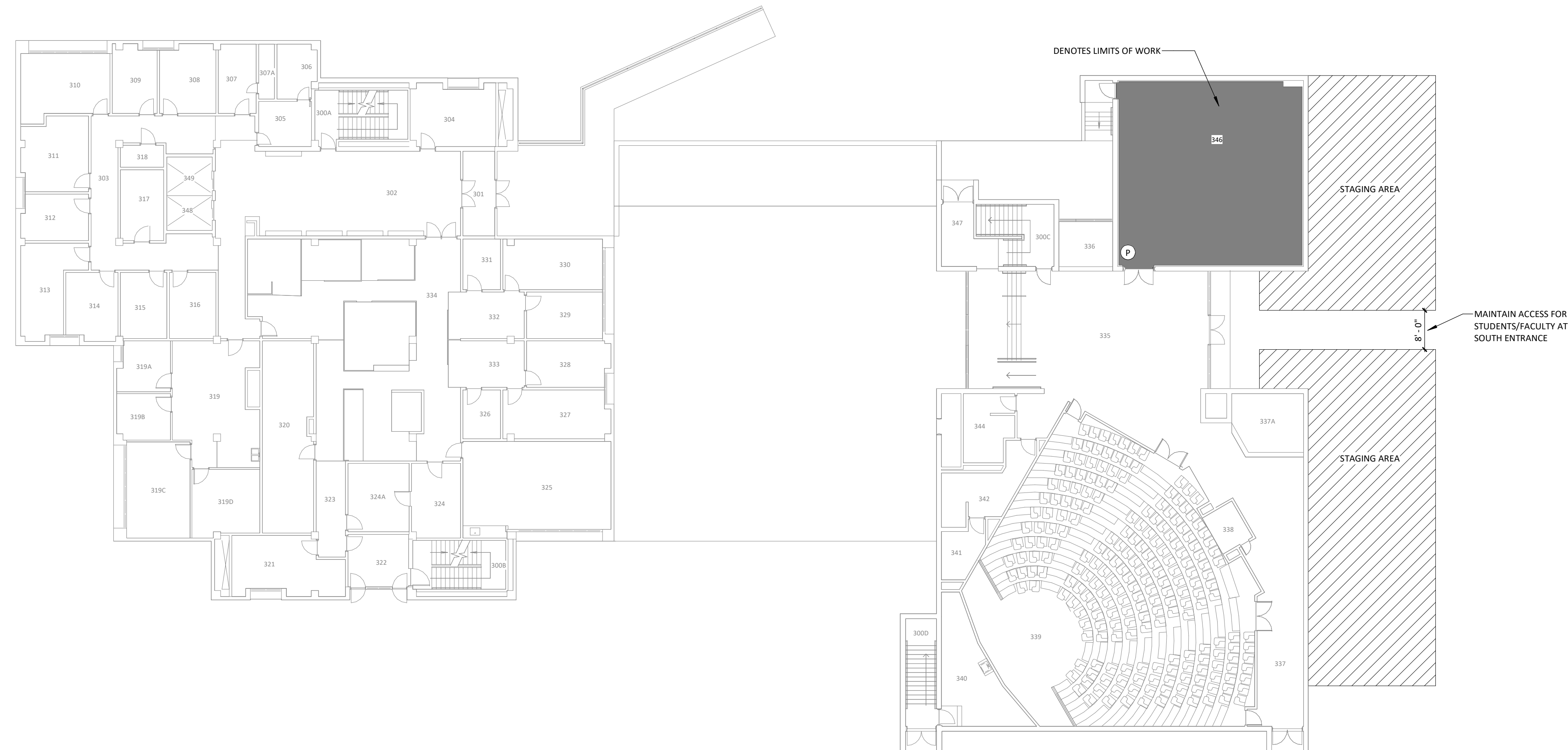


LEON JOHNSON HALL MONTANA STATE UNIVERSITY

950 WEST GARFIELD STREET, BOZEMAN, MT 59715

ROOM #346
PPA#: 23-0828



DEFERRED SUBMITTALS

INDEX OF DRAWINGS

SHEET NUMBER	SHEET NAME
TITLE	
G-001	TITLE SHEET
G-013	ACCESSIBILITY DETAILS
ARCHITECTURAL	
A-001	ARCHITECTURAL NOTES
AD101	DEMO CLASSROOM FLOOR PLAN
AD121	DEMO CLASSROOM REFLECTED CEILING PLAN
A-111	CLASSROOM FLOOR PLAN
A-121	CLASSROOM REFLECTED CEILING PLAN
A-131	CLASSROOM FINISH PLAN
A-211	INTERIOR ELEVATIONS
STRUCTURAL	
S-001	STRUCTURAL TITLE SHEET
S-002	STRUCTURAL NOTES
S-111	FRAMING PLAN
MECHANICAL	
M-001	MECHANICAL TITLE SHEET
MD111	MECHANICAL DEMOLITION PLAN
M-111	HVAC PLAN
M-121	HVAC RCP
ELECTRICAL	
E-001	ELECTRICAL TITLE SHEET
ED111	ELECTRICAL DEMOLITION PLAN
E-111	LIGHTING PLAN
E-121	POWER PLAN

BUILDING REQUIREMENTS FROM THE INTERNATIONAL EXISTING BUILDING CODE 2021

ALTERATION - LEVEL 1: ALTERATIONS INCLUDE THE REMOVAL AND REPLACEMENT OR THE COVERING OF EXISTING MATERIALS, ELEMENTS, EQUIPMENT OR FIXTURES USING NEW MATERIALS, ELEMENTS, OR EQUIPMENT OR FIXTURES THAT SERVE THE SAME PURPOSE.

COMPLIANCE METHOD:

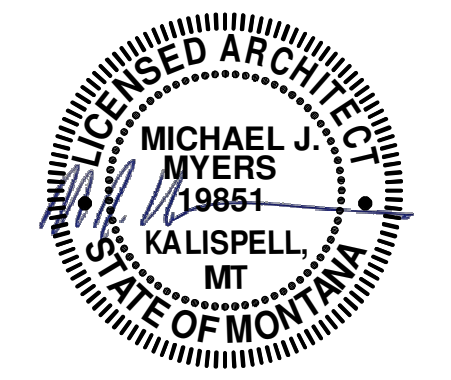
PRESCRIPTIVE - CHAPTER 5

ALTERATIONS: EXCEPT AS PROVIDED BY SECTION 302.4, 302.5 OR THIS SECTION, ALTERATIONS TO ANY BUILDING OR STRUCTURE SHALL COMPLY WITH THE REQUIREMENTS OF THE IBC FOR NEW CONSTRUCTION. ALTERATIONS SHALL BE SUCH THAT THE EXISTING BUILDING OR STRUCTURE IS NOT LESS COMPLYING WITH THE PROVISIONS OF THE IBC THAN THE EXISTING BUILDING OR STRUCTURE WAS PRIOR TO THE ALTERATION.

NO CHANGE IS BEING MADE TO THE OCCUPANCY SIZE OR TYPE.

NO CHANGE TO EXIT DISTANCE OR PATH.

Ⓟ LOCATION OF EXISTING ELECTRICAL PANEL.



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GENERAL CONDITIONS

- THE GENERAL CONTRACTOR IS TO GUARANTEE ALL WORK INCLUDING WORK DONE BY SUBCONTRACTORS FOR A PERIOD OF ONE (1) YEAR COMMENCING WITH THE FINAL ACCEPTANCE AND FULL COMPLETION OF THE PROJECT.
- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL GOVERNING CODES, ORDINANCES AND AUTHORITIES HAVING JURISDICTION. GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL REQUIRED BUILDING PERMITS.
- THE GENERAL CONTRACTOR IS TO HAVE A FULL TIME QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
- ALL MATERIAL SPECIFIED IS TO BE NEW & INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS. GENERAL CONTRACTOR IS TO CONSTRUCT PROJECT IN ACCORDANCE WITH THE DOCUMENTS, ANY DEVIATION FROM THE INTENT OF THE DOCUMENTS, WITHOUT ARCHITECT OR ENGINEER'S APPROVAL, ARE AT THE CONTRACTOR'S OWN RISK AND MAY RESULT IN THE WORK BEING DONE OVER AT CONTRACTOR'S EXPENSE (MATERIALS AND LABOR).

