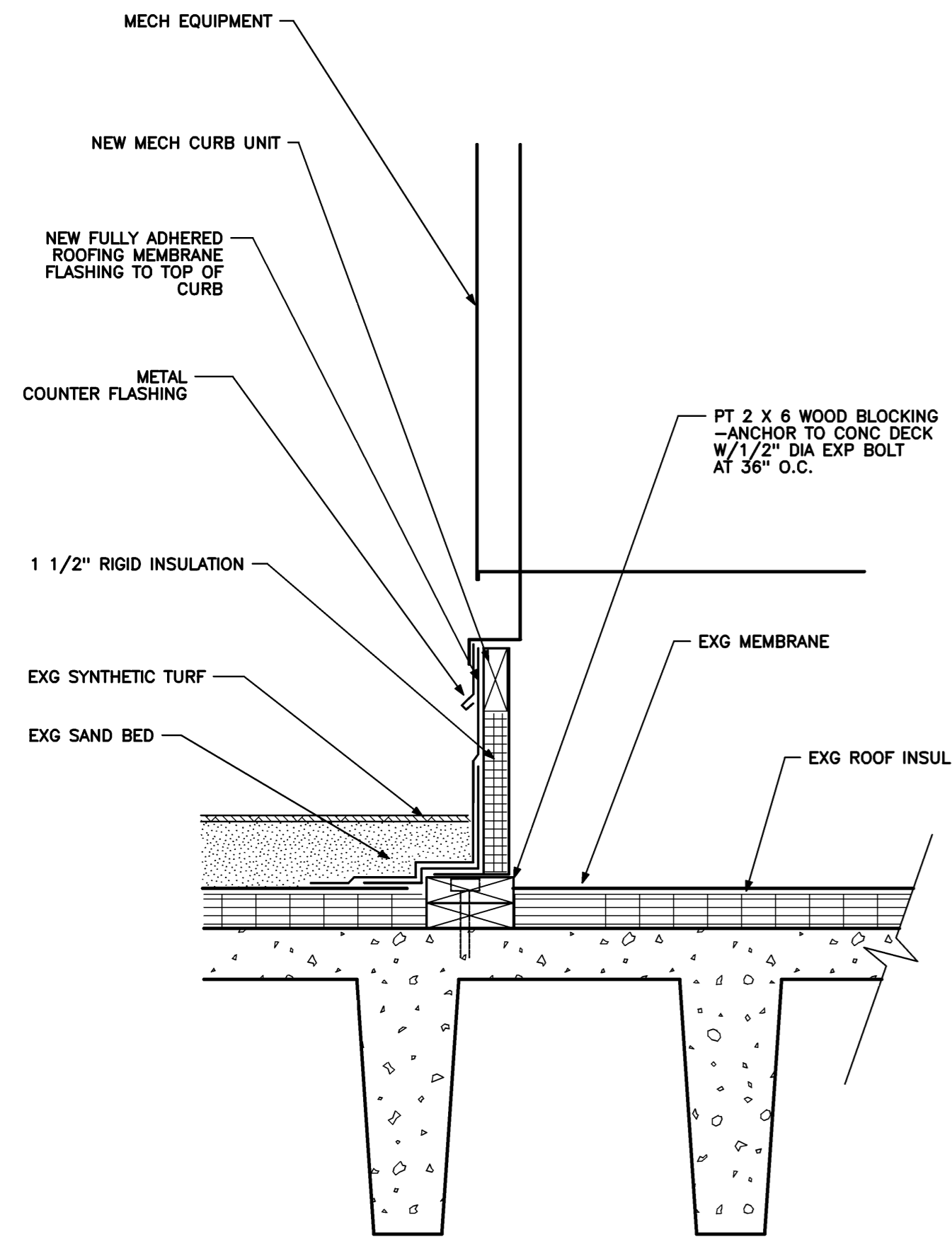
PA / PE: **JBL** Drawn By: **MCM**

Drawing Number  
**A15.1**

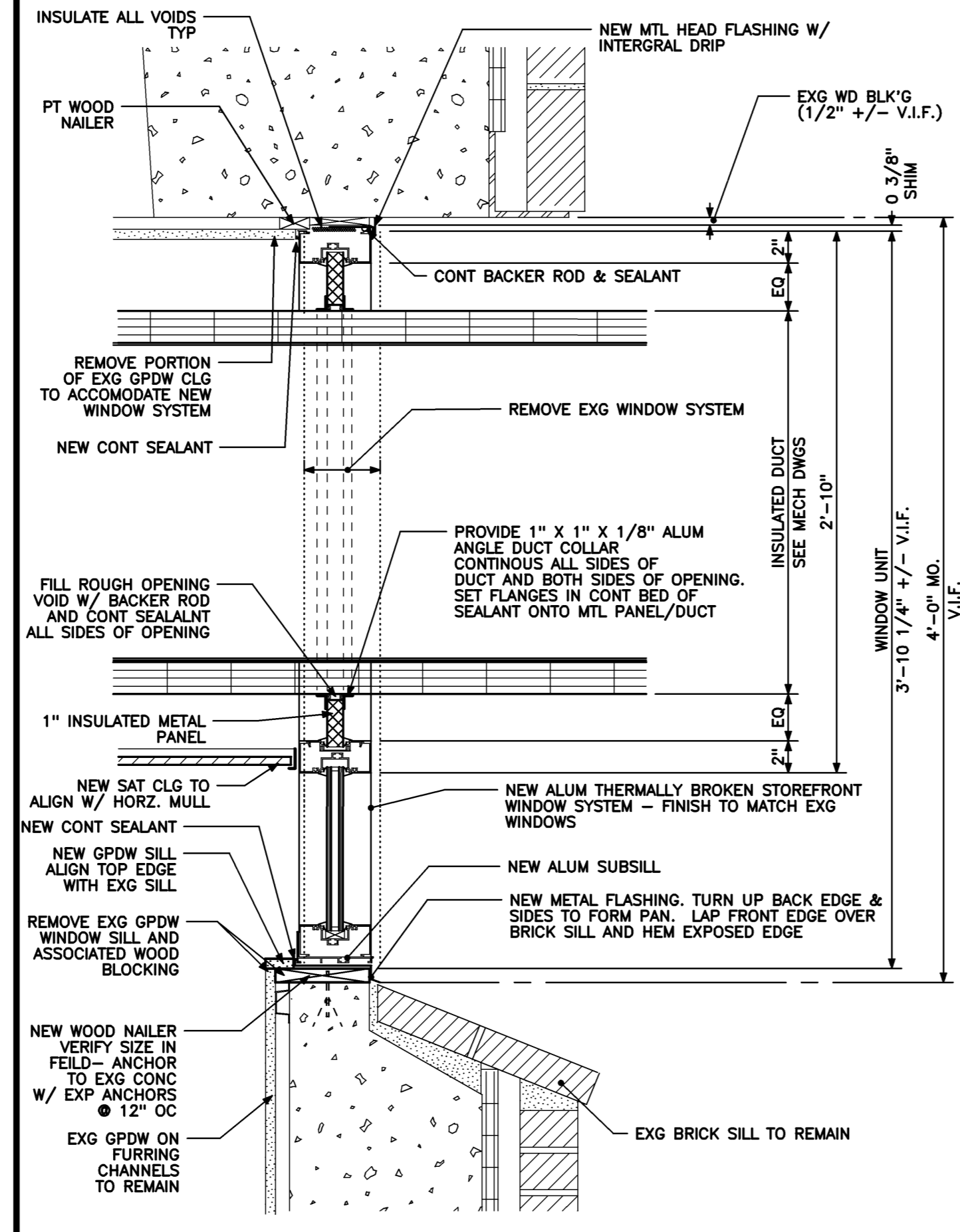




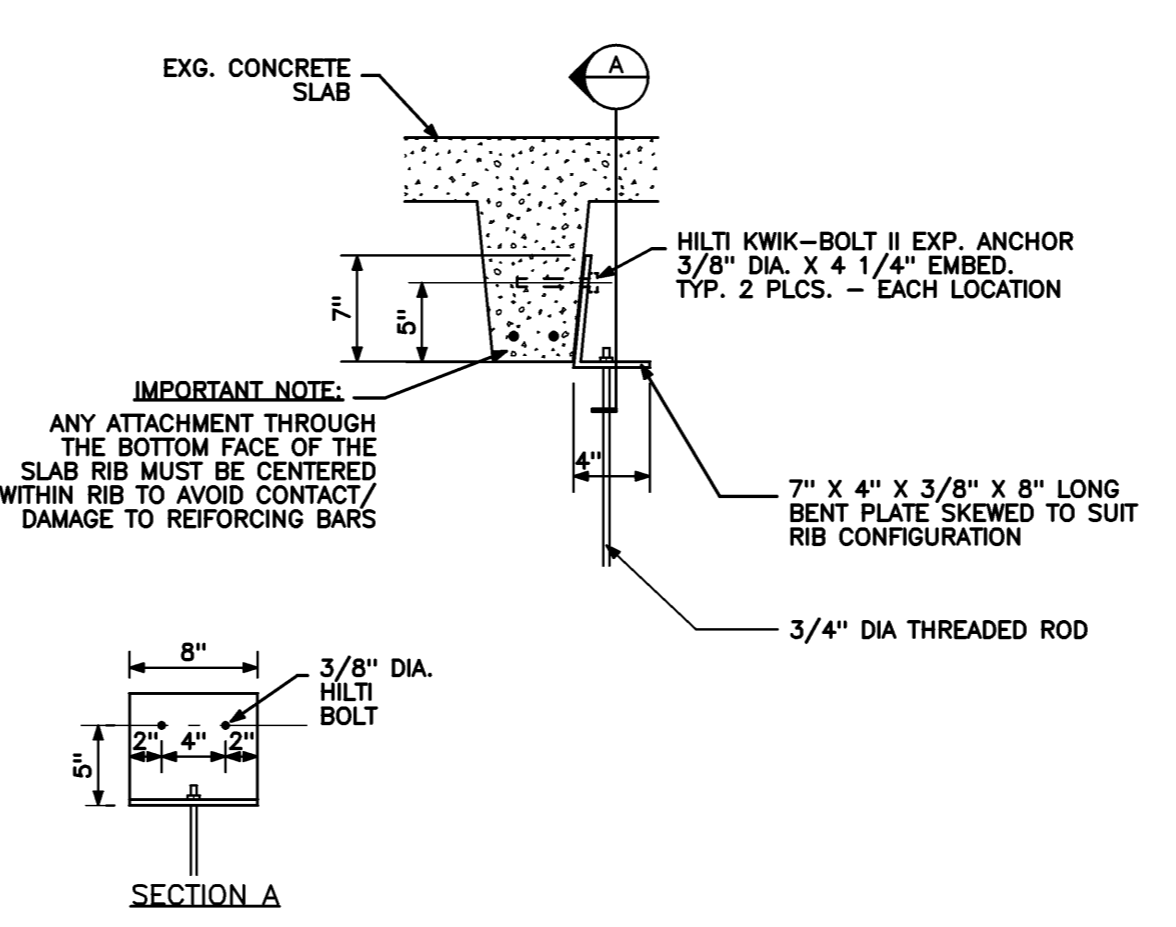
**PARTIAL EXTERIOR ELEVATION**  
 1/8" = 1'-0" REF: NA **B3**



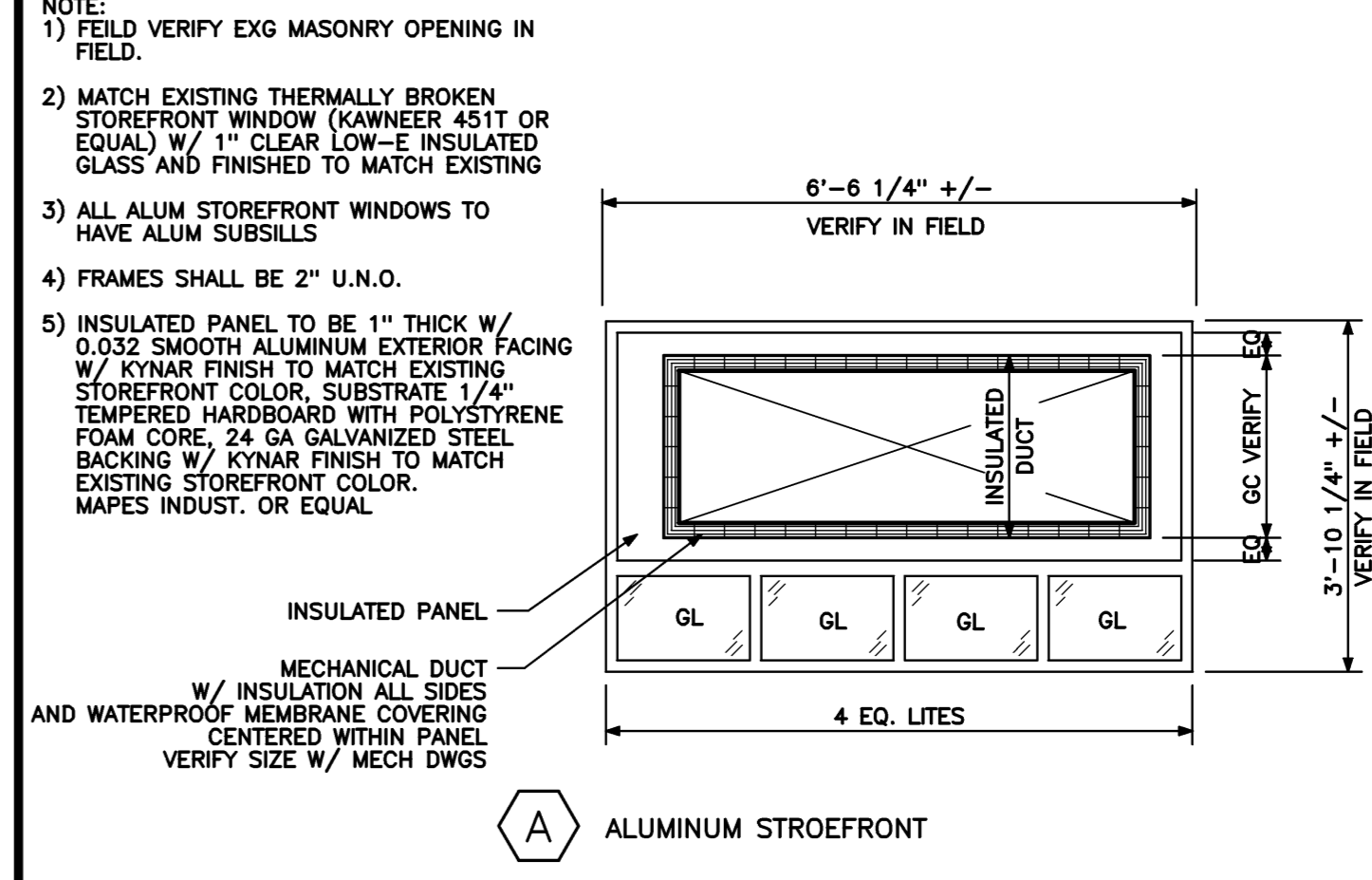
**ROOF CURB AT MECH EQUIP**  
 1 1/2" = 1'-0" REF: NA **A3**



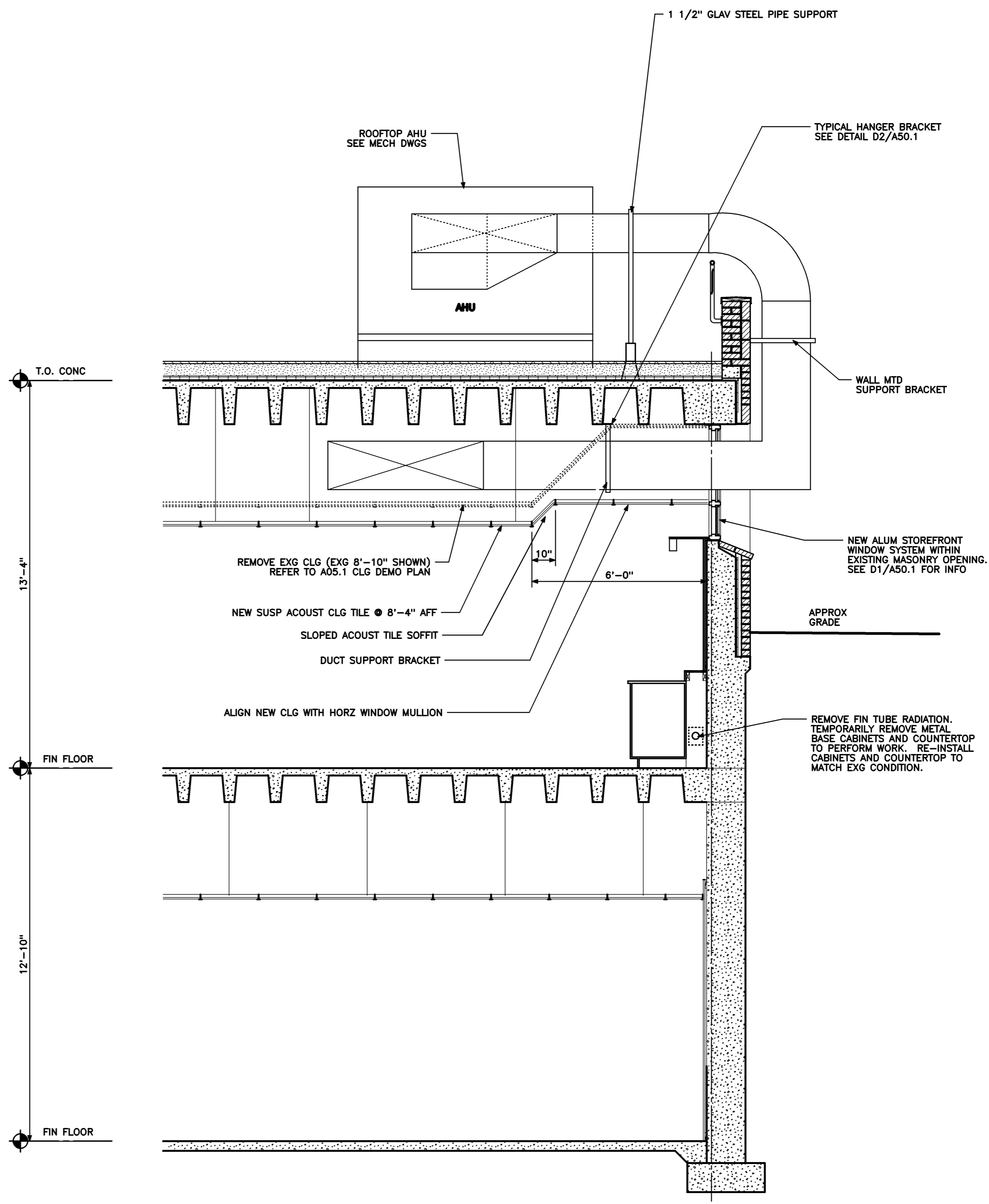
**WINDOW DETAIL**  
 1 1/2" = 1'-0" REF: NA **A2**



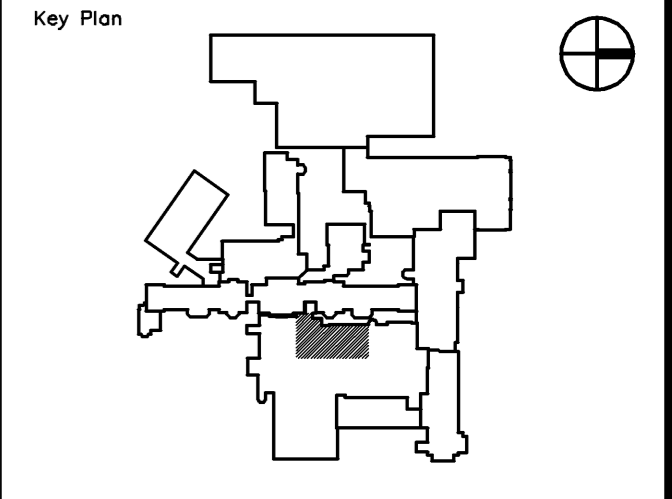
**TYPICAL HANGER DETAIL AT CONC BEAM**  
 1/2" = 1'-0" REF: NA **D2**



**NEW WINDOW TYPE**  
 1/2" = 1'-0" REF: NA **D1**



**EXISTING WALL SECTION**  
 3/8" = 1'-0" REF: NA **A1**



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Drawing Status

Drawing Title

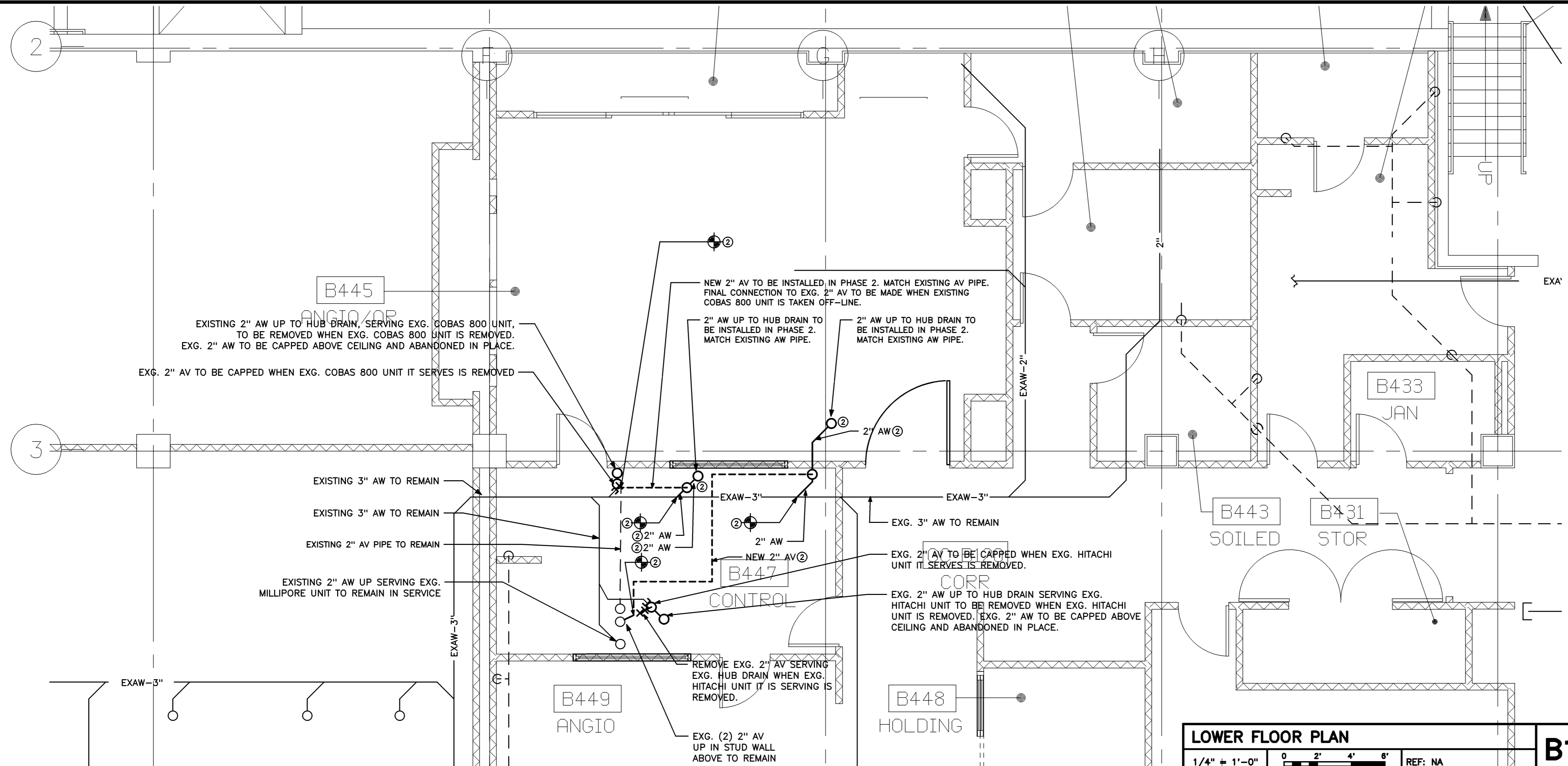
**DETAILS**

PA / PE: **JBL** Drawn By: **MCM**

Drawing Number

**A50.1**





**LOWER FLOOR PLAN**  
 1/4" = 1'-0" REF: NA **B1**

**PLUMBING NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE PERFORMING THE WORK SHOWN ON THIS PLAN.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING COMPOSITION AND MANUFACTURER OF EXISTING ACID WASTE AND VENT PIPING, AND PROVIDE NEW PIPING THE SAME AS EXISTING.
3. CONTRACTOR SHALL COORDINATE THE DEMOLITION AND NEW WORK SHOWN ON SHOWN ON THIS PLAN WITH THE HOSPITAL TO MINIMIZE INTERRUPTION OF WORK PERFORMED BY THE HOSPITAL IN THE SPACES WHERE PLUMBING WORK IS TO BE PERFORMED.
4. CONTRACTOR SHALL PERFORM AS MUCH WORK IN LOWER LEVEL AS POSSIBLE AT ONE TIME TO MINIMIZE INTERRUPTION OF HOSPITAL SERVICES PERFORMED IN THOSE SPACES WHERE PLUMBING WORK IS TO BE PERFORMED. FINAL CONNECTIONS SHALL BE MADE AT THE TIME THE EXISTING EQUIPMENT IT'S SERVING IS TAKEN OFF-LINE AND/OR NEW EQUIPMENT IS INSTALLED.
5. CONTRACTOR SHALL COORDINATE FINAL CONNECTIONS INDICATED ON PLANS WITH HOSPITAL REGARDING SCHEDULE OF EQUIPMENT REMOVALS, AND INSTALLATION OF NEW EQUIPMENT.
6. CONTRACTOR SHALL TAKE CARE TO LEAVE EXISTING SYSTEMS IN PLACE AND FUNCTIONAL UNTIL EQUIPMENT BEING SERVED IS TAKEN OUT OF SERVICE.

**FLOOR DRAIN SPECIFICATIONS:**

FLOOR DRAIN SHALL BE WATTS MODEL FD-1102-45-60 OR EQUAL. PVC BODY WITH 5" STAINLESS STEEL STRAINER. PROVIDE WITH ADDITIONAL SOLID NICKEL-BRONZE GASKETED COVER PLATE INSTALLED FLUSH WITH FLOOR. RETAIN STRAINER FOR FUTURE INSTALLATION.

