

OWNER:
KENNEBEC VALLEY COMMUNITY COLLEGE

92 WESTERN AVE
FAIRFIELD, ME 04937

ARCHITECT:
Lavallee Brensinger Architects
305 Commercial Street
Portland, ME 04101
207.558.7200
www.LBPA.com

CONSTRUCTION MANAGER:
TBD

STRUCTURAL ENGINEER:
FBRA
254 Commercial Street
Portland, ME 04101
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**MECHANICAL / ELECTRICAL / PLUMBING & FIRE
PROTECT ENGINEER:**
BENNETT ENGINEERING, INC.
7 Bennett Road
Freeport, ME 04032
www.bennettengineering.net

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

DRAWING LIST

- A0.0 COVER SHEET
- A0.1 LEGENDS, SYMBOLS, NOTES, PARTITION TYPES
- A0.2 CODE PLAN AND ANALYSIS
- A1.1 PLANS AND INTERIOR ELEVS

- S1.1 GENERAL NOTES, TYPICAL DETAILS, AND PARTIAL FRAMING PLAN

- M101 MECHANICAL PLAN
- M201 MECHANICAL DETAILS AND LEGEND

- E000 ELECTRICAL COVER SHEET
- E101 ELECTRICAL PLANS

SCOPE OF WORK

Interior renovations to convert an existing conference room and office into a fully functional radiology lab, equipped with the necessary infrastructure and safety measures to support radiological imaging and diagnostic educational processes.

KENNEBEC VALLEY COMMUNITY COLLEGE

92 WESTERN AVE
FAIRFIELD, ME 04937



KENNEBEC VALLEY COMMUNITY COLLEGE- ENERGIZED RADIOLOGY LAB FAIRFIELD, MAINE IBC & IEBC 2021 & NFPA 101 2021 REVIEW – SD PHASE	
EXISTING FACILITY RENOVATION ANALYSIS	
DESIGN DATES / CODES IN EFFECT	
ORIGINAL DESIGN DATE	ORIGINAL BUILDING: SEPTEMBER 1985
CODES IN EFFECT WHEN ORIGINALLY DESIGNED	UBC 1985
CODES CURRENTLY IN EFFECT	<p>ME STATE BUILDING CODE:</p> <ul style="list-style-type: none"> EXISTING BUILDING CODE: MUBEC, IEBC 2021 AMENDED BUILDING CODE: MUBEC, IBC 2021 AMENDED MECHANICAL CODE: MUBEC, IMC 2021 AMENDED PLUMBING CODE: UPC 2021 AMENDED ENERGY CODE: MUBEC STRETCH CODE, IECC 2021 AMENDED ELECTRICAL CODE: NFPA 70, 2023 AMENDED <p>ME ACCESSIBILITY CODE: A117.1, 2017</p> <p>ME STATE FIRE CODE:</p> <ul style="list-style-type: none"> NFPA 101 LIFE SAFETY CODE, 2018 AMENDED NFPA 1 FIRE CODE, 2018 AMENDED
PROPOSED PROJECT DESCRIPTION	RENOVATION OF EXISTING CONFERENCE ROOM TO SUPPORT AN ENERGIZED RADIOLOGICAL LAB. PROJECT WILL INCLUDE DESIGN, SELECT DEMOLITION OF THE EXISTING SPACE, ELECTRICAL UPGRADES AND INSTALLATION OF FIXTURES AND EQUIPMENT.
EXISTING BUILDING AREA & HEIGHT	
EXISTING GROSS BUILDING AREA	FIRST FLOOR: 22,500 SF SECOND FLOOR: 22,500 SF TOTAL: 45,000 SF
PROPOSED GROSS BUILDING AREA	UNCHANGED
# STORIES, HEIGHT	2 STORIES, 31' HEIGHT
EXISTING BUILDING CONSTRUCTION TYPE	
CONSTRUCTION TYPE	IBC TYPE = 2B (NONCOMBUSTIBLE, UNPROTECTED) NFPA TYPE = 2B
FIRE PROTECTION SYSTEM	UNPROTECTED
OCCUPANCIES & LOADS	
IBC EXISTING OCCUPANCY GROUP CLASSIFICATIONS	B (BUSINESS) W/ ACCESSORY OCCUPANCY S-2 (STORAGE)
PROPOSED GROUPS	NO CHANGE
NFPA 101 EXISTING OCCUPANCY TYPES	PRIMARY OCCUPANCY: BUSINESS INCIDENTAL OCCUPANCIES: STORAGE
PROPOSED TYPES	NO CHANGE
CLASSIFICATION OF HAZARD - NFPA	LIGHT HAZARD & ORDINARY HAZARD GROUP 2
IBC: CHAPTER 10, TABLE 1004.5	IBC 2021: ACCESSORY STORAGE AREAS, MECH, EQUIP ROOMS: 300 GSF/PERSON BUSINESS: 150 GSF/PERSON ASSEMBLY UNCONCENTRATED (TABLES AND CHAIRS): 15 NSF/PERSON CLASSROOM AREA: 20 NSF/PERSON

CONSTRUCTION REQUIREMENTS	
OCCUPANCY CONSTRUCTION TYPE REQUIREMENT	NFPA EXISTING OCCUPANCY CHAPTERS: 39.1.6 BUSINESS: NONE 42.1.6 STORAGE: NONE
IEBC	NO CHANGE OF USE: NO COMPLIANCE REQUIREMENT FOR IBC HEIGHT/AREA
EXISTING BUILDING FIRE COMPARTMENTS	
EXISTING	
PROPOSED	
PROPOSED BUILDING WORK CLASSIFICATION	
NFPA 43.6 RECONSTRUCTION	43.4.1.4: CANNOT MAKE BLDG LESS CONFORMING TO CODE. 43.4.1.5: MINOR REDUCTIONS IN WIDTH DUE TO DOOR/WINDOW REPLACEMENT PERMITTED. 43.4.3: INTERIOR FINISH MEET NEW CONSTRUCTION REQMTS. 43.5.1.3: NEWLY CONSTRUCTED ELEMENTS, COMPONENTS, AND SYSTEMS SHALL COMPLY WITH REQUIREMENTS NEW OCCUPANCY CHAPTERS. 43.6.2: MEANS OR EGRESS, COMPLY WITH EXISTING OCC CHAPTERS ILLUMINATION MEETS NEW OCC CHAPTERS. 43.6.5: FIRE ALARM: EXISTING OCC CHAPTERS APPLY.
IEBC 2021 – WORK AREA CLASSIFICATION	ALTERATION LEVEL 2: ALL WORK IS REQUIRED TO COMPLY WITH IEBC CHAPTERS 7 & 8
IEBC 2021 – CHAPTER 7	701 ALTERATIONS SHALL NOT REDUCE EX SAFETY. 702 NEW FINISHES & TRIM COMPLY WITH IBC. 704 ALTERATIONS MAINTAIN EX MEANS OF EGRESS PROTECTIONS. 705 ALTERED ELEMENTS SHALL BE ACCESSIBLE TO MAX POSSIBLE 706 STRUCTURAL ALTERATIONS 707 ALTERATIONS COMPLY WITH IECC, ENTIRE BLDG DOES NOT HAVE TO COMPLY
IEBC – CHAPTER 8	801 ALL NEW ELEMENTS COMPLY WITH IBC. 803 EX VERTICAL OPENINGS OF 2 OR MOR FLOORS: 1 HR MIN, SEE EXCEPTIONS. INTERIOR FINISHES: IBC FOR EXITS AND CORRIDORS. NON-COMPLIANT SURFACES CAN BE TREATED. 804 FIRE PROTECTION 805 MEANS OF EGRESS EGRESS COMPLYING WITH NFPA 101 IS ALLOWED IN LIEU OF 705. MIN # EXITS: PER IBC EGRESS DOORS: 2 FOR ≥ 50 or 75 FT> TRAVEL EGRESS DOORS SWING IN DIRECTION EGRESS ≥50. EXIT DOORS SELF-CLOSING. PANIC HARDWARE AT ASSEMBLY FOR DOORS ≥100 EX CORRIDOR DOORS 20 MIN IF SPRINKLED. DEAD ENDS 35 FT MAX, EXCEPTIONS. MEANS OF EGRESS LIGHTING - NEW 806 ACCESSIBILITY 807 STRUCTURAL ALTERATIONS. 808 ELECTRICAL ALTERATIONS. 809 MECHANICAL ALTERATIONS. 810 PLUMBING ALTERATIONS 811 ENERGY CONSERVATION: ALTERATIONS COMPLY.
MEANS OF EGRESS – CHAPTER 10	
DOORS	1010.1.1: MINIMUM CLEAR WIDTH OF 32 INCHES DOORS SHALL SWING IN DIRECTION OF TRAVEL WHEN OCCUPANT LOAD IS GREATER THAN 50 1005.7.1: DOORS, WHEN FULLY OPEN, NOT REDUCE REQUIRED EGRESS WIDTH OF A CORRIDOR BY 7 INCHES 1005.7.1: DOORS IN ANY POSITION SHALL NOT REDUCE THE REQUIRED EGRESS WIDTH OF A CORRIDOR BY MORE THEN 1/2

STAIRS	1011.1.1: MINIMUM CLEAR WIDTH OF 44 INCHES 1011.3: MINIMUM HEADROOM OF 80 INCHES
CAPACITY OF EGRESS	1005.3.1: STAIRS: 0.3" / PERSON 1005.3.2: HORIZONTAL ELEMENTS: 0.2" / PERSON
EGRESS ARRANGEMENT	1002.5: DEAD END: MAX. 20 FEET 1006.2.1: COMMON PATH OF TRAVEL: MAX. 100 FEET FOR < 30 OCCUPANTS OR MAX. 75 FEET FOR > 30 OCCUPANTS 1017.2: TRAVEL DISTANCE TO EXIT: MAX. 200 FEET 1007.1.1: REMOTENESS: MIN. 1/2 OF THE MAX. OVERALL DIAGONAL DIM. OF THE AREA SERVED
# OF EXITS	# EXITS: MIN 2
PROTECTION	
VERTICAL OPENINGS	713.4: SHAFT ENCLOSURES MIN 2-HR RATED
FINISHES	INTERIOR FINISHES SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 8.
ACCESSORY OCCUPANCIES	IBC 508.2.4: NO SEPARATION IS REQUIRED BETWEEN ACCESSORY OCCUPANCIES AND THE MAIN OCCUPANCY. ASSEMBLY AND STORAGE USED SHALL BE CONSIDERED ACCESSORY (SEPARATION PER HAZARD REQUIREMENT). • CHEMICAL STORAGE ROOMS: 1-HR FIRE SEPARATION FOR WALLS AND CEILINGS AND 2-HR FIRE SEPARATION FOR FLOORS AND SUPPORTING STRUCTURE.
CORRIDORS	IBC 1020.1 NFPA OCCUPY CHAPTERS

GRAPHICS LEGEND

OCCUPANCY

USE GROUP: B [Symbol] NOT IN SCOPE OF WORK [Symbol]
WORK AREA BOUNDARY [Symbol]

WORK SCOPE

EXISTING FIRE RATED CONSTRUCTION

EXISTING IBC NON-RATED SMOKE PARTITION / NFPA NON-FIRE RATED BARRIER TO SMOKE [Symbol]
EXISTING 1 HR SMOKE BARRIER [Symbol]
EXISTING 1 HR FIRE BARRIER [Symbol]
EXISTING 1 HR FIRE PARTITION [Symbol]

MEANS OF EGRESS

EXIT [Symbol]
EXIT DISCHARGE [Symbol]
EXIT ACCESS & OCCUPANT PATH LOAD [Symbol]
EXIT STAIR [Symbol]

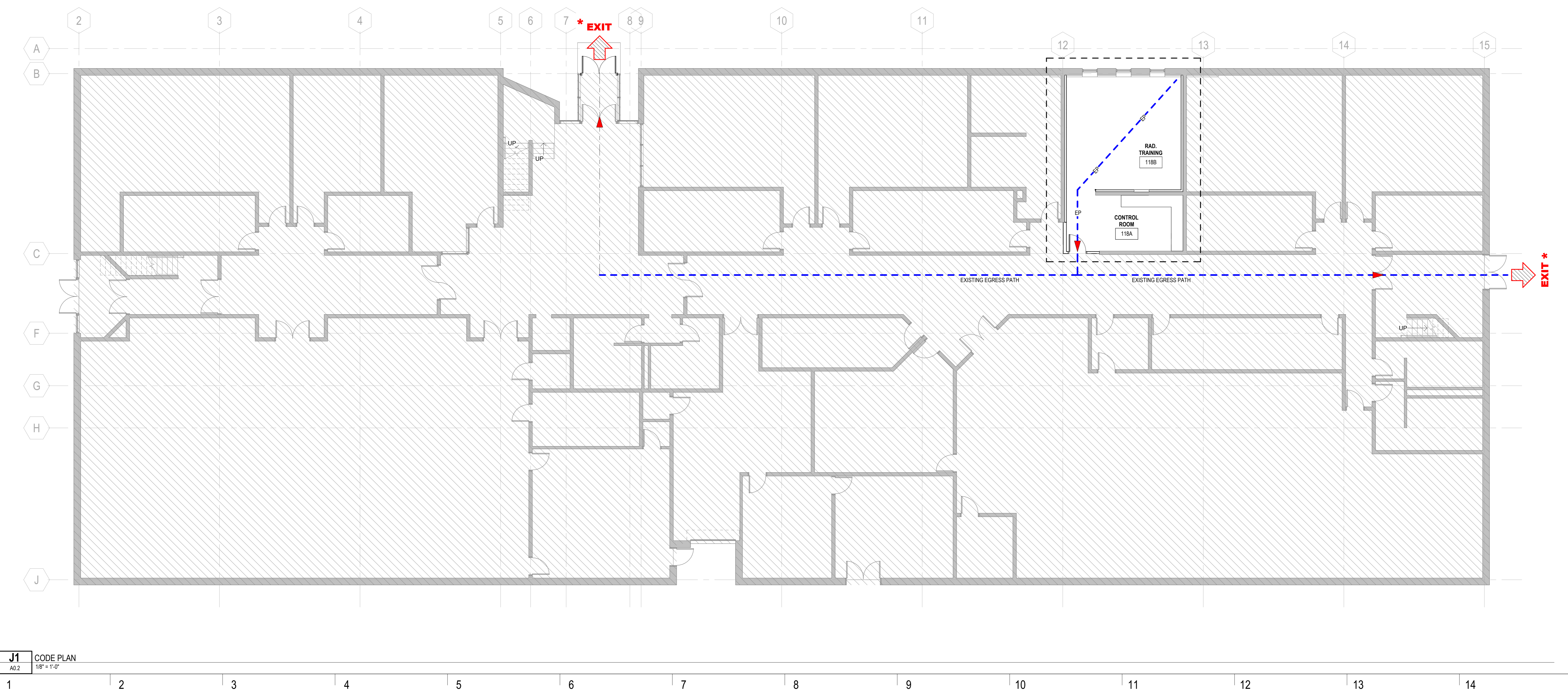
PATH OF TRAVEL

EGRESS PATH [Symbol] TRAVEL DISTANCE PATH [Symbol]
DEAD END PATH [Symbol] DEAD END [Symbol]
COMMON PATH [Symbol] COMMON PATH OF TRAVEL [Symbol]

OTHER

FIRE EXTINGUISHER [Symbol]
EXISTING CONSTRUCTION [Symbol]
NEW CONSTRUCTION [Symbol]

SEE DOOR SCHEDULE FOR DOOR ASSEMBLY FIRE-RATINGS.