GENERAL NOTES

- CONTRACTOR TO REVIEW AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY CONDITIONS NOT INDICATED ON CONTRACT DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO BEGINNING WORK.
- CONTRACTOR TO CONTACT LOCAL UTILITIES, IF NECESSARY, SUBMIT ALL APPLICABLE PERMIT DOCUMENTS, QUALIFICATIONS, ETC., AND BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH PERMITS, UTILITY EXTENSIONS, TAP-INS, ETC.
- THE CONTRACTOR SHALL REMOVE ALL DEBRIS AS A RESULT OF THIS PROJECT. THE CONTRACTOR WILL REMOVE EXISTING EQUIPMENT, FIXTURES, ETC. IN THE SPACE PRIOR TO CONSTRUCTION AND RELOCATE PER OWNER.
- THE CONTRACTOR SHALL SCHEDULE HIS WORK AND MATERIAL AND EQUIPMENT DELIVERIES SO AS NOT TO INTERFERE WITH THE DAILY OPERATIONS OF THE REMAINDER OF THE FACILITY.
- THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, EQUIPMENT, FIXTURES, ETC. FROM DAMAGE DURING THE COURSE OF CONSTRUCTION.

- ALL SURFACES AND/OR FINISHES DAMAGED AS A RESULT OF AND ADJACENT TO THE WORK SHALL BE REPAIRED AND FINISHED TO THEIR ORIGINAL CONDITION.
- USE DETAILS MARKED "TYPICAL" (TYP) WHEREVER APPLICABLE.
- ALL ITEMS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY PERSONS SKILLED IN THEIR RESPECTIVE TRADE AND WHO NORMALLY PARTICIPATE IN THE WORK OF THAT TRADE.
- WORDS WHICH HAVE WELL KNOWN TECHNICAL OR TRADEMEANINGS ARE USED IN THE DRAWINGS AND SPECIFICATIONS IN ACCORDANCE WITH SUCH RECOGNIZED MEANINGS.
- WITHIN THE DRAWINGS AND RELATED SPECIFICATIONS THERE SHALL BE THE FOLLOWING PRECEDENCE:
 - ADDENDA OR MODIFICATIONS TO THE DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE OVER THE ORIGINAL, WHEN ISSUED BY THE ARCHITECT.

- SPECIFICATIONS SHALL TAKE PRECEDENCE OVER DRAWINGS.
- WITHIN THE DRAWINGS THE LARGER SCALE TAKES PRECEDENCE OVER THE SMALLER, FIGURED DIMENSIONS OVER SCALED AND NOTED MATERIALS OVER GRAPHIC INDICATIONS.
- THE ARCHITECT OR ENGINEER SHALL BE IN THE FIRST INSTANCE THE SOLE INTERPRETER OF THE DRAWINGS AND SPECIFICATIONS WITH REGARD TO THEIR MEANING OR INTENT.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY DURING BUILDING CONSTRUCTION.

- SUBMITTALS AND SAMPLES REQUIRED ON ALL FINISH MATERIALS AND COLORS, AND SHALL BE REVIEWED BY OWNER'S REPRESENTATIVE FOR FINAL APPROVAL PRIOR TO ORDERING. SAMPLES SHALL BE FULL SIZE WITH PAINTS/STAINS APPLIED TO ACTUAL SUBSTRATES. ALL MATERIALS SHALL BE VIEWED ON SITE AT SAME TIME IN SPACES USED, ONE MEETING FOR EXTERIOR FINISHES AND ONE MEETING FOR INTERIOR FINISHES.

PROJECT INFORMATION:

OWNER / DEVELOPER

STATE OF MONTANA - MONTANA STATE UNIVERSITY
UNIVERSITY FACILITIES MANAGEMENT,
MANAGED BY: PLANNING, DESIGN, & CONSTRUCTION
PLEW BUILDING 6TH & GRANT
PO BOX 1720760
BOZEMAN, MT 59717-2760
ATTN: JENNISSE WATERS
EMAIL: JENNISSE.WATERS@MONTANA.EDU
TEL: (406) 994-5970

DESIGN PROFESSIONALS

JACKOLA ENGINEERING & ARCHITECTURE, P.C.
2250 HWY 93 SOUTH
PO BOX 1134
KALISPELL, MT 59903
TEL: (406) 755-3208
ARCHITECT: MIKE J MYERS, AIA
STRUCTURAL ENGINEER: KEOLA JAMIESON, PE
MECHANICAL ENGINEER: TYLER TONIUM, PE
ELECTRICAL ENGINEER: JON RUONAVAARA, PE

BUILDING DEPARTMENT

CITY OF BOZEMAN
20 E. OLIVE ST. 1ST FLOOR
PO BOX 1230
BOZEMAN, MT 59711
EMAIL: PLANNINGTECH@BOZEMAN.NET
TEL: (406) 582-2260

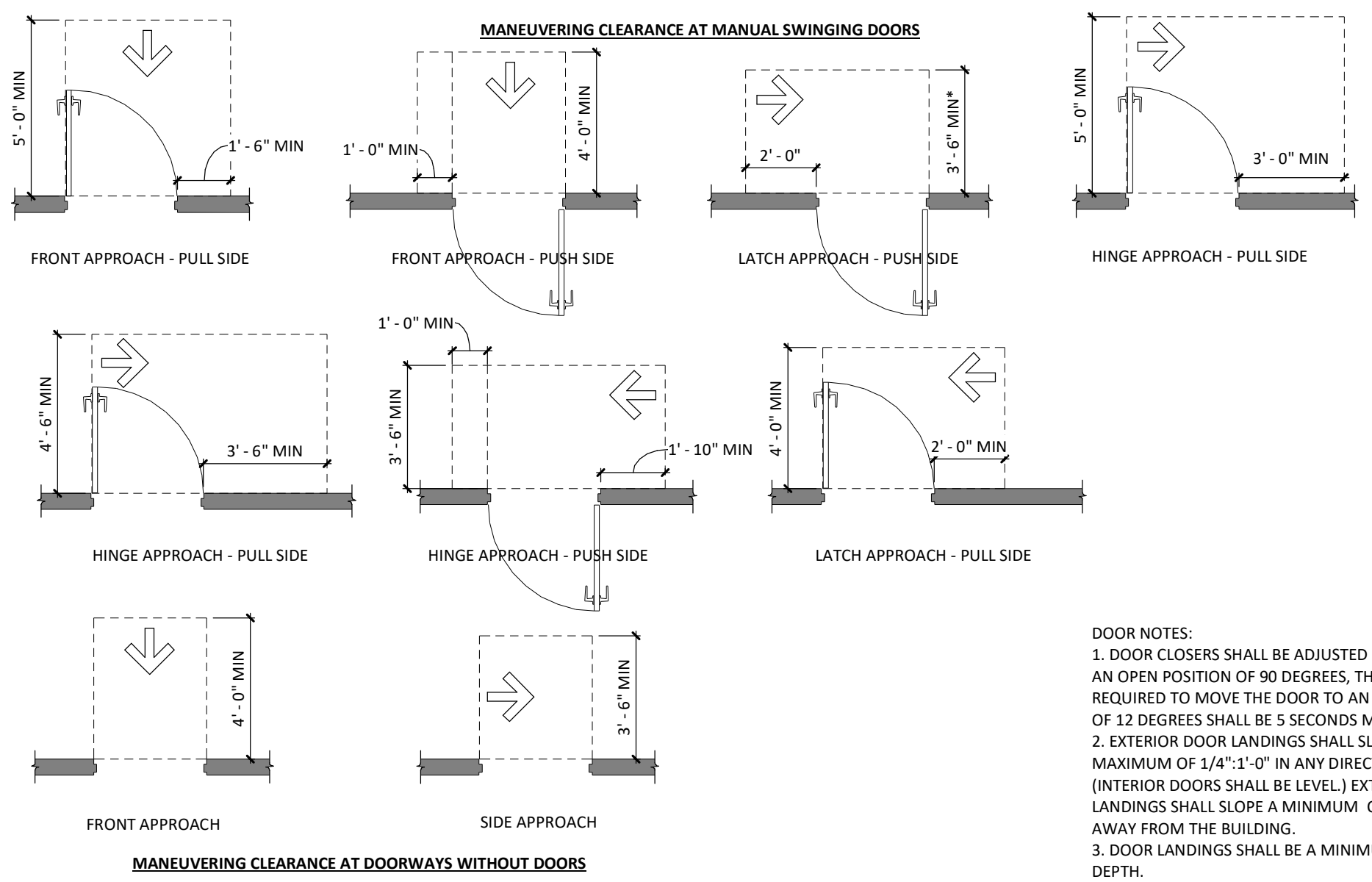
DRAWN: KCE CHECKED: MJM

DATE: 11/19/2024

REVISIONS:

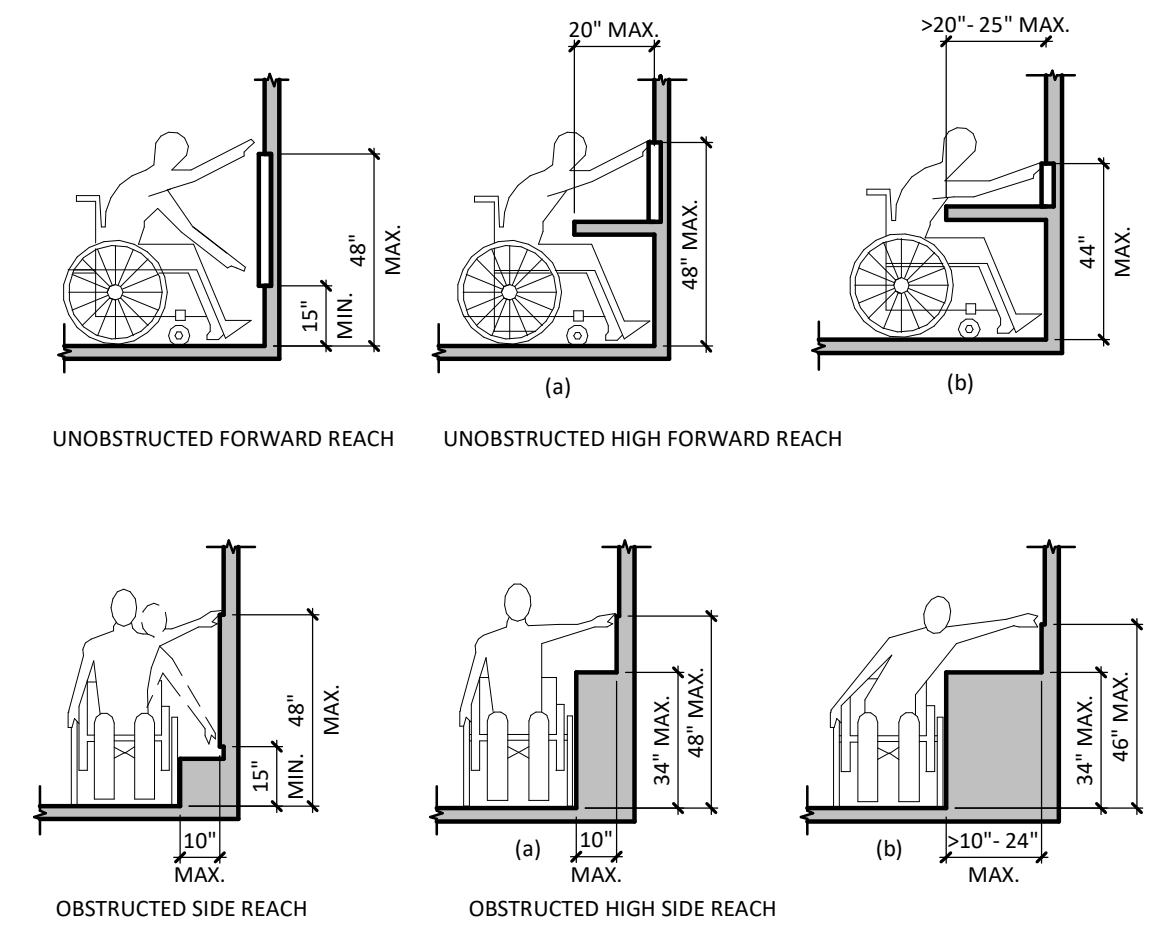
TITLE SHEET

G-001

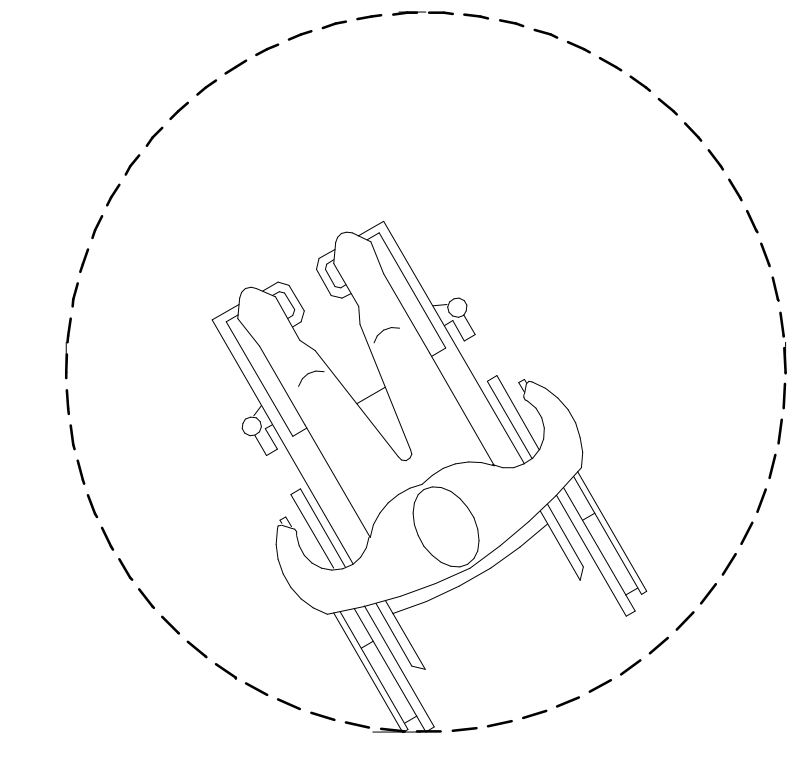


DOOR NOTES:
 1. DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES SHALL BE 5 SECONDS MINIMUM.
 2. EXTERIOR DOOR LANDINGS SHALL SLOPE A MAXIMUM OF 1/4":1'-0" IN ANY DIRECTION. (INTERIOR DOORS SHALL BE LEVEL.) EXTERIOR LANDINGS SHALL SLOPE A MINIMUM OF 1/8":1'-0" AWAY FROM THE BUILDING.
 3. DOOR LANDINGS SHALL BE A MINIMUM OF 44" IN DEPTH.