**LEGEND**

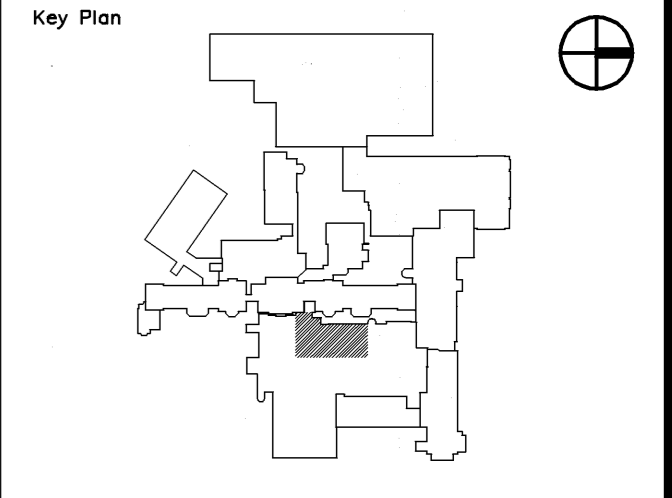
- AV ACID RESISTANT VENT PIPE
- AW ACID RESISTANT WASTE PIPE
- EXAV EXISTING ACID RESISTANT PIPE
- EXAW EXISTING ACID RESISTANT WASTE PIPE
- EXG EXISTING
- EXSD EXISTING STORM DRAIN
- POINT OF CONNECTION TO EXISTING
- ⊖ EXISTING TO BE REMOVED

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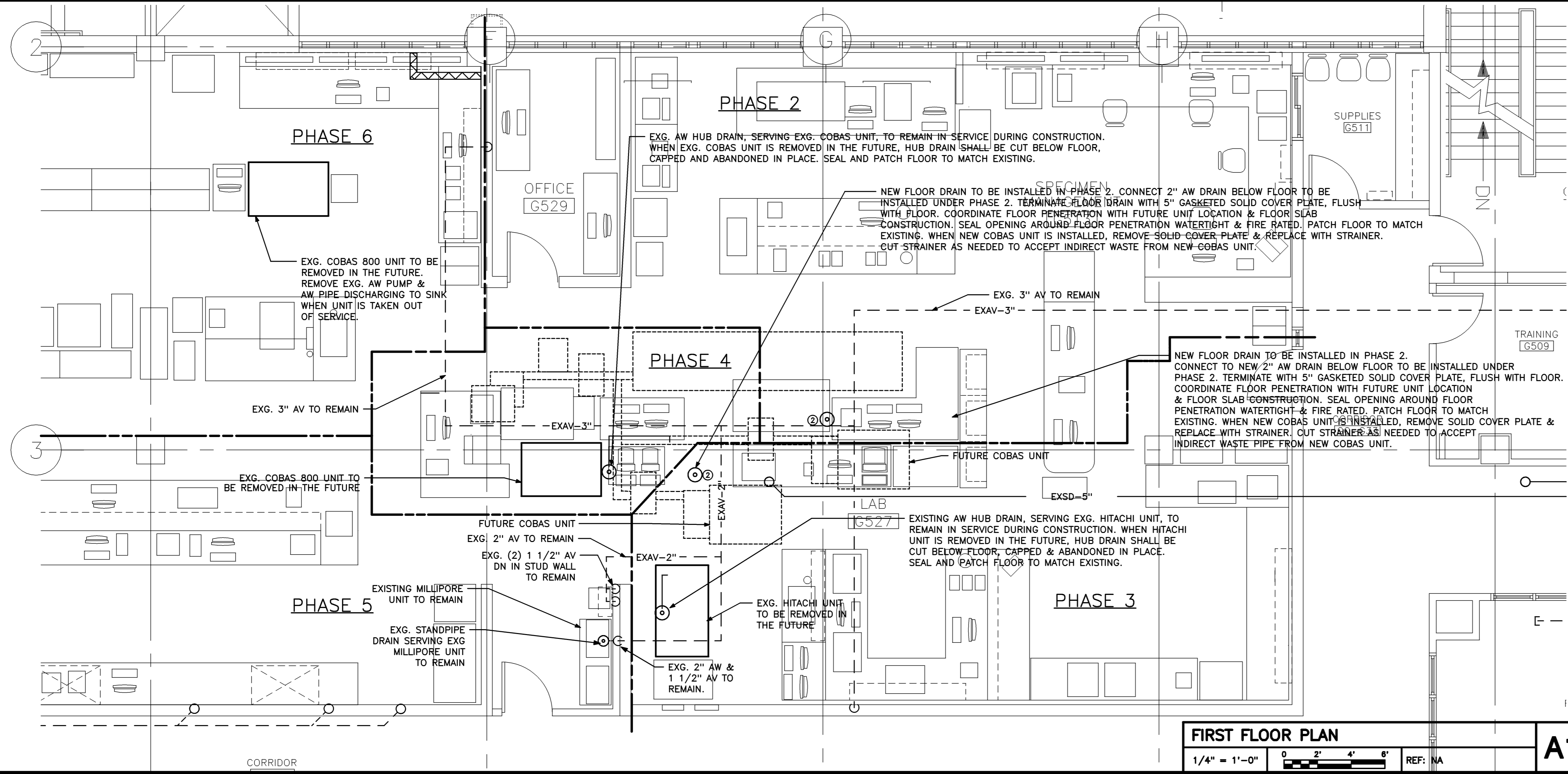
Project Title  
**MAINE MEDICAL CENTER HVAC LAB RENOVATIONS**  
 PORTLAND, MAINE

HA Project No. **08101**



**PHASING NOTES**

- ① WORK TO BE PERFORMED AS PART OF PHASE 1
- ② WORK TO BE PERFORMED AS PART OF PHASE 2
- ③ WORK TO BE PERFORMED AS PART OF PHASE 3
- ④ WORK TO BE PERFORMED AS PART OF PHASE 4
- ⑤ WORK TO BE PERFORMED AS PART OF PHASE 5
- ⑥ WORK TO BE PERFORMED AS PART OF PHASE 6



**FIRST FLOOR PLAN**  
 1/4" = 1'-0" REF: NA **A1**

10-31-08	ISSUED FOR BID
Mark	Date
	Description
Issue Dates	

Drawing Status	
----------------	--

Drawing Title  
**PLUMBING LOWER & FIRST FLOOR PLANS-NEW & DEMO**

PA / PE: **CG** Drawn By: **MED**

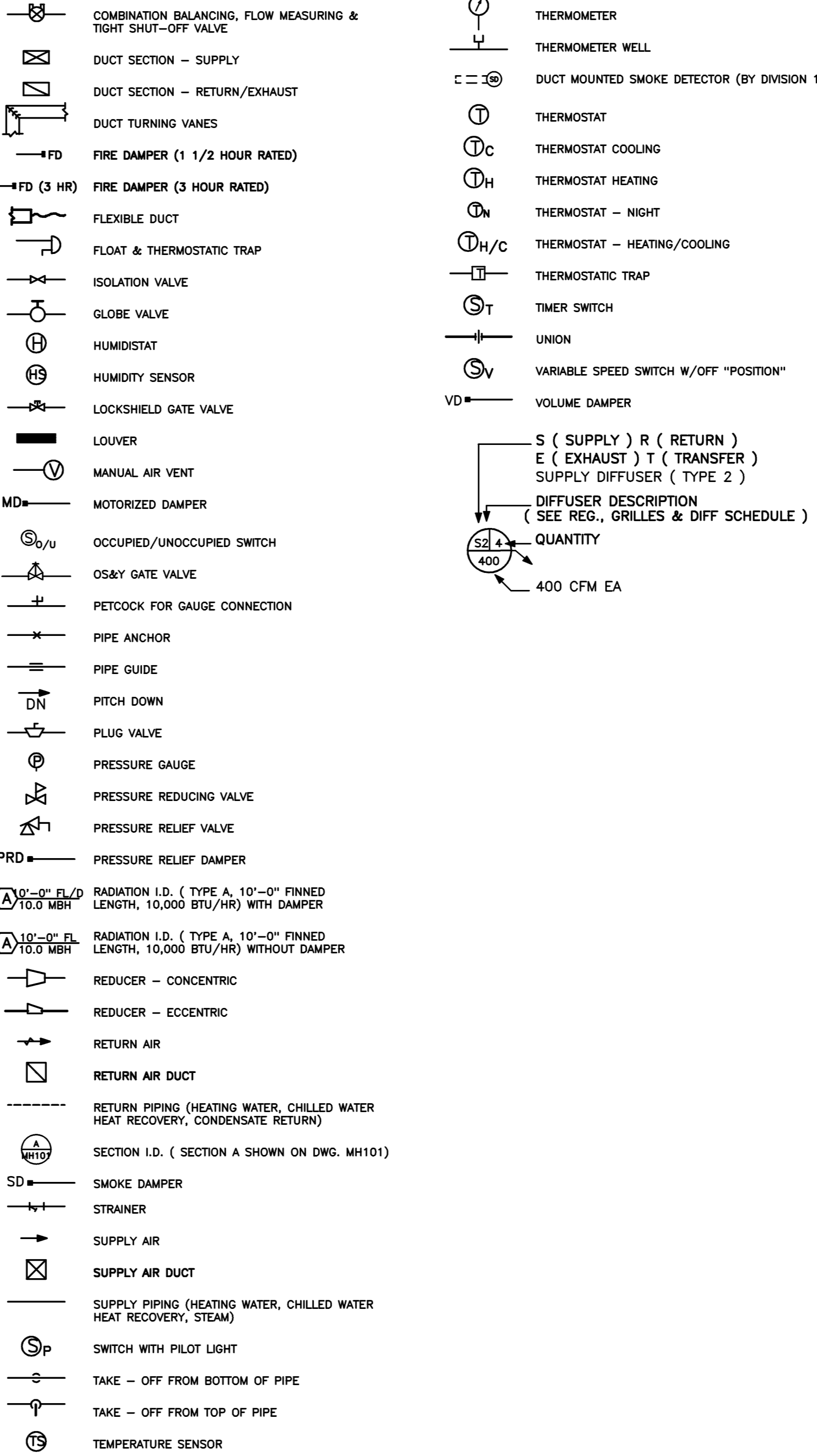
Drawing Number

**P10.1**

# LEGEND

AC	AIR CONDITIONING UNIT	FD	FIRE DAMPER
ACC	AIR COOLED CONDENSER	FL	FINNED LENGTH OF RADIATION
ACCU	AIR COOLED CONDENSING UNIT	FM	FLOW METER
ACV	AUTOMATIC CONTROL VALVE	FOR	FUEL OIL RETURN
AD	ACCESS DOOR	FOS	FUEL OIL SUPPLY
AE	AIR EXTRACTOR	FPT	FREEZE PROTECTION THERMOSTAT
AFF	ABOVE FINISHED FLOOR	FR	FLOOR REGISTER
AFG	ABOVE FINISHED GRADE	FS	FLOW SWITCH
AHU	AIR HANDLING UNIT	F&T	FLOAT & THERMOSTATIC TRAP
ALD	ACOUSTICALLY LINED DUCT	GCR	GRID CORE REGISTER
ATC	AUTOMATIC TEMPERATURE CONTROL	GPM	GALLONS PER MINUTE
BBU	BOILER BURNER UNIT	HC	HEATING COIL
BD	BAROMETRIC DAMPER	HE	HEAT EXCHANGER
BDD	BACKDRAFT DAMPER	HEDV	HOSE END DRAIN VALVE
CBD	COUNTERBALANCED BACKDRAFT DAMPER	HEF	HIGH EFFICIENCY FILTER BANK
CC	COOLING COIL	HPCR	HIGH PRESSURE CONDENSATE RETURN ( OVER 30 PSIG)
CD	CEILING DIFFUSER	HPS	HIGH PRESSURE STEAM ( OVER 30 PSIG)
CDR	CONDENSATE DRAIN ( AHU, FC, ETC.)	HRC	HEAT RECOVERY COIL
CDRP	CONDENSATE DRAIN PUMP ( AHU, FC, ETC.)	HRP	HEAT RECOVERY PUMP
CG	CEILING GRILLE	HRR	HEAT RECOVERY RETURN
CFM	CUBIC FEET PER MINUTE	HRS	HEAT RECOVERY SUPPLY
CH	CHILLER UNIT	HUM	HUMIDIFIER
CHWP	CHILLED WATER PUMP	HWP	HEATING WATER PUMP
CHWR	CHILLED WATER RETURN	HWR	HEATING WATER RETURN
CHWS	CHILLED WATER SUPPLY	HWS	HEATING WATER SUPPLY
CO	CLEANOUT	HV	HEATING & VENTILATING UNIT
C	CONNECTOR	LD	LINEAR DIFFUSER
CPD	CONDENSATE PUMP DISCHARGE	LG	LINEAR GRILLE
CR	CONDENSATE RETURN	LPCR	LOW PRESSURE CONDENSATE RETURN ( 0-15 PSIG)
CT	COOLING TOWER	LPS	LOW PRESSURE STEAM ( 0-15 PSIG)
CUH	CABINET UNIT HEATER	LSGV	LOCK SHIELD GATE VALVE
CW	COLD WATER	MAN/LS	MANUAL CONTROL FROM LIGHT SWITCH
CWP	CONDENSER WATER PUMP	MAN/SS	MANUAL CONTROL WITH VARIABLE SPEED SWITCH
CWR	CONDENSER WATER RETURN	MBH	1000 BRITISH THERMAL UNITS PER HOUR
CWS	CONDENSER WATER SUPPLY	MCC	MOTOR CONTROL CENTER
D	CONDENSATE DRAIN	MD	MOTORIZED DAMPER
D&D	DROP AND DRIP	MPCR	MEDIUM PRESSURE CONDENSATE RETURN ( 16 - 30 PSIG)
DDR	DOUBLE DEFLECTION REGISTER	MPS	MEDIUM PRESSURE STEAM ( 16 - 30 PSIG)
DEF	DEFLECTION	MS	MAGNETIC STARTER
DHW	DOMESTIC HOT WATER	OA	OUTSIDE AIR
EF	EXHAUST FAN	OED	OPEN ENDED DUCT
EG	EXHAUST GRILLE	OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
ER	EXHAUST REGISTER	PD	PRESSURE DROP
EXH	EXHAUST	PH	PREHEAT COIL
FC	FLEXIBLE CONNECTOR	PRD	PRESSURE RELIEF DAMPER
FCU	FAN COIL UNIT	PRV	PRESSURE REDUCING VALVE

R/D	RADIATION WITH DAMPER
RCHWP	RESET CHILLED WATER PUMP
RCHWR	RESET CHILLED WATER RETURN
RCHWS	RESET CHILLED WATER SUPPLY
REF	RETURN/EXHAUST FAN
RET	RETURN
RF	RETURN AIR FAN
RH	REHEAT COIL
RHWP	RESET HOT WATER PUMP
RHWR	RESET HOT WATER RETURN
RHWS	RESET HOT WATER SUPPLY
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
S	SWITCH
SA	SOUND ATTENUATOR
SCV	SELF - CONTAINED CONTROL VALVE
SD	SMOKE DAMPER
SDR	SINGLE DEFLECTION REGISTER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SS	STAINLESS STEEL
SUP	SUPPLY
SV	SOLENOID VALVE
TC	TIME CLOCK
TID	THERMALLY INSULATED DUCT
TD	TRANSFER DUCT
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TR	TEMPERATURE RISE
TT	THERMOSTATIC TRAP
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME BOX
VB	VACUUM BREAKER
VD	VOLUME DAMPER
VF	VENTILATION FAN
WC	WATER COLUMN
WG	WALL GRILLE
WR	WALL REGISTER
	ACOUSTICALLY LINED DUCT
	ACV 2 - WAY
	ACV 3 - WAY
	BALANCE VALVE
BDD	BACKDRAFT DAMPER
	CAP - PIPE
	CHECK VALVE

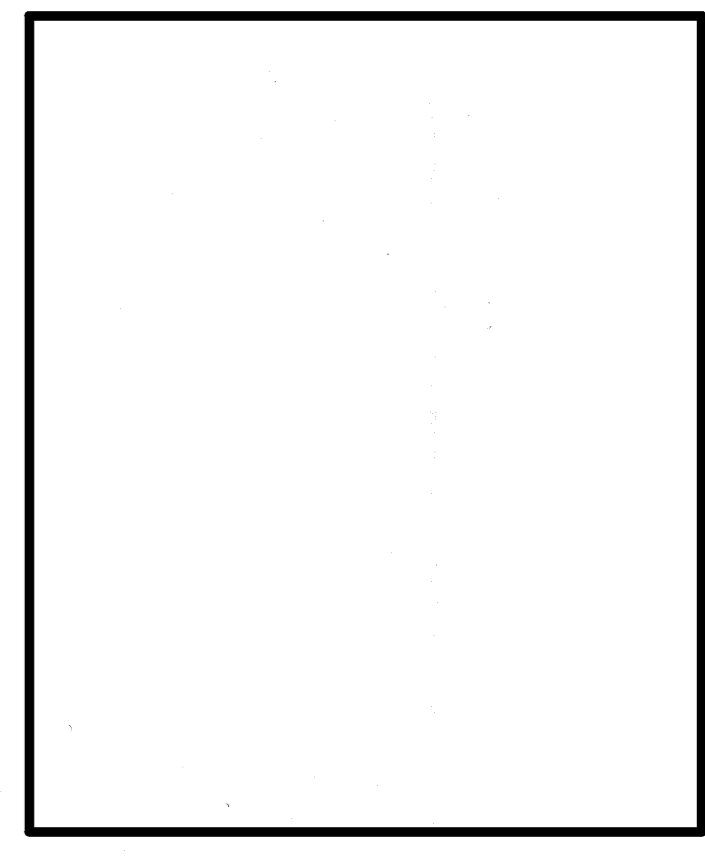
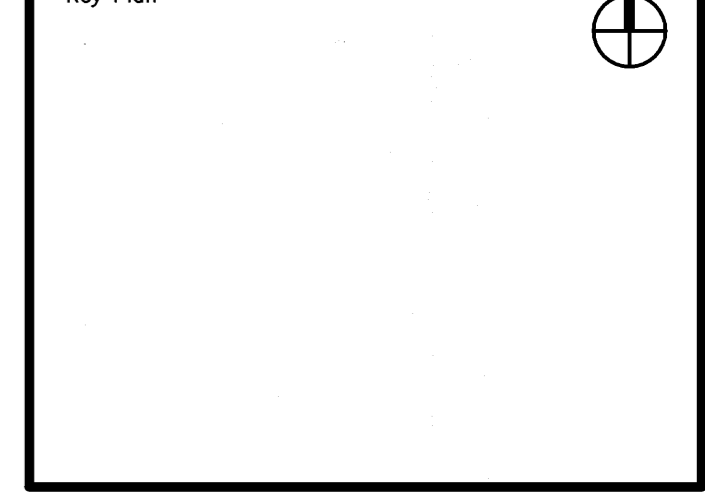


- ## GENERAL NOTES
- THE CONTRACTOR SHALL VISIT THE BUILDING SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS, AND TO TAKE MEASUREMENTS AS NECESSARY FOR COMPLETION OF THE WORK ASSOCIATED WITH THE DESIGN INTENT OF THESE CONTRACT DOCUMENTS.
  - COORDINATE WORK OF MECHANICAL SUBCONTRACTOR WITH WORK OF OTHER TRADES.
  - DUCTWORK, PIPING AND EQUIPMENT ARE INDICATED DIAGRAMMATICALLY. FIELD-VERIFY LOCATIONS.
  - PRIOR TO FABRICATING DUCTWORK, COORDINATE WITH OTHER TRADES TO ENSURE THAT THE DUCTWORK CAN BE INSTALLED WITH THE INDICATED SIZES AND LOCATIONS. FIELD-VERIFY EXISTING DUCT SIZES AND CONDITIONS. SUBMIT ANY DISCREPANCIES OR PROPOSED CHANGES.
  - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF CEILING DIFFUSERS AND REGISTERS.
  - PROVIDE VOLUME DAMPERS SO THAT EVERY REGISTER, GRILLE, AND DIFFUSER (SUPPLY, RETURN, AND EXHAUST) CAN BE INDIVIDUALLY BALANCED. VERIFY INSTALLATION OF EXISTING VOLUME DAMPERS AT EACH BRANCH IN EXISTING SUPPLY DUCT. PROVIDE ADDITIONAL VOLUME DAMPERS WHERE REQUIRED.
  - LOCATE VOLUME DAMPERS AS FAR AWAY FROM REGISTERS, GRILLES, AND DIFFUSERS AS POSSIBLE TO MINIMIZE NOISE. LOCATE TO BE UNOBSTRUCTED AND EASILY ACCESSIBLE FOR TESTING AND BALANCING. LOCATE ABOVE ACCESSIBLE SUSPENDED CEILING WHEREVER POSSIBLE. WHERE VOLUME DAMPERS MUST BE LOCATED ABOVE GYPCBOARD CEILING, PROVIDE ACCESS PANELS AS SPECIFIED AND NOTIFY THE ARCHITECT VERBALLY AND IN WRITING OF SUCH LOCATIONS. OBTAIN PERMISSION FROM THE ARCHITECT BEFORE INSTALLING ACCESS PANELS.
  - DUCT ELBOWS SHALL BE LONG-RADIUS TYPE (THROAT RADIUS EQUAL TO OR GREATER THAN DUCT WIDTH IN THE PLANE OF THE TURN) WHEREVER SPACE ALLOWS. IF SPACE IS NOT ADEQUATE, PROVIDE MITERED ELBOWS WITH TURNING VANES.
  - PROVIDE 16 GAUGE SINGLE-THICKNESS TURNING VANES AT MITERED DUCT ELBOWS. VANE EDGES (LEADING AND TRAILING) SHALL BE TANGENTIAL TO AIRFLOW.
  - FLEXIBLE DUCTWORK IS NOT ALLOWED IN NEGATIVE PRESSURE SYSTEMS. DO NOT USE FLEXIBLE DUCTWORK IN RETURN AND EXHAUST SYSTEMS.
  - FLEXIBLE DUCT LENGTHS SHALL NOT EXCEED 5'-0".
  - PAINT DUCTWORK VISIBLE THRU CEILING OPENINGS, DUCT OPENINGS, AND REGISTERS, GRILLES AND DIFFUSERS WITH BLACK PAINT IN ACCORDANCE WITH SECTION 09900 - PAINTING.
  - PIPING INDICATED IN OUTSIDE WALLS SHALL BE RUN ON THE WARM SIDE OF BUILDING INSULATION AND VAPOR BARRIER. BUILDING INSULATION BEHIND SUCH PIPING SHALL BE CONTINUOUS, WITHOUT JOINTS OR GAPS.
  - PIPING SHALL BE CONCEALED EXCEPT IN MECHANICAL ROOMS AND AS INDICATED. WHERE PIPES DROP IN BLOCK WALLS, PROVIDE 1/2" THICK INSULATION MINIMUM.
  - SEAL DUCTWORK AND PIPING THRU MECHANICAL ROOM FLOORS AND PARTITIONS, AND THRU FIRE-RATED ASSEMBLIES, WITH FIRESTOPPING MATERIAL AS SPECIFIED.
  - MOUNT THERMOSTATS AND TEMPERATURE AND HUMIDITY SENSORS AT 48 INCHES AFF TO CENTERLINE OF ITEM. PROVIDE ELECTRICAL WALL BOX ATTACHED TO FRAMING.
  - WHERE THERMOSTATS/TEMPERATURE SENSORS ARE LOCATED NEAR LIGHT SWITCHES, INSTALL SO THAT LIGHT SWITCHES ARE NEARER THE DOOR JAMBS. THE INTENT IS TO LOCATE THERMOSTATS/TEMPERATURE SENSORS SO THEY WILL NOT INTERFERE WITH ACCESSIBILITY OF LIGHT SWITCHES.
  - COORDINATE LOCATION OF NEW ROOFTOP EQUIPMENT, LOCATED ON EXISTING ROOF, WITH EXISTING ROOF STRUCTURE.
  - VERIFY EXISTING DUCT SIZES PRIOR TO FABRICATION OF NEW DUCTWORK. IF DISCREPANCIES EXIST, NOTIFY THE ENGINEER.



Project Title  
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-	10-20-08	FOR INFORMATION ONLY
-	10-10-08	75% REVIEW

Issue Dates

Drawing Status

Drawing Title

# MECHANICAL LEGEND AND NOTES

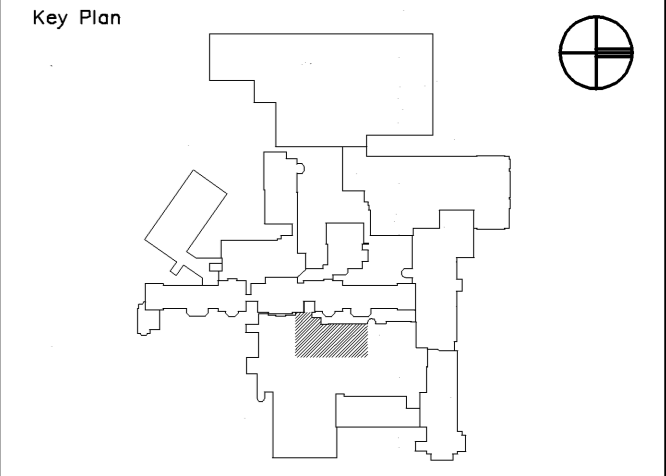
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Drawing Number

# M00.1

Project Title  
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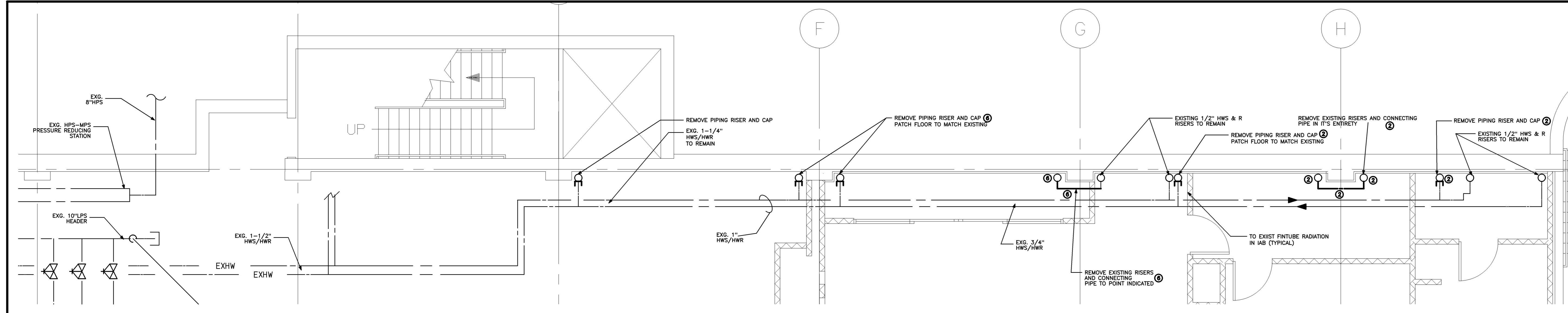
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Drawing Title  
**MECHANICAL LOWER & FIRST FLOOR DEMOLITION**