ENERGIZED RADIOLOGY LAB

92 WESTERN AVE
FAIRFIELD, ME 04937

NO.	DESCRIPTION	DATE

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CONTENT:
CODE PLAN AND ANALYSIS

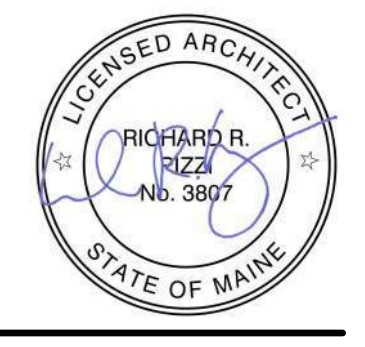
DRAWN BY: MRP
PROJECT NO: 25-011-00
DATE: 10/20/2025
REVISED:
SCALE: As indicated

A0.2

Project Phase
ISSUED FOR BIDDING

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NO.	DESCRIPTION	DATE

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
 PLANS AND INTERIOR ELEVATIONS

DRAWN BY: MRP
 PROJECT NO: 25-011-00
 DATE: 10/20/2025
 REVISED:
 SCALE: As indicated

A1.1

Project Phase
ISSUED FOR BIDDING

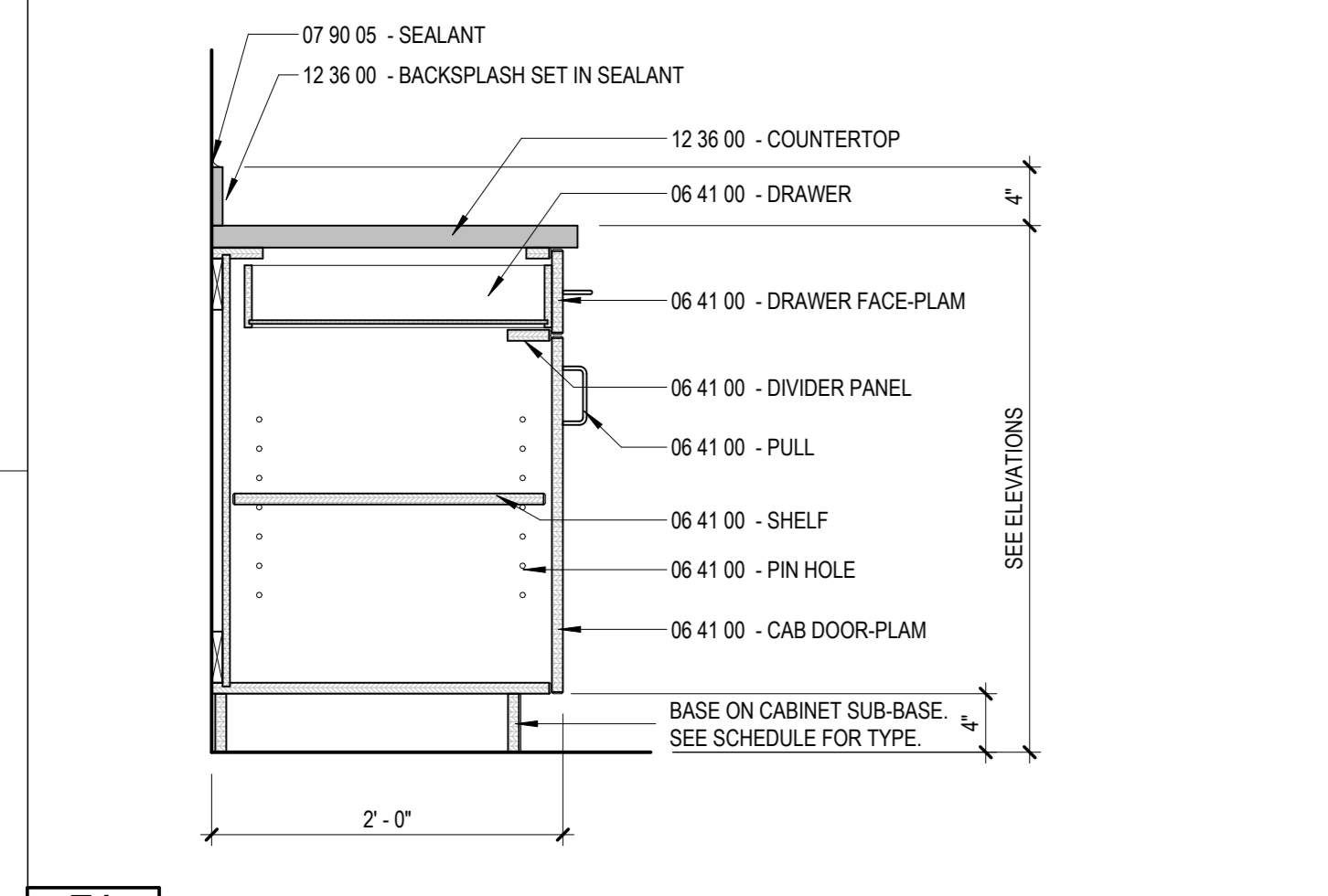
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INTERIOR FINISH LEGEND	
09 65 00 RESILIENT FLOORING	06 41 00 CABINETS
RF-1 TYPE: SHEET RUBBER MANUF: NORA SERIES: SENTICA COLOR: TBD	PL-1 TYPE: PLASTIC LAMINATE KRAFTMAID - THERMOFOIL COLOR: TBD
09 65 00 RESILIENT BASE	12 36 00 SOLID SURFACE
RB-1 TYPE: RUBBER BASE MANUF: TARKETT SERIES: TRADITIONAL WALL BASE HEIGHT: 4" COLOR: 32 PEBBLE	SS-1 TYPE: SOLID SURFACE MANUF: CORIAN COLOR: TBD
09 90 00 PAINT and COATING	MISCELLANEOUS
P-1 TYPE: WALL PAINT MANUF: SHERWIN WILLIAMS COLOR: SW7050- USEFUL GRAY FINISH: PROMAR 200 EGG SHELL	TBD TO BE DETERMINED PTM PATCH TO MATCH ETR EXISTING TO REMAIN SC SEALED CONCRETE
P-2 TYPE: TRIM PAINT MANUF: SHERWIN WILLIAMS COLOR: SW7045- INTELLECTUAL GRAY FINISH: PROMAR 200 SEMI-GLOSS	GENERAL FINISH NOTES: 1. REFER TO FINISH SCHEDULE FOR MORE INFORMATION. REFER TO ALL DRAWINGS FOR FLOOR PATTERNS AND ACCENT WALL LOCATIONS. 2. HM DOOR FRAMES AND WINDOW FRAMES ARE TO BE PTD P-2. 3. CEILINGS: - ALL GWB CEILINGS AND SOFFITS SHALL BE PAINTED P-1 UNLESS NOTED OTHERWISE ON THE REFLECTED CEILING PLAN. 4. ALL EXPOSED STEEL COMPONENTS ARE TO BE PAINTED. 5. ALL FINISHED FLOORING SHALL EXTEND BENEATH CASEWORK, MILLWORK, AND PLUMBING FIXTURES UNO 6. ALL ARCHITECTURE INTERIOR SHEET DIMENSIONS ARE TO FACE OF FINISH, UNO.
10 26 01 WALL PROTECTION PANEL	
WP-1 TYPE: WALL PROTECTION SHEETS MANUF: ACRYOVYN SERIES: RIGID WALL PANELS COLOR: TBD	
CG-1 TYPE: CORNER GUARDS MANUF: ACRYOVYN SERIES: FS-20RN COLOR: TBD	

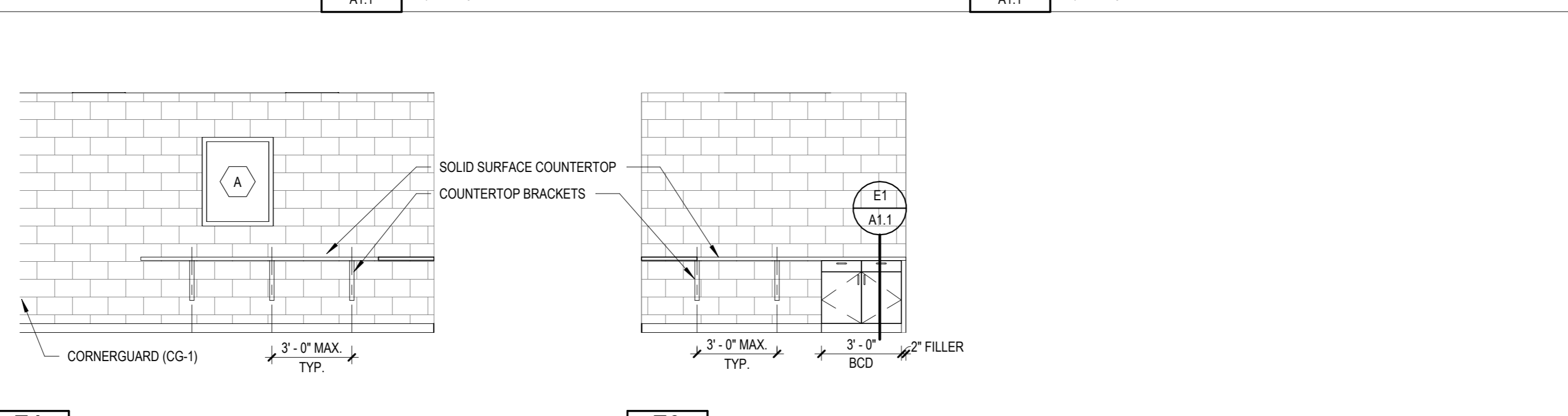
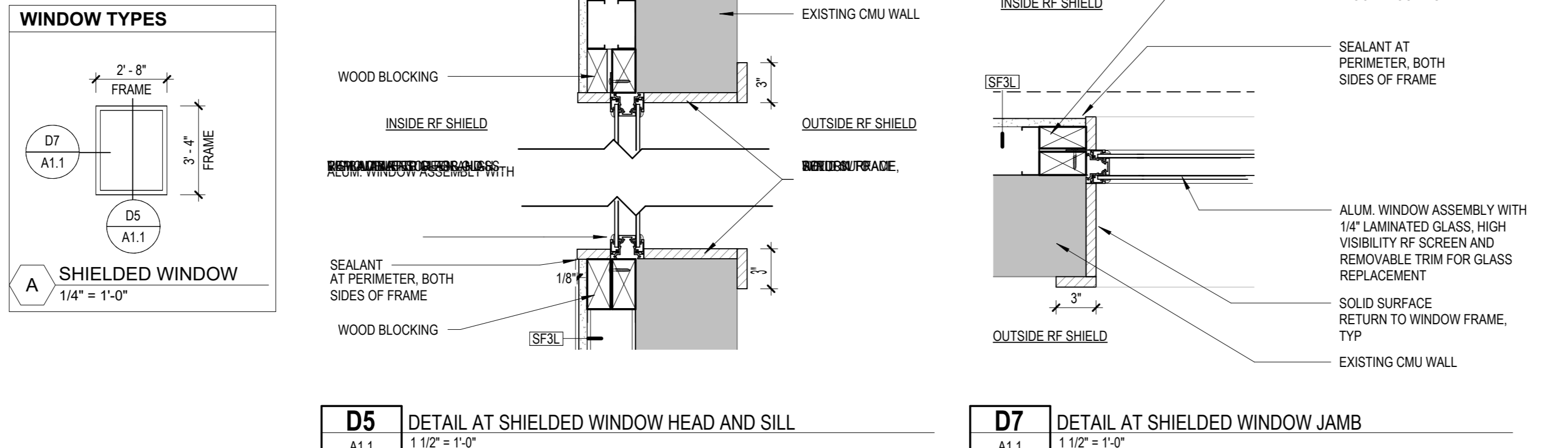
ID FINISH SCHEDULE									
ROOM #	ROOM NAME	FLOORING	WALL BASE	WALLS	WALL PROTECTION	COUNTERTOPS	CASEWORK / MILLWORK	CEILING	COMMENTS
118A	CONTROL ROOM	RF-1	RB-1	PT-1		SS-1	PL-1	ACT-1	
118B	RAD. TRAINING	RF-1	RB-1	PT-1				ACT-1	

DOOR & FRAME SCHEDULE w Room Names									
MARK	DOOR			FRAME			DOOR AND FRAME FIRE RATING	HARDWARE SETS	Comments
	SIZE	THK	MATL	TYPE	MATL	TYPE			
118A	3'-0"	7'-0"	1 3/4"	WD	F	HM	1		LEAD LINED FRAME & DOOR

DOOR HARDWARE SETS										
SET NO.	LOCKSET TYPE & LATCH FUNCTION	CLOSER TYPE & QUANTITY	HINGE TYPE & QUANTITY	STOPS	SEALS	PROTECTION	ELECTRICAL	SPECIAL HARDWARE	HARDWARE BY OWNER	HARDWARE NOTES
1	OFFICE	(1) CLOSER	CONTINUOUS	WALL STOP	WEATHER STRIPPING (BOTH SIDES)	ARMOR PLATE	ELECT. STRIKE FOR CARD READER	CONFIRM CARD ACCESS CONTROLS WITH OWNER.	CONFIRM WITH OWNER	COORDINATE WITH SHIELDING

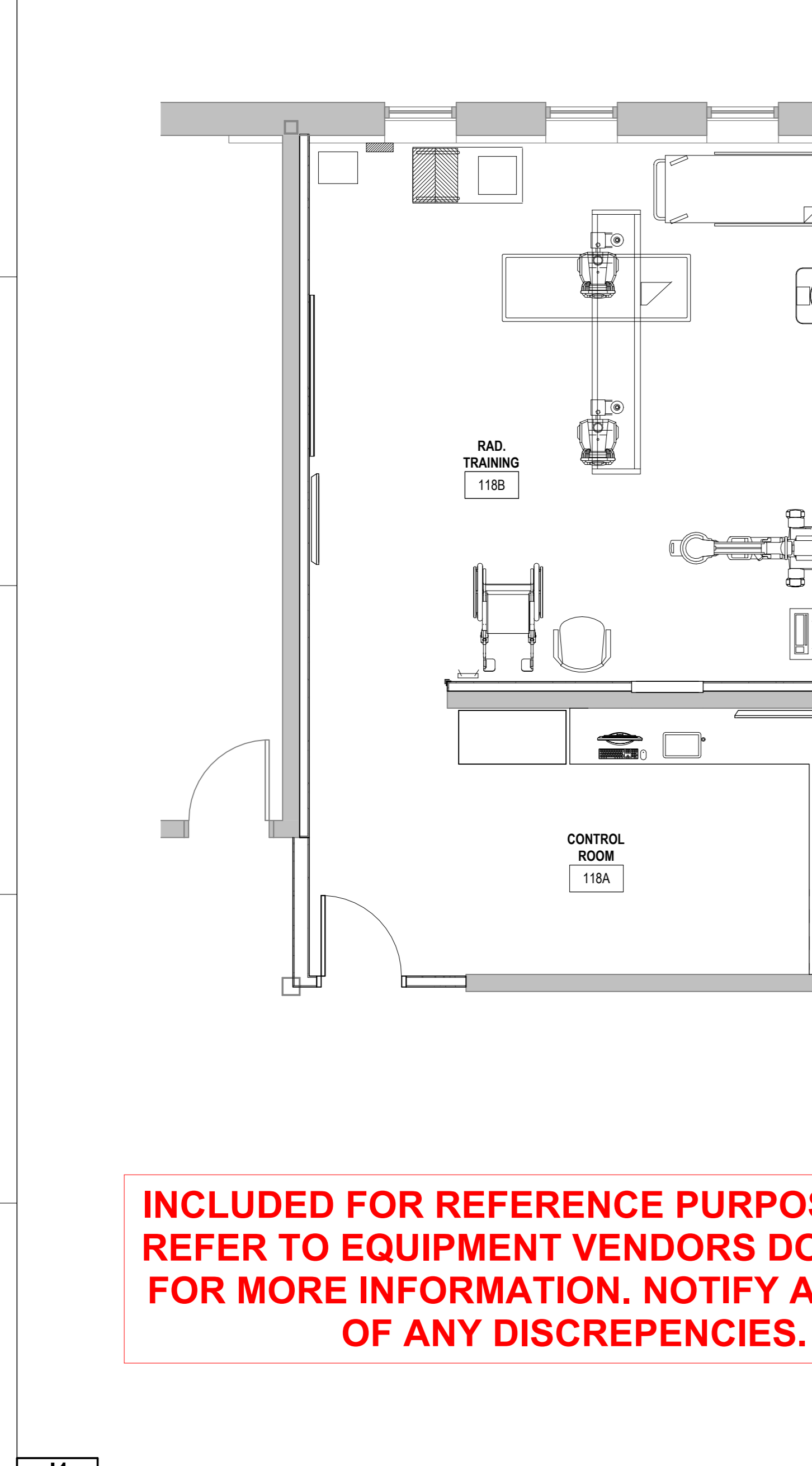


E1 BASE CABINET SECTION w DRAWER SECTION (BCD)
 A1.1 1/4" = 1'-0"