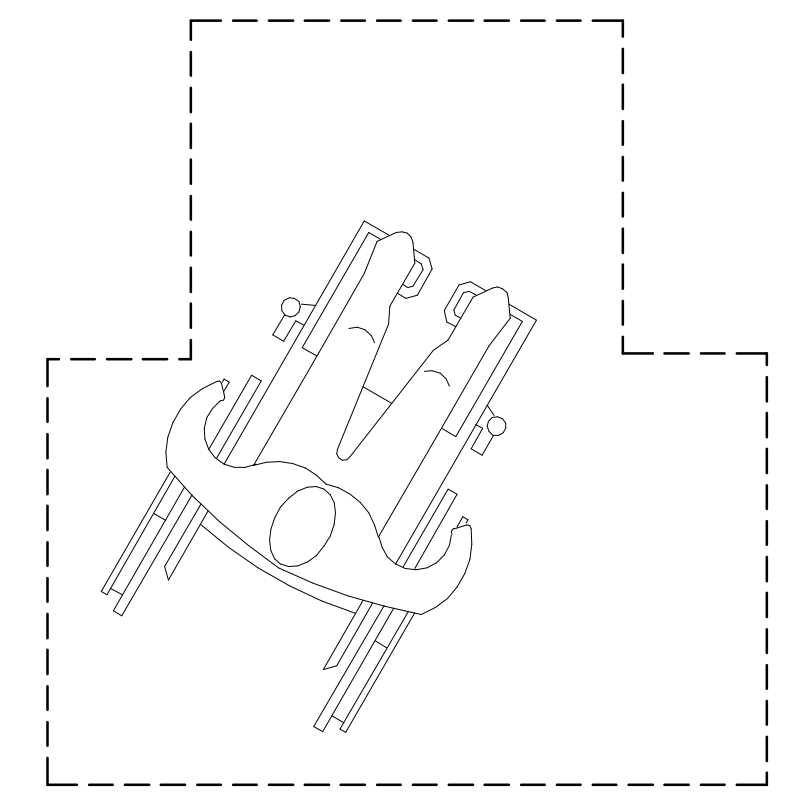
1 DOOR CLEARANCE AND LANDING REQUIREMENTS
 1/4" = 1'-0"