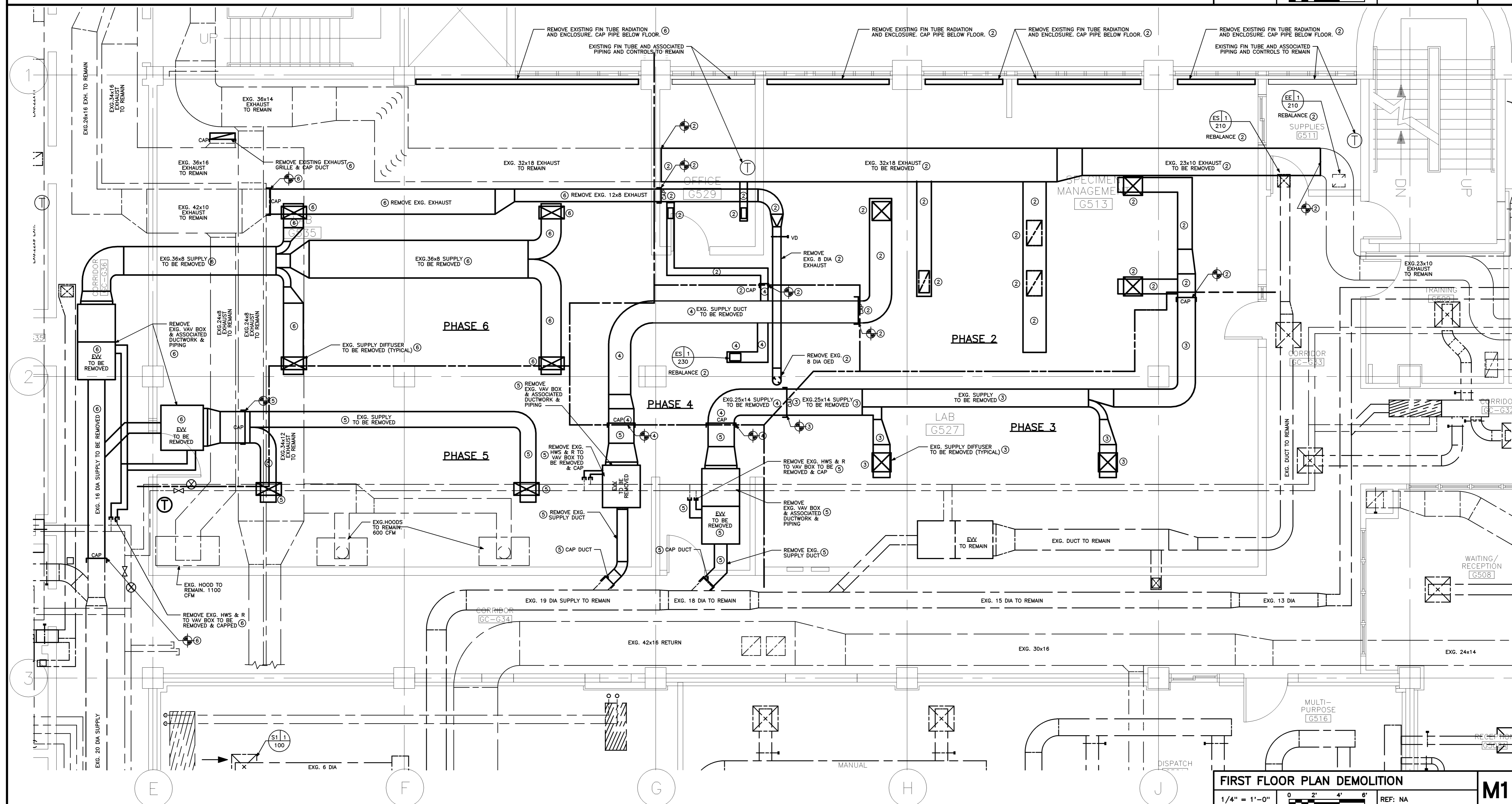
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Drawing Number

**MD10.1**



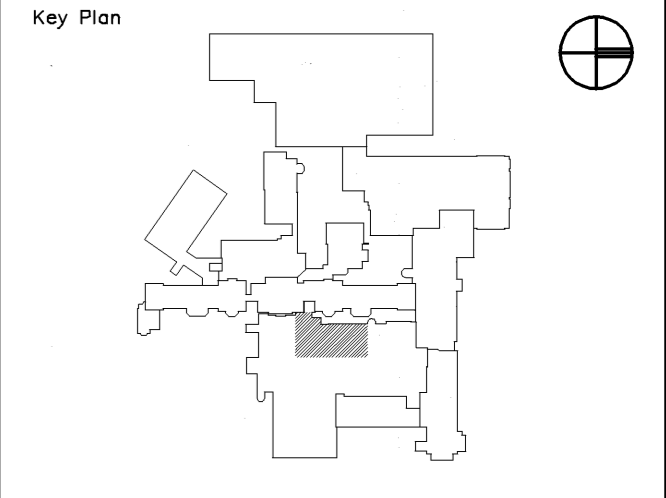
**LOWER FLOOR PLAN DEMOLITION**  
1/4" = 1'-0" REF: NA **M2**



**FIRST FLOOR PLAN DEMOLITION**  
1/4" = 1'-0" REF: NA **M1**

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  - ⑥ WORK TO BE PERFORMED AS PART OF PHASE 6

Mark	Date	Description
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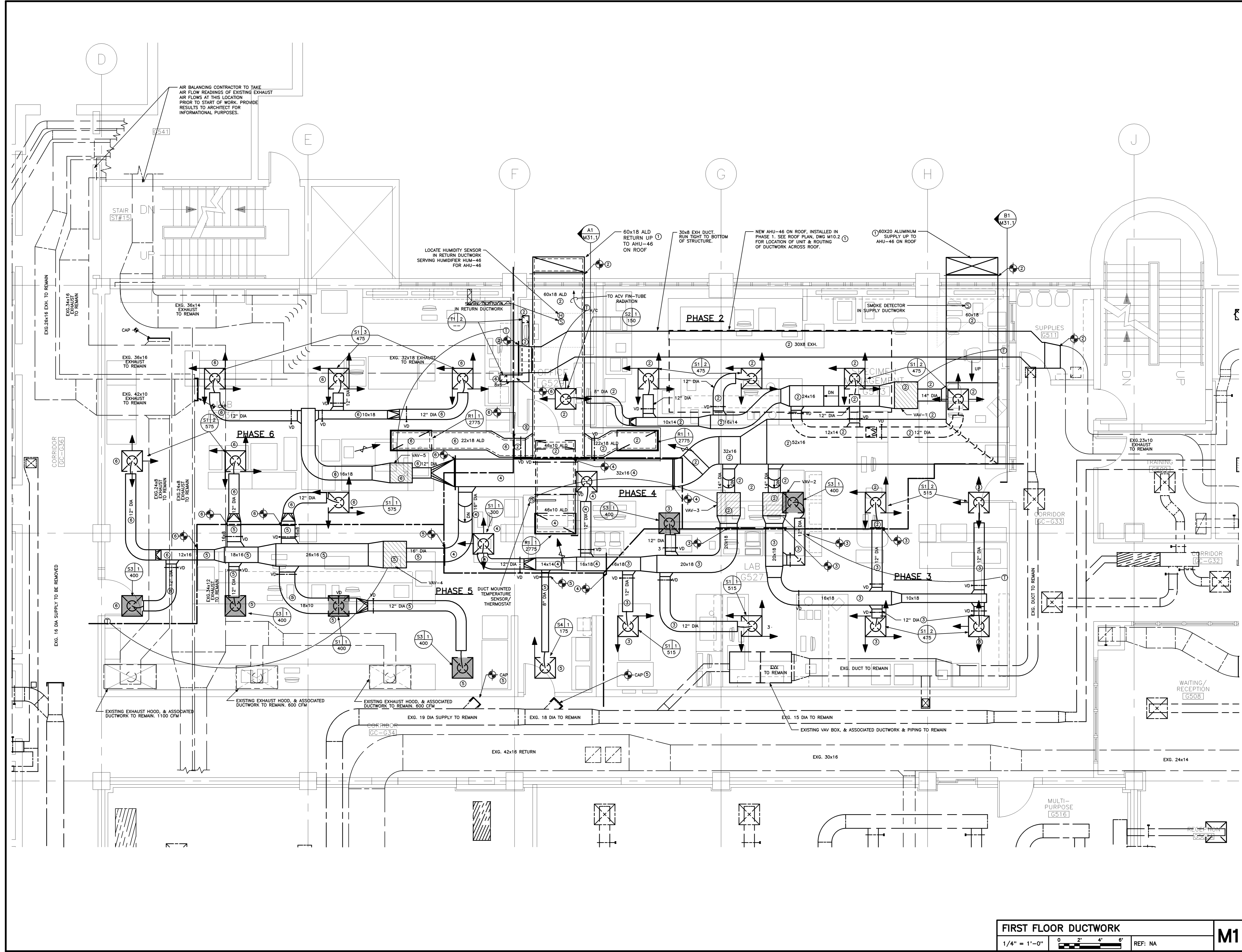
Issue Dates

Drawing Status

Drawing Title  
**MECHANICAL FIRST FLOOR DUCTWORK**

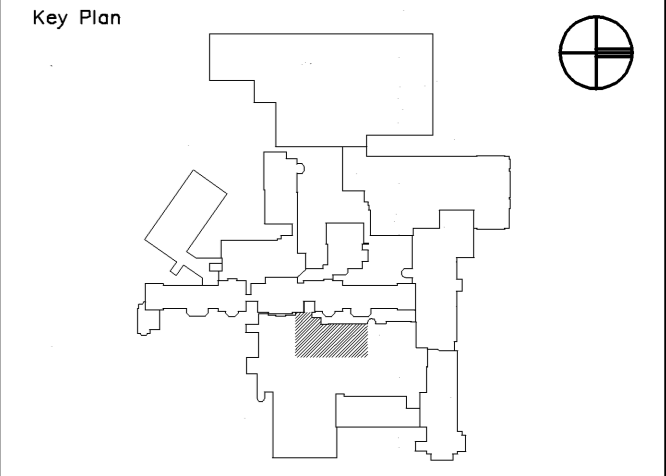
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Drawing Number  
**M10.1**



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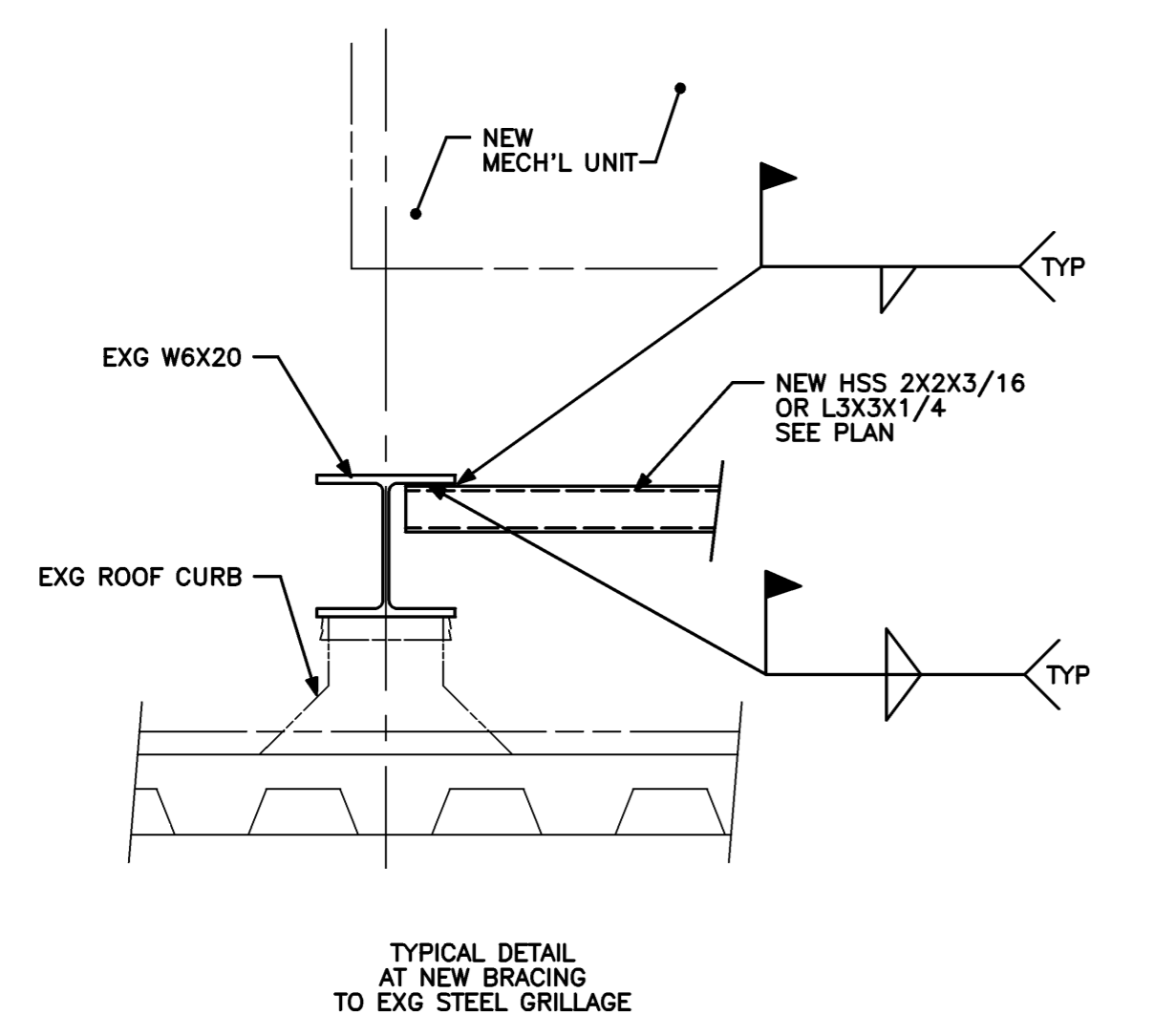
Drawing Status

Drawing Title  
**MECHANICAL ROOF PLAN**

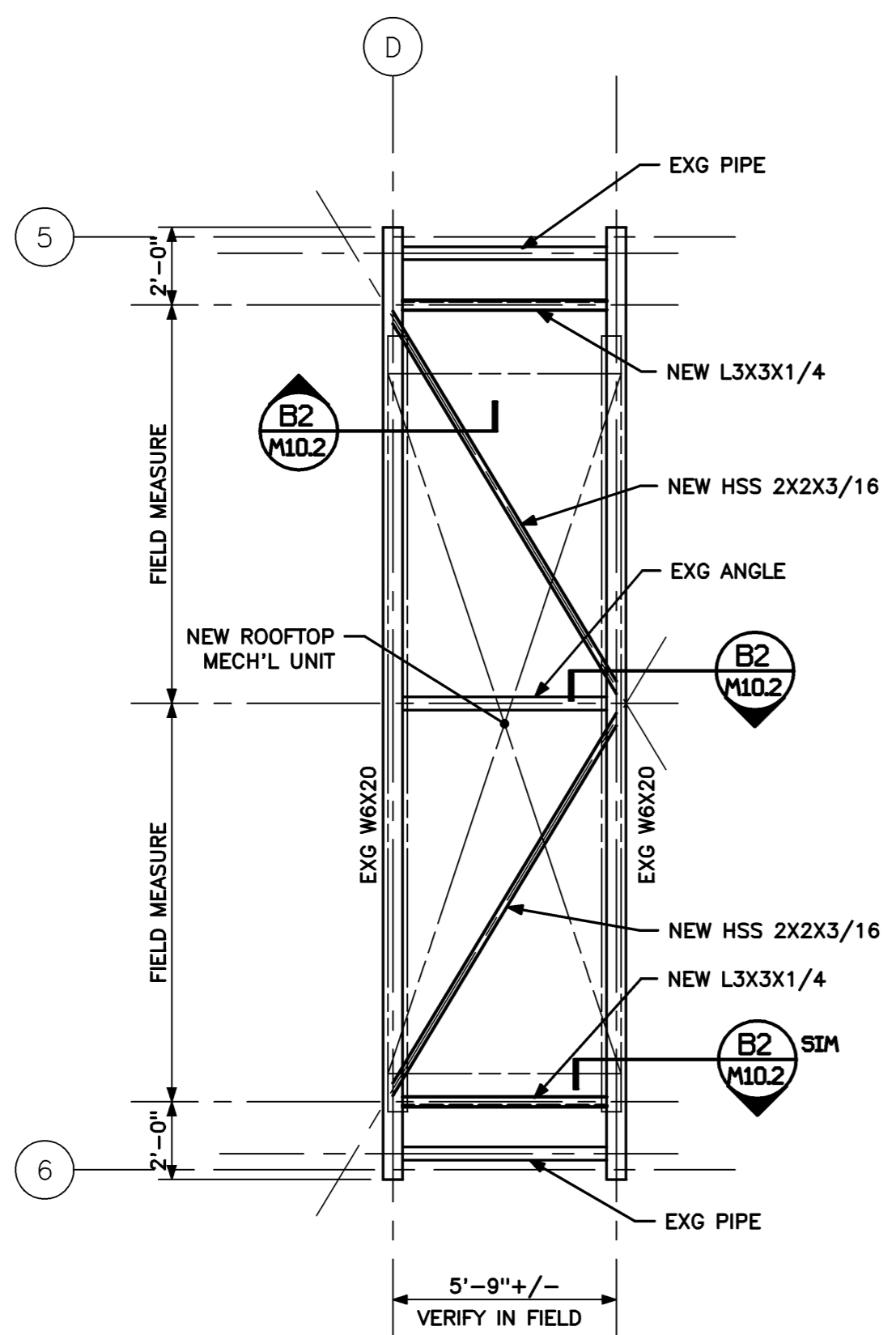
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Drawing Number

**M10.2**

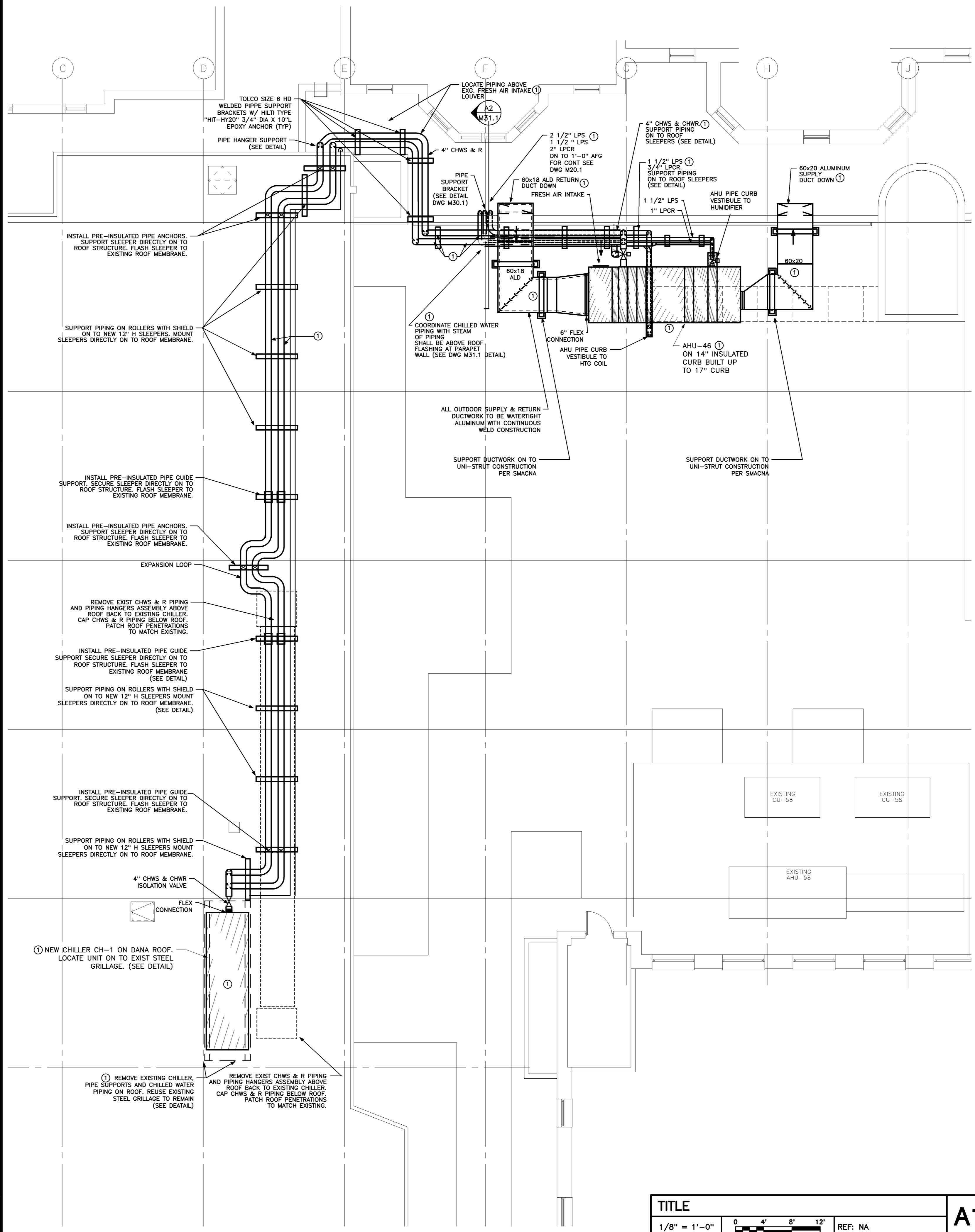


**SECTION**  
1 1/2" = 1'-0" REF: M10.2 **B2**

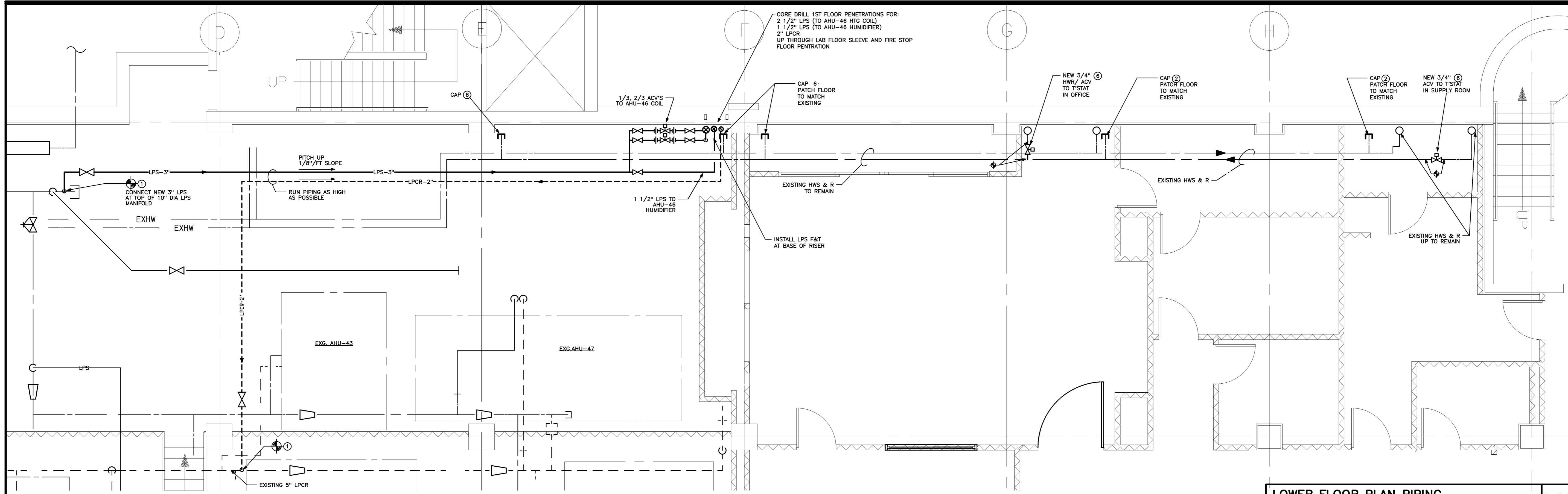


- RENOVATION OF EXISTING GRILLAGE NOTES:
1. REMOVE EXISTING CHILLER AND BASE ISOLATORS.
  2. REMOVE ALL LOOSE RUST, SCALE, AND LOOSE PAINT FROM EXPOSED SURFACES OF EXISTING STRUCTURAL STEEL. PREPARE PER SSPC-SP3 SPEC.
  3. INSTALL NEW GALVANIZED STEEL BRACING TO EXISTING STEEL. SEE PLAN.
  4. PAINT EXISTING STEEL WITH COLD GALVANIZING COMPOUND. TOUCH UP GALVANIZED STEEL AS NECESSARY.
  5. INSTALL NEW CHILLER UNIT ON EXISTING STEEL.

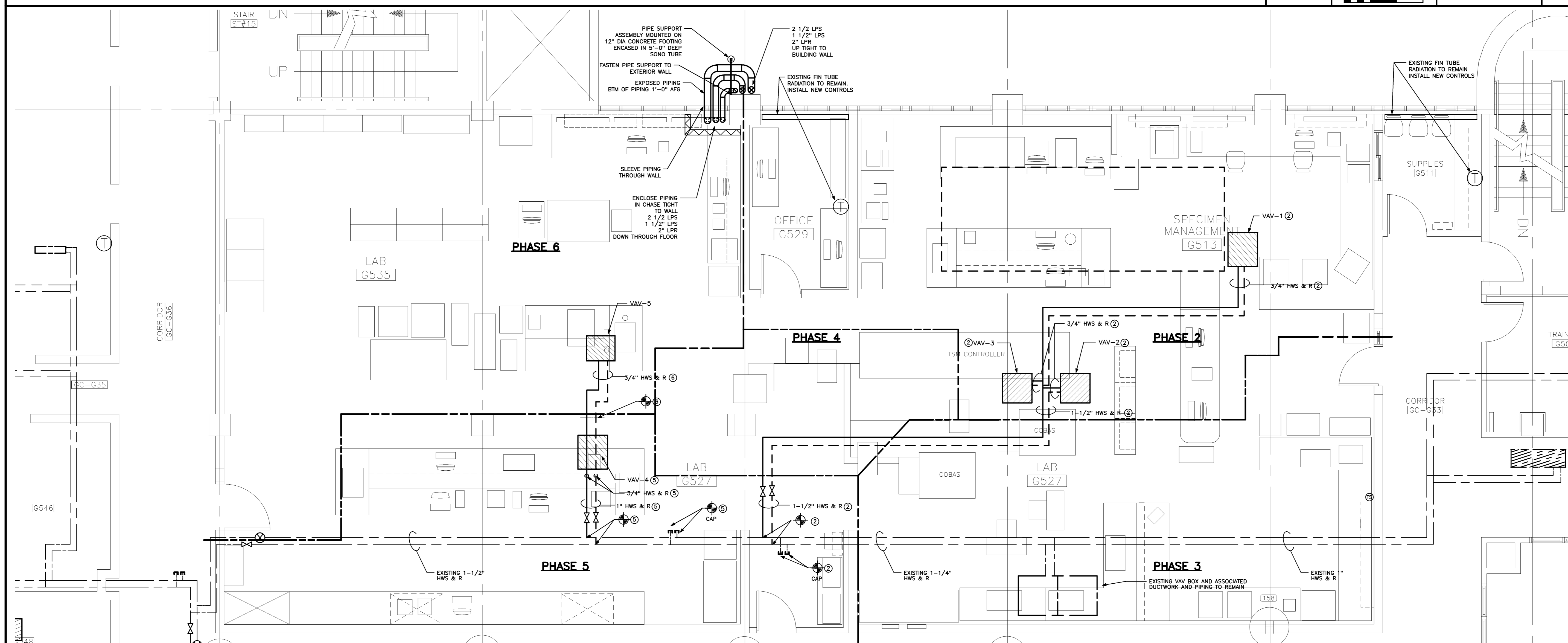
**GRILLAGE FRAMING PLAN**  
1/4" = 1'-0" REF: M10.2 **A2**



**TITLE**  
1/8" = 1'-0" REF: NA **A1**



**LOWER FLOOR PLAN PIPING** M2  
 1/4" = 1'-0" REF: NA



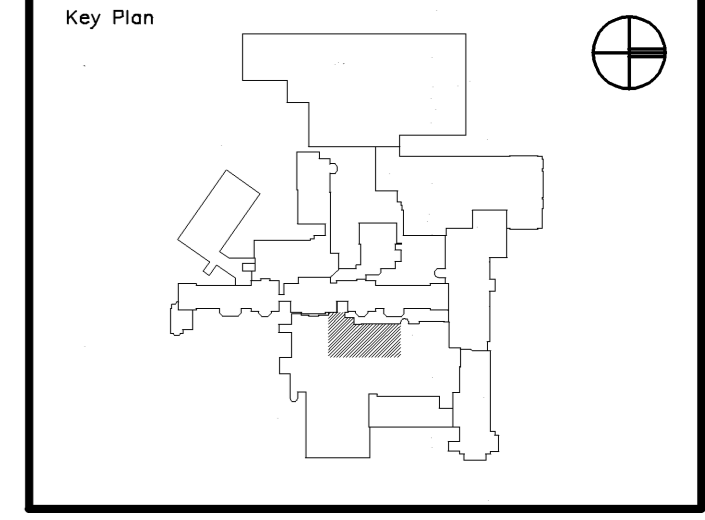
**FIRST FLOOR PLAN PIPING** M1  
 1/4" = 1'-0" REF: NA