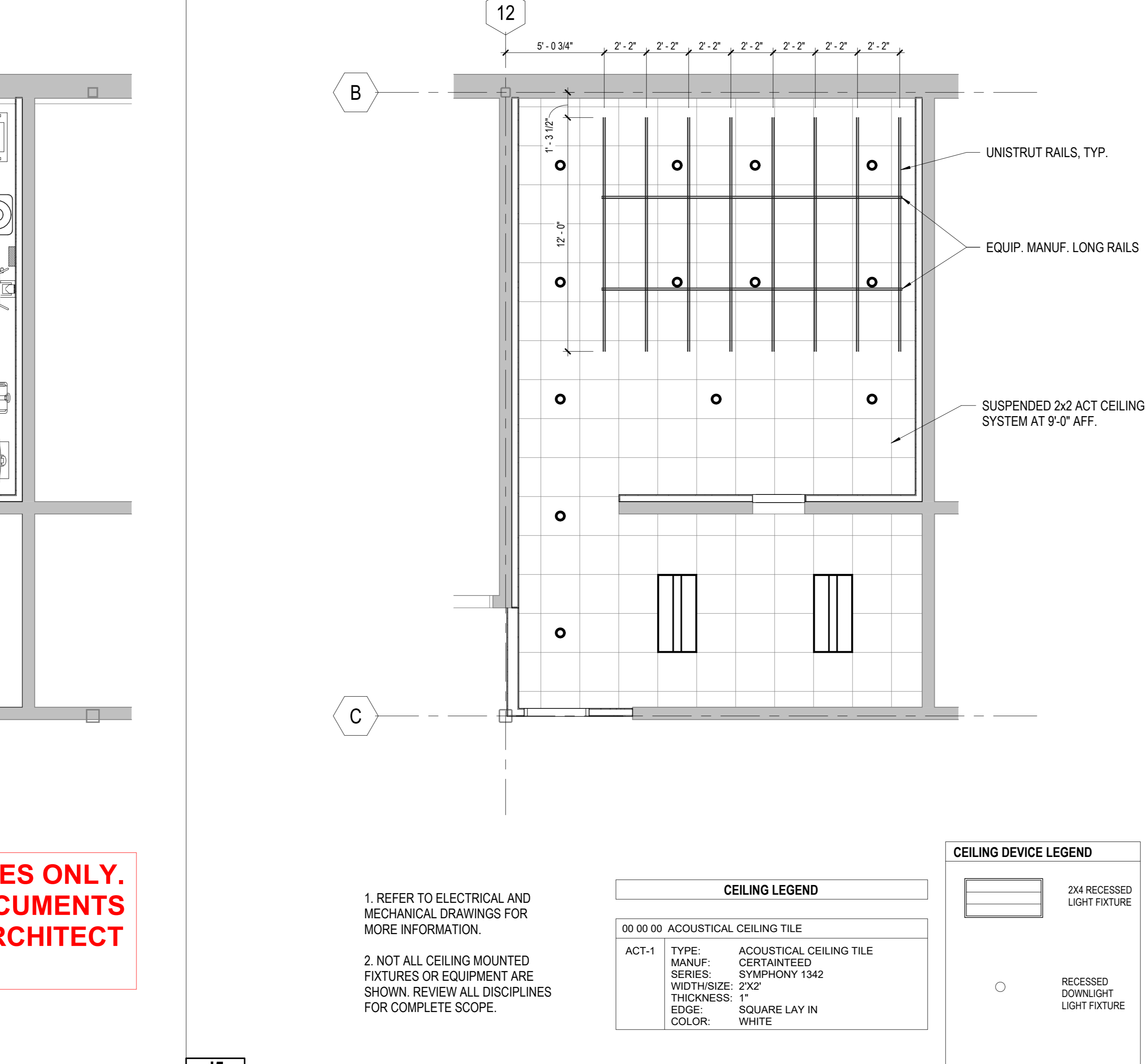


E4 INTERIOR ELEVATION
 A1.1 1/4" = 1'-0"

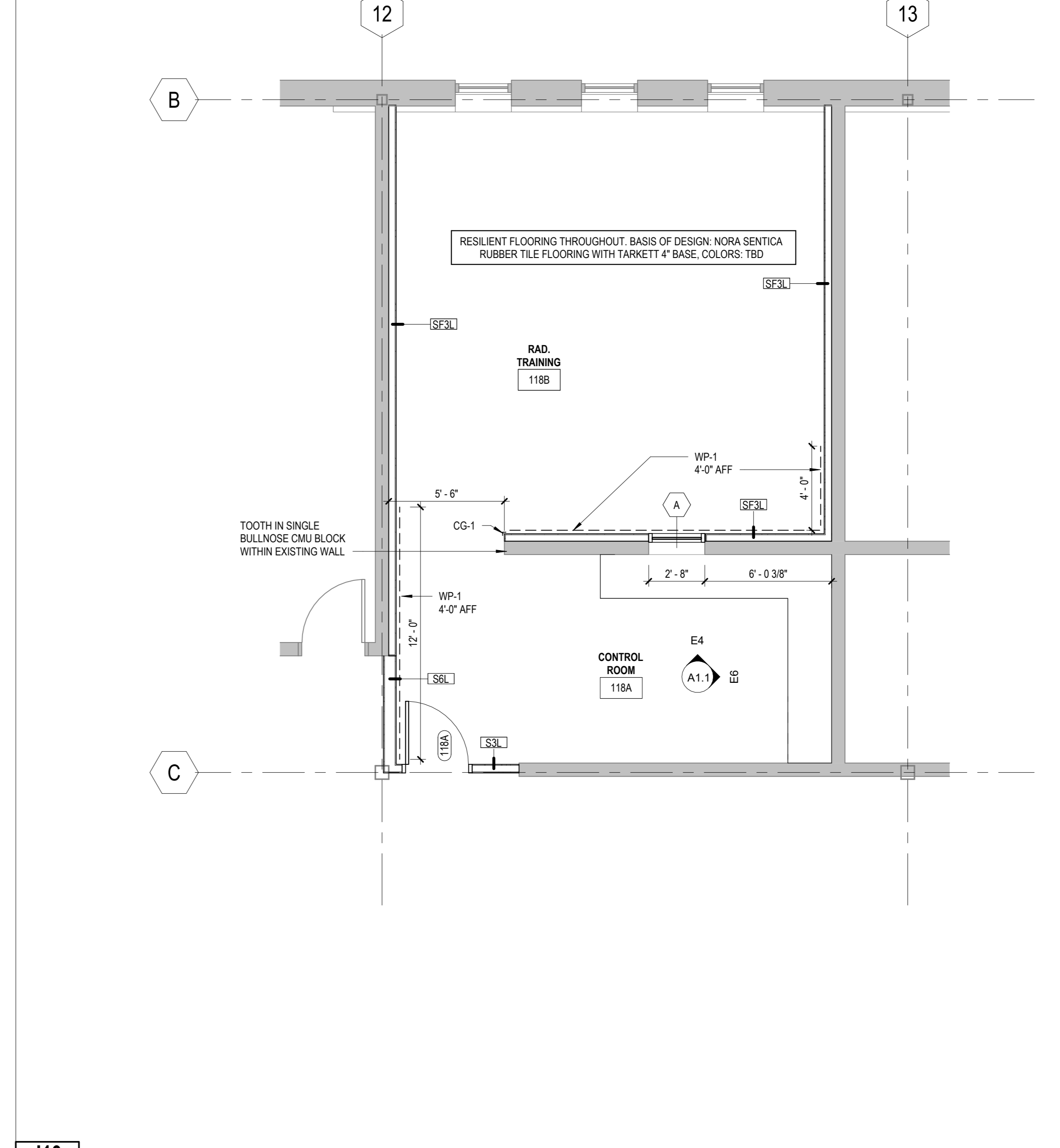
E6 INTERIOR ELEVATION
 A1.1 1/4" = 1'-0"



J1 NEW EQUIPMENT PLAN (FOR REFERENCE ONLY)
 A1.1 1/4" = 1'-0"



J5 NEW WORK REFLECTED CEILING PLAN
 A1.1 1/4" = 1'-0"



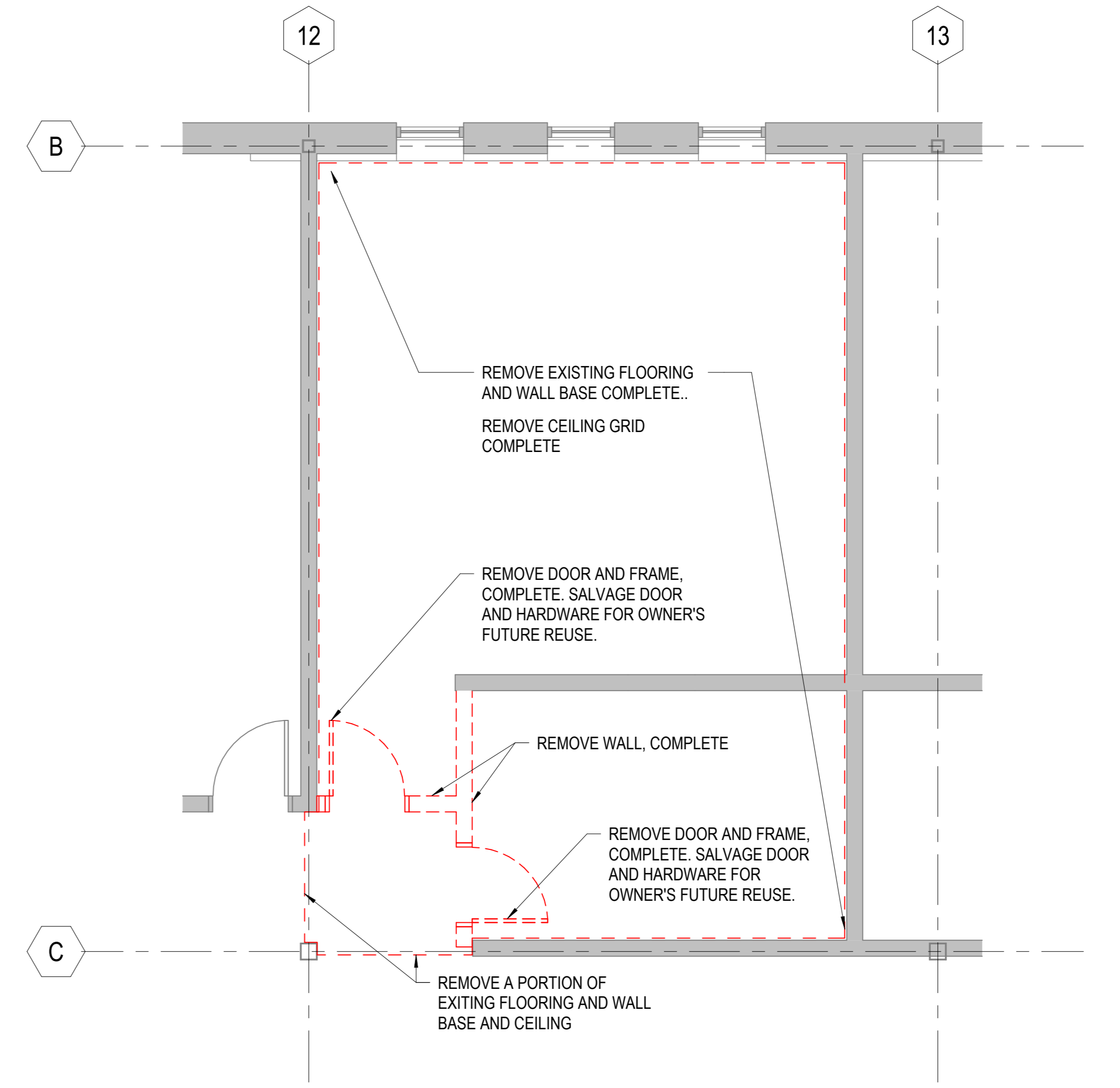
J10 NEW WORK FLOOR PLAN
 A1.1 1/4" = 1'-0"

INCLUDED FOR REFERENCE PURPOSES ONLY. REFER TO EQUIPMENT VENDORS DOCUMENTS FOR MORE INFORMATION. NOTIFY ARCHITECT OF ANY DISCREPENCIES.

CEILING LEGEND	
00 00 00	ACOUSTICAL CEILING TILE
ACT-1	TYPE: ACOUSTICAL CEILING TILE MANUF: CERTAINTEED SERIES: SYMPHONY 1342 WIDTH/SIZE: 2'x2' THICKNESS: 1" EDGE: SQUARE LAY IN COLOR: WHITE

CEILING DEVICE LEGEND	
[Symbol]	2X4 RECESSED LIGHT FIXTURE
[Symbol]	RECESSED DOWNLIGHT LIGHT FIXTURE

- REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.
- NOT ALL CEILING MOUNTED FIXTURES OR EQUIPMENT ARE SHOWN. REVIEW ALL DISCIPLINES FOR COMPLETE SCOPE.