2 ADA REACH RANGES
 1/4" = 1'-0"

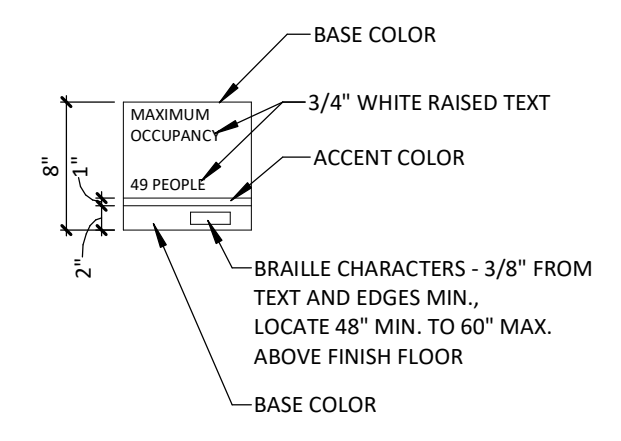


60" Ø SPACE FOR SINGLE WHEELCHAIR

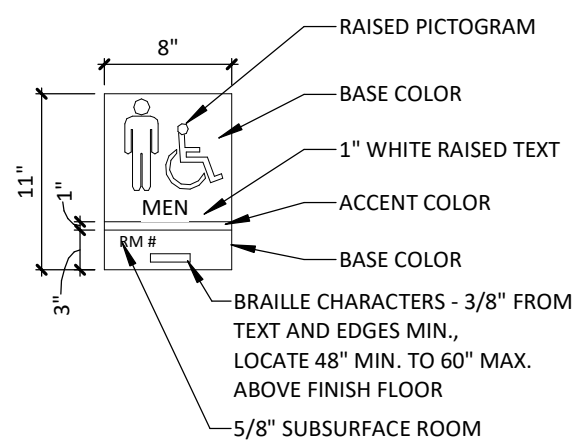


T-SHAPED SPACE FOR 180° TURNS

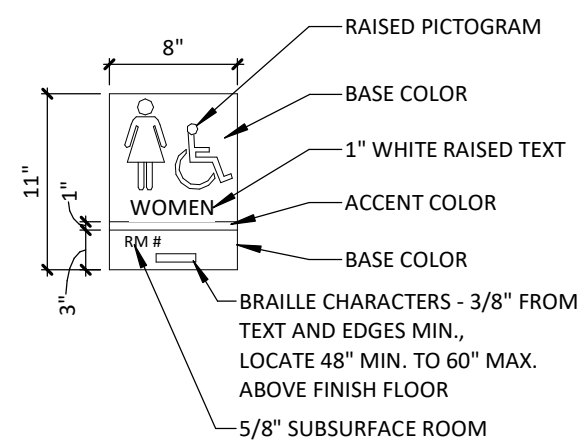
3 WHEELCHAIR TURNING REQUIREMENTS
 NTS



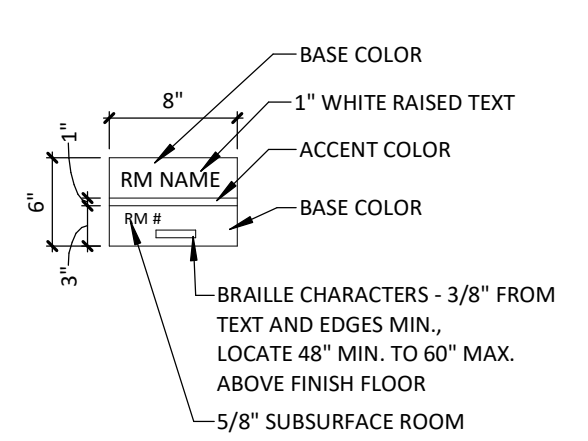
SIGN A
 BASE AND ACCENT COLORS TO BE SELECTED FROM MANUFACTURERS STANDARD RANGE



SIGN B
 BASE AND ACCENT COLORS TO BE SELECTED FROM MANUFACTURERS STANDARD RANGE

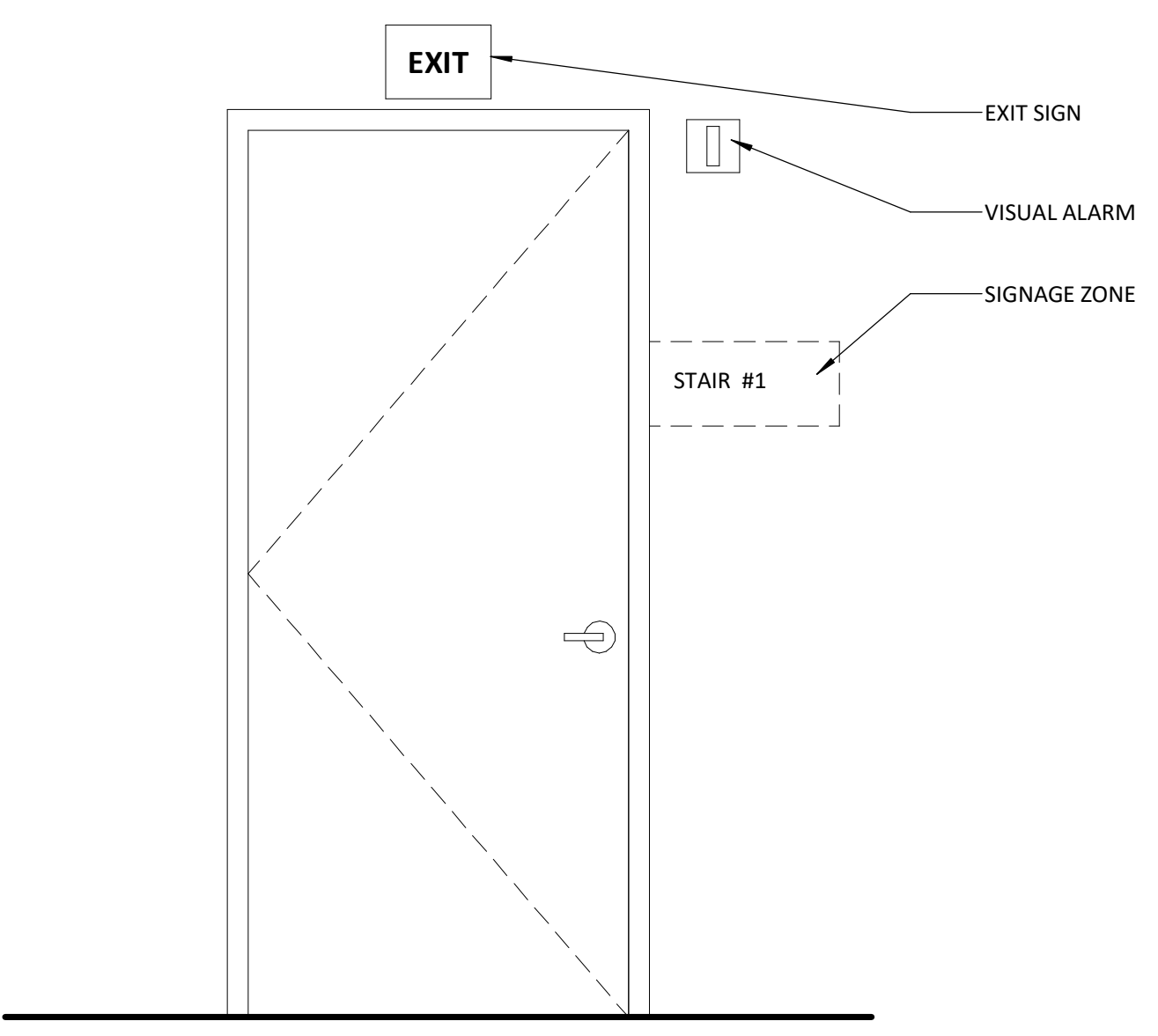


SIGN C
 BASE AND ACCENT COLORS TO BE SELECTED FROM MANUFACTURERS STANDARD RANGE

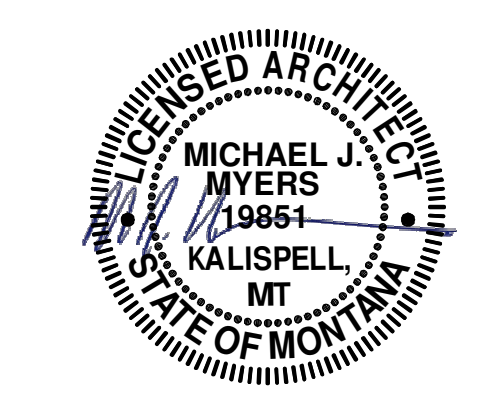


SIGN D
 BASE AND ACCENT COLORS TO BE SELECTED FROM MANUFACTURERS STANDARD RANGE

4 ACCESSIBLE SIGNAGE
 1" = 1'-0"



5 TYP. MOUNTING HTS. @ EXIT DOOR
 3/4" = 1'-0"



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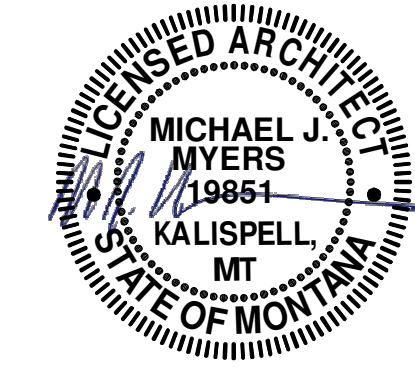
REVISIONS:

ACCESSIBILITY DETAILS

G-013

ARCHITECTURAL SHEET INDEX

A-001	ARCHITECTURAL NOTES
AD101	DEMO CLASSROOM FLOOR PLAN
AD121	DEMO CLASSROOM REFLECTED CEILING PLAN
A-111	CLASSROOM FLOOR PLAN
A-121	CLASSROOM REFLECTED CEILING PLAN
A-131	CLASSROOM FINISH PLAN
A-211	INTERIOR ELEVATIONS



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ABBREVIATIONS

A	ABOVE FINISH FLOOR ACOUSTICAL CEILING TILE ADJUSTABLE ANCHOR BOLT ALUMINUM ALTERNATE ANODIZED APPROXIMATE ARCHITECT	FOS FACE OF STUDS FIN FINISH FF FINISH FLOOR FEC FIRE EXTINGUISHER/AND OR CABINET FLASHING FL FLOOR FD FLOOR DRAIN FT FOOT, FEET FTG FOOTING FND FOUNDATION FURN FURNITURE FUT FUTURE FBO FURNISHED BY OTHERS FRP FIBER REINFORCED PANEL	MATL MATERIAL MAX MAXIMUM MECH MECHANICAL, MECHANICAL ROOM MTL METAL MIN MINIMUM MIRR MIRROR MISC MISCELLANEOUS
B	BSMT BASEMENT BATH BATHROOM BM BEAM BRG BEARING BEDRM BEDROOM BET BETWEEN BLDG BUILDING BO BOTTOM OF BOT BOTTOM BN BOUNDARY NAILING BS BOTH SIDES	G GAUGE GALV GALVANIZED GEN GENERAL GL GLASS GWB GYPSUM WALL BOARD GYPC GYPCRETE	NOM NOMINAL N NORTH NA NOT APPLICABLE NIC NOT IN CONTRACT NTS NOT TO SCALE NO NUMBER
C	CFCI CONTRACTOR FURNISHED CONTRACTOR INSTALLED CPT CARPET CLS CEILING CT CERAMIC TILE CLR CLEAR CLST CLOSET COL COLUMN CONC CONCRETE CONST CONSTRUCTION CONT CONTINUOUS CONTR CONTRACT, CONTRACTOR CORR CORRIDOR CJ CONTROL JOINT CMU CONCRETE MASONRY UNIT	H HALLWAY HDW HARDWARE HVAC HEATING, VENTILATING, & AIR CONDITIONING HT HEIGHT HM HOLLOW METAL HORIZ HORIZONTAL HWT HOT WATER TANK HR HOUR	O ON CENTER OFCI OWNER FURNISHED CONTRACTOR INSTALLED OFOI OWNER FURNISHED OWNER INSTALLED OFF OFFICE OPG OPENING OPP OPPOSITE OD OUTSIDE DIAMETER OF OUTSIDE FACE O/O OUT TO OUT
D	DEMO DEMOLISH, DEMOLITION DTL DETAIL DIA DIAMETER DIM DIMENSION DW DISHWASHER DIV DIVISION DL DEAD LOAD DR DOOR DN DOWN DS DOWNSPOUT DWG DRAWING DF DRINKING FOUNTAIN D DRYER	I INTERNATIONAL BUILDING CODE INCL INCLUDE, INCLUDED (ING) INFO INFORMATION ID INSIDE DIAMETER INSUL INSULATE, INSULATION INT INTERIOR	P PAINT, PAINTED PNL PANEL PH PHASE PLAS PLASTIC P-LAM PLASTIC LAMINATE PL PLATE PLYWD PLYWOOD PVC POLYVINYL CHLORIDE PREFIN PREFINISHED PROP PROPERTY
E	EA EACH E EAST ELEC ELECTRIC ELEV ELEVATION, ELEVATOR EQ EQUAL EQUIP EQUIPMENT EXIST EXISTING EXP EXPANSION EJ EXPANSION JOINT EXT EXTERIOR	J JANITOR JC JANITOR'S CLOSET JT JOINT	Q QUANTITY
F	FOB FACE OF BRICK FOC FACE OF CONCRETE FOM FACE OF MASONRY	K KITCHEN KO KNOCK OUT	R RADIUS RWL RAIN WATER LEADER REF REFERENCE REINF REINFORCE, REINFORCEMENT RCP REFLECTED CEILING PLAN REQD REQUIRED RFI REQUEST FOR INFORMATION REV REVISION R RISER RD ROOF DRAIN RM ROOM RO ROUGH OPENING
G		L LABEL LAM LAMINATED LNDRY LAUNDRY LAV LAVATORY LVL LEVEL LL LIVE LOAD LR LIVING ROOM LOC'N LOCATION	S SCHEDULE SEC SECTION SG SAFETY GLASS SHTG SHEATHING SIM SIMILAR SOG SLAB ON GRADE S SOUTH SPEC SPECIFICATION SQ SQUARE STD STANDARD STL STEEL STOR STORAGE STRUCT STRUCTURAL SF SQUARE FEET SUSP SUSPENDED
H		M MANUFACTURER MAS MASONRY MO MASONRY OPENING	T TECHNOLOGY ENHANCED ACTIVE LEARNING TEL TELEPHONE TELEVISION TEMP TEMPERED, TEMPORARY T&G TONGUE AND GROOVE TOB TOP OF BRICK TOS TOP OF SLAB TOW TOP OF WALL TOM TOP OF MASONRY T TREAD TYP TYPICAL
I			U UPWARD ACTING SECTIONAL DOOR UNIFORM BUILDING CODE UNLESS NOTED OTHERWISE UTILITY
J			V VAPOR BARRIER VNR VENEER VERT VERTICAL VG VERTICAL GRAIN VCT VINYL COMPOSITION TILE
K			W WAINSCOT WC WATER CLOSET WIN WINDOW WP WATERPROOF (ING) WRB WEATHER RESISTANT BARRIER WWF WELDED WIRE FABRIC WWM WELDED WIRE MESH WT WEIGHT W WEST, WASHER W/ WITH W/D WASHER / DRYER
L			X SECTION ELEVATION DETAIL ITEM IDENTIFICATION SHEET WHERE ITEM IS CUT NORTH ARROW
M			XX WINDOW TYPE X DOOR NUMBER XXX ROOM NUMBER X.XX - S WALL TYPE X'X" X X REVISION NUMBER X KEY NOTE X DEMOLITION NOTE X FINISH TAG XX EQUIPMENT TAG ROOM FINISH KEY