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STATE OF MAINE  
 CLIFTON W. O'BRIEN  
 No. 6405  
 LICENSED PROFESSIONAL ENGINEER

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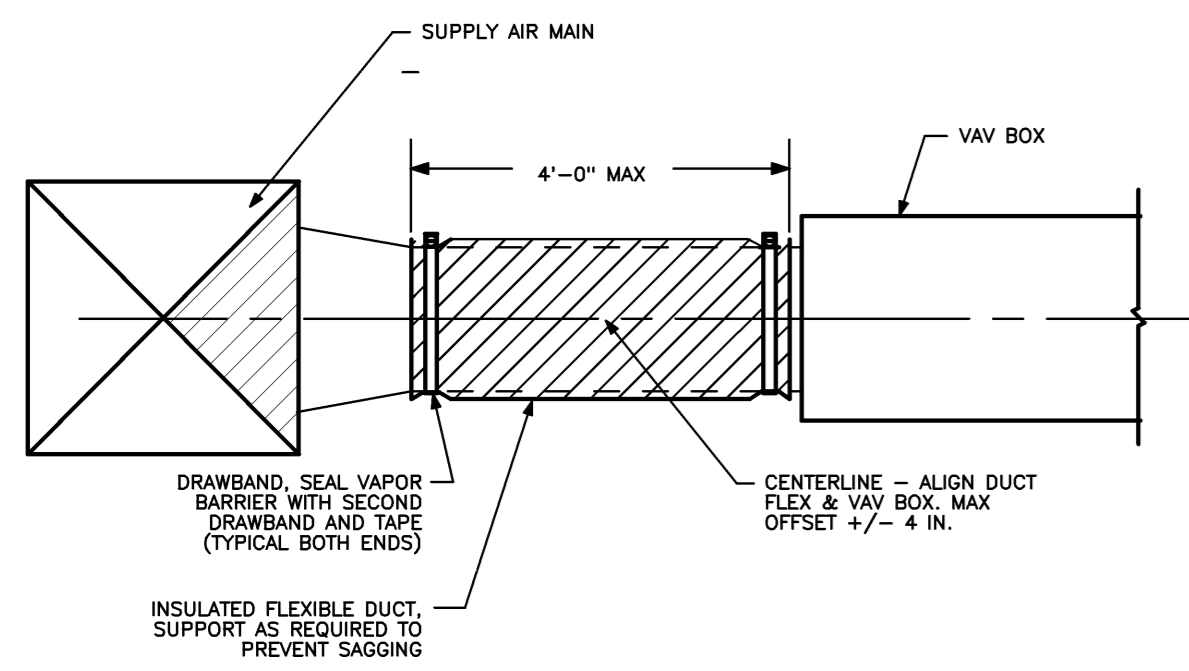
Issue Dates	Mark	Date	Description
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Drawing Status