E10 DEMOLITION PLAN
 A1.1 1/4" = 1'-0"

GENERAL

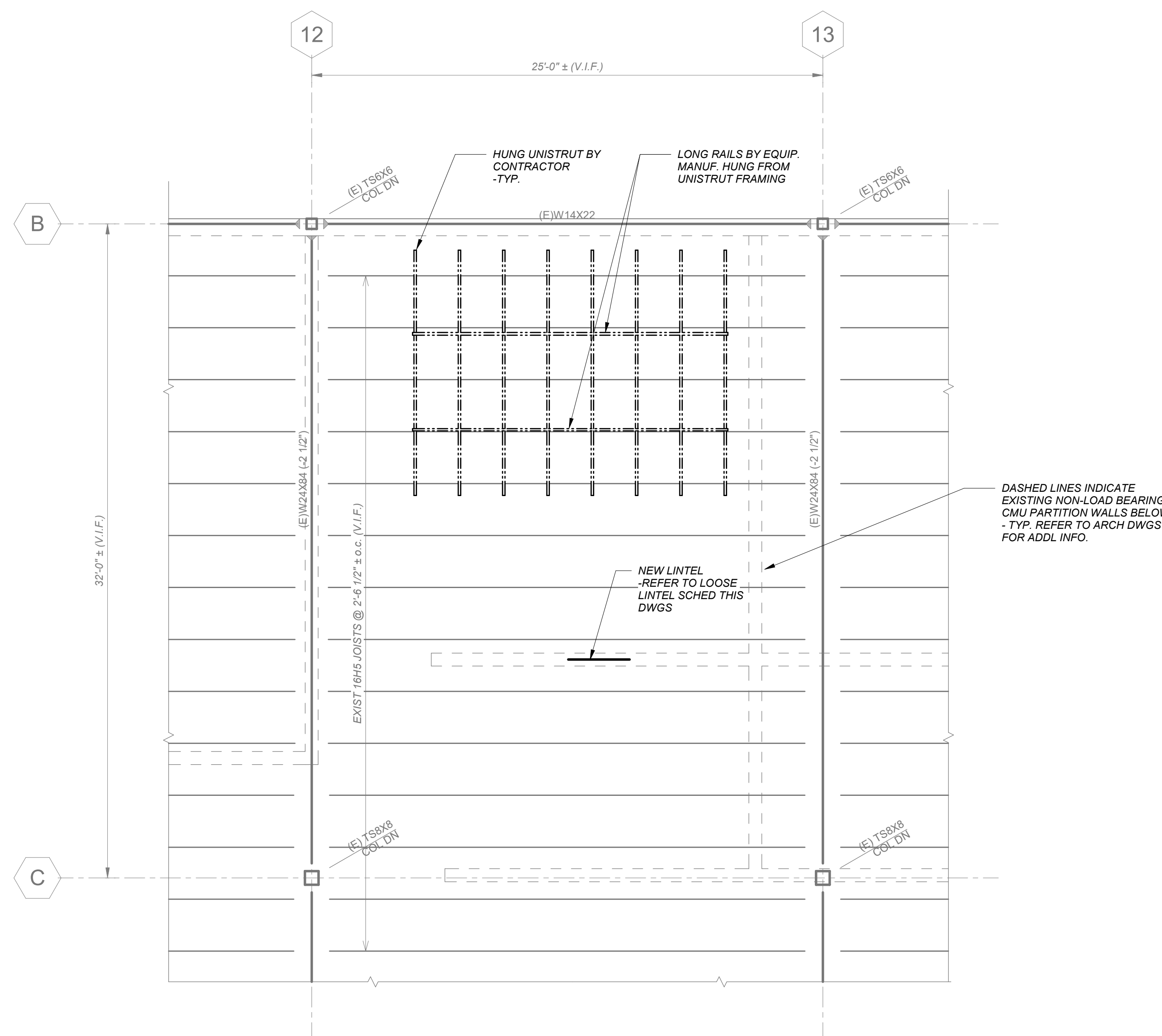
- G1. THE GENERAL NOTES APPLY UNLESS NOTED OTHERWISE ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- G2. STRUCTURAL WORK SHALL CONFORM TO REQUIREMENTS OF THE MAINE UNIFORM BUILDING AND ENERGY CODE.
- G3. THE INTENT OF THE STRUCTURAL DRAWINGS IS TO SHOW THE MAIN STRUCTURAL FEATURES AND DESIGN FOR THE COMPLETED PROJECT. ARCHITECTURAL DETAILS AND OTHER COMPONENTS THAT MAY BE NECESSARY TO CONSTRUCT THE PROJECT ARE SHOWN INCIDENTALLY ONLY AND NOT COMPLETELY.
- G4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS, APPROVED SHOP DRAWINGS, AND SPECIFICATIONS.
- G5. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR VERIFICATION OF LOCATIONS AND DIMENSIONS OF ALL SHAFTS, INSERTS, CURBS, OPENINGS, SLEEVES, ANCHOR BOLTS, FLOOR PITCHES, ANGLE FRAMES, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
- G6. THE CONTRACTOR SHALL INFORM THE ARCHITECT OF ALL DISCREPANCIES BETWEEN DRAWINGS OF DIFFERENT TRADES PRIOR TO INITIATION OF ANY WORK.
- G7. EXISTING DIMENSIONS AND CONDITIONS MUST BE VERIFIED OR DETERMINED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
- G8. THE CONTRACTOR SHALL PROVIDE ALL THE NECESSARY ENGINEERED TEMPORARY BRACING AND SHORING TO SAFELY SUPPORT THE NEW AND EXISTING WORK AND THE APPLIED LOADS UNTIL THE PERMANENT STRUCTURE IS FULLY INSTALLED AND AT FULL STRENGTH.
- G9. SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ARCHITECT AND A STAMPED APPROVAL RECEIVED BEFORE FABRICATION MAY PROCEED. FABRICATION AND ERECTION SHALL PROCEED FROM APPROVED SHOP DRAWINGS ONLY.
- G10. NOTES AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS, UNLESS NOTED.
- G11. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
- G12. CONTRACTOR TO VERIFY EXISTING SLAB ON GRADE IS FLAT AND LEVEL TO WITHIN .125" IN ALL DIRECTIONS IN A 10' SPAN, PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.

**STRUCTURAL LOADS - MAINE UNIFORM BUILDING AND ENERGY CODE
(IBC 2021 WITH MAINE AMENDMENTS & ASCE 7-16)**

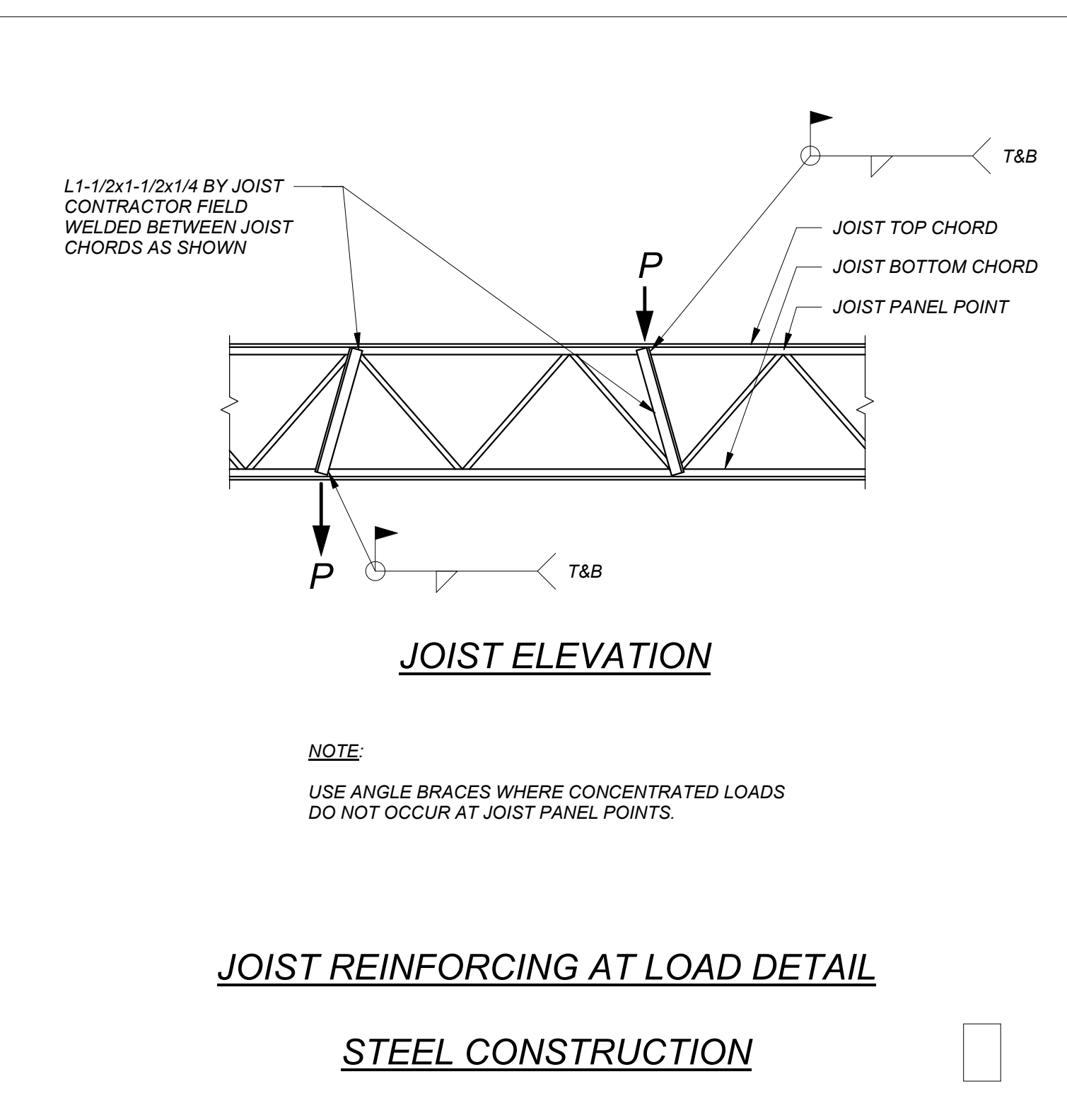
- L1. DEAD LOADS
 - A. WEIGHT OF BUILDING COMPONENTS
 - 1. EQUIPMENT: SELF-WEIGHT
 - B. TYPICAL PARTITIONS ALLOWANCE - (IBC - SECTION 1607.5): 15 PSF
- L2. LIVE LOADS
 - A. LOADS - (IBC - TABLE 1607.1)
 - 1. ENERGIZED RADIOLOGY LAB: 60 PSF

STRUCTURAL STEEL FRAMING

- S1. STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITIONS OF AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", AS MODIFIED BY THE SPECIFICATIONS.
- S2. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST AWS "D1.1-STRUCTURAL WELDING CODE-STEEL".
- S3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED:
 - A. W, WT, C, AND MC SHAPES: ASTM A992 Fy = 50KSI
 - B. ALL OTHER STRUCTURAL SHAPES: ASTM A572 Fy = 50KSI
 - C. STRUCTURAL STEEL PLATES AND BARS: ASTM A572 Fy = 50KSI
- S4. CONNECTIONS MAY BE BOLTED OR WELDED, UNLESS SPECIFICALLY NOTED OTHERWISE. CONNECTIONS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH AISC STANDARDS, USING THE ASD METHOD.
- S5. CONNECTIONS SHALL BE WELDED TO CONFORM WITH AWS D1.1.
- S6. SPLICING STRUCTURAL MEMBERS WHERE NOT DETAILED ON DRAWINGS IS PROHIBITED WITHOUT PRIOR APPROVAL OF ARCHITECT.
- S7. REFER TO THE SPECIFICATION FOR PAINTING AND SURFACE PREPARATION REQUIREMENTS.
- S8. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE NEW STRUCTURE FOR CONSTRUCTION LOADS. TEMPORARY SUPPORTS SHALL REMAIN IN PLACE UNTIL ALL ELEMENTS REQUIRED FOR STABILITY OF THE STEEL FRAME ARE COMPLETED.



PARTIAL SECOND FLOOR FRAMING PLAN
1/4" = 1'-0"



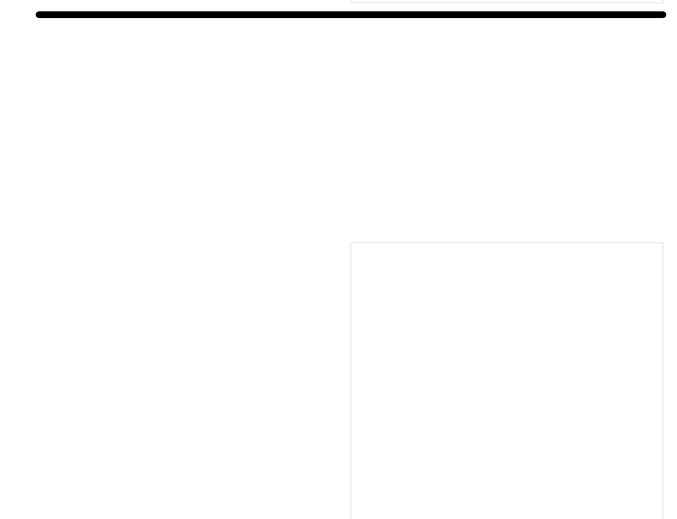
LOOSE LINTEL SCHEDULE AT MASONRY
(BY MISC. METAL)

MASONRY OPENING	LINTEL SIZE	MIN. BEARING AT EACH END
UP TO 3'-0" (H)	L3-1/2 x 3-1/2 x 5/16	8"
3'-1" TO 4'-6"	L4 x 3-1/2 x 5/16 (4" LEG VERT.)	8"
4'-7" TO 6'-0"	L5 x 3-1/2 x 3/8 (5" LEG VERT.)	8"
6'-1" TO 8'-0"	L6 x 3-1/2 x 3/8 (6" LEG VERT.)	8"

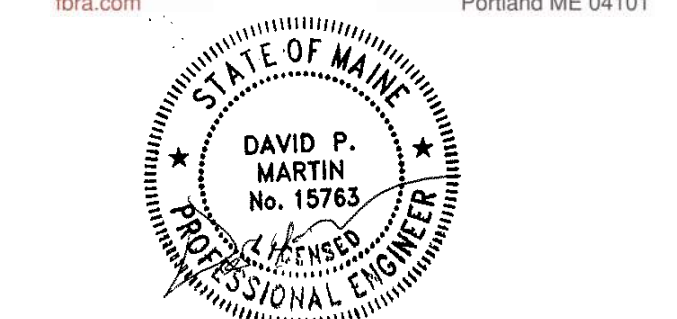
- NOTES:**
- PROVIDE LINTELS OVER ALL OPENINGS (INCLUDING M.E.P. OPENINGS EXCEPT WHERE LINTEL BLOCKS ARE PROVIDED).
 - PROVIDE ONE ANGLE FOR EACH 4" OF WALL THICKNESS. FOR THICKER WALLS, PROVIDE A TEE OR BUILT-UP SECTION WITH PROPERTIES EQUAL TO OR GREATER THAN THE RATIO IN INCREASE OF WALL THICKNESS.
 - ALL EXTERIOR LINTELS SHALL BE GALVANIZED BY THE HOT DIP PROCESS.
 - IF THE WIDTH OF THE OPENING IS LESS THAN THE LENGTH OF ONE BRICK OR CMU BLOCK THEN NO LINTEL IS REQUIRED.