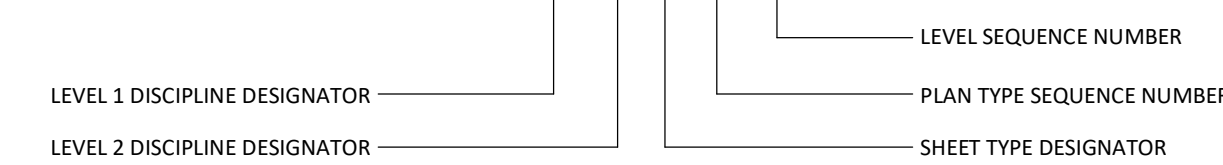
SYMBOLS USED AS ABBREVIATIONS

&	AND
L	ANGLE
@	AT
CL	CENTERLINE
u	CHANNEL
Ø	DIAMETER
PL	PLATE

SYMBOLS & MATERIALS

	STRUCTURAL FILL		FINISHED WOOD
	UNDISTURBED EARTH		PLYWOOD
	DISTURBED EARTH		RIGID INSULATION
	GRAVEL		BATT INSULATION
	POURED CONCRETE		SPRAYFOAM INSULATION
	CONCRETE BLOCK VENEER		SAND, PLASTER, GROUT
	BRICK VENEER		METAL
	EIFS		STEEL
	ROUGH WOOD		
	BLOCKING		
	SECTION		
	ELEVATION		
	DETAIL		
	ITEM IDENTIFICATION SHEET WHERE ITEM IS CUT		
	NORTH ARROW		

A-102



*** NOTE ***
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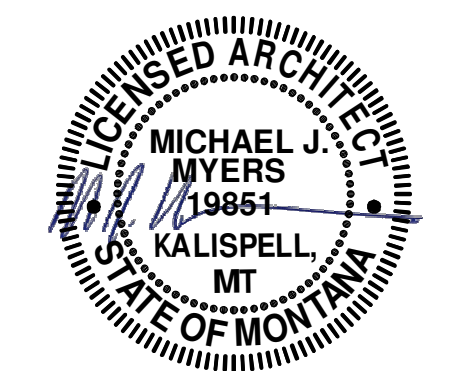
REVISIONS:

ARCHITECTURAL NOTES

A-001

CLASSROOM DEMO KEYNOTES

- 1 REMOVE FIXED TABLES AND CHAIRS, TYP. DELIVER TO OWNER'S STORAGE ON CAMPUS
- 2 REMOVE ACOUSTIC PANELS, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE
- 3 REMOVE WHITE BOARD AND PROJECTOR SCREEN, DELIVER TO OWNER'S STORAGE ON CAMPUS



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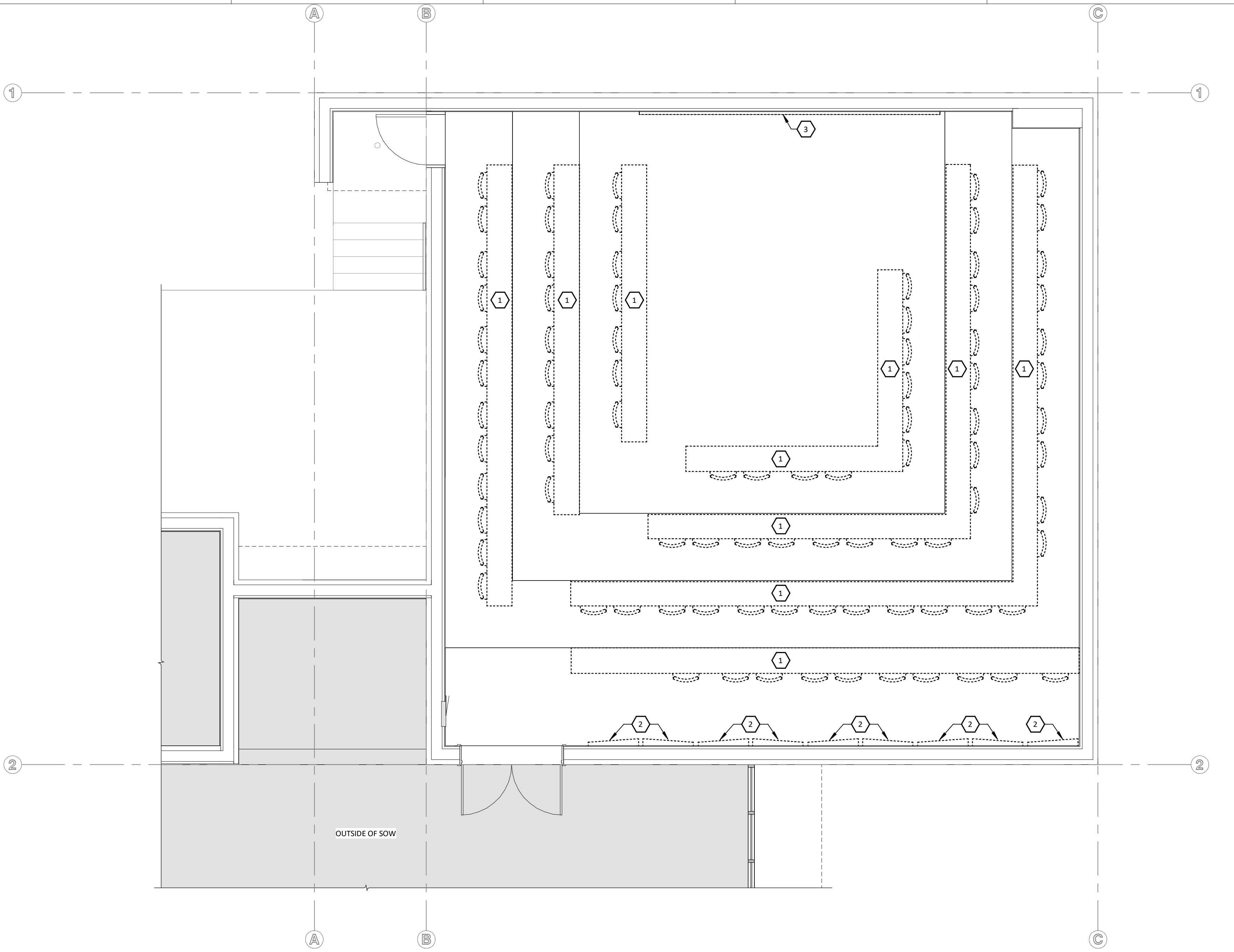
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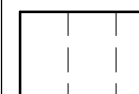
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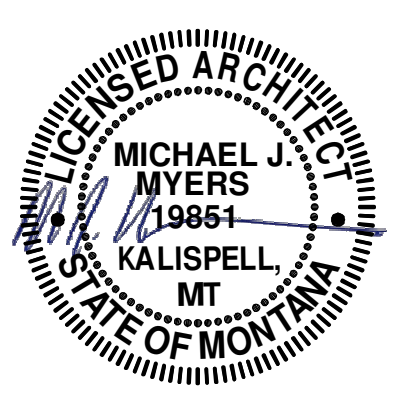
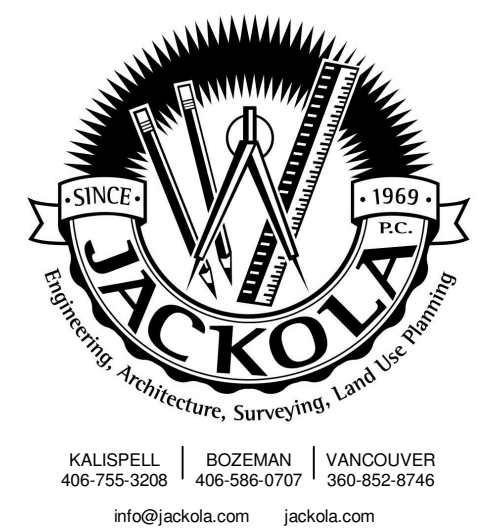
DEMO CLASSROOM FLOOR PLAN