Drawing Title  
**MECHANICAL LOWER & FIRST FLOOR PIPING**

PA / PE: **CG** Drawn By: **REM**

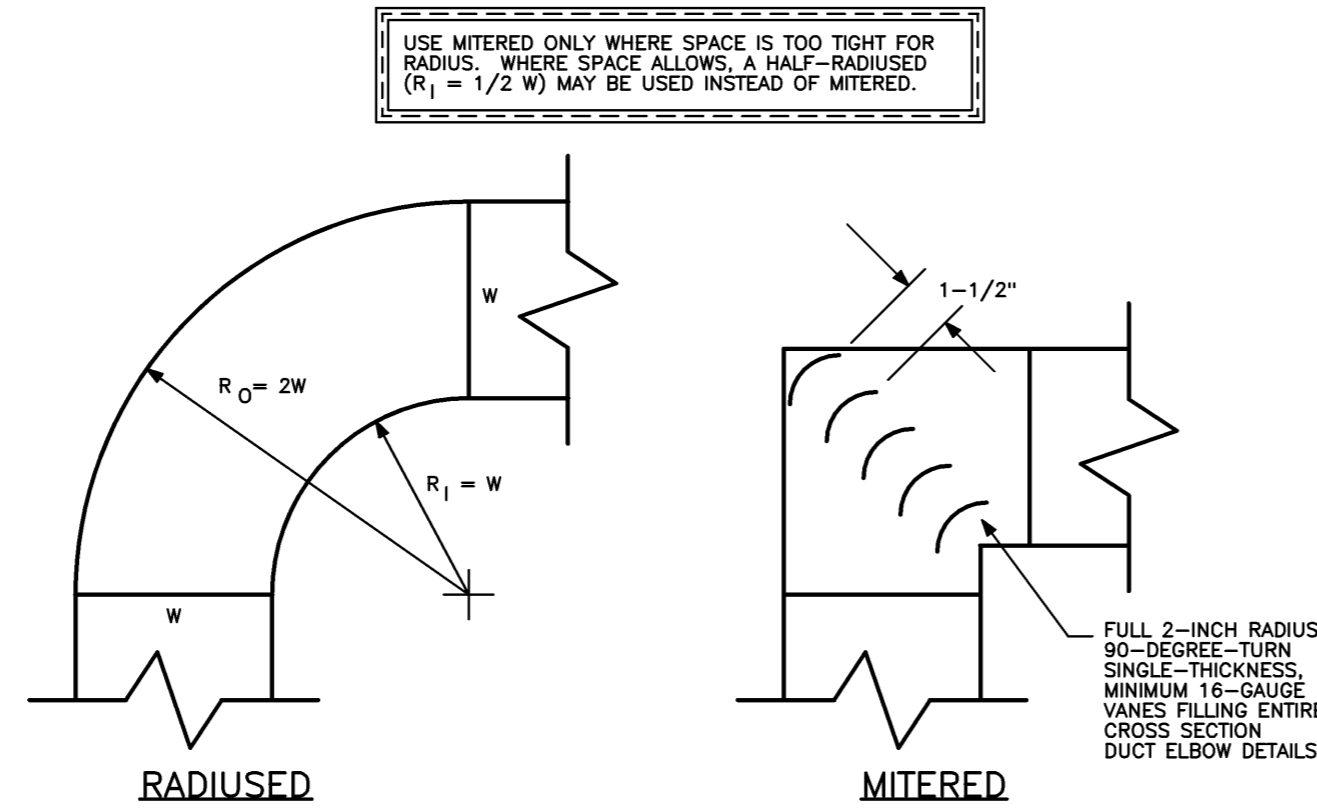
Drawing Number  
**M20.1**



TYPICAL VAV BOX CONNECTION DETAIL

NO SCALE REF: NA

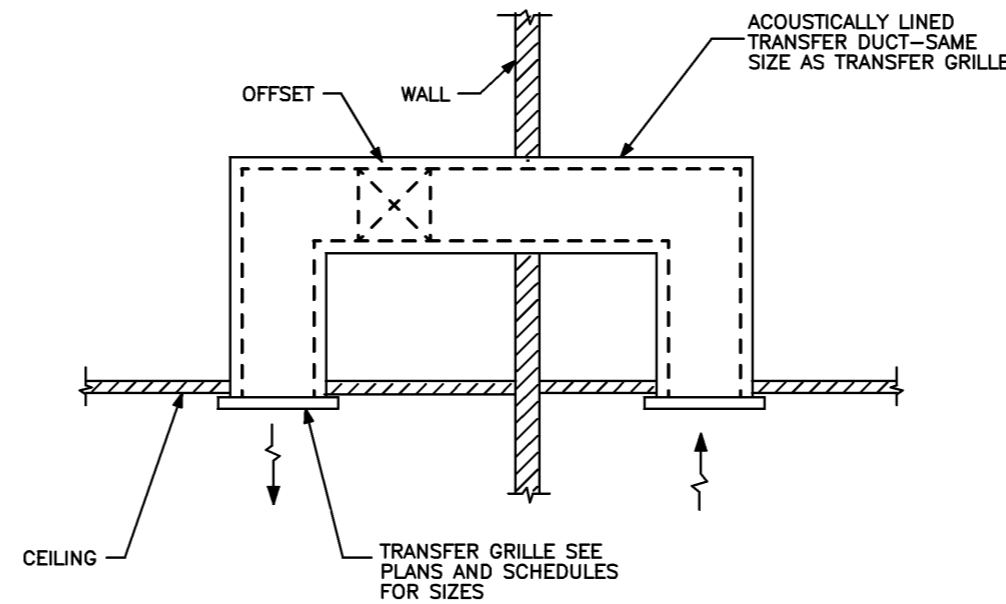
C4



DUCT ELBOW DETAILS

NO SCALE REF: NA

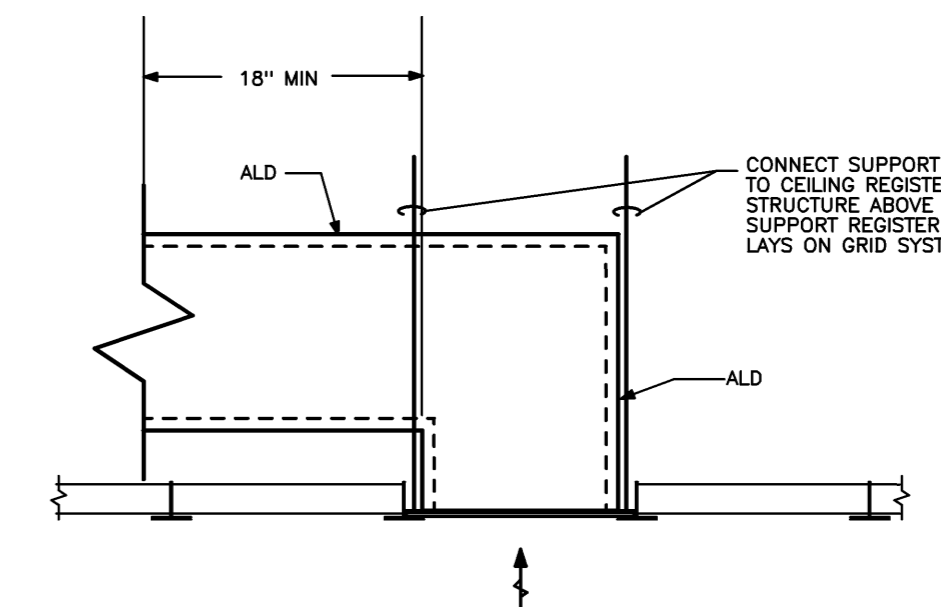
C3



TRANSFER DUCT DETAIL

NO SCALE REF: NA

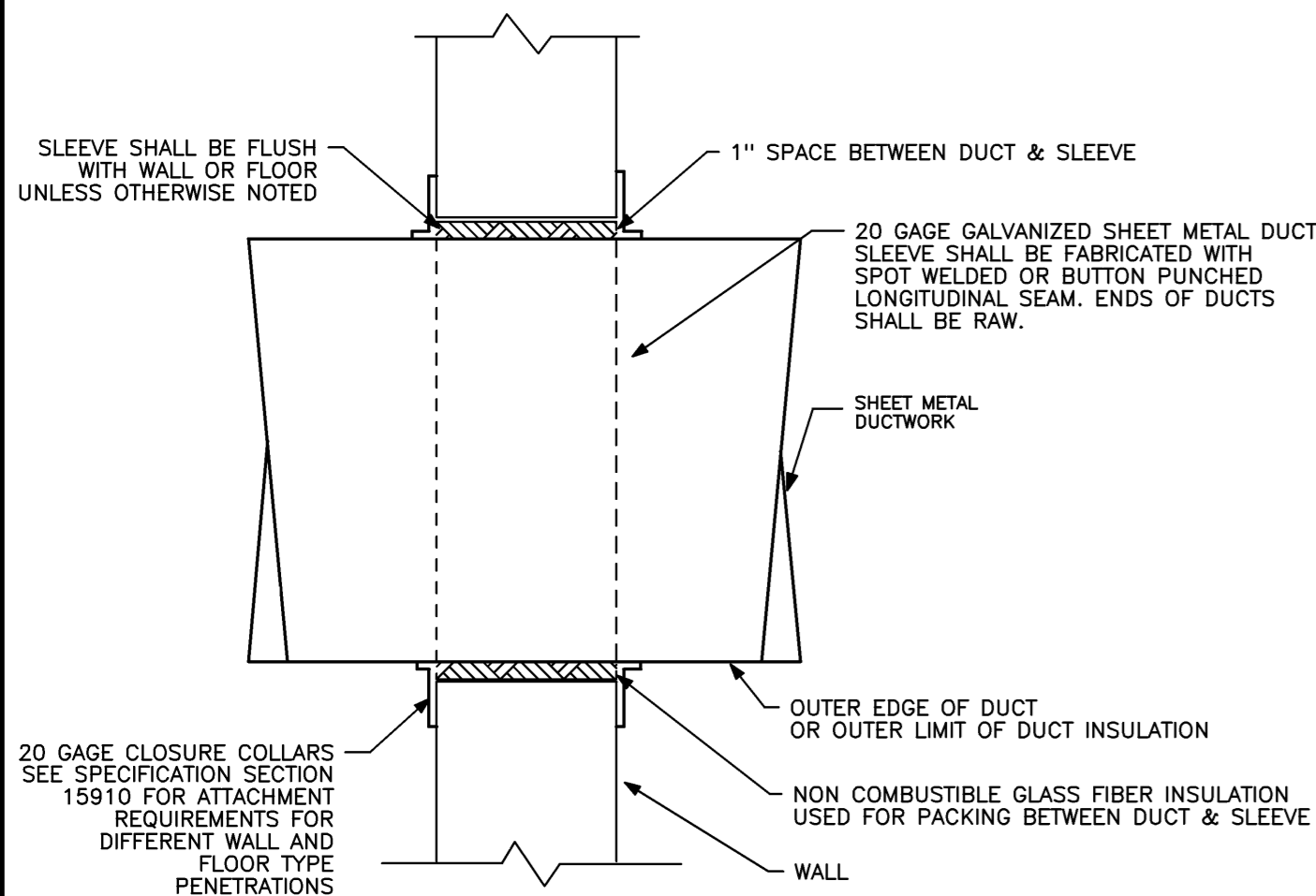
A3



LAY-IN CEILING RETURN REGISTER MOUNTING DETAIL

NO SCALE REF: NA

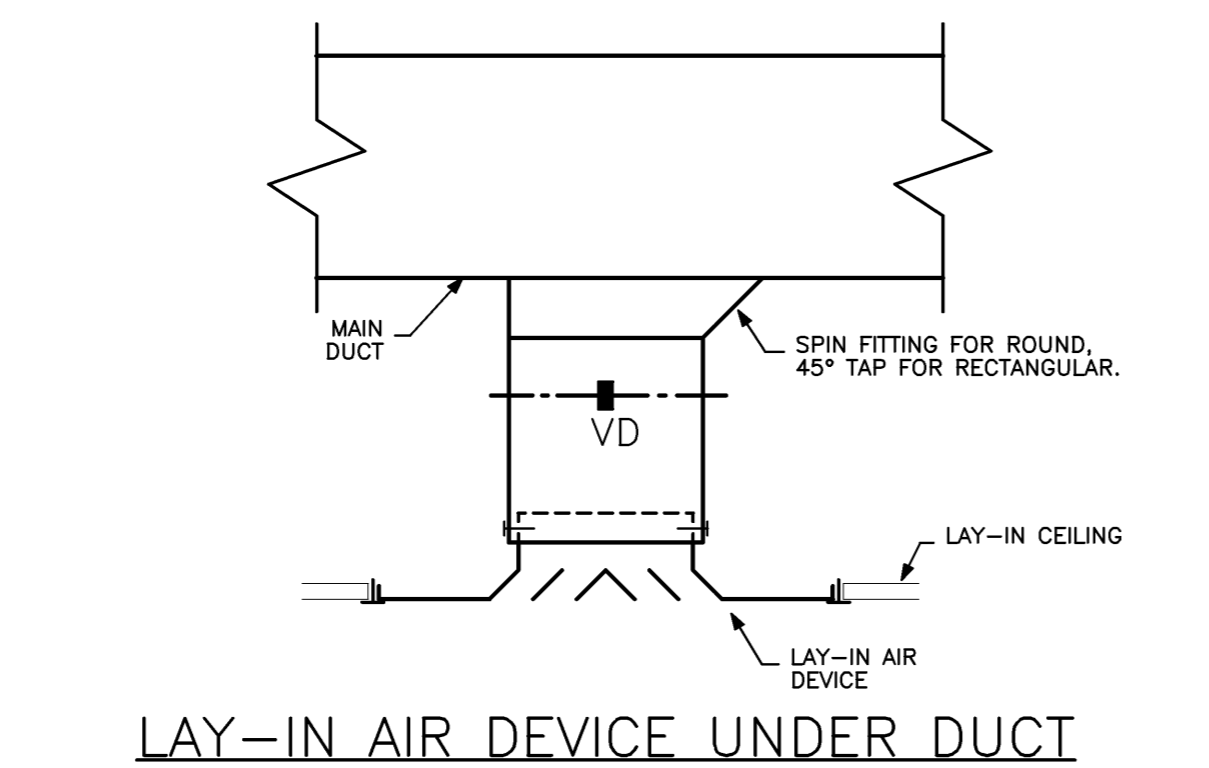
C1



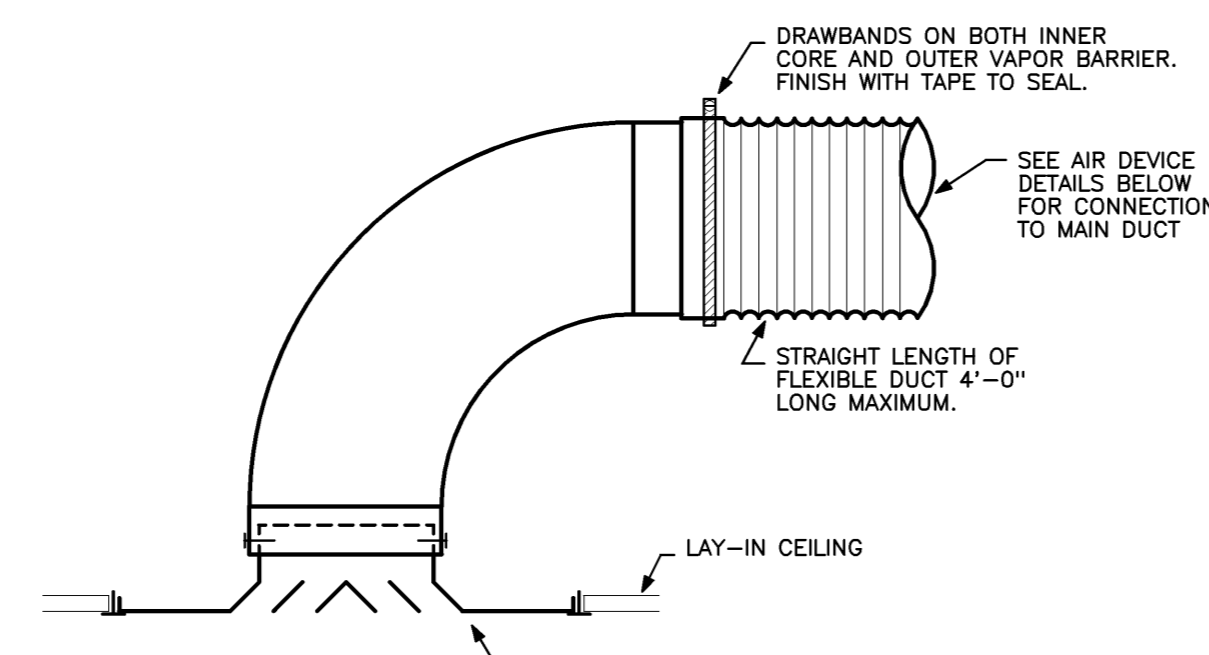
DUCT SLEEVE DETAIL

NO SCALE REF: NA

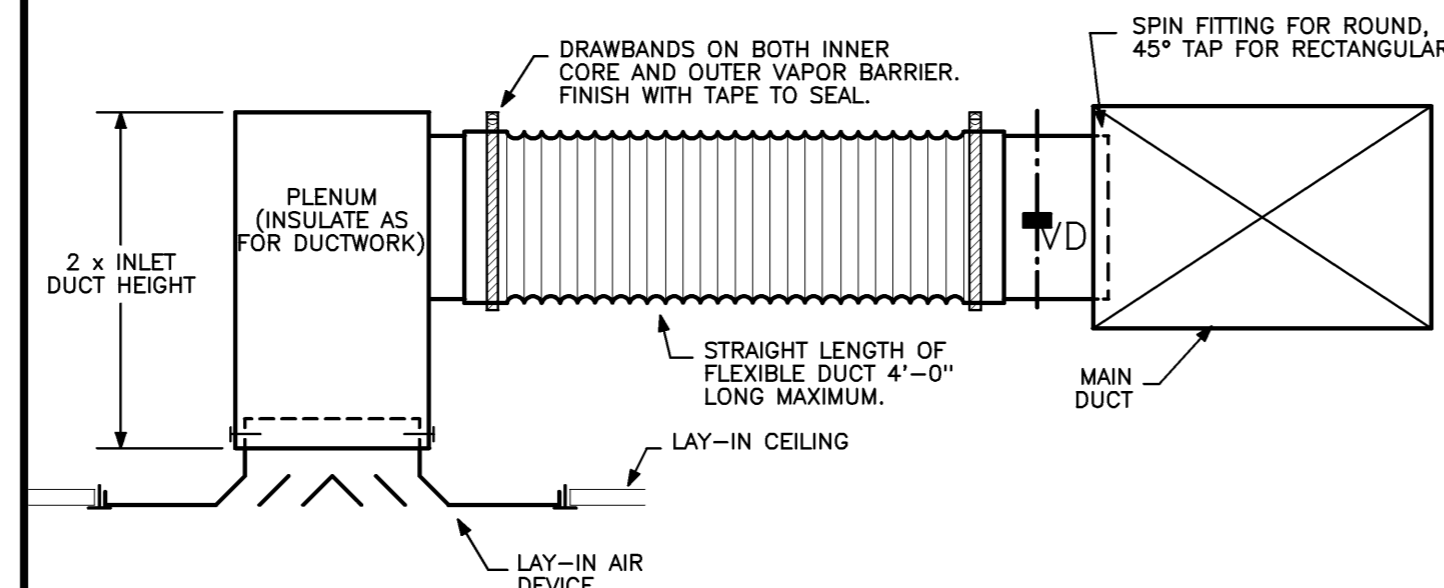
B4



LAY-IN AIR DEVICE UNDER DUCT



ROUND-NECK DIFFUSER CONNECTION



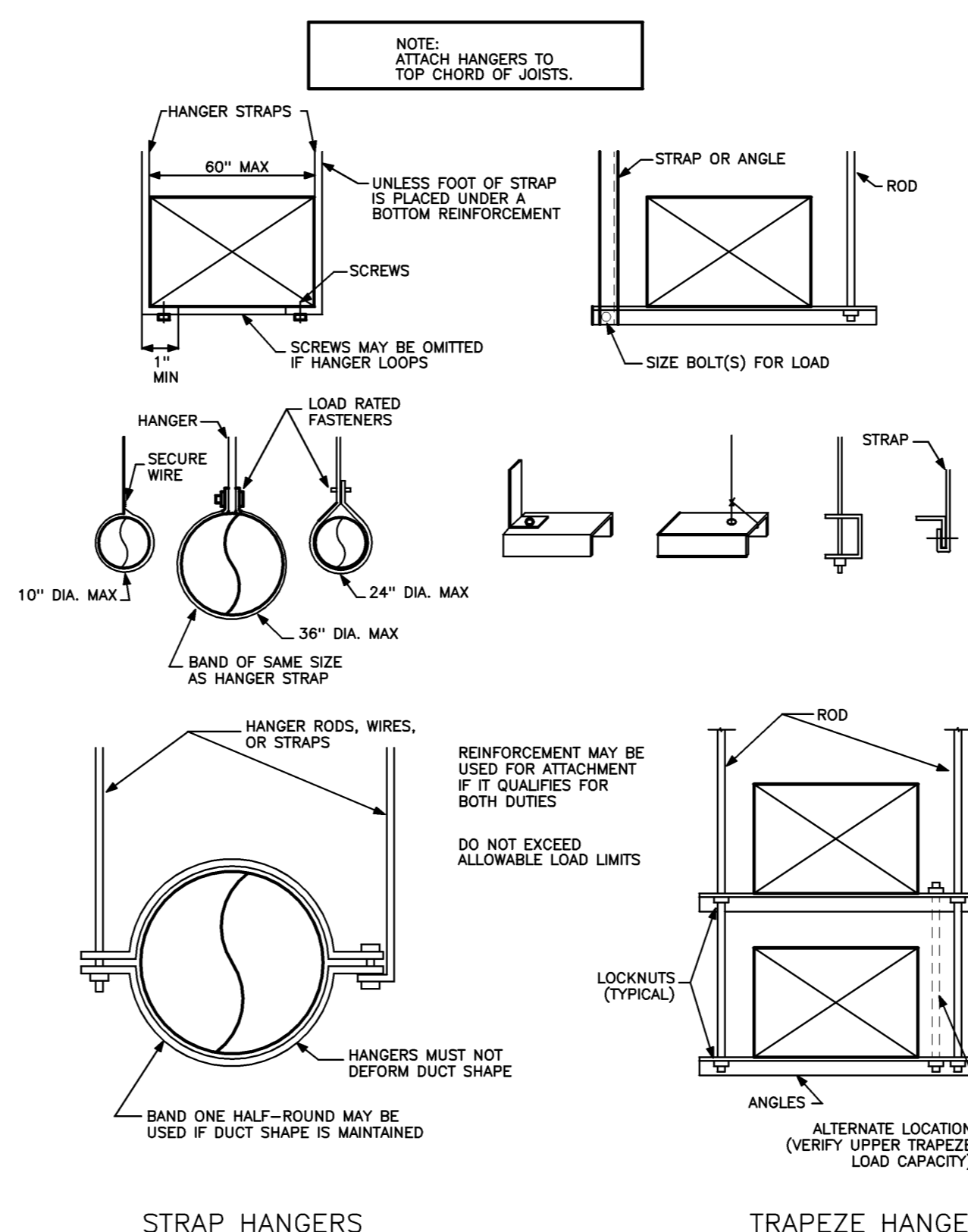
LAY-IN CEILING AIR DEVICE  
CEILING AIR DEVICE DETAILS

NO SCALE

CEILING AIR DEVICE DETAILS

NO SCALE REF: NA

A3



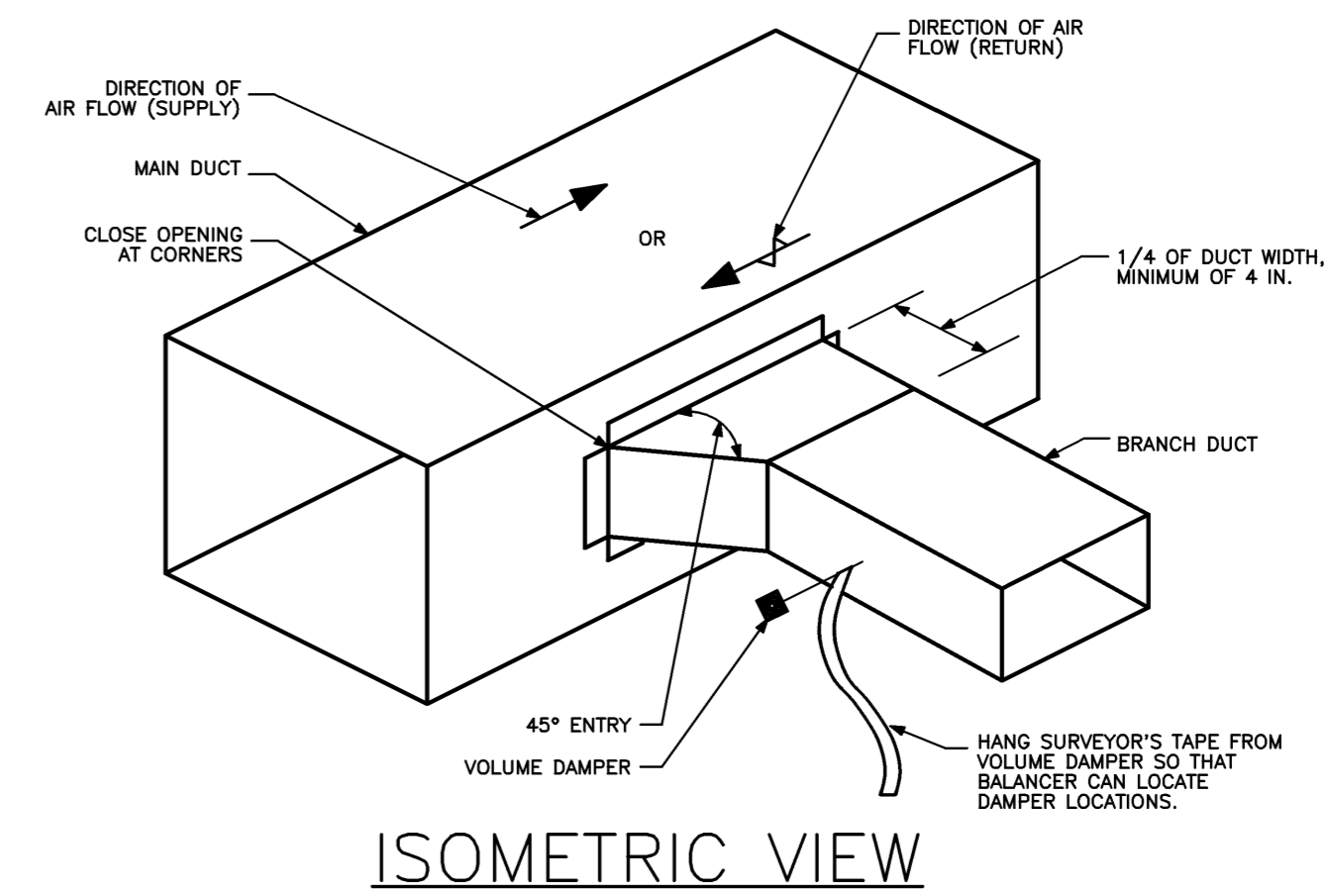
STRAP HANGERS

TRAPEZE HANGERS

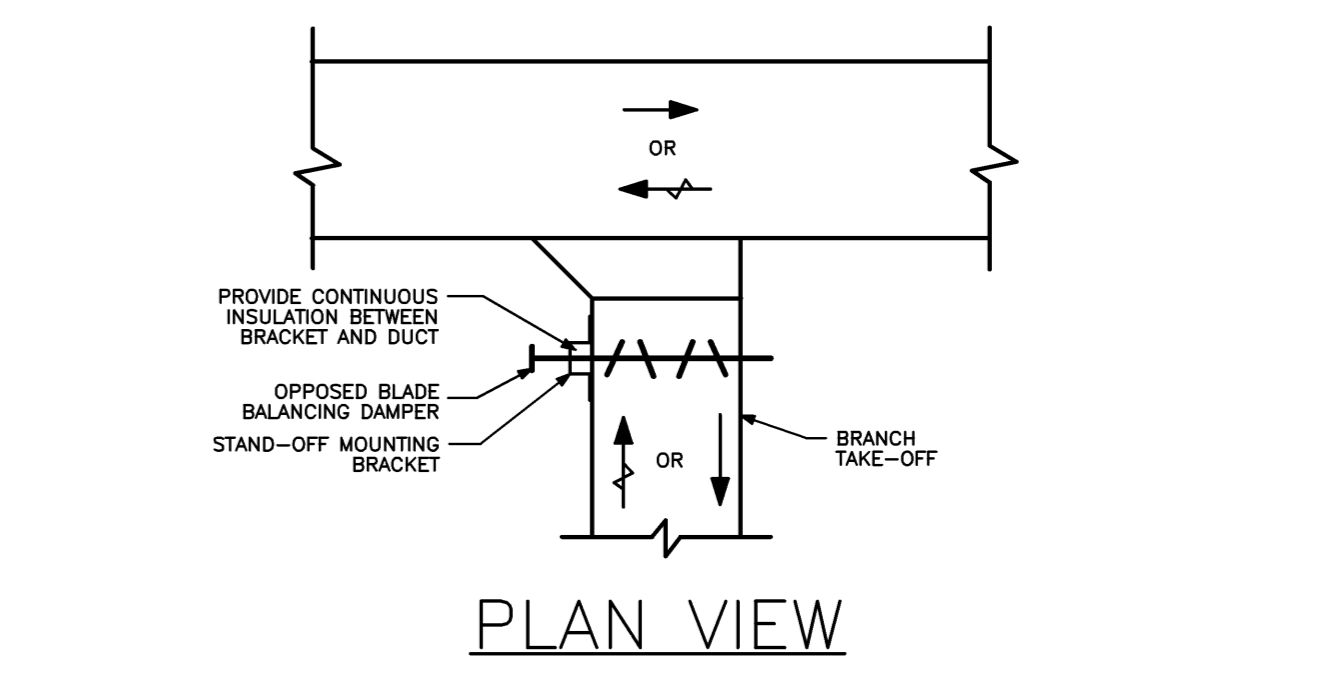
LOWER HANGER ATTACHMENT DETAIL

NO SCALE REF: NA

A2



ISOMETRIC VIEW



PLAN VIEW

INSULATED SUPPLY AND RETURN DUCTWORK SHALL BE INSTALLED WITH STAND-OFF MOUNTING BRACKETS FOR VOLUME/BALANCING DAMPER OPERATORS. ALLOW CLEARANCE BETWEEN DUCT AND OPERATOR OF NOT LESS THAN INSULATION THICKNESS.

TYPICAL BRANCH DUCT TAKE-OFF DETAIL

NO SCALE REF: NA

A1

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Key Plan

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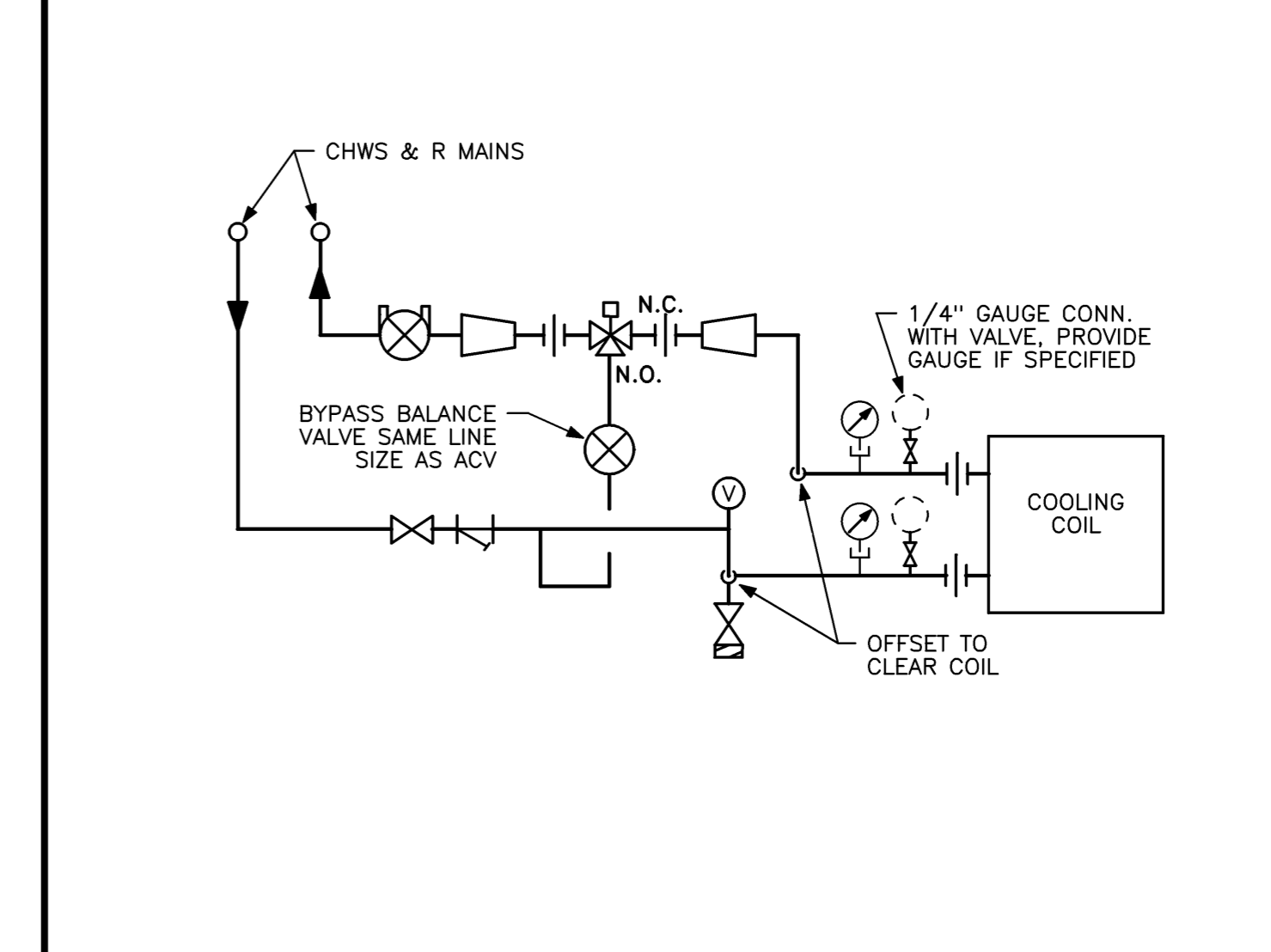
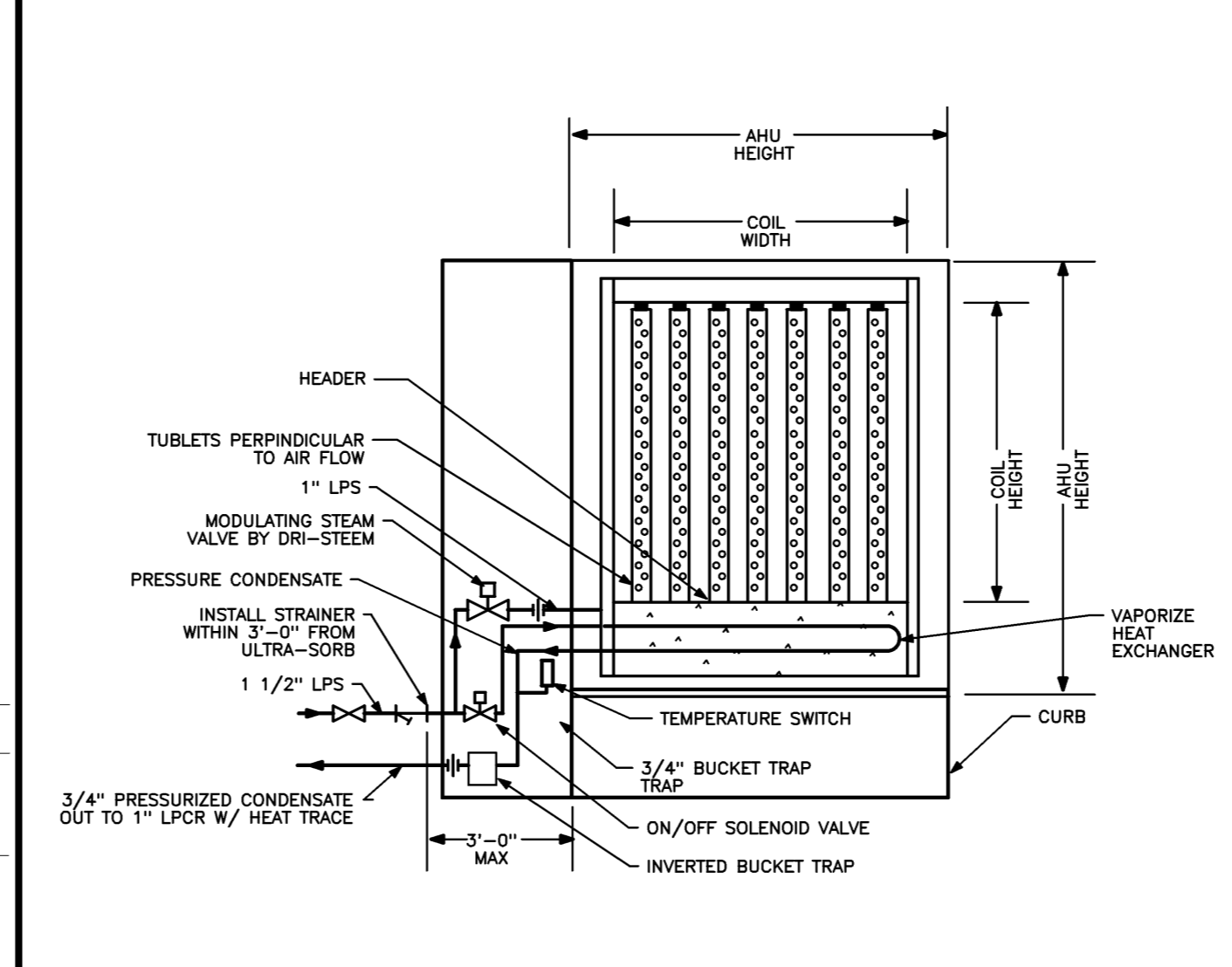
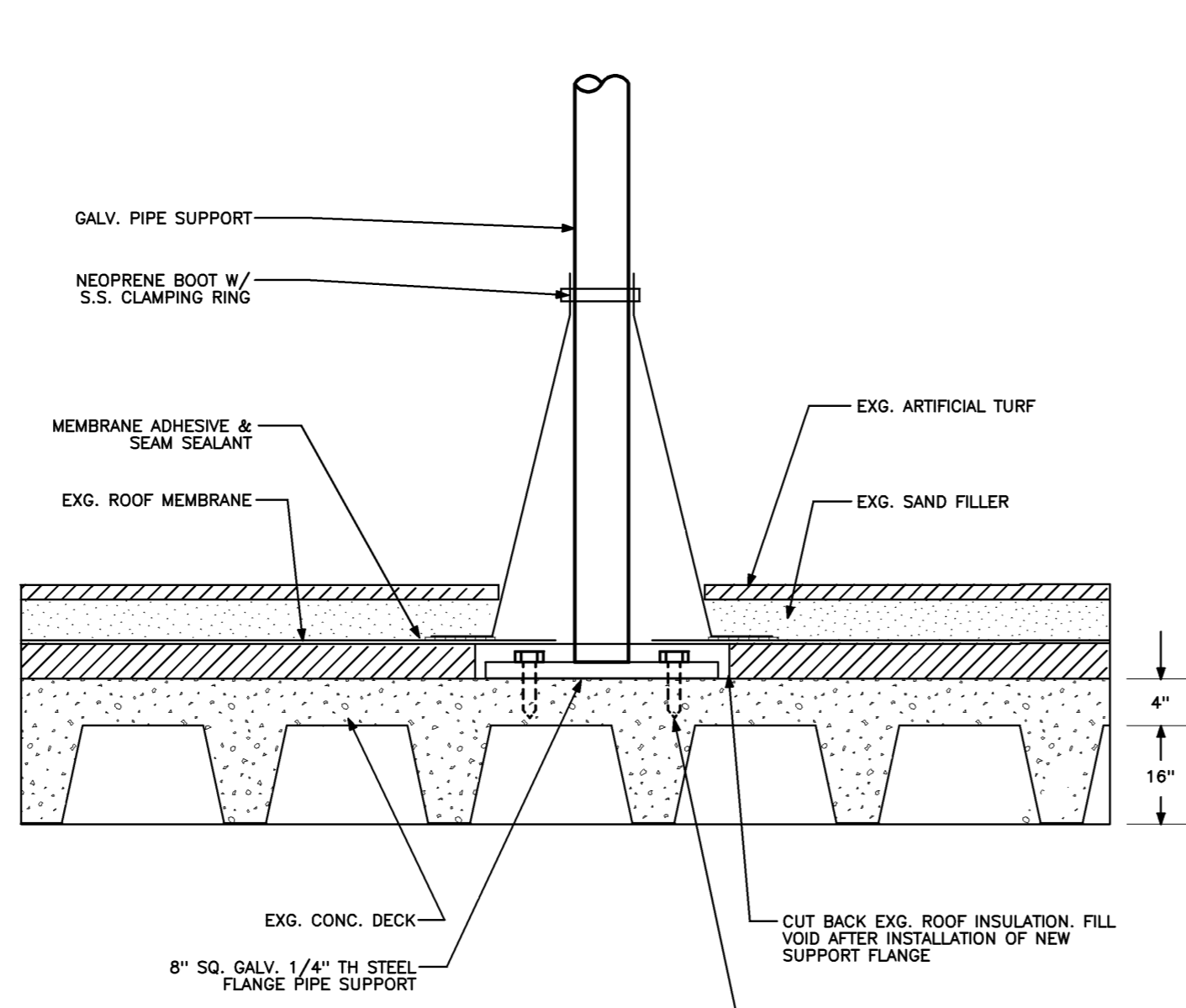
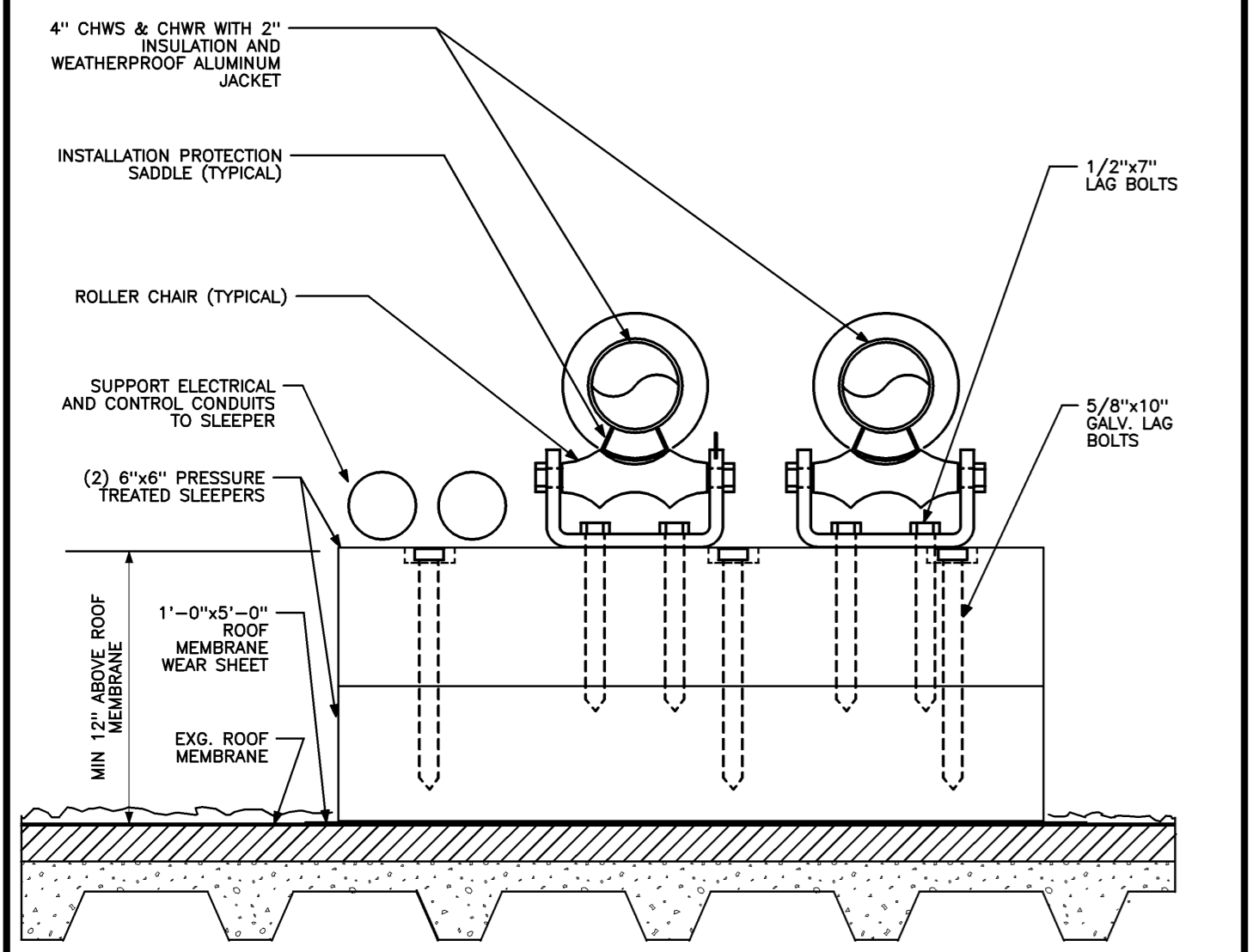
Drawing Status

Drawing Title  
**MECHANICAL DETAILS**

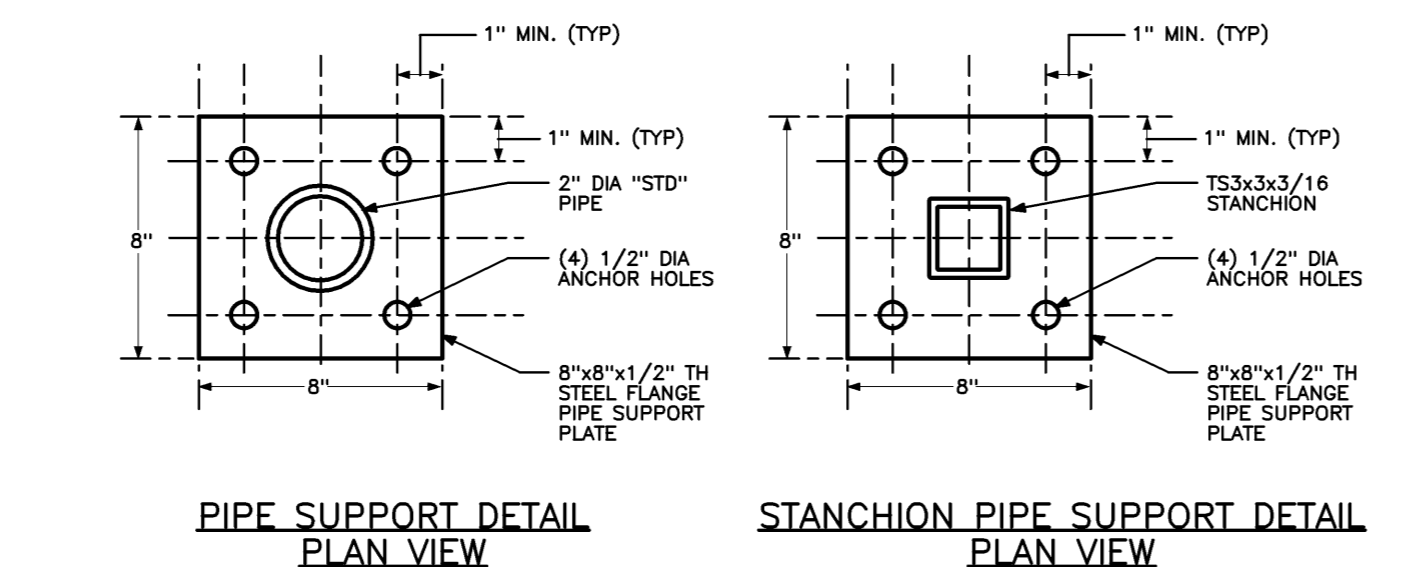
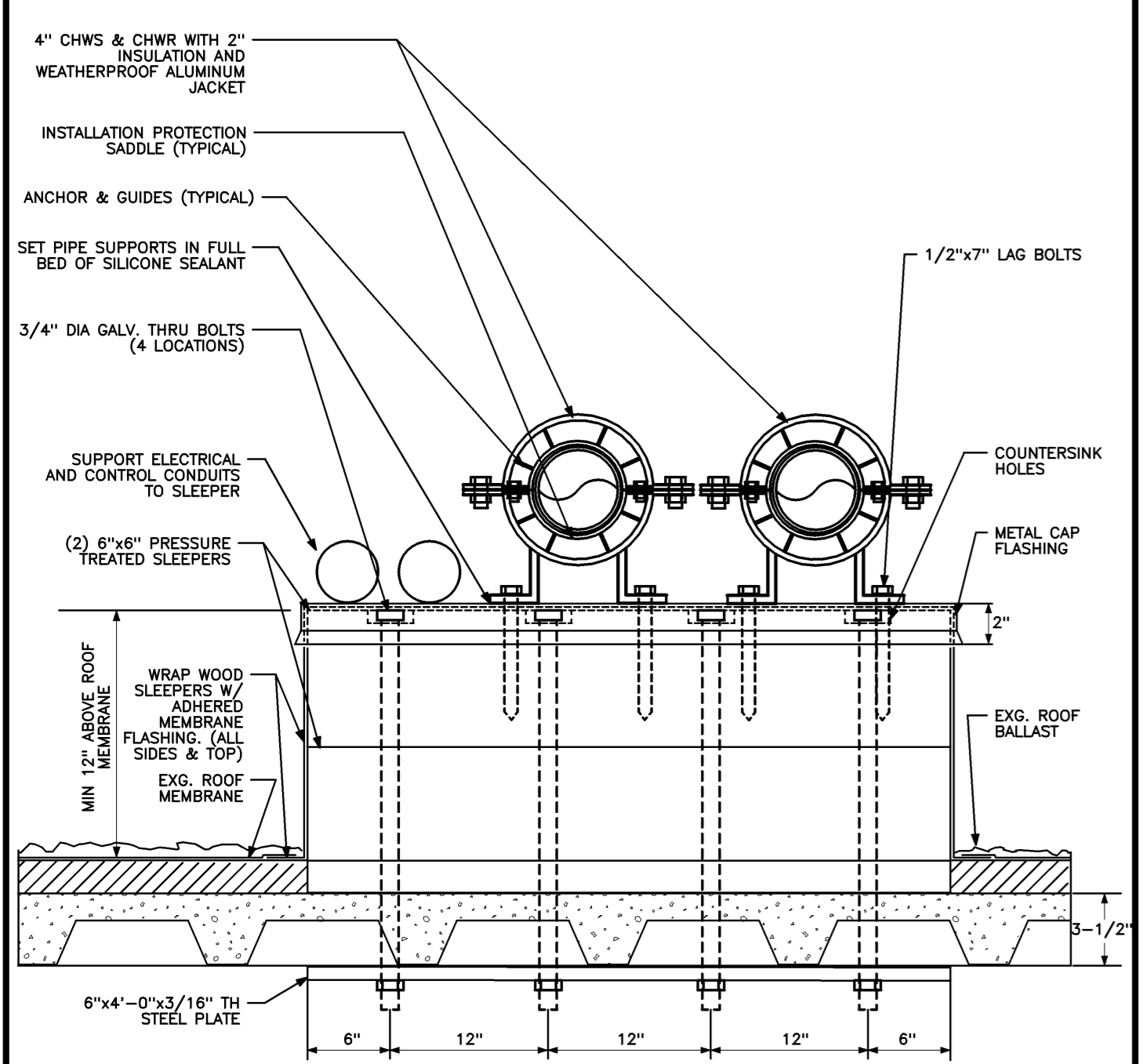
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Drawing Number