LOOSE LINTEL SCHEDULE AT MASONRY

MASONRY CONSTRUCTION M15



Foley Buhl Roberts
structural engineers & ASSOCIATES INC
207-200-2500
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254 Commercial Street
Portland ME 04101



KENNEBEC VALLEY COMMUNITY COLLEGE

ENERGIZED RADIOLOGY LAB

KING HALL
92 WESTERN AVE
FAIRFIELD, ME 04937

NO.	DESCRIPTION	DATE

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
GENERAL NOTES, TYPICAL DETAILS,
AND PARTIAL FRAMING PLAN

DRAWN BY: LC

PROJECT NO: 25-011-00

DATE: 10/20/25

REVISED:

SCALE: As indicated

S1.1

Project Phase
ISSUED FOR BIDDING

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FBR# PROJECT NO. 2025129

SECTION 23 00 00 HVAC SYSTEM

2.1 REFRIGERANT PIPING

- A. REFRIGERANT PIPING: DIMENSIONS AND MATERIAL REQUIREMENTS FOR PIPE, PIPE FITTINGS AND COMPONENTS SHALL CONFORM TO ASHRAE 15 AND ANSI B31.5 AND SHALL BE COMPATIBLE WITH FLUIDS USED AND CAPABLE OF WITHSTANDING THE PRESSURES AND TEMPERATURES OF THE SERVICE.
- B. ALL PIPING EXTERIOR TO BUILDING SHALL BE A MINIMUM OF TYPE "L", "ACR" RATED STRAIGHT PIPE FOR R-454B OR AS SPECIFIED. ALL PIPING ON THE BUILDING INTERIOR SHALL BE "L", "ACR" RATED ROLLED SOFT COPPER OR LINE SET FOR R-454B OR AS SPECIFIED. PIPING (AFTER ANNEALING) SHALL HAVE SUFFICIENT WALL THICKNESS FOR A CONTINUOUS OPERATING PRESSURE OF 600 PSI PER ASME B 31.5-2010.
- C. TUBING USED FOR REFRIGERANT SERVICE SHALL BE CLEANED, SEALED, CAPPED, OR PLUGGED PRIOR TO SHIPMENT FROM THE MANUFACTURER'S PLANT.
- D. ALL JOINTS SHALL BE BRAZED EXCEPT AT THE INDOOR UNITS WHICH SHALL BE FLARED. BRAZING MATERIALS: PROVIDE AWS A5.8 BRAZING FILLER METAL TYPE BAG 5 WITH AWS TYPE 3 FLUX, EXCEPT TYPE BCUP_5 OR BCUP_6 MAY BE USED FOR BRAZING COPPER TO COPPER JOINTS.
 - 1. DRY NITROGEN: DRY NITROGEN MUST BE USED DURING ALL BRAZING (PRESSURE REGULATED TO 3 PSI) TO PREVENT COPPER PLATE OR OXIDATION FORMATION
- E. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE MECHANICAL DESIGN. ANY DEVIATION SHALL BE SUBMITTED FOR PRIOR APPROVAL TO THE MECHANICAL ENGINEER PRIOR TO INSTALLATION. SELECTED COPPER TUBE MUST BE OF SUITABLE WALL THICKNESS FOR HIGHER OPERATION PRESSURES.
- F. FLARING: FLARED TUBE ENDS SHOULD HAVE A SMOOTH, EVEN ROUND FLARE OF SUFFICIENT LENGTH TO FULLY ENGAGE THE MATING SURFACE OF THE FLARE NUT, WITHOUT PROTRUDING INTO THE THREADS. USE ONLY "PVE" OR "POE" REFRIGERATION OIL WHEN MAKING FLARES. DEDICATED FLARE BLOCK AND TOOL IS RECOMMENDED. ONLY USE SYNTHETIC OIL ON THE FLARE TOOL.
- G. PRESSURE TESTING: TIGHTEN DOWN STOP VALVES BEFORE ANY PRESSURE TESTING TO PREVENT NITROGEN FROM LEAKING BACK THROUGH CONDENSER AND CONTAMINATING REFRIGERANT.

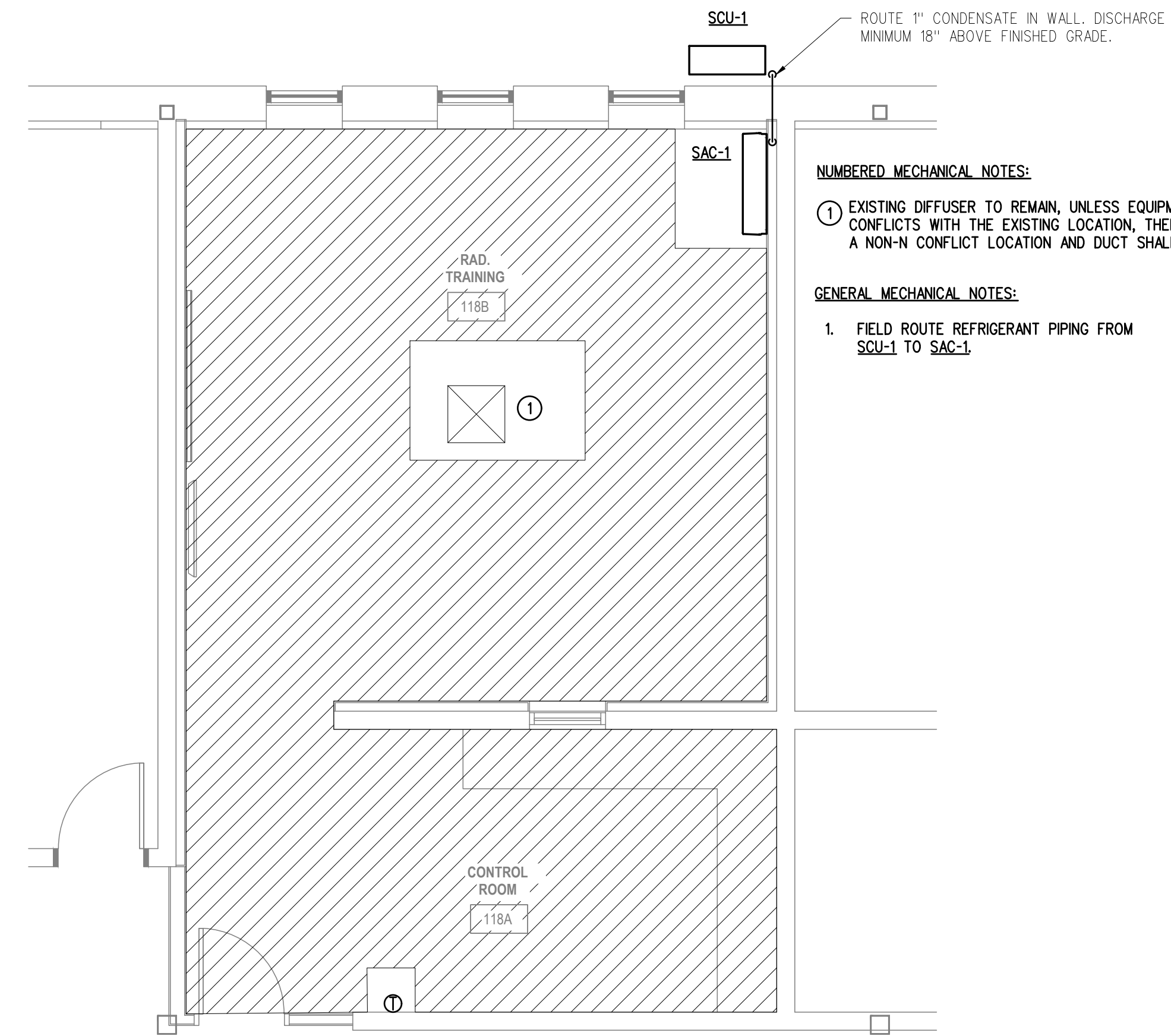
PRESSURE TESTING SHALL BE DONE IN THREE (3) STEPS:
STEP 1 - LEAK CHECK 3 MINUTES AT 150 PSI
STEP 2 - LEAK CHECK AFTER 5 MINUTES AT 325 PSI
STEP 3 - LEAK CHECK AFTER 24 HOURS AT 550 PSI (450 PSI FOR SYSTEMS WITH VERTICAL AIR HANDLERS) ALWAYS CHECK FLARE NUTS FOR LEAKS USING BUBBLE SOLUTION. BE SURE TO USE A RECOMMENDED PRODUCT. DO NOT USE A WATERED DOWN FAIRY LIQUID SOLUTION.
- H. LEAK TESTING AND EVACUATION SHALL BE DONE IN ACCORDANCE WITH

THE US EPA "GREEN CHILL BEST PRACTICES GUIDELINE ENSURING LEAK-TIGHT INSTALLATION OF COMMERCIAL REFRIGERANT EQUIPMENT."

- I. EVACUATION PROCEDURES: EVACUATION PROCEDURES SHALL BE PERFORMED AS FOLLOWS:
 - 1. EVACUATE THE SYSTEM TO 4000 MICRONS. BREAK THE VACUUM WITH DRY NITROGEN TO A PRESSURE OF 2-3 PSI AND HOLD FOR 15 MINUTES.
 - 2. EVACUATE SYSTEM TO 1500 MICRONS AND MAINTAIN FOR 20 MINUTES. BREAK THE VACUUM WITH DRY NITROGEN TO A PRESSURE OF 2-3 PSI AND HOLD FOR 15 MINUTES.
 - 3. EVACUATE SYSTEM TO BELOW 500 MICRONS AND HOLD FOR 60 MINUTES.
 - 4. EVACUATE SYSTEM TO BELOW 300 MICRONS AND HOLD FOR 24 HOURS.

VACUUM PUMP CHECK VALVE SHOULD BE USED TO PREVENT MINERAL OIL FROM BEING DRAWN INTO THE SYSTEM. THESE PROCEDURES MUST BE ADHERED TO, DOCUMENTED AND INCLUDED IN THE HVAC SUBCONTRACTORS PRICE.
- J. REFRIGERANT CHARGING: WEIGH IN ADDITIONAL REFRIGERANT WITH DIGITAL SCALES. CALCULATE CHARGE BASED ON TOTAL LINE LENGTH PLUS LB/FT OF DIAMETER. CHECK WITH EACH UNIT MODEL FOR CORRECT MULTIPLIER. AFTER THE AMOUNT OF REFRIGERANT TO BE ADDED IS DETERMINED WRITE IT DOWN ON THE LABEL ON THE BACK SIDE OF THE FRONT COVER. AFTER THE VACUUM DRYING IS COMPLETE, CHARGE THE ADDITIONAL REFRIGERANT IN ITS LIQUID STATE THROUGH THE LIQUID STOP VALVE SERVICE PORT.

MAKE SURE TO USE INSTALLATION TOOLS EXCLUSIVELY USED ON R410A INSTALLATIONS TO WITHSTAND THE PRESSURE AND TO PREVENT FOREIGN MATERIAL FROM MIXING INTO THE SYSTEM.
- K. BALL VALVES: BALL VALVES FOR REFRIGERANT SERVICE SHALL BE STREAMLINE CYCLEMASTER BALL VALVES, WITH FULL PORT CONSTRUCTION, RUPTURE-PROOF ENCAPSULATED STEM, UL LISTED WITH A MAXIMUM WORKING PRESSURE OF 700 PSIG AND A WORKING TEMPERATURE RANGE OF -40°F TO 300°F. MATERIALS SHALL BE COMPATIBLE WITH ALL CFC, HCFC AND HFC REFRIGERANTS AND OILS.
- 2.2 MINISPLIT AIR CONDITIONING UNITS (SAC-4, SCU-4)
 - A. THE SPLIT SYSTEM AIR CONDITIONING UNIT SHALL BE MITSUBISHI MODEL AS SCHEDULED, OR APPROVED EQUAL BY DAIKIN OR SANYO, WALL MOUNTED INDOOR UNITS WITH ROOF-MOUNTED OUTDOOR UNITS. OUTDOOR UNITS SHALL BE ROOF-MOUNTED ON 24" TALL STANDS. COOLING CAPACITY SHALL BE BASED ON ENTERING CONDITIONS OF 75°F, ED81, 67°F, EW81 AND 95°F AMBIENT. THE INDOOR UNITS SHALL OPERATE ON 208V, SINGLE PHASE, AND THE OUTDOOR UNITS SHALL OPERATE ON 208V-1 PHASE POWER. FURNISH WITH INTEGRAL CONDENSATE PUMPS BY CHARLES AUSTEN, TEEL OR LITTLE GIANT. REFRIGERANT PIPING, WIRING AND CONDENSATE PIPING AS RECOMMENDED BY THE MANUFACTURER. THE AIR CONDITIONING UNITS SHALL BE SUITABLE COOLING OPERATION AT -20°F OUTSIDE AMBIENT. FURNISH WITH CONDENSATE OVERFLOW SAFETY SWITCHES, WALL-MOUNTED SENSORS AND ADVANCED WIND BAFFLES.
 - B. REFRIGERANT PIPING SHALL BE INSULATED WITH 3/4" FLEXIBLE UNICELLULAR.



NUMBERED MECHANICAL NOTES:

- 1. EXISTING DIFFUSER TO REMAIN, UNLESS EQUIPMENT TO BE INSTALLED IN SPACE CONFLICTS WITH THE EXISTING LOCATION, THEN DIFFUSER SHALL BE RELOCATED TO A NON-N CONFLICT LOCATION AND DUCT SHALL BE EXTENDED TO THAT LOCATION.

GENERAL MECHANICAL NOTES:

- 1. FIELD ROUTE REFRIGERANT PIPING FROM SCU-1 TO SAC-1.