AD101



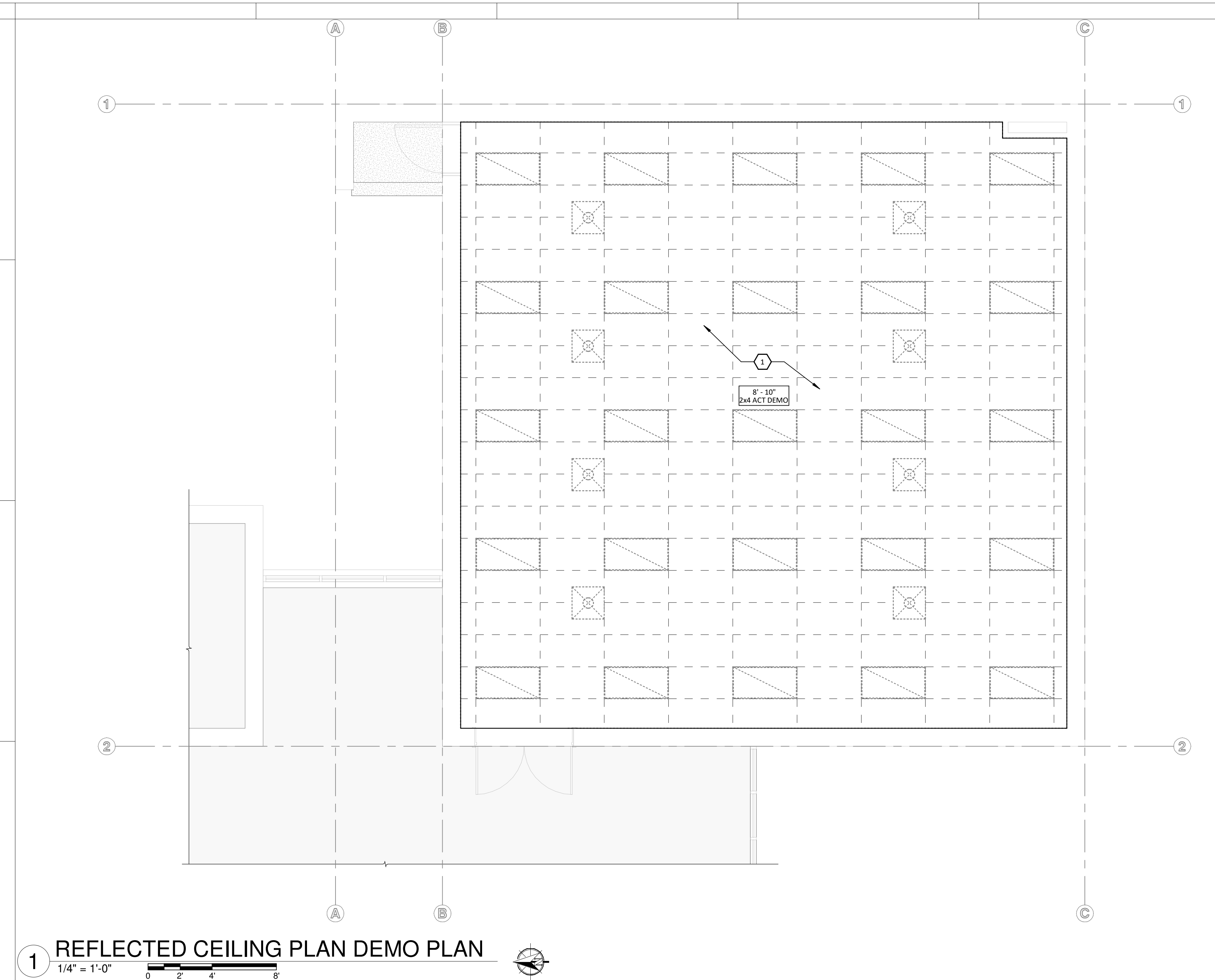
1 DEMO FLOOR PLAN
 1/4" = 1'-0" 0 2 4 8'
 APPROXIMATE OCCUPANCY: 89 (15.9 S.F./STUDENT)

RCP DEMO KEYNOTES	
1	DEMO ALL EXISTING ACT AND GRID
DEMO CEILING PLAN LEGEND	
	(2x4) ACOUSTIC CEILING TILE



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1 REFLECTED CEILING PLAN DEMO PLAN
 1/4" = 1'-0"
 0 2 4 8'