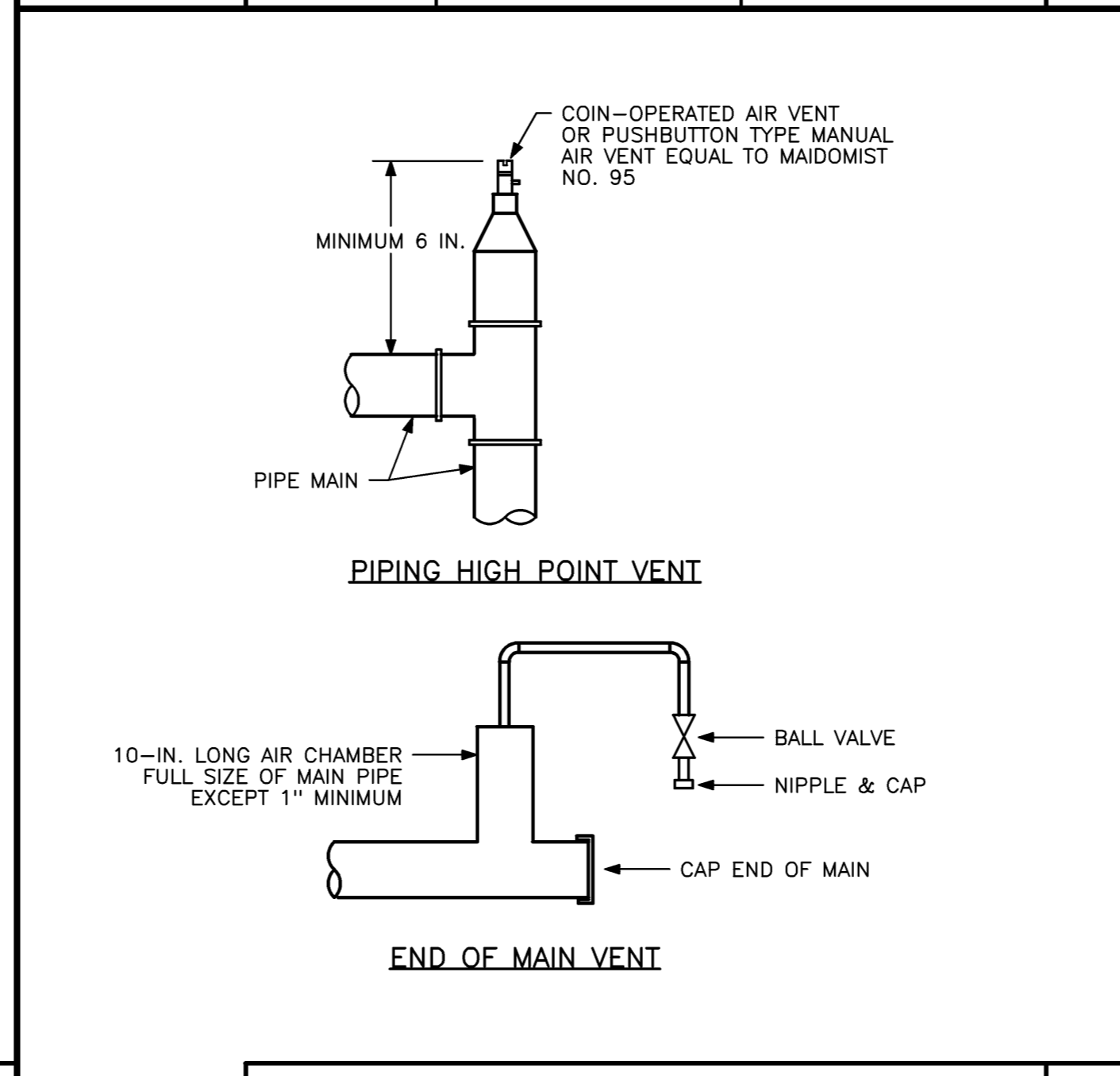
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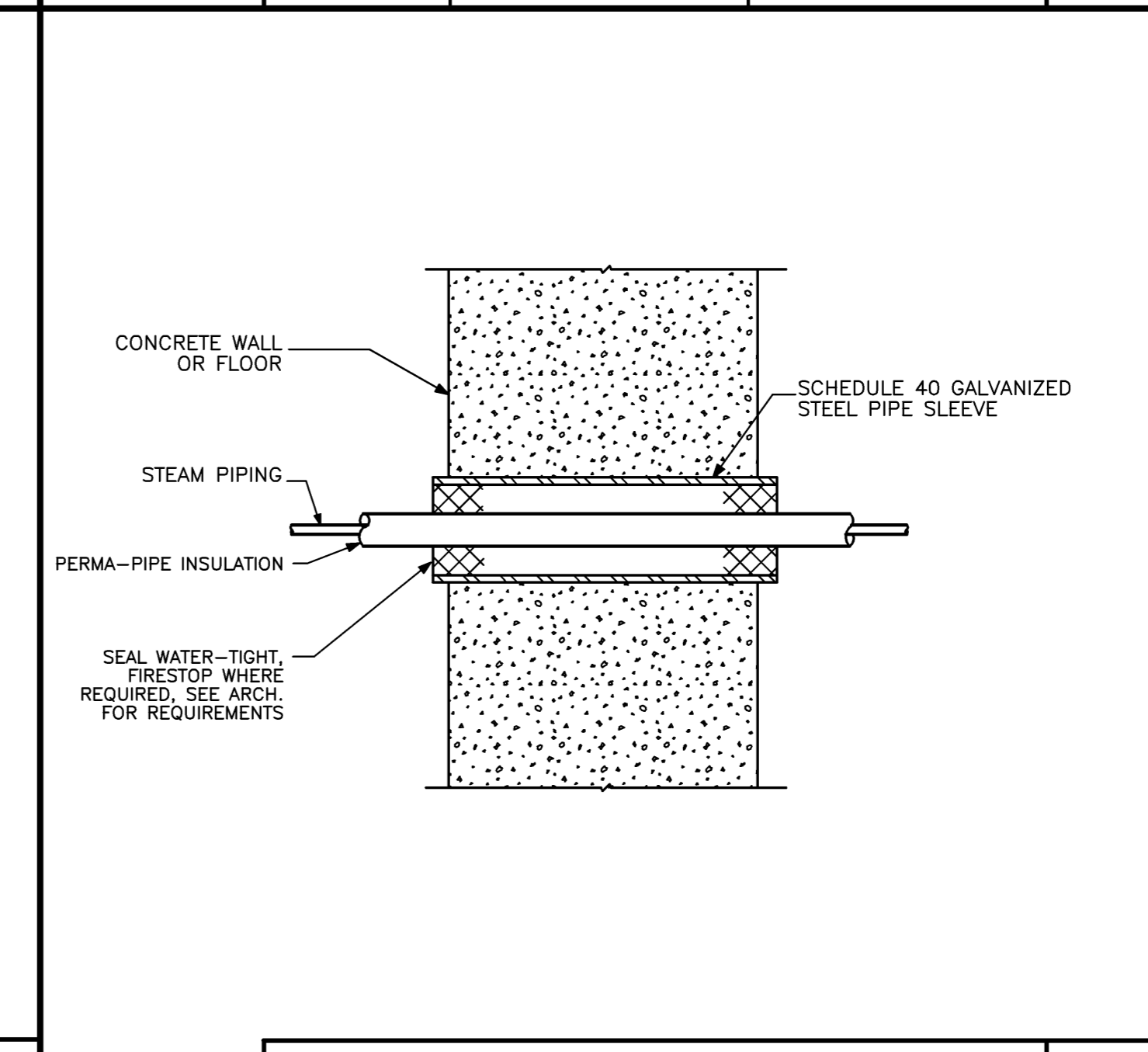
**CHILLED WATER COIL DETAIL AT AHU**  
NO SCALE REF: NA **C1**



**PIPE SUPPORT DETAIL**  
NO SCALE REF: NA **B3**

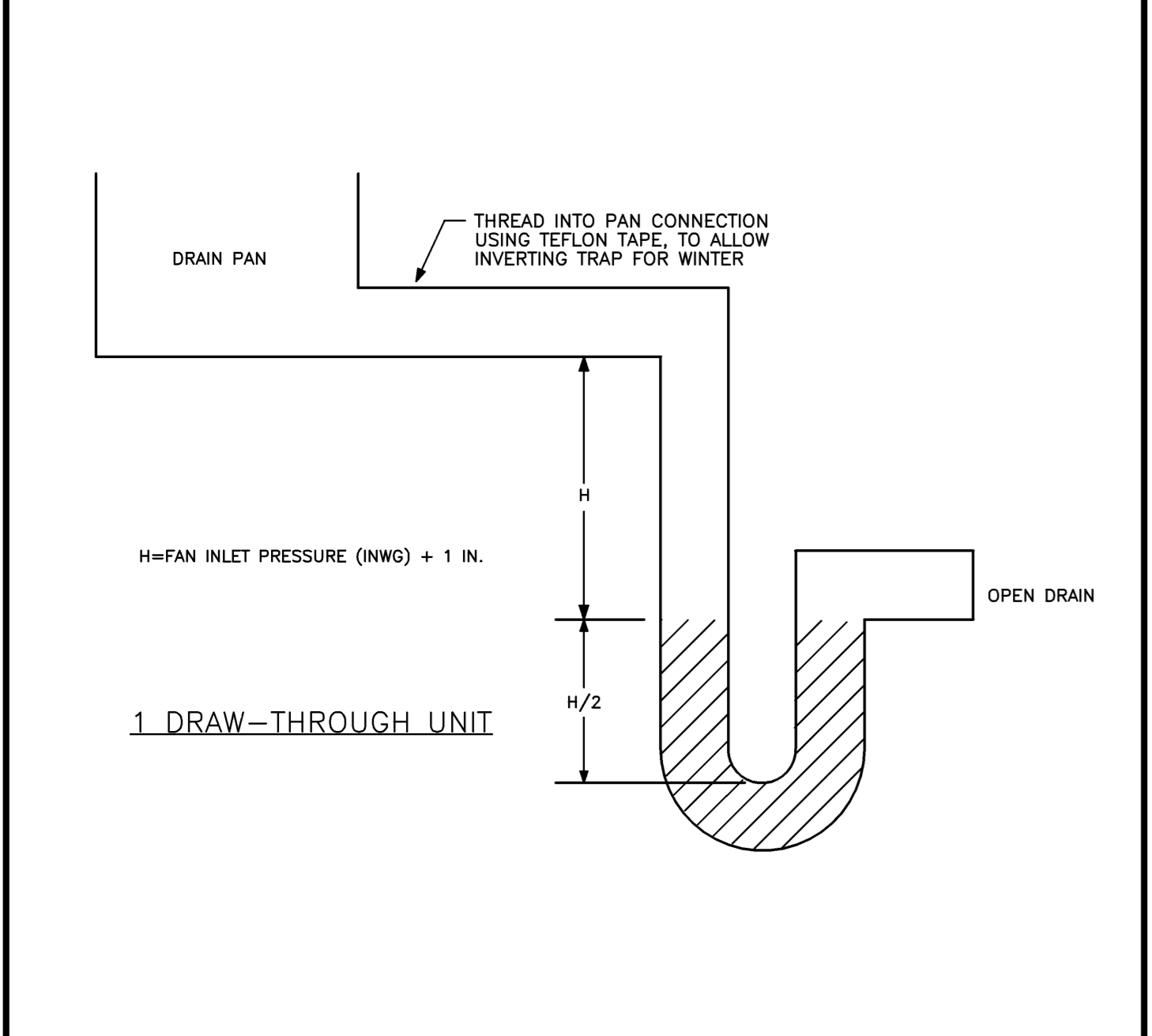


**MANUAL AIR VENT DETAILS**  
NO SCALE REF: NA **B2**

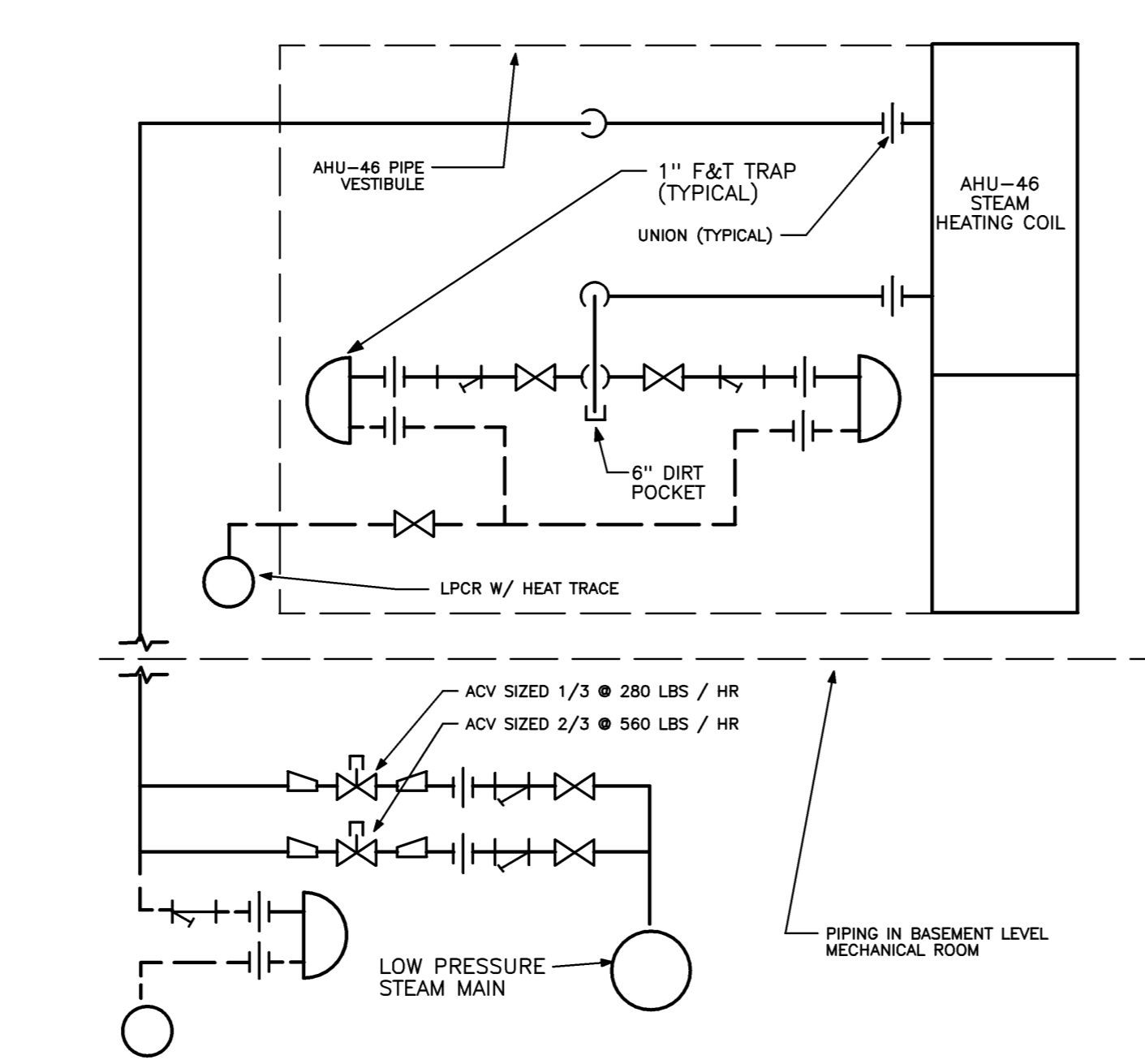


**TYPICAL WALL OR FLOOR SLEEVE DETAIL**  
NO SCALE REF: NA **B1**

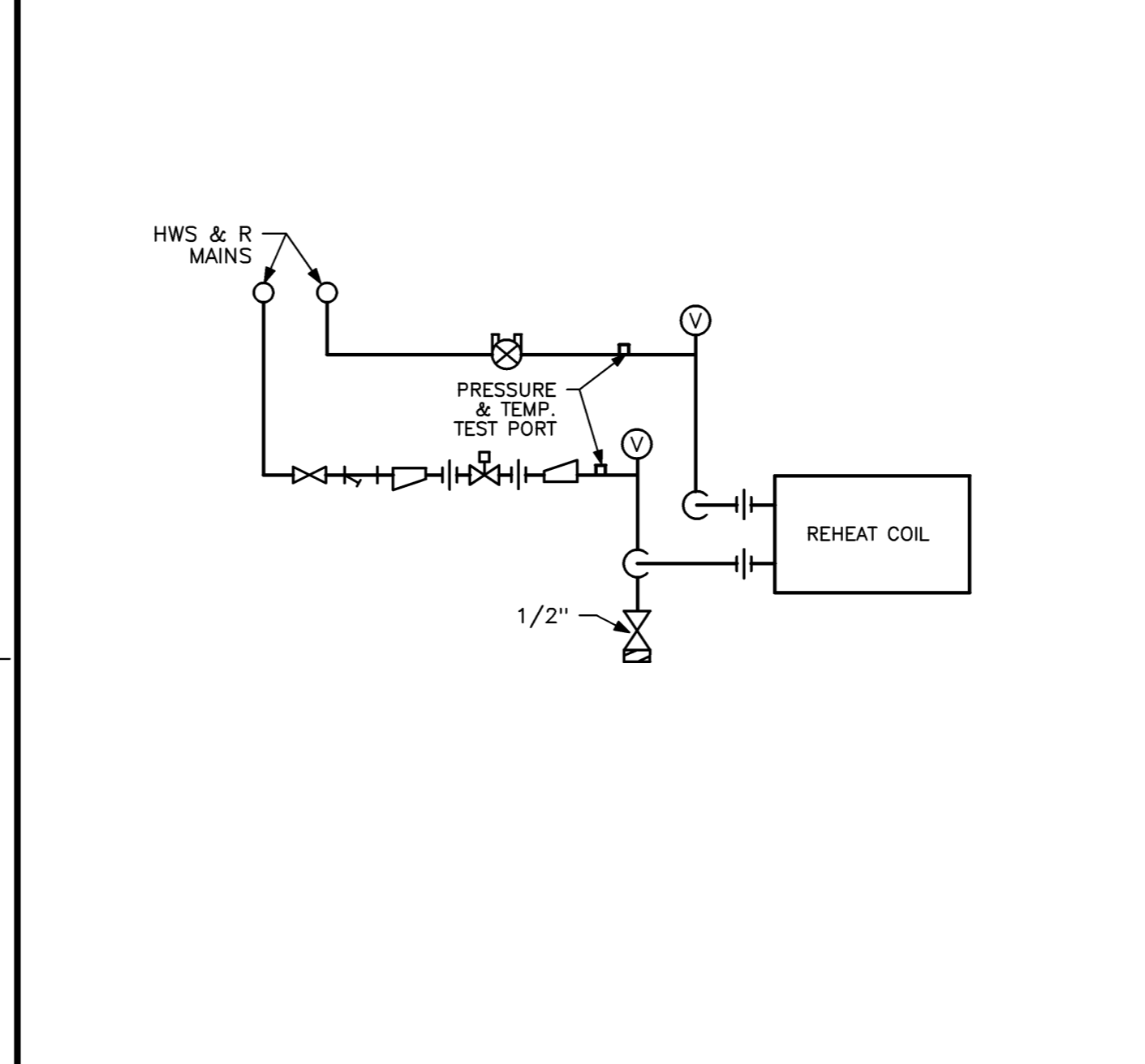
**CHWS & CHWR ROOF PIPE SUPPORT DETAIL**  
NO SCALE REF: NA **B4**



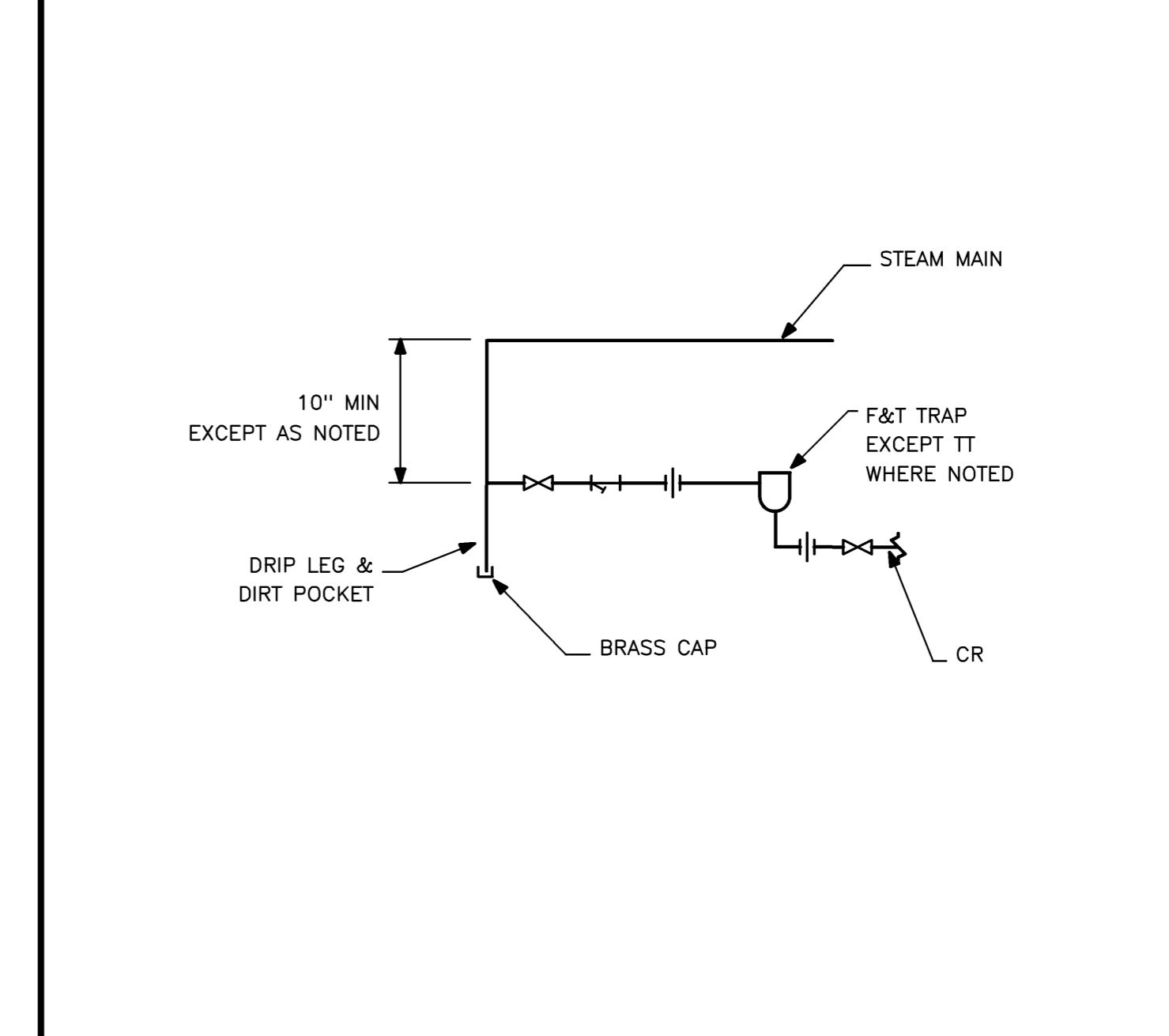
**CONDENSATE DRAIN DETAIL AT AHU**  
NO SCALE REF: NA **A4**



**STEAM COIL DETAIL AT AHU**  
NO SCALE REF: NA **A3**



**HOT WATER REHEAT COIL PIPING DETAIL**  
NO SCALE REF: NA **A2**



**TYPICAL END OF MAIN DRIP DETAIL**  
NO SCALE REF: NA **A1**

Mark	Date	Description
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-	10-20-08	FOR INFORMATION ONLY
-	10-10-08	75% REVIEW