1 MECHANICAL SPECS
SCALE: NTS

2 MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

MULTI-SPLIT HEAT PUMP OUTDOOR UNIT PERFORMANCE SCHEDULE

TAG	NOMINAL COOLING (MBH)*	NOMINAL HEATING (MBH)*	CORRECTED COOLING (MBH)**	CORRECTED HEATING (MBH)***	EER2	REFRIGERANT	MINIMUM COOLING TEMP(DEG F)	MINIMUM HEATING TEMP(DEG F)	FOOTPRINT DIM (INCHES) (HxWxD)	OPERATING WEIGHT (LBS)	ELECTRICAL REQUIREMENTS			REFRIGERANT LINES		SOUND (DBA)	BASIS OF DESIGN: MITSUBISHI	
											MCA	MOCP	V/PH/Hz	LIQUID (IN)	GAS (IN)		SERVICE	MODEL
SCU - 1	12.2	-	11.0	-	14.8	R-454B	23.0	-13.0	25" X 35" X 12"	150	16.0	27.0	208/1/60	1/4	1/2	44	RADIOLOGY LABORATORY	PUY-AK12NL

* NOMINAL HEATING AND COOLING AT AHRI CONDITIONS OF 80°F DB / 67°F WB (INDOOR) AND 95°F OUTDOOR FOR COOLING AND 70°F DB / 60°F WB (INDOOR AND 47°F OUTDOOR FOR HEATING)

** CORRECTED COOLING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND AT OUTDOOR CONDITIONS OF 95°F DB AND INDOOR CONDITIONS OF 75°F DB / 63.9°F WB

*** CORRECTED HEATING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND WITH A 5% DEFROST AND AT OUTDOOR CONDITIONS OF -10.0°F DB AND INDOOR CONDITIONS OF 75°F DB

1. PROVIDE AND INSTALL WITH STAND AND SNOW/HAIL GUARDS.

MULTI-SPLIT HEAT PUMP INDOOR UNIT PERFORMANCE SCHEDULE

TAG	CORRESPONDING OUTDOOR UNIT	NOMINAL COOLING (MBH)	NOMINAL HEATING (MBH)	CORRECTED COOLING (MBH)	CORRECTED HEATING (MBH)	MAX AIRFLOW (CFM)	COND. DRAIN (IN)	REFRIGERANT PIPING		SOUND RATING (DB)	WEIGHT (LBS)	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN: MITSUBISHI			
								LIQUID (IN)	GAS (IN)			MCA	MOCP	V/PH/Hz	POWERED FROM OUTDOOR UNIT	SERVICE	ARRANGEMENT	MODEL
SAC - 1	SCU - 1	12.2	-	11.0	-	385	5/8	1/4	1/2	43	28.0	1.00	15	208/1/60	YES	RADIOLOGY LABORATORY	WALL MOUNT	PKA-AL12NL

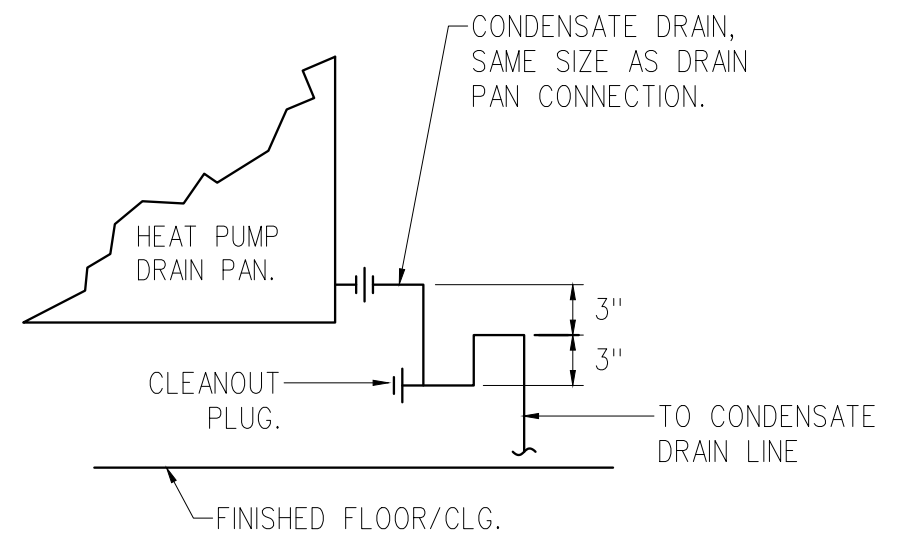
* NOMINAL HEATING AND COOLING AT AHRI CONDITIONS OF 80°F DB / 67°F WB (INDOOR) AND 95°F OUTDOOR FOR COOLING AND 70°F DB / 60°F WB (INDOOR AND 47°F OUTDOOR FOR HEATING)

** CORRECTED COOLING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND AT OUTDOOR CONDITIONS OF 95°F DB AND INDOOR CONDITIONS OF 75°F DB / 63.9°F WB

*** CORRECTED HEATING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND WITH A 5% DEFROST AND AT OUTDOOR CONDITIONS OF -13.0°F DB AND INDOOR CONDITIONS OF 70°F DB

1. EACH INDOOR UNIT SHALL BE PROVIDED WITH A CONDENSATE PUMP AND REFRIGERANT LEAK DETECTOR.

2. BRANCH CONTROLLERS SHALL BE PROVIDED WITH A 1-1/4" DRAIN, DRAINED TO THE NEAREST INDIRECT WASTE. BRANCH CONTROLLERS SHALL BE PROVIDED WITH REFRIGERANT PIPINGSAFETY VALVES AT ALL PORTS (CONTROLLED BY LEAK DETECTOR FOR THAT PORT).



NOTE:
CAP UNUSED DRAIN PAN CONNECTIONS.

CONDENSATE TRAP DETAIL
NTS

MECHANICAL AND PLUMBING SYMBOLS AND ABBREVIATIONS LEGEND

NOTE - USE SYMBOLS AND ABBREVIATIONS AS APPLICABLE FOR THIS MECHANICAL DRAWING SET. SOME SYMBOLS AND ABBREVIATIONS IN THIS LEGEND MAY NOT APPLY.

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
—CA—	COMPRESSED AIR PIPING (CA)	⊗	BACKFLOW PREVENTER (BFP)	⊕	PRESSURE GAGE WITH GAGE COCK	AAV	AUTOMATIC AIR VENT	EAT	ENTERING AIR TEMPERATURE	HWS/R	HOT WATER SUPPLY AND RETURN	RLA	RUNNING LOAD AMPS		
—C—	CONDENSATE DRAIN PIPING (C)	⊘	CHECK VALVE	⊖	THERMOMETER IN WELL	AD	ACCESS DOOR	EDB	ENTERING DRY BULB	I-B-R	INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS	RPM	REVOLUTIONS PER MINUTE		
—CTR—	COOLING TOWER RETURN PIPING (CTR)	⊙	BALANCING VALVE (ADJUSTABLE)	⊗	WATER FLOW SWITCH	AFF	ABOVE FINISHED FLOOR	EDC-*	ELECTRIC DUCT COIL TAG	IN.	INCHES	RPZ	REDUCED PRESSURE ZONE		
—CTS—	COOLING TOWER SUPPLY PIPING (CTS)	⊙	AUTOMATIC FLOW CONTROL VALVE	⊗	PRESSURE SWITCH OR SENSOR	AHU-*	AIR HANDLING UNIT TAG	EER	ENERGY EFFICIENCY RATIO	IN.	INCHES	RTU	ROOM TEMPERATURE SENSOR		
—CWR—	CHILLED WATER RETURN PIPING (CWR)	⊙	RELIEF VALVE (RV)	⊗	EMURSION TEMPERATURE SENSOR	AMS	AIRFLOW MONITORING STATION	EF-*	EXHAUST FAN TAG	L-*	LOUVER TAG	RV	RELIEF VALVE		
—CWS—	CHILLED WATER SUPPLY PIPING (CWS)	⊙	BALL VALVE	⊗	DUCT MOUNTED SMOKE DETECTOR	AMPS	AMPERES	EFF	EFFICIENCY	LAT	LEAVING AIR TEMPERATURE	RWL	RAINWATER LEADER		
—FOR—	FUEL OIL RETURN PIPING (FOR)	⊙	BALL VALVE	⊗	ROOM TEMPERATURE SENSOR	AP	ACCESS PANEL	ESP	EXTERNAL STATIC PRESSURE	LB	POUNDS	SA	SUPPLY AIR		
—FOS—	FUEL OIL SUPPLY PIPING (FOS)	⊙	3/4" BALL VALVE WITH 3/4" HOSE END	⊗	THERMOSTAT OR SENSOR ON WALL	APD	AIR PRESSURE DROP	ET-*	EXPANSION TANK TAG	LWS/R	LOOP WATER SUPPLY/RETURN	SAN	SANITARY (DRAIN & WASTE)		
—G—	GAS PIPING (G)	⊙	GATE VALVE	⊗	TSTAT OR SENSOR W/ TAMPERPROOF GUARD	AS-*	AIR SEPARATOR TAG	EWB	ENTERING WET BULB	LRA	LOCKED ROTOR AMPS	SD	SMOKE DAMPER		
—HWR—	HOT WATER RETURN PIPING (HWR)	⊙	PRESSURE REDUCING VALVE	⊗	MANUAL AIR VENT	ATC	AUTOMATIC TEMPERATURE CONTROL	EWH-*	ELECTRIC WATER HEATER TAG	LWCO	LOW WATER CUTOUT	SEER	SEASONAL ENERGY EFFICIENCY RATIO		
—HWS—	HOT WATER SUPPLY PIPING (HWS)	⊙	FUSIBLE VALVE	⊗	NOTE TAG (NUMBER)	BD-*	BYPASS DAMPER TAG	EWT	ENTERING WATER TEMPERATURE	LWT	LEAVING WATER TEMPERATURE	SF	SUPPLY FAN		
—RL—	REFRIGERANT LIQUID PIPING (RL)	⊙	STRAINER W/BLOWDOWN BALL VALVE	⊗	AIR DEVICE TAG (LETTER) WITH CFM	BFP-*	BACKFLOW PREVENTER TAG	EXG	EXISTING	MAX	MAXIMUM	SP	STATIC PRESSURE		
—RG—	REFRIGERANT GAS PIPING (RG)	⊙	2-WAY CONTROL VALVE	⊗	ROOM NUMBER	BHP	BRAKE HORSEPOWER	EXH	EXHAUST	MBH	THOUSANDS OF BTU PER HOUR	ΔT	TEMPERATURE DIFFERENTIAL		
—SAN—	SANITARY PIPING BELOW FLOOR (SAN)	⊙	SOLENOID VALVE	⊗	TURNING VANES	BTUH	BRITISH THERMAL UNITS PER HOUR	FC	FLEXIBLE CONNECTION	MCA	MINIMUM CIRCUIT AMPACITY	TEMP.	TEMPERATURE		
—SAN—	SANITARY PIPING ABOVE FLOOR (SAN)	⊙	3-WAY CONTROL VALVE	⊗	DUCT W/MANUAL DAMPER	FCO	FLOOR CLEANOUT	FCO	FLOOR CLEANOUT	MIN	MINIMUM	TCP	TEMPERATURE CONTROL PANEL		
—SAN—	SANITARY VENT PIPING	⊙	3-WAY CONTROL VALVE (TOP VIEW)	⊗	DUCT W/FLEXIBLE CONNECTION (FC)	CC-*	COOLING COIL TAG	FD	FIRE DAMPER	NC	NOISE CRITERION	TMV-*	THERMOSTATIC MIXING VALVE TAG		
—RWL—	RAINWATER LEADER ABOVE SLAB (RWL)	⊙	4-WAY CONTROL VALVE (TOP VIEW)	⊗	LAGGED DUCT	CRD	CEILING RADIATION DAMPER	FD-*	FLOOR DRAIN TAG	NIC	NOT IN CONTRACT	TSP	TOTAL STATIC PRESSURE		
—CW—	COLD WATER PIPING (CW)	⊙	2 BUTTERFLY VALVES W/SINGLE ACTUATOR	⊗	DUCT W/ACOUSTIC LINING	CFM	CUBIC FEET PER MINUTE	FLA	FULL LOAD AMPS	NIS	NOT TO SCALE	TYP	TYPICAL		
—HW—	HOT WATER PIPING (HW)	⊙	BUTTERFLY VALVE W/ACTUATOR	⊗	DUCT W/SQUARE-TO-ROUND TRANSITION	CO	CLEANOUT	FPM	FEET PER MINUTE	OA	OUTSIDE AIR	UH-*	UNIT HEATER TAG		
—RHW—	RECIRCULATED HOT WATER PIPING (RHW)	⊙	TRIPLE-DUTY VALVE	⊗	FLEXIBLE DUCT	CP-*	CIRCULATING PUMP TAG	FPHB	FROST PROOF HOSE BIBB	OPD	OPEN ENDED DUCT	VTR	VENT THRU ROOF		
→	PIPE CAP	⊙	UNION	⊗	MOTOR OPERATED DAMPER	Cv	VALVE COEFFICIENT	FT	FEET	OPD	OVERCURRENT PROTECTIVE DEVICE	V/PH/Hz	VOLTS/PHASES/HERTZ		
↻	DIRECTION OF FLUID FLOW	⊙	PIPE FLANGE	⊗	AIRFLOW OUT	CW	COLD WATER	GA.	GAGE	P-*	PLUMBING FIXTURE TAG	WB	WET BULB		
↻	ELBOW UP	⊙	PUMP WITH FLANGES	⊗	AIRFLOW IN	DB	DRY BULB	GAL	GALLONS	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	WCO	WALL CLEANOUT		
↻	ELBOW DOWN	⊙	BASE MOUNTED PUMP	⊗	DIAMETER OR FLAT OVAL	dB RE	DECIBELS RELATIVE TO	GPH	GALLONS PER HOUR	DC	DOUBLE CHECK	WG	WATER GAGE		
↻	PIPE TEE UP	⊙	CARTRIDGE TYPE INLINE PUMP	⊗	FIRE DAMPER	DCA	DOUBLE CHECK ATMOSPHERIC	GPM	GALLONS PER MINUTE	DCA	DOUBLE CHECK	WC	WATER GAGE		
↻	PIPE TEE DOWN	⊙	VERTICAL INLINE PUMP	⊗	ROUND OR FLAT OVAL DUCT DOWN	DEG F	DEGREES FAHRENHEIT	HP	HORSEPOWER	DIA	DIAMETER	PVC	POLYVINYL CHLORIDE (PIPE)		
↻	PIPE REDUCER	⊙	FLEXIBLE PIPE CONNECTION (FC)	⊗	ROUND OR FLAT OVAL DUCT UP	DIA	DIAMETER	HP	HORSEPOWER	DIW	DOWN IN WALL	RA	RETURN AIR		
↻	PIPE WITH GUIDE	⊙	PITCH DOWN	⊗	SUPPLY DIFFUSER	DN	DOWN	HRV-*	HEAT RECOVERY VENTILATOR TAG	DN	DOWN	RD	ROOF DRAIN		
↻	PIPE WITH ANCHOR	⊙	PETCOCK	⊗	RETURN GRILLE	EA	EXHAUST AIR	HW	HOT WATER	EA	EXHAUST AIR	RH	RECOVERED HOT WATER		
↻	BUTTERFLY VALVE	⊙		⊗	STEAM TRAP					EA	EXHAUST AIR	RH	RECOVERED HOT WATER		
↻	OS & Y GATE VALVE	⊙		⊗	WATER HAMMER ARRESTOR					EA	EXHAUST AIR	RH	RECOVERED HOT WATER		
		⊙		⊗	COUNTER BALANCE DAMPER					EA	EXHAUST AIR	RH	RECOVERED HOT WATER		

ISSUED FOR BIDDING
NOT FOR CONSTRUCTION

Prepared For:

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Architect:

Project:
KVCC RADIOLOGY LABORATORY
FAIRFIELD, ME

Revisions:

Date: 20 OCT 2025
Scale: AS NOTED
MECHANICAL DETAILS AND LEGEND

M201

GENERAL NOTES

- ALL RECEPTACLES SHALL BE INSTALLED 18" AFF TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.
- ALL WIRING SHALL BE COPPER UNLESS DESIGNATED AS "AL" UNLESS OTHERWISE NOTED. ALL WIRING SHALL BE 2 #12 AWG AND 1 #12 EQUIPMENT GROUNDING CONDUCTOR. HOMERUNS FED FROM A 20A/1P, 120V CIRCUIT IN EXCESS OF 70' SHALL BE #10 AWG. HOMERUNS FED FROM A 20A/1P, 120V CIRCUIT IN EXCESS OF 100' SHALL BE #8 AWG. ALL CONDUCTOR INSULATION FOR BUILDING WIRE SHALL BE THHN/THWN UNLESS NOTED OTHERWISE.
- CONNECT BATTERY BACKED EMERGENCY AND EXIT LIGHTING TO NEAREST LIGHTING CIRCUIT AHEAD OF ANY SWITCHING. CONNECT REMOTE HEADS WITH #10 AWG COPPER CONDUCTORS. AC EXIT FIXTURES SHALL BE CONNECTED TO NEAREST EMERGENCY CIRCUIT OR AS INDICATED.
- TEST ALL EMERGENCY LIGHTING UNITS FOR PROPER OPERATION OF LAMPS AND BATTERIES.
- FUSES AND OVERLOAD UNITS FOR MOTORS SHALL BE SIZED BASED ON ACTUAL MOTOR NAMEPLATE DATA AND IN ACCORDANCE WITH NEC. CIRCUIT BREAKERS FOR MOTORS ARE SUPPLIED AT MAX VALUE PER NEC (2.5 x FLA). SIZE IN THE FIELD IN ACCORDANCE WITH MFR RECOMMENDATION.
- ALL WORK SHALL COMPLY WITH NFPA70, NFPA72, NFPA101 & ALL FEDERAL, STATE & LOCAL REGULATIONS.
- ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN FIRE RATING FOR THE SEPARATION.
- ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.
- AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH ALL FEEDERS AND BRANCH CIRCUITS. SIZE IN ACCORDANCE WITH NFPA 70 ARTICLE 250.
- COORDINATE INSTALLATION OF VOICE/DATA OUTLETS WITH OWNER, MIS OR COMMUNICATIONS CONTRACTOR.
- LOCATE DISCONNECTS AT EQUIPMENT AS REQUIRED BY MANUFACTURER. LOCATIONS ON DRAWINGS ARE APPROXIMATE.
- THE CONTRACTOR SHALL SET ALL ELECTRONIC BREAKERS TO SPECIFIED TRIP SETTINGS BEFORE ENERGIZING EQUIPMENT.
- PROVIDE EXPANSION FITTINGS FOR ALL UNDERGROUND RACEWAYS ENTERING ENCLOSURES ATTACHED TO FIXED STRUCTURES.
- OUTDOOR RECEPTACLE COVERS SHALL COMPLY WITH NFPA 70 - ARTICLE 406.9.
- PROVIDE LABEL ON SERVICE EQUIPMENT INDICATING AVAILABLE SHORT CIRCUIT CURRENT OBTAIN VALUES FROM ENGINEER.
- PROVIDE ARC FAULT LABELS PER NFPA 70-ARTICLE 110.24.
- VERIFY EXACT LOCATIONS, QUANTITIES AND MOUNTING HEIGHTS OF RECEPTACLES AND NETWORK JACKS WITH ARCHITECT.
- CONNECT FIRE ALARM DEVICES TO EXISTING BUILDING FIRE ALARM SYSTEM.
- LOCATE WIRING ABOVE SUSPENDED CEILINGS AND CONCEALED WITHIN WALLS WHERE POSSIBLE. WHERE NOT POSSIBLE PROVIDE SURFACE MOUNTED CONDUIT, PAINTED TO MATCH WALL.
- ALL FLUSH AND SURFACE MOUNTED JUNCTION BOXES SHALL HAVE OVERSIZED COVERS AND BE PAINTED TO MATCH WALLS.
- COORDINATE LOCATIONS OF TYPE B1 DOWNLIGHTS SO THAT THEY DO NOT CONFLICT WITH UNISTRUT SYSTEM. SEE SITE PLANNING GUIDE.
- PROVIDE A 175A/3P CIRCUIT BREAKER IN EXISTING PANEL SHOWN ON OVERALL PLAN. PROVIDE A FEEDER CONSISTING OF 4 #2/0, 1 #6 GND, 2-1/2" CDT TO FEED NEW PANEL RP LOCATED IN CORRIDOR OF RENOVATED AREA.

SYMBOL LEGEND

POWER SYMBOLS

- JUNCTION BOX
- DUPLEX RECEPTACLE, 20A, 125V, SPEC GRADE, GROUNDING TYPE, FLUSH MOUNTED, PROVIDED W/MATCHING FACEPLATE
EX = EXISTING
EXR = EXISTING TO BE RELOCATED TO NEW FURRED OUT WALL
- SIMPLEX RECEPTACLE 20A, 125V, SPEC GRADE, GROUNDING TYPE, FLUSH MOUNTED, PROVIDED W/MATCHING FACEPLATE. DEDICATED FOR MICROWAVE. MOUNTED AT 18" UNLESS OTHERWISE NOTED
WP = WEATHERPROOF
- DISCONNECT SWITCH, SIZE AND NUMBER OF POLES AS INDICATED ON DRAWING. PROVIDED BY EC UNLESS NOTED OTHERWISE. PROVIDE FUSES WHERE RECOMMENDED BY MANUFACTURER.
30/3 WP = NO OF POLES
= AMPERE RATING
= WEATHERPROOF

TELECOMMUNICATIONS SYMBOLS

- TELECOM JACK W/4PR CAT 6 CABLE RUN BACK TO TELECOMMUNICATIONS EQUIPMENT. MOUNT 18" AFF UNLESS OTHERWISE NOTED.
EX = EXISTING
EXR = EXISTING TO BE RELOCATED TO NEW FURRED OUT WALL
- CABLE TV JACK W/F-TYPE CONNECTOR AND COAXIAL CABLE RUN BACK TO TELECOMMUNICATIONS EQUIPMENT. MOUNT 18" AFF UNLESS OTHERWISE NOTED.
EXR = EXISTING TO BE RELOCATED TO NEW FURRED OUT WALL

LIGHTING SYMBOLS

- A1 2X4 RECESSED TROFFER
LITHONIA #STAK-2X4-80CRI-35K-COL-MIN10-ZT-MVOLT
- B1 6" DOWNLIGHT,
LITHONIA #IV6-D-25LM-35K-80CRI-45D-DIM10-MVOLT-ZT-NCH-P-WMR-LSS-F
- E1 SELF CONTAINED EMERGENCY LIGHT
LITHONIA #ELM4L

LIGHTING CONTROL SYMBOLS

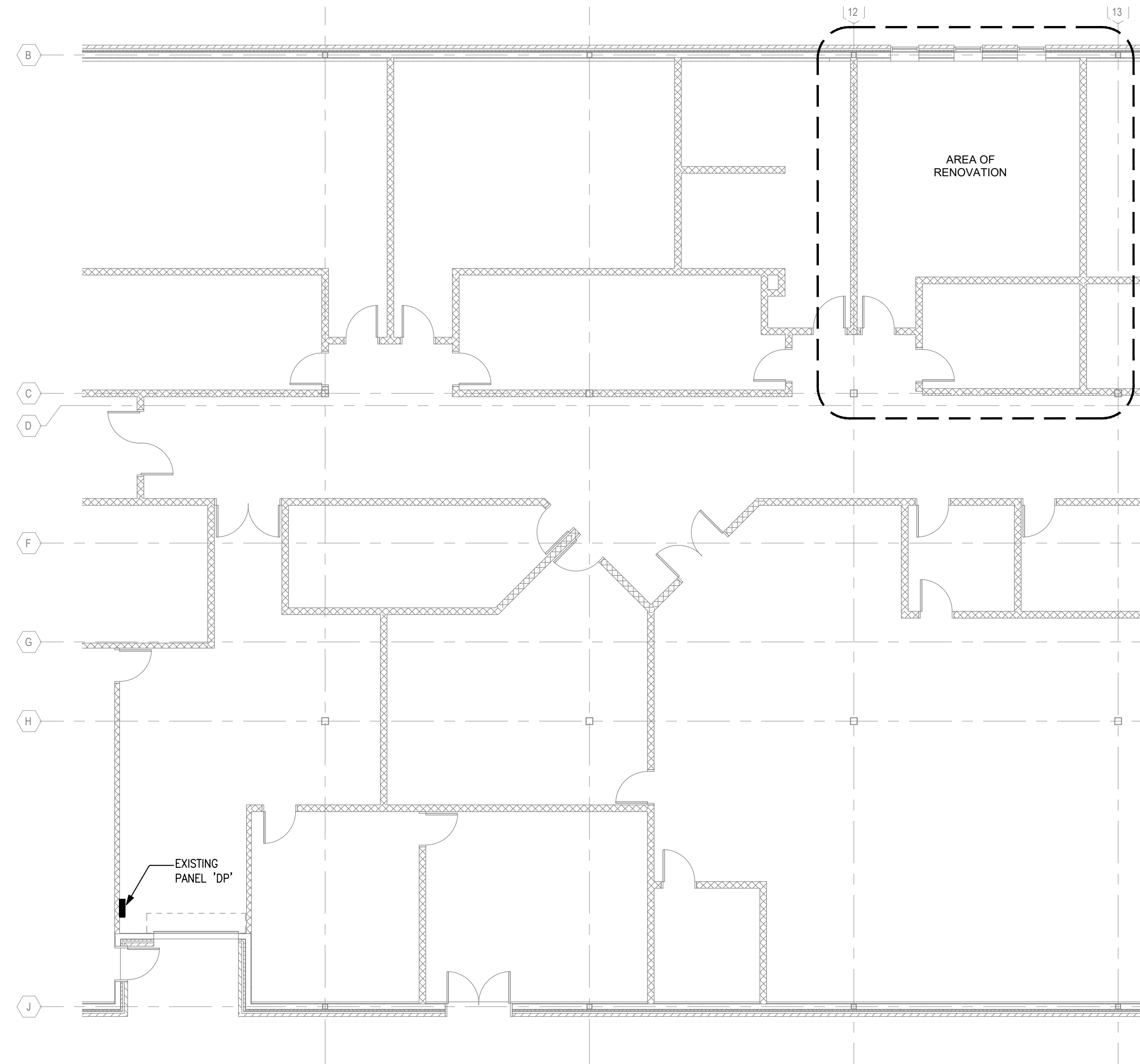
- MS CEILING MOUNTED LINE VOLTAGE, DUAL TECHNOLOGY VACANCY SENSOR (WATTSTOPPER DT-355, OR EQUAL)
- D SINGLE POLE DIMMER SWITCH, 120V, 20A, SPEC GRADE, GROUNDING TYPE, MOUNT 48" AFF

FIRE ALARM SYMBOLS

- 15cd 15cd FIRE ALARM AUDIO/VISUAL, MOUNT 6'-8" AFF, NUMBER INDICATES CANDELA RATING
CLG = CEILING MOUNTED
- SD SMOKE DETECTOR, PHOTOELECTRIC TYPE

WIRING SYMBOLS

- RACEWAY & WIRING OR MC CABLE RUN CONCEALED IN WALLS/CEILINGS
 - RACEWAY & WIRING RUN EXPOSED
 - RACEWAY & WIRING RUN CONCEALED UNDER FLOOR OR BURIED 30" BELOW FINISH GRADE
 - HP-XX HOME RUN TO PANEL, WITH PANEL AND CIRCUIT NUMBER
- BRANCH CIRCUIT WIRING SHALL CONSIST OF (1)1/2"C-2#12AWG+1#12GND UNLESS OTHER WISE NOTED. (*)ASTERISK DENOTES #10AWG FOR ALL CIRCUITS CONTAINED IN HOME RUN. (**)DOUBLE ASTERISK DENOTES (1)3/4"C-2#8AWG+1#10GND.
- PROVIDE EQUIPMENT GROUNDS IN ACCORDANCE WITH NFPA 70, ARTICLE 250.



1 E000 KEY PLAN

SCALE: 1/8" = 1'-0"
NOTE:
KEY PLAN INCLUDED TO LOCATE PANEL AND AREA OF RENOVATION - REFER TO E101 FOR MORE INFORMATION

PANEL RP 120/208 3PH 4W 400 AMP MLO 22K AIC NEMA TYPE 1 (RECESSED)															
CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	VA	CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	VA
1							0	2	RADIOLOGY LAB EQUIPMENT	20	1	15	1.00	15	1801
3	PANEL 'A'	125	3		1.00	0	0	4	RADIOLOGY LAB EQUIPMENT	20	1	15	1.00	15	1801
5							0	6	RADIOLOGY LAB EQUIPMENT	20	1	15	1.00	15	1801
7	SCU-1 / SAC-11	30	2	24	1.00	24	2496	8	RADIOLOGY LAB EQUIPMENT	20	1	5	1.00	5	600
9							2496	10	RECEPTACLES	20	1	7	1.00	7	801
11	LIGHTING	20	1	3	1.00	3	360	12	RECEPTACLES	20	1	7	1.00	0	0
13	SPARE	20	1		1.00	0	0	14	SPARE	20	1		1.00	0	0
15	SPARE	20	1		1.00	0	0	16	SPARE	20	1		1.00	0	0
17	SPARE	20	1		1.00	0	0	18	SPARE	20	1		1.00	0	0
19	SPARE	20	1		1.00	0	0	20	SPARE	20	1		1.00	0	0
21	SPARE	20	1		1.00	0	0	22	SPARE	20	1		1.00	0	0
23	SPARE	20	1		1.00	0	0	24	SPARE	20	1		1.00	0	0
25	SPARE	20	1		1.00	0	0	26	SPARE	20	1		1.00	0	0
27	SPARE	20	1		1.00	0	0	28	SPARE	20	1		1.00	0	0
29	SPARE	20	1		1.00	0	0	30	SPARE	20	1		1.00	0	0

Panel Voltage 208
Total Demand KVA 12.16
Tot Demand Amps 33.75

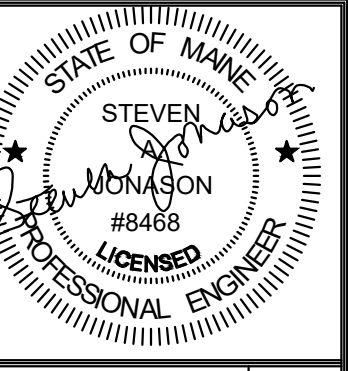
AT - Amp Trip
P - Poles
A - Amps
CA - Connected Amperes
DF - Demand Factor (1 - 1)
DA - Demand Amperes
VA - VoltAmps
MLO - Main Lug Only
MCB - Main Circuit Breaker

PROVIDE SHUNT TRIP FOR THE FOLLOWING CIRCUITS: #1,3,5

CORRIDOR

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Prepared For:

Consultant:

Architect:

Project:

Revisions:

Scale: AS NOTED

Date: 20 OCT 2025

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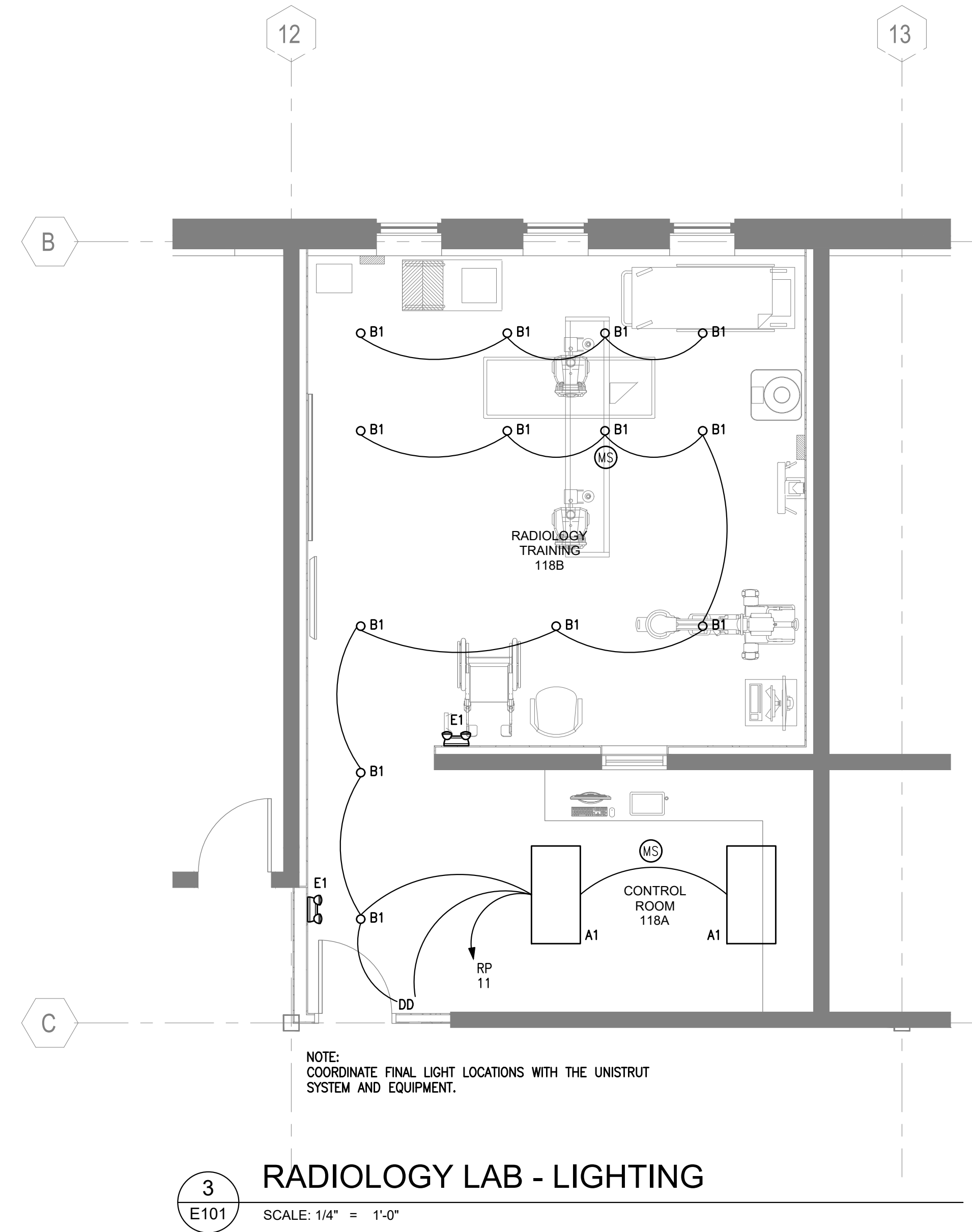
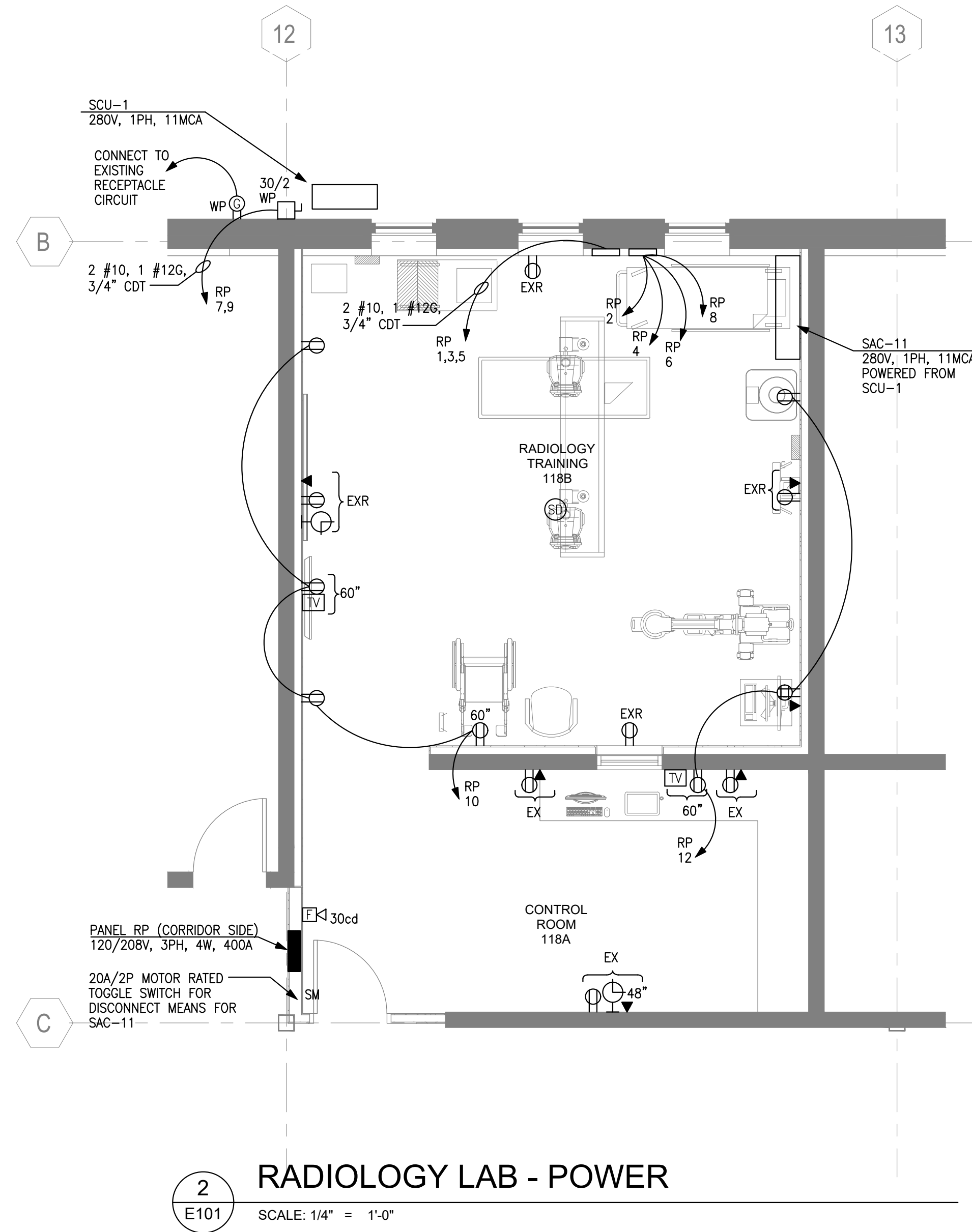
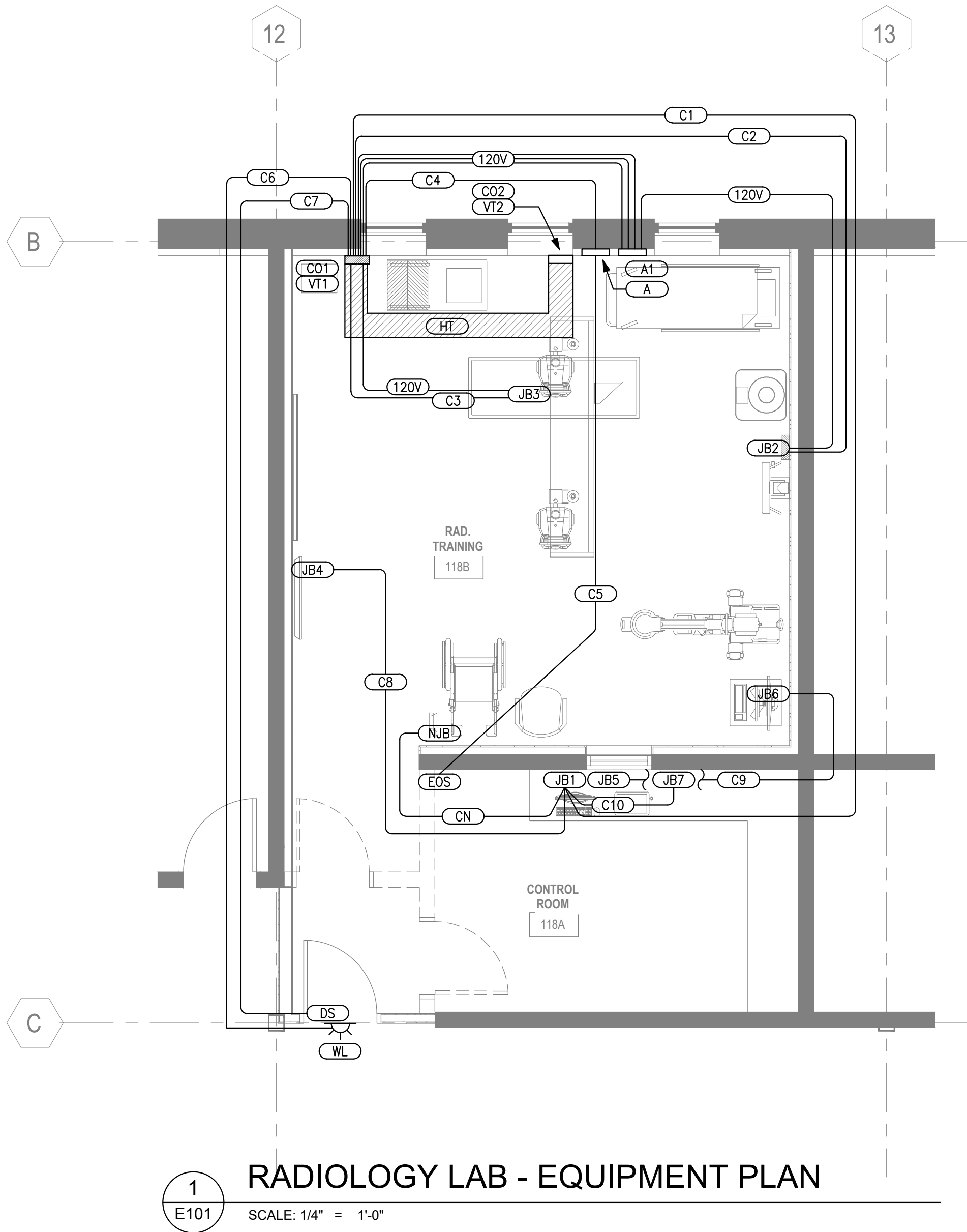
KVCC RADIOLOGY
LABORATORY

FAIRFIELD, ME

ELECTRICAL
COVER SHEET


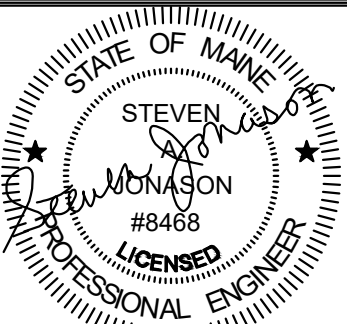
KEYED NOTES

- A** BREAKER ENCLOSURE - 208V, 3PH, 125A, SHUNT TRIP TYPE. PROVIDE EMERGENCY OFF SWITCH IN GENERAL AREA OF CONTROL ROOM AS SHOWN.
- A1** BREAKER ENCLOSURE TO INCLUDE (1) 120V, 20A CIRCUIT BREAKERS. PULL WIRES TO 'CO1', 'CO2', 'JB2' AND 'JB3'. LEAVE 10FT PIGTAIL.
- VT1** 10IN FLUSH MOUNTED VERTICAL TROUGH (ELECTRICAL DUCT). PROVIDE 2 DIVIDERS IN TROUGH. PROVIDE OVERSIZED COVERS AND A SPLIT COVER AS DESCRIBED FOR 'CO1' AND 'CO2'. PAINT COVERS TO MATCH WALL.
- VT2** 10IN FLUSH MOUNTED VERTICAL TROUGH (ELECTRICAL DUCT). PROVIDE 2 DIVIDERS IN TROUGH. PROVIDE OVERSIZED COVERS AND A SPLIT COVER AS DESCRIBED FOR 'CO1' AND 'CO2'. PAINT COVERS TO MATCH WALL.
- HT** 10IN ELECTRIC TROUGH WITH 2 DIVIDERS, RUN ABOVE THE CEILING FROM 'VT1' TO 'VT2'.
- CO1** PROVIDE 3IN CHASE NIPPLE IN CENTER OF COVER OF 'VT1' AT 18IN AFF.
- CO2** PROVIDE 3IN CHASE NIPPLE IN CENTER OF COVER OF 'VT1' AT 12IN BELOW FINISHED CEILING.
- JB1** 6IN X 6IN JUNCTION BOX AT 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB2** 6IN X 6IN JUNCTION BOX AT 48IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB3** 6IN X 6IN JUNCTION BOX AT 48IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB4** 6IN X 6IN JUNCTION BOX 60IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB5** 6IN X 6IN JUNCTION BOX 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB6** 6IN X 6IN JUNCTION BOX 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB7** 6IN X 6IN JUNCTION BOX 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB3** WIRE RACEWAY AS INDICATED IN THE SITE PLANNING GUIDE, REFER TO SHEET ES FOR MORE INFORMATION.
- JB4** 6IN X 6IN JUNCTION BOX 60IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB5** 6IN X 6IN JUNCTION BOX 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB6** 6IN X 6IN JUNCTION BOX 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- JB7** 6IN X 6IN JUNCTION BOX 18IN AFF, PROVIDE 2IN CHASE NIPPLE IN THE CENTER OF COVER.
- C1** 2" CONDUIT FROM JB1 TO THE TOP OF 'VT1'.
- C2** 2" CONDUIT FROM JB2 TO THE TOP OF 'VT1'.
- C3** SURFACE MOUNTED RACEWAY BY EQUIPMENT VENDOR. REFER TO SITE PLANNING GUIDE FOR MORE INFORMATION. COORDINATE LAYOUT WITH OWNER AND EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
- C4** CONDUIT RUN FROM A TO 'CO1', SIZE APPROPRIATE TO RUN POWER SPECIFIED AS DESCRIBED ABOVE FOR 'A' PANEL. PROVIDE 6FT SEALTIGHT WITH 18IN PIGTAIL EXTENDED ON GENERATOR SIDE, FROM 'CO1' TO REAR OF GENERATOR CABINET, USING (2) 90DEG ELBOWS.
- C5** 'EOS' TO BE CONNECTED TO BREAKER 'A'.
- C6** CONDUIT SIZE DEPENDING ON WIRE SIZE AS NEEDED FOR 120V RUN FROM 'WL' TO 'CO1'.
- C7** 3/4IN CONDUIT RUN FROM 'DS' TO 'CO1'. PROVIDE #16AWG, 2 COND, FROM 'DS' TO 'CO1', LEAVE 6FT PIGTAIL AT 'CO1' SIDE.
- C8** 2IN CONDUIT RUN 'JB1' TO 'JB4'.
- C9** 2IN CONDUIT RUN 'JB5' TO 'JB6'.
- C10** 2IN CONDUIT RUN 'JB1' TO 'JB7'.
- DS** PROVIDE NORMALLY OPEN DOOR SWITCH WITH WIRE RUN TO 'CO1'.
- WL** X-RAY WARNING LIGHT, EC TO PROVIDE 120V FOR THE LIGHT, AND PULL THE WIRE TO 'CO1'. LEAVE 8FT PIGTAIL AT 'CO1' SIDE. X-RAY GENERATOR WILL PROVIDE THE SWITCH.
- EOS** EMERGENCY OFF SWITCH (SHUNT TRIP TYPE) TO BE CONNECTED TO THE 'A' BREAKER, 60IN AFF LOCATED IN LOCATION SHOWN.
- NJB** 2IN X 4IN JUNCTION BOX AT 60IN AFF, PROVIDE 1IN CHASE NIPPLE IN THE CENTER COVER OF THE NIPPLE.
- CN** 1IN CONDUIT FROM FROM 'JB1' TO 'NJB'.
- 120V** 120V POWER



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Prepared For:

Consultant:

Architect:

Project: **KVCC RADIOLOGY LABORATORY**
FAIRFIELD, ME

Revisions:

Scale: AS NOTED

Date: 20 OCT 2025

ELECTRICAL PLANS

E101