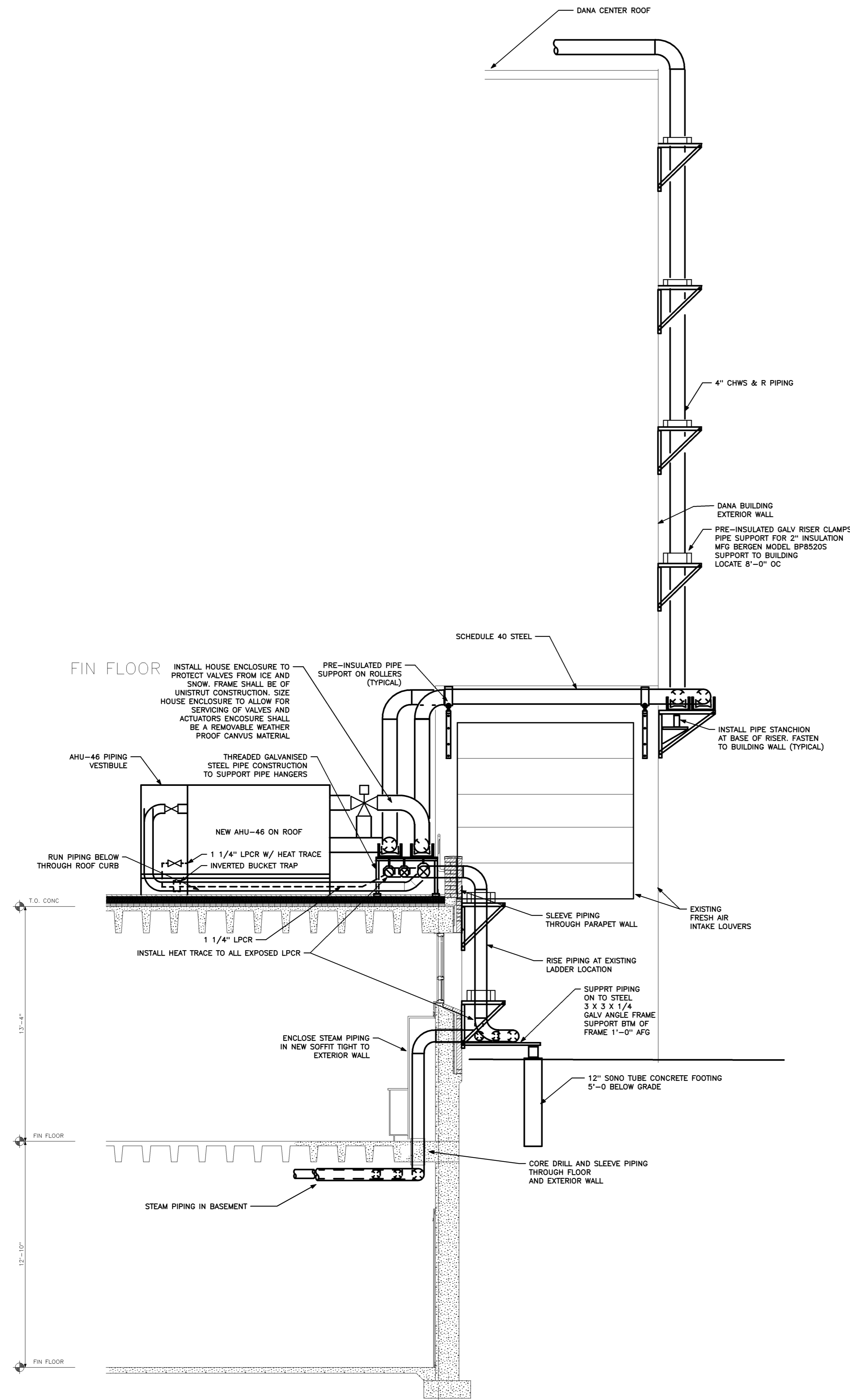
Issue Dates

Drawing Title
<b>MECHANICAL DETAILS</b>

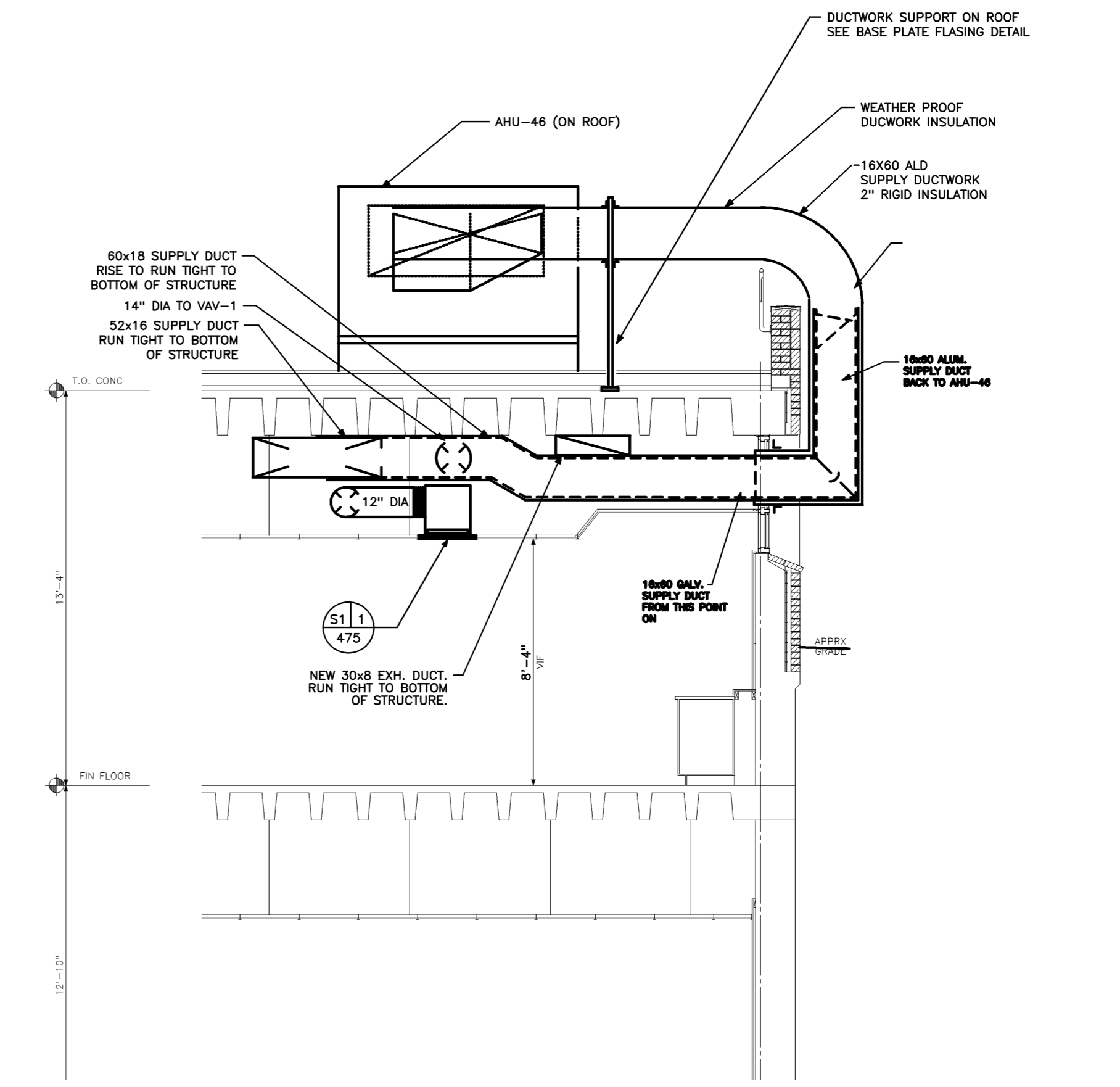
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Drawing Number
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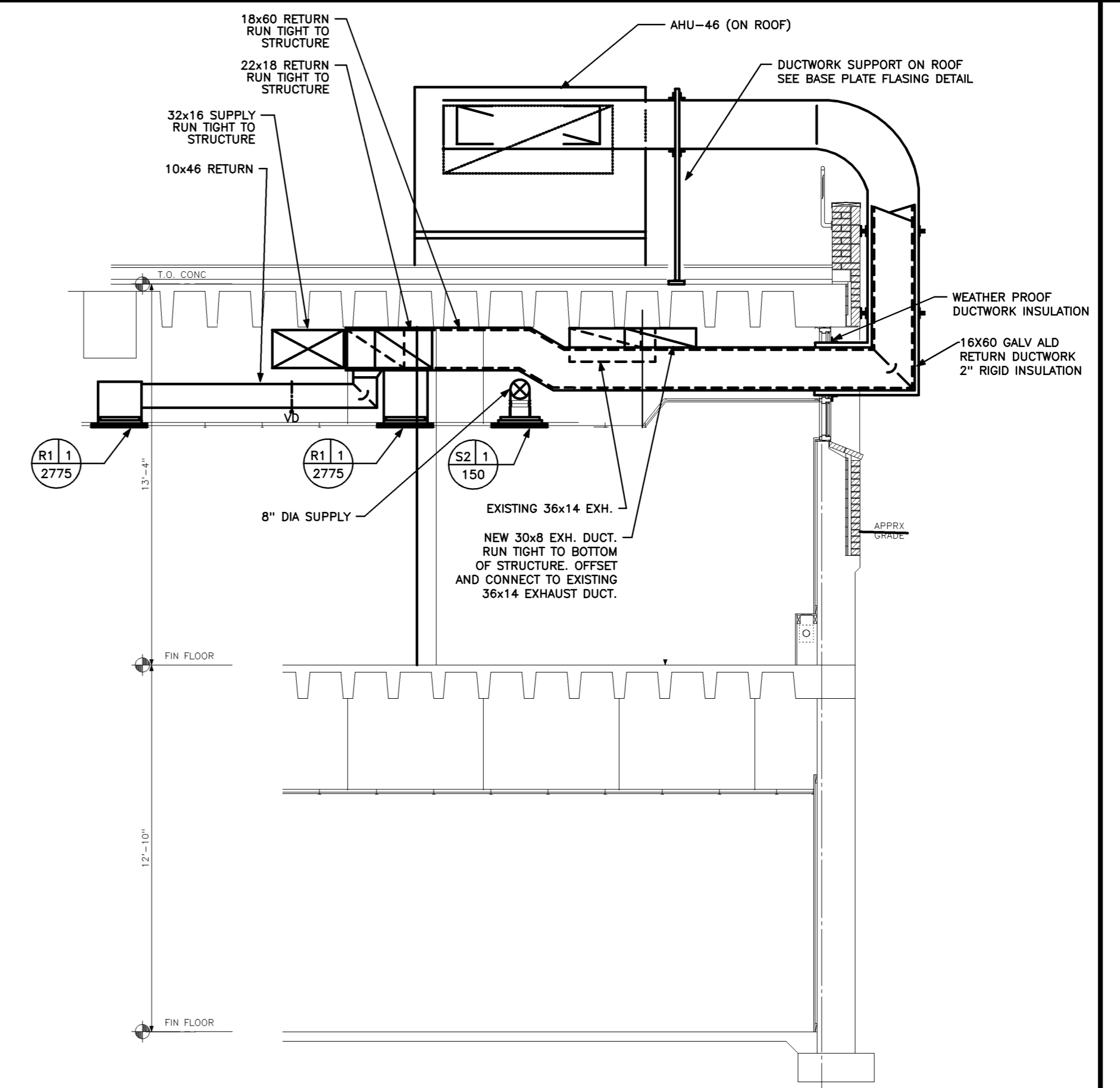




**PIPING SECTION**  
 1/4" = 1'-0" 0 2' 4' 6" REF: NA **B2**



**SECTION AT SUPPLY DUCT**  
 1/4" = 1'-0" 0 2' 4' 6" REF: NA **B1**



**SECTION AT RETURN DUCT**  
 1/4" = 1'-0" 0 2' 4' 6" REF: NA **A1**

**HARRIMAN**  
 Architects + Engineers

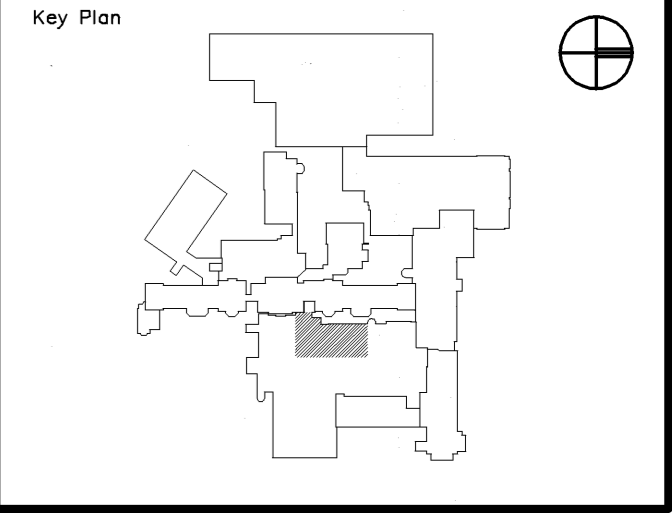
One Auburn Business Park  
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Project Title  
**MAINE MEDICAL CENTER HVAC LAB RENOVATIONS**  
 PORTLAND, MAINE

HA Project No. **08101**



Mark	Date	Description
-	10-31-08	ISSUED FOR BID
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Issue Dates

Drawing Status

Drawing Title  
**MECHANICAL SECTIONS**

PA / PE: **CG** Drawn By: **MED**

Drawing Number  
**M31.1**

### AIR HANDLING UNIT SCHEDULE

UNIT #	MFR	MODEL	FAN SECTION						STEAM HEATING COIL SECTION										COOLING COIL SECTION								FILTER SECTION		UNIT DIMENSIONS	UNIT WEIGHT					
			CFM	EXTERNAL S.P.	TOTAL S.P.	RPM	OUT. VEL.	ELECTRICAL			FIN TYPE	ENT AIR ( DEG F )	LEAV AIR ( DEG F )	MAX AIR PD ( IN H2O )	ENT STEAM ( PSI )	MAX STEAM PD ( PSI )	MBH	LBS/HR	ROWS	FACE AREA ( SQ FT )	FIN TYPE	ENT AIR ( DEG F )	LEAV AIR ( DEG F )	MAX AIR PD ( IN H2O )	ENT H2O ( DEG F )	LEAV H2O ( DEG F )	MAX H2O PD ( FT H2O )	GPM			TOTAL MBH	FACE AREA ( SQ FT )	ROWS	MIN FACE AREA ( SQ. FT. )	EFFICIENCY
AHU-46	TRANE	T-SERIES CLIMATE CHANGER	11,600	3.25	6.47	1857	#8#	20	3	460	SIGMA FLO	-10	55	0.18	5	0.77	817.71	848.7	1	20.25	DELTA FLO	82.8	51.45	0.57	40	50	16.96	145	646.67	29.01	8	29.1	95%	26 3/4 L 84" W 66 1/2" H	7219

### AIR COOLED LIQUID CHILLER SCHEDULE

UNIT NO.	MANUFACTURER	SERVICE	COOLING CAPACITY AT 95 F AMBIENT / 27 F AMBIENT	COMPRESSOR MODULES						CHILLED WATER PUMP MODULE										EWT	LWT	EER	ELECTRICAL			UNIT WEIGHT	NOTES	
				QUANTITY	TONS PER COMP.	GPM EA	EWT	LWT	OPERATING FT HD	BY-PASS FT HD	MFG	SERIES	HP	RPM	SIZE	TOTAL HD	EXT HD FT	GPM	BUFFER TANK				PROP. GLYCOL	VOLTS	PHASE			MCA
CH-1	MULTISTACK	AHU-46	52.4 TONS 51.8 TONS	2	26.2	72.2	50 F	40 F	20.5	11.2	ARMSTRONG	4382	7.5	3450	3X3X6	82.0 FT	53.9	144.5	160 GALLONS	40%	50	40	10.3	460	3	146	12550 LBS	SINGLE POINT POWER CONNECTION

### AHU HUMIDIFIER SCHEDULE

TAG	MFR MODEL	CAPACITY LBS/HR	FACE DIMENSION	OVERALL DIMENSION	HEADER (INCHES)	STRAINER (INCHES)	TUBE CENTER (INCHES)	EAT DEG. F	LAT DEG. F	ENT. RH %	LVG. RH %	% OUTSIDE AIR DEG. F	SUPPLY AIR CFM	A.P.D. IN. WG	VELOCITY FPM	AIR FLOW DIRECTION	WINTER DEG. F	WINTER RH %	ABSORPTION DIST. IN.	STEAM PSI
HUM-1	DRI-STEEM ULTRA-SORB XV	118	84"W x 34"H	87"H x 44"H	3"	1"	6"	52.5	55.0	49	82	48	6000	.002	302	HORIZONTAL	-6	65	17	7

NOTES: LOCATE MANIFOLD IN AHU-X ACCESS SECTION UPSTREAM OF SUPPLY PLENUM.  
OPTIONS: CONTROL VALVE SIZE 1/2", CV-3.25

### REGISTERS, GRILLES & DIFFUSERS SCHEDULE

TAG	TYPE	MANUFACTURER	MODEL	NECK SIZE	CFM RANGE	DIRECTION OF BLOW	MAX NC	MAX SP	REMARKS	NOTES
S1	CEILING DIFFUSER	TITUS	TDC	15" X 15"	451 - 700	SEE PLANS	20	.10"	OBD NOT REQUIRED	1,2
S2	CEILING DIFFUSER	TITUS	T3SQ-4	8" DIA	150	SEE PLANS	20	.10"	OBD NOT REQUIRED	1,2,5
S3	CEILING DIFFUSER	TITUS	TRITEC-AL	10" DIA	350 - 500	SEE PLANS	31	.140	OBD NOT REQUIRED	1,2
S4	CEILING DIFFUSER	TITUS	TDC	9" X 9"	151 - 250	SEE PLANS	20	.10"	OBD NOT REQUIRED	1,2
R1	RETURN GRILLE	TITUS	50F	22" X 46"	1701 - 3400	---	20	.04"	OBD NOT REQUIRED	1,2,4
T1	TRANSFER GRILLE	TITUS	50F	6" X 6"	150	---	20	<0.1"	PROVIDE WITH OBD	1,3,4

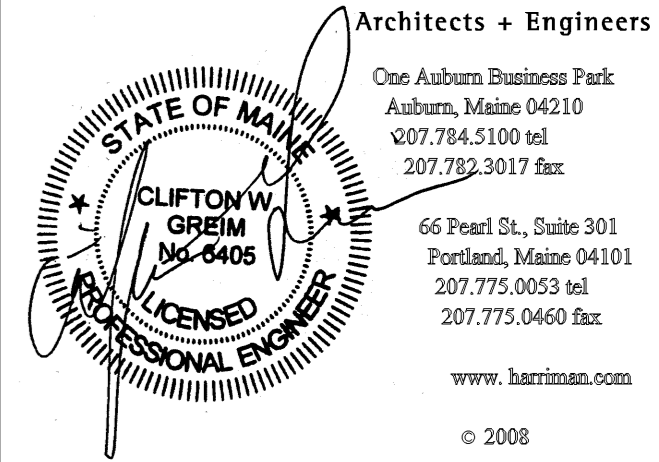
NOTES: 1. BAKED ENAMEL WHITE FINISH      3. BORDER TYPE 1 (SURFACE MOUNT)      5. THERMAL VAV DIFFUSER (HEATING/COOLING)  
2. BORDER TYPE 3 ( LAY-IN )      4. 1/2" x 1/2" x 1/2" GRID

### VAV BOX SCHEDULE

VAV-TAG	MAX CFM	MIN CFM	LAT DEG. F	MBH	GPM	NOTES
VAV-1	2050	1065	90	40.3	2.1	BOXES SHALL BE PRESSURE INDEPENDANT
VAV-2	2375	1235	80	33.4	1.7	
VAV-3	2375	1235	80	33.4	1.7	
VAV-4	3325	1730	80	46.7	2.38	
VAV-5	1425	740	90	28.0	1.43	

UNIT SELECTIONS BASED ON TITUS  
MAX NC 30  
EWT = 190  
MAX DELTA T 40 DEG F  
EAT = 50  
MAX APD = 0.5 IN WG  
MAX WPD = 5.0 FT HD  
ALL AIR TERMINALS SHALL HAVE FACTORY INSTALLED SOUND ATTENUATORS

HARRIMAN



Project Title  
**MAINE MEDICAL CENTER HVAC LAB RENOVATIONS**  
PORTLAND, MAINE

HA Project No. **08101**

Key Plan

-	10-31-08	ISSUED FOR BID
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Issue Dates

Drawing Status

Drawing Title

## MECHANICAL SCHEDULES

PA / PE: **CG**      Drawn By: **REM**

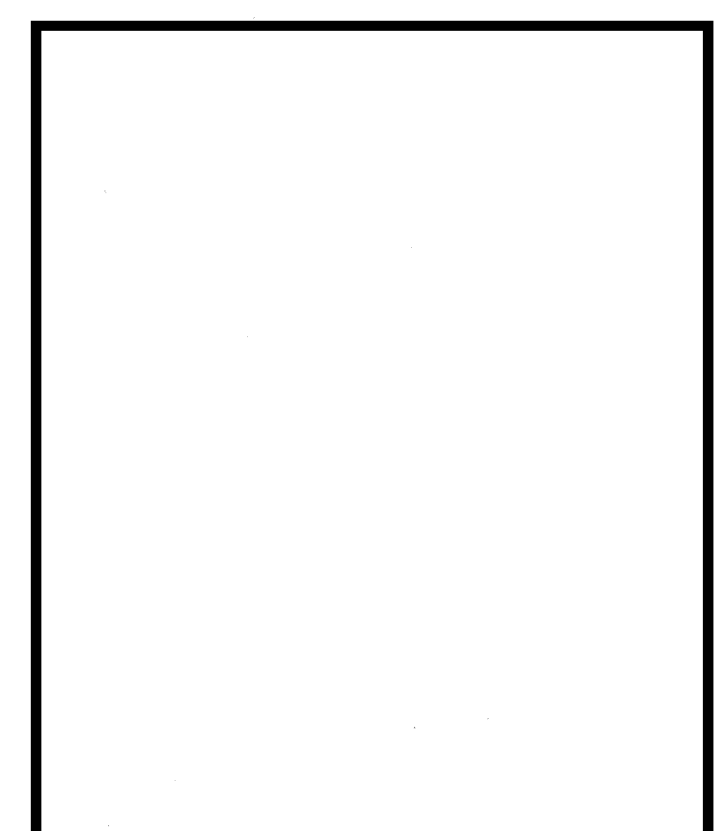
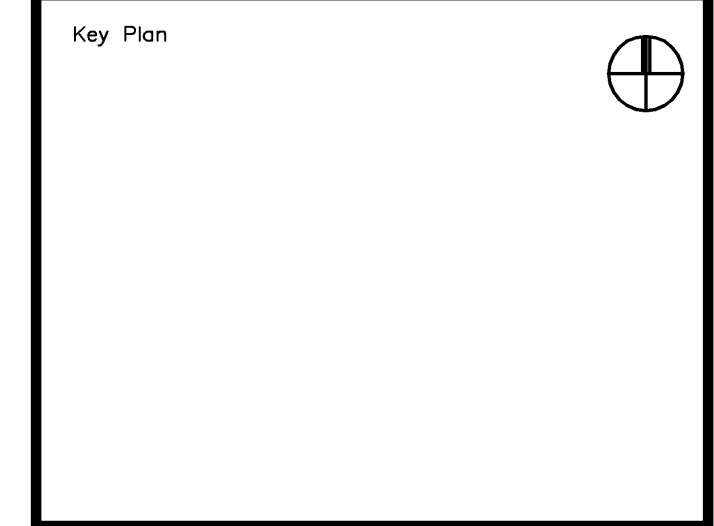
Drawing Number

# M40.1

Project Title

**MAINE MEDICAL CENTER  
HVAC, LAB  
RENOVATIONS**  
PORTLAND, MAINE

HA Project No. 08101




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—	10-10-08	75% REVIEW

Mark	Date	Description
Issue Dates		

Drawing Status

Drawing Title

**ELECTRICAL  
LEGEND, NOTES  
AND ABBREVIATIONS**

PA / PE: WRH Drawn By: RJJB

Drawing Number

**E00.1**

**LEGEND**

- LP-1,3 ← BRANCH CIRCUIT HOMERUNS - ARROWS INDICATE NUMBER OF CIRCUITS.
- ↑ CIRCUIT NUMBER(S)
- PANEL DESIGNATION
- WIRING CONCEALED IN WALL OR CEILING
- WIRING IN EXPOSED RACEWAY
- WIRING IN RACEWAY CONCEALED UNDER FLOOR
- UG - WIRING IN RACEWAY CONCEALED UNDERGROUND
- UD - WIRING IN UNDER FLOOR DUCT
- E - EXISTING WIRING

**LIGHTING**

- 1' x 4' FLUORESCENT FIXTURE - SEE LIGHTING FIXTURE SCHEDULE
- 2' x 2' FLUORESCENT FIXTURE - SEE LIGHTING FIXTURE SCHEDULE
- CEILING MOUNTED FIXTURE - SEE LIGHTING FIXTURE SCHEDULE
- S SINGLE POLE SWITCH - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- S2 DOUBLE POLE SWITCH - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- S3 THREE-WAY SWITCH - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- S4 FOUR-WAY SWITCH - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- SP SWITCH AND PILOT LAMP - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- SD DIMMER SWITCH - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- Sp SWITCH - HORSE POWER RATED - SIZE AS REQUIRED.
- Ss SWITCH - SUBLETTER INDICATES SWITCH CONTROL
- ☑ CEILING MOUNTED LIGHTING OCCUPANCY SENSOR WATTSTOPPER MODELS #WT2205 & #WT2255, CONTRACTOR SHALL FOLLOW MANUFACTURERS INSTALLATION REQUIREMENTS

**EMERGENCY LIGHTING DEVICES**

- ☑ EXIT SIGN WITH ARROWS AS INDICATED OR FLAT LINE INDICATES SIGN FACE - CEILING MOUNTED, EXCEPT AS NOTED.
- ☑ EXIT SIGN WITH ARROWS AS INDICATED OR FLAT LINE INDICATES SIGN FACE - WALL MOUNTED TIGHT TO CEILING, EXCEPT AS NOTED.
- [BATT] EMERGENCY LIGHTING BATTERY UNIT - WALL MOUNTED UP 7'-6". NUMERAL INDICATES BATTERY ID NUMBER. SEE SPEC FOR DC AS NOTED.
- ☑ EMERGENCY LIGHTING REMOTE HEAD WITH NUMBER OF HEADS AS INDICATED - MOUNTED UP 7'-6". NUMERAL INDICATES WIRE SIZES. BATTERY UNIT CONNECTED TO.

**POWER**

- ☑ DUPLEX CONVENIENCE RECEPTACLE - MOUNTED C/L UP 22" UNLESS NOTED OTHERWISE
- ☑ DUPLEX CONVENIENCE RECEPTACLE - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- ☑ GFCI DUPLEX CONVENIENCE RECEPTACLE - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- ☑ DUPLEX TAMPER RESISTANT RECEPTACLE - MOUNTED C/L UP 22" UNLESS NOTED OTHERWISE
- ☑ DUPLEX ISOLATED GROUND RECEPTACLE - MOUNTED C/L UP 22" UNLESS NOTED OTHERWISE
- ☑ DOUBLE DUPLEX CONVENIENCE RECEPTACLE IN TWO GANG WALL BOX - MOUNTED C/L UP 22" UNLESS NOTED OTHERWISE
- ☑ DOUBLE DUPLEX TAMPER RESISTANT RECEPTACLE - MOUNTED C/L UP 22" UNLESS NOTED OTHERWISE
- ☑ GFCI DOUBLE DUPLEX CONVENIENCE RECEPTACLE - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- ☑ DOUBLE DUPLEX ISOLATED GROUND RECEPTACLE - MOUNTED C/L UP 22" UNLESS NOTED OTHERWISE
- ☑ PLUG MOLD - MOUNTED C/L UP 32", COORDINATE WITH ARCHITECTURAL DETAILS
- ☑ FLUSH CEILING MOUNTED DEVICE BOXES WITH DUPLEX RECEPTACLE AND COVERPLATES, ONE FOR POWER, ONE FOR DATA TO SERVE VIDEO PROJECTOR. PROVIDE WITH 15' MC CABLE SLACK TO ALLOW RELOCATION. PROPERLY SUPPORT MC CABLE. VERIFY FINAL LOCATION WITH OWNER. PROVIDE A 2'x2' PROJECTOR CEILING PLATE AND MOUNT DEVICES IN PLATE WITH BACK BOXES.
- ☑ PROVISIONS FOR VOICE & DATA OUTLET FOR DIV. 27'S USE. TWO GANG WALL BOX WITH TWO 1" TO ABOVE AN ACCESSIBLE CEILING - MOUNTED C/L UP SAME AS ASSOCIATED RECEPTACLE
- ☑ PROVISIONS FOR VOICE & DATA OUTLET FOR DIV. 27'S USE. TWO GANG WALL BOX WITH TWO 1" TO ABOVE AN ACCESSIBLE CEILING - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE
- ☑ PROVISIONS FOR AUDIO/VISUAL SYSTEMS. TWO GANG WALL BOX WITH CONDUITS SEE DETAIL ON DRAWING E50.1
- ☑ SPECIAL OUTLET AS INDICATED - MOUNTED AS INDICATED
- ☑ ELECTRICAL MOTOR
- ☑ MOTOR CONTROL EQUIPMENT
- ☑ DISCONNECT SWITCH - FUSED WHEN NOTED - SIZE AS REQUIRED OR AS INDICATED FUSED
- ☑ DISCONNECT SWITCH - SIZE FUSES AS RECOMMENDED BY MANUFACTURER
- ☑ JUNCTION BOX - SIZE AS REQUIRED OR AS INDICATED
- ☑ DRY TYPE TRANSFORMER
- ☑ LIGHTING/POWER PANELBOARD (SURFACE)
- ☑ LIGHTING/POWER PANELBOARD (RECESSED)

**FIRE ALARM DEVICES**

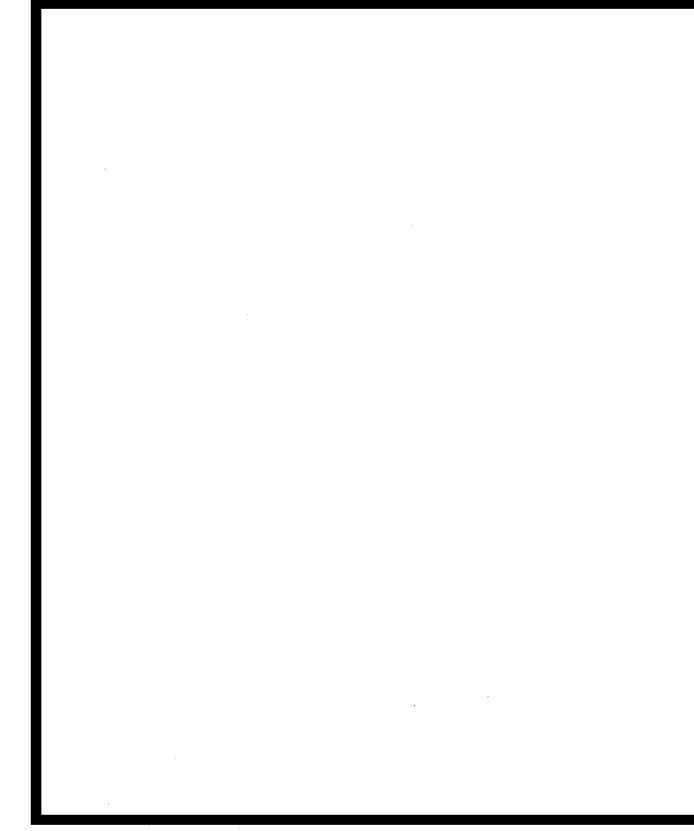
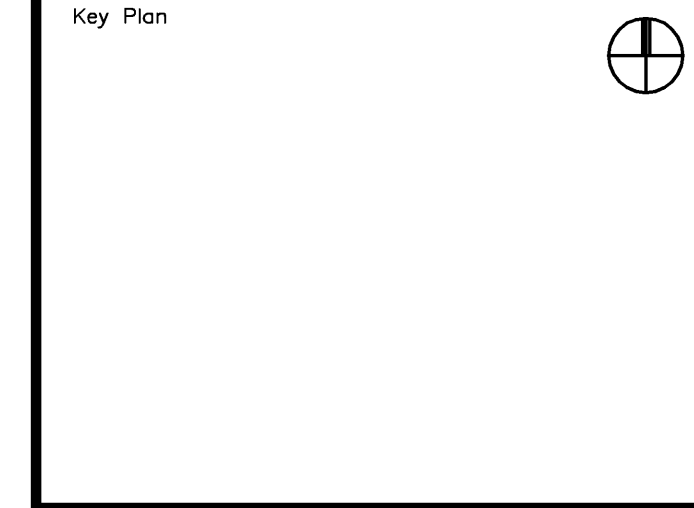
- ☑ FIREMANS KEY BOX
- ☑ FIRE ALARM RECALL HORN
- ☑ FIRE ALARM CONTROL PANEL
- ☑ FIRE ALARM ANNUNCIATOR PANEL
- ☑ SMOKE DETECTOR - CEILING MOUNTED
- ☑ BEAM SMOKE DETECTOR - CEILING MOUNTED
- ☑ DUCT DETECTOR WITH SAMPLING TUBE - SEE MECHANICAL DRAWING FOR LOCATIONS - COORDINATE WITH DIV. 23.
- ☑ HEAT DETECTOR - MOUNTED ON CEILING
- ☑ FIRE ALARM RECALL HORN
- ☑ FIRE ALARM HORN LOUD SPEAKER
- ☑ FIRE ALARM SPEAKER/LIGHT (STROBE) UNIT - 15/75 WHERE NOT OTHERWISE INDICATED ON PLANS - MTD C/L UP 80" ON WALL OR 80" ABOVE TOP OF BLEACHERS WHERE APPLICABLE.
- ☑ FIRE ALARM HORN/LIGHT UNIT. CANDLE POWER (CD) PER NFPA 72 AND AS NOTED - 15/75 WHERE NOT OTHERWISE INDICATED ON PLANS - MOUNTED BOTTOM OF STROBE UP 80" ON WALL
- ☑ FIRE ALARM STROBE LIGHT UNIT. CANDLE POWER (CD) PER NFPA 72 AND AS NOTED - 15/75 WHERE NOT OTHERWISE INDICATED ON PLANS - MOUNTED BOTTOM OF STROBE UP 80" ON WALL
- ☑ FIRE ALARM MINI-HORN/LIGHT UNIT. CANDLE POWER (CD) PER NFPA 72 AND AS NOTED - 15/75 WHERE NOT OTHERWISE INDICATED ON PLANS - MOUNTED BOTTOM OF STROBE UP 80" ON WALL
- ☑ FIRE ALARM MANUAL PULL STATION - MOUNTED C/L UP 46"
- ☑ SPRINKLER FLOW SWITCH
- ☑ SPRINKLER TAMPER SWITCH

**MISCELLANEOUS**

- ☑ PROVISIONS FOR CARD READER AND INTRUSION DETECTION SYSTEM DISARM - SINGLE GANG WALL BOX WITH 3/4" CONDUIT TO ABOVE AN ACCESSIBLE CEILING - MOUNTED C/L UP 46" UNLESS NOTED OTHERWISE - SEE DETAILS ON E70 SERIES DRAWINGS
- ☑ REMOTE TEST AND INDICATING STATION (DUCT SMOKE DETECTOR)
- ☑ PROVISIONS FOR CCTV CAMERA - SEE PLANS FOR MOUNTING HEIGHT - CEILING MOUNTED IF NO HEIGHT GIVEN. PROVIDE WEATHER PROOF WALL BOX FOR EXTERIOR CAMERA LOCATIONS AND JUNCTION BOX ABOVE THE CEILING FOR INTERIOR CAMERAS.
- ☑ DOOR SWITCH - SEE DETAIL ON E70 SERIES DRAWINGS ELECTRIC
- ☑ DOOR STRIKE - SEE E70 SERIES DRAWINGS
- ☑ ELECTRIC DOOR HOLDER/CLOSER - COORDINATE WITH DOOR HARDWARE
- ☑ RELAY OR CONTACTOR - SIZE AS REQUIRED OR AS INDICATED
- ☑ CLOCK/SPEAKER OUTLET - SINGLE GANG JUNCTION BOX WITH ONE 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING - MOUNTED C/L UP 8'-6" UNLESS NOTED OTHERWISE.
- ☑ CLOCK, B=BATTERY
- ☑ WEATHER PROOF

Project Title  
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HVAC, LAB  
RENOVATIONS**  
PORTLAND, MAINE

HA Project No. 08101



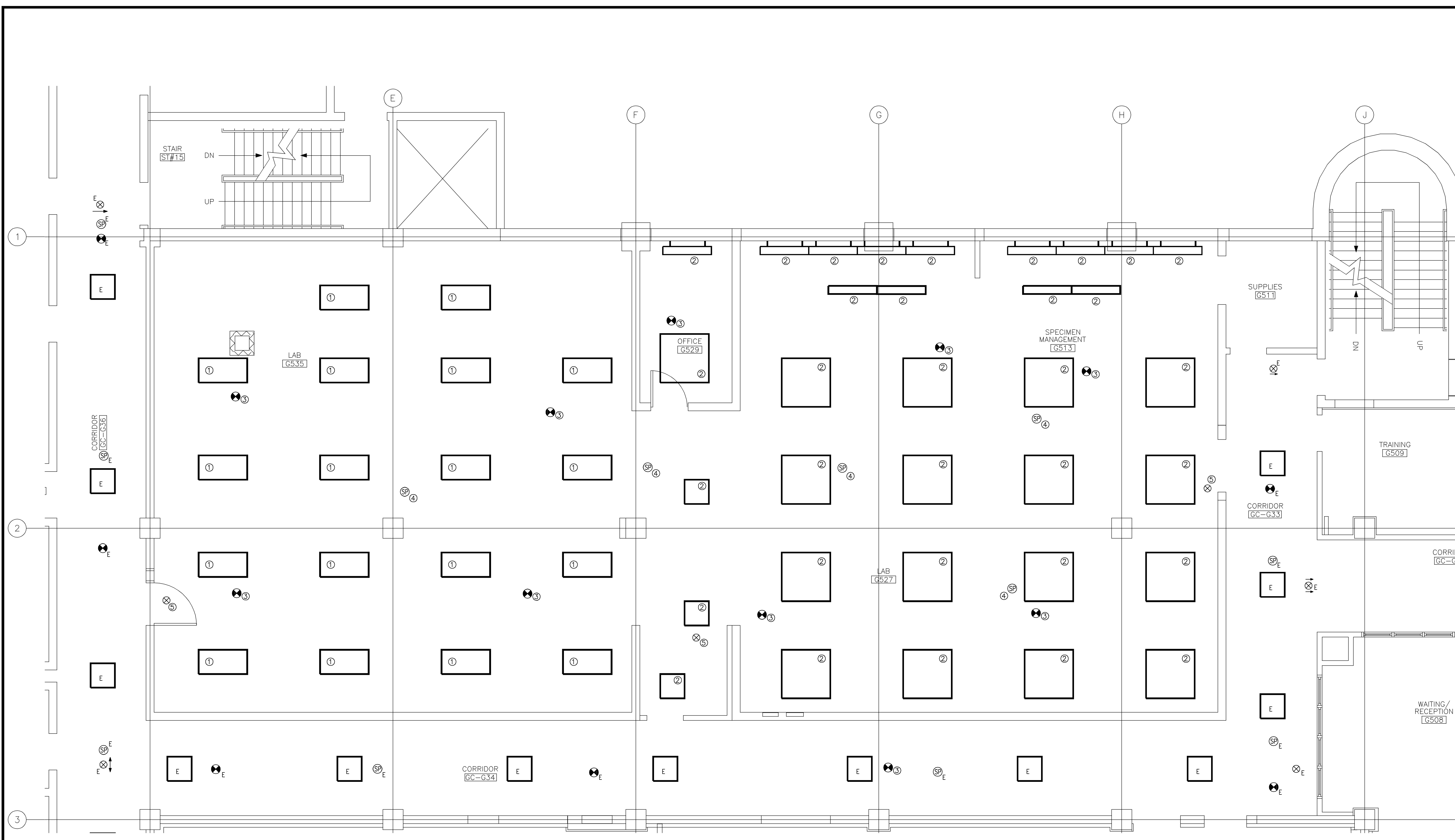
Mark	Date	Description
-	10-31-08	ISSUED FOR BID
-	10-10-08	REVIEW
Issue Dates		

Drawing Status

Drawing Title  
**ELECTRICAL DEMOLITION  
LIGHTING  
GROUND FLOOR PLAN**

PA / PE: WRH      Drawn By: RJJB

Drawing Number  
**E05.0**



- DEMOLITION KEY NOTES**
- 1 REMOVE/REINSTALL EXISTING LIGHT FIXTURE AFTER NEW CEILING INSTALLATION. REUSE EXISTING CONDUIT, CONDUCTORS AND SWITCH BOXES WHERE POSSIBLE.
  - 2 REMOVE EXISTING LIGHTING FIXTURE. REMOVE EXISTING CONDUIT AND CONDUCTORS BACK TO NEAREST JUNCTION BOX. CIRCUIT TO BE REUSED IN NEW WORK.
  - 3 REMOVE/REINSTALL EXISTING SMOKE/HEAT DETECTOR AFTER NEW CEILING INSTALLATION. PROVIDE NEW CONDUCTORS TO EXTEND WHERE NECESSARY.
  - 4 REMOVE/REINSTALL EXISTING SPEAKER AFTER NEW CEILING INSTALLATION. PROVIDE NEW CONDUCTORS/CABLE TO EXTEND WHERE NECESSARY.
  - 5 REMOVE/REINSTALL EXISTING EXIT SIGN AFTER NEW CEILING INSTALLATION. PROVIDE NEW CONDUCTORS TO EXTEND WHERE NECESSARY.


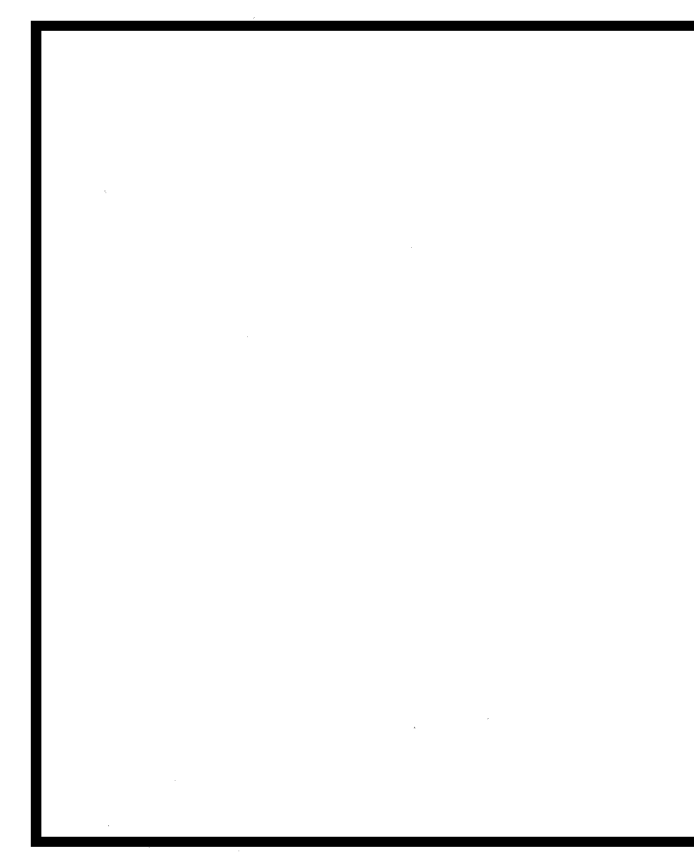
- GENERAL NOTES**
1. EXISTING CEILING TO BE REMOVED. CONTRACTOR SHALL FOLLOW PHASING OF PROJECT.
  2. "E" DESIGNATES EXISTING TO REMAIN.



Project Title  
**MAINE MEDICAL CENTER  
HVAC, LAB  
RENOVATIONS**  
PORTLAND, MAINE

HA Project No. 08101

Key Plan

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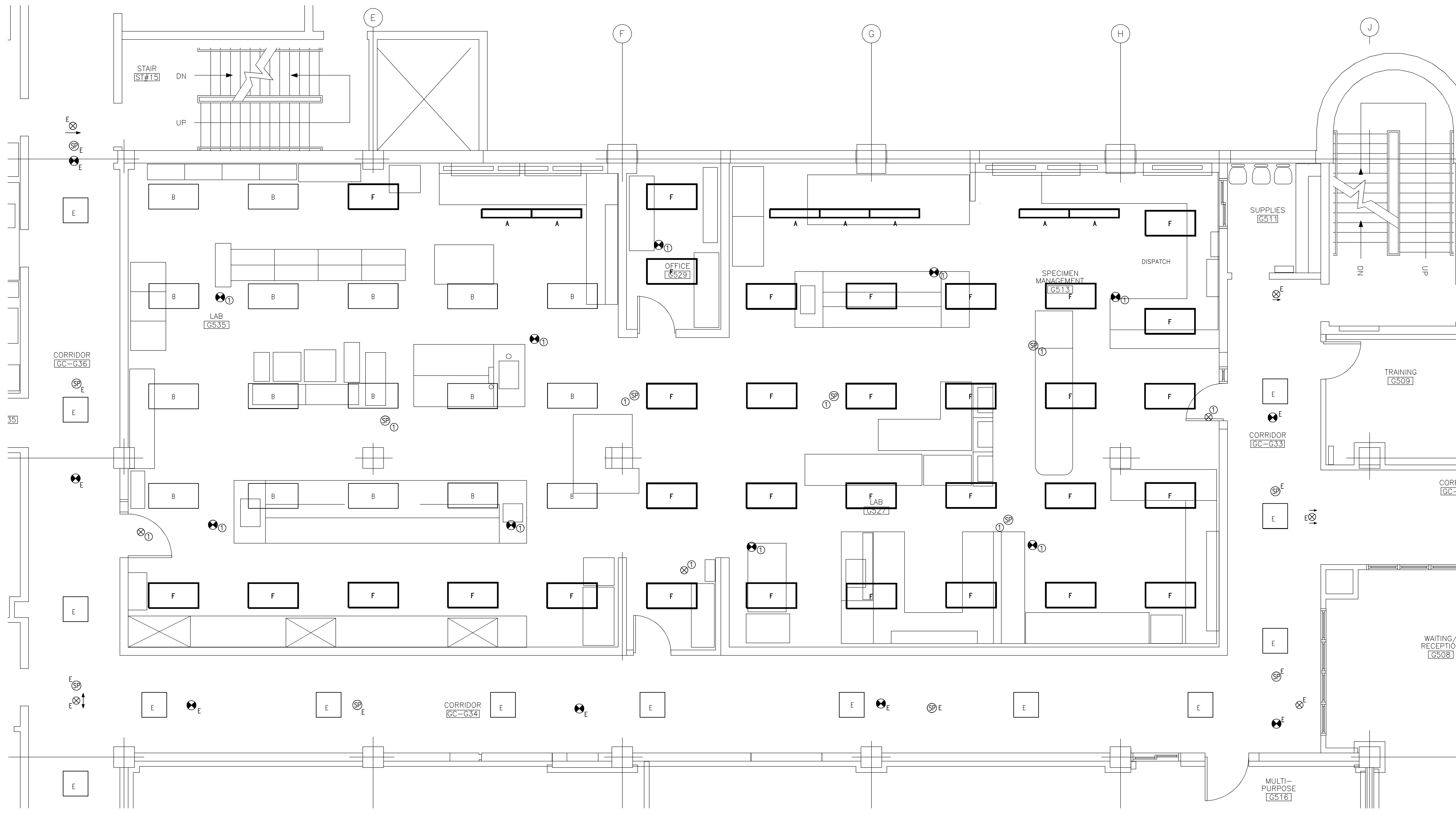
Drawing Status

Drawing Title  
**ELECTRICAL  
NEW LIGHTING  
FIRST FLOOR PLAN**

PA / PE: WRH Drawn By: RJB

Drawing Number

**E10.1**



LIGHTING FIXTURE SCHEDULE									
PROVIDE ALL FIXTURES WITH COMPLETE HARDWARE, LAMPS, HANGERS, FITTINGS, ETC. FOR A COMPLETE AND PROPER MANUFACTURERS RECOMMENDED, UL INSTALLATION.									
TYPE	MANUFACTURER	CATALOG NO.	MTG.	VOLT	LAMPS			REMARKS/BALLAST INFORMATION	NOTES
					NO.	WATT	TYPE		
A	DIRECT/INDIRECT LINEAR PENDANT FINELITE-SERIES 5	S5-P-4'-2T8-SC-91W-120-FA-FE	P	120	2	32	32 WATT - T8	PROVIDE WITH "EFFICIENCY MAINE" BALLAST AND LAMP COMBINATION	②
B	EXISTING FIXTURE COLUMBIA	ZBT	R	120					①
F	OWNER PROVIDED FIXTURE COLUMBIA	ZBT	R	120				SEE DRAWING FOR QUANTITY	①

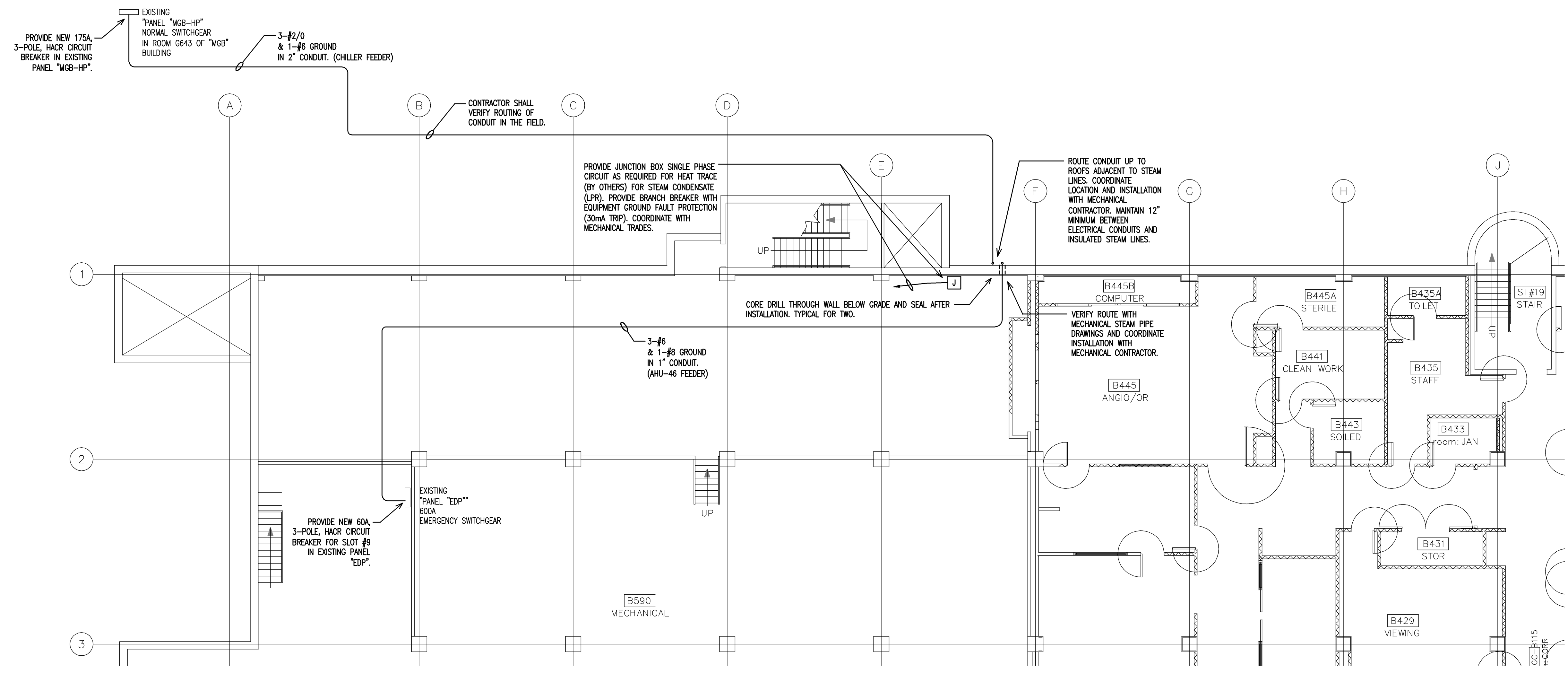
- LIGHTING FIXTURE SCHEDULE NOTES**
- ① PROVIDE ALL NECESSARY PARTS TO COMPLETE OWNER FURNISHED FIXTURES AND INCLUDE REMOVING AND RE-INSTALLING EXISTING FIXTURES.
  - ② MOUNT AT 96" AFF TO BOTTOM OF FIXTURE.

- GENERAL NOTES**
- 1. EXISTING CEILING TO BE REMOVED. CONTRACTOR SHALL FOLLOW PHASING OF PROJECT.
  - 2. CONNECT FIXTURES TO EXISTING CIRCUITS AND SWITCHES.

Project Title  
**MAINE MEDICAL CENTER  
HVAC, LAB  
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PORTLAND, MAINE

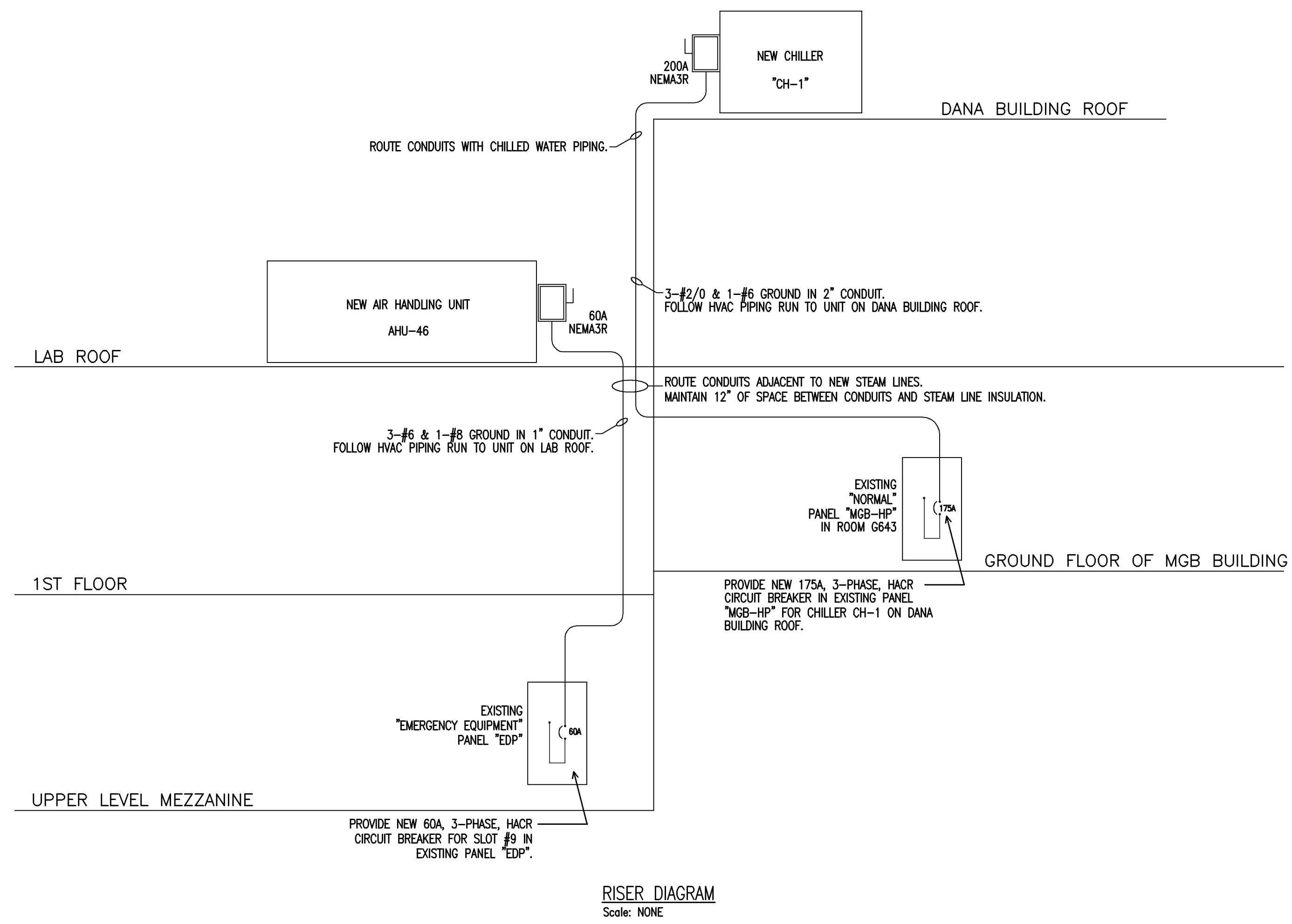
HA Project No. 08101

Key Plan



**PROPOSED CONDUIT ROUTING GROUND FLOOR PLAN**  
Scale: 1/8" = 1'-0"

- GENERAL NOTES**
1. COORDINATE ALL WORK WITH OTHER TRADES.
  2. COORDINATE WITH PHASING OF PROJECT.



**RISER DIAGRAM**  
Scale: NONE

Mark	Date	Description
-	10-31-08	ISSUED FOR BID
-	10-10-08	75% REVIEW

Issue Dates

Drawing Status

Drawing Title  
**ELECTRICAL  
RISER DIAGRAM AND  
CONDUIT ROUTING PLAN**

PA / PE: WRH      Drawn By: RJB

Drawing Number  
**E20.0**