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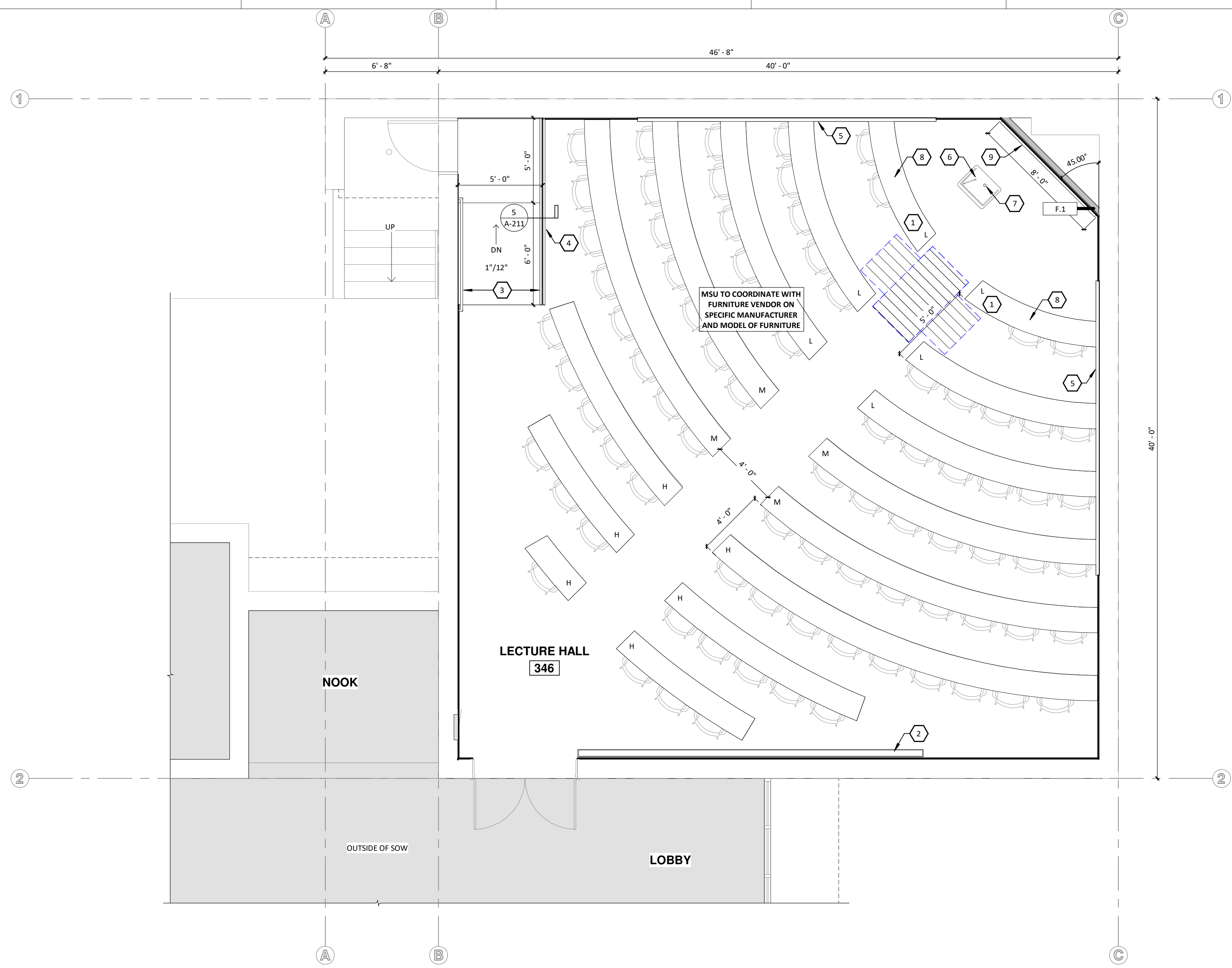
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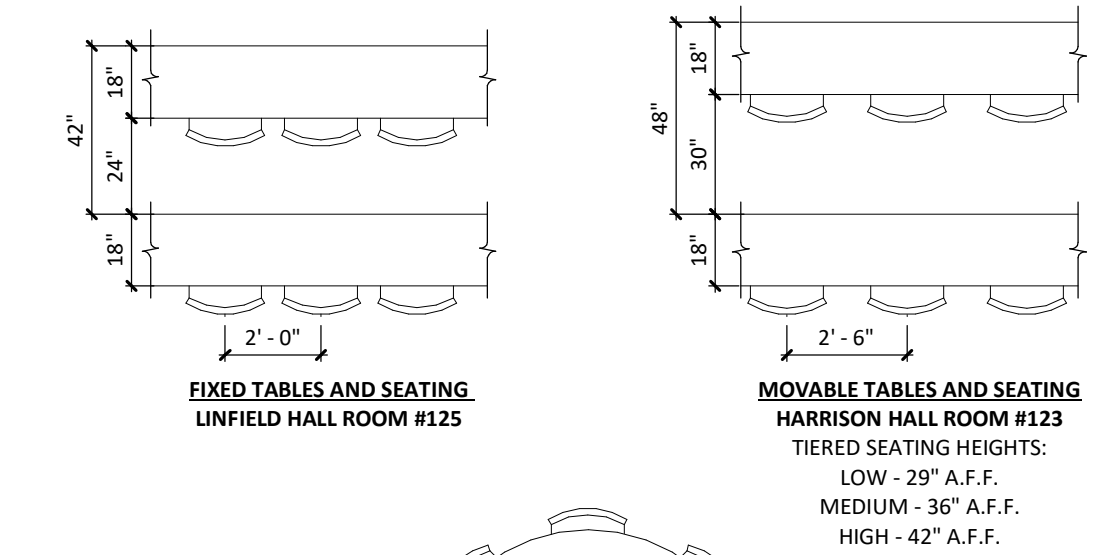
REVISIONS:

DEMO CLASSROOM REFLECTED CEILING PLAN

AD121



1 FLOOR PLAN
 1/4" = 1'-0" APPROXIMATE OCCUPANCY: 84 (-5 FROM EXISTING) - 16.9 S.F./STUDENT



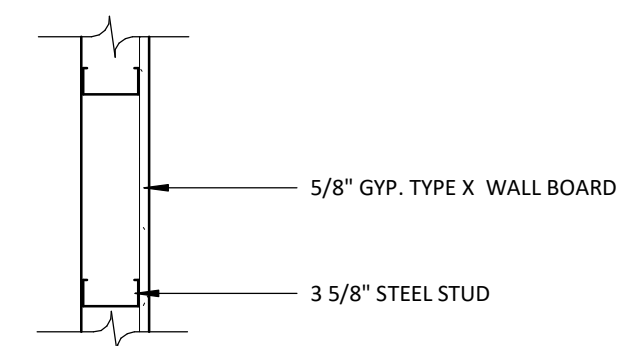
2 FURNITURE KEY
 1/4" = 1'-0"

- FLOOR PLAN KEYNOTES**
- 1 ADA ACCESSIBLE LOCATION
 - 2 NEW RETURN DUCT IN FLOOR, SEE MECHANICAL
 - 3 HAND RAIL AT RAMP (CFCI)
 - 4 GUARD RAIL (CFCI)
 - 5 FIXED PROJECTOR SCREEN (OFCI)
 - 6 LECTERN PODIUM, 8'-0" D. DELUXE LECTERN - LE3040 (OFOI)
 - 7 CONDUIT FOR POWER/DATA AT LECTERN PODIUM
 - 8 MOVABLE TABLE AT FIRST ROW FOR ADA ACCESS
 - 9 8'-0" W x 4'-0" H WHITE BOARD, NO TRAY (CFCI)

GENERAL NOTES:

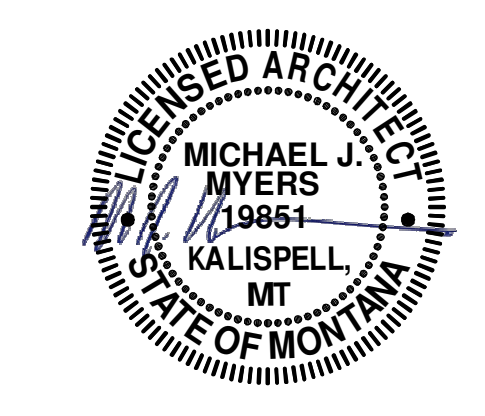
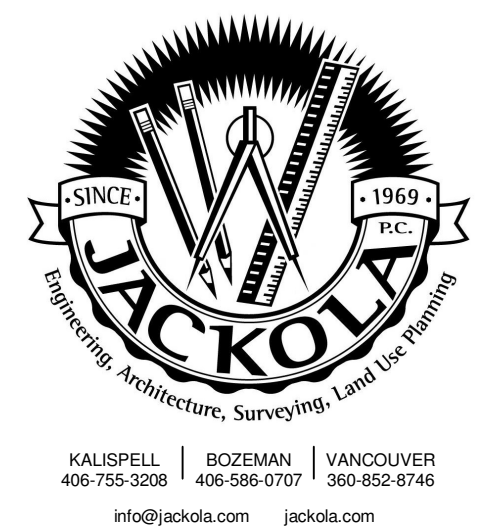
A. ALL TABLES ARE OFCI. ALL ROWS ARE MOUNTED TO THE CONCRETE FLOOR, EXCEPT FRONT ROW WHICH WILL HAVE CASTERS.

B. ALL CHAIRS ARE OFOI.



F.1 3 5/8" FURR WALL
 SCALE: 1 1/2" = 1'

3 WALL TYPE
 1" = 1'-0"



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REVISIONS:

CLASSROOM FLOOR PLAN

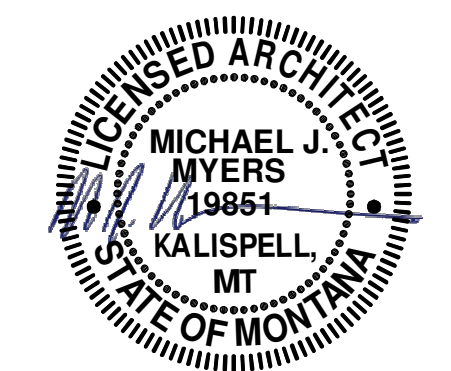
A-111

CLASSROOM RCP KEYNOTES

1 CEILING MOUNTED PROJECTOR (OFOI)

CEILING PLAN LEGEND

ACT-1 (2x4)
ACOUSTIC CEILING TILE



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LEON JOHNSON HALL
MONTANA STATE UNIVERSITY
ROOM #346
PPA#: 23-0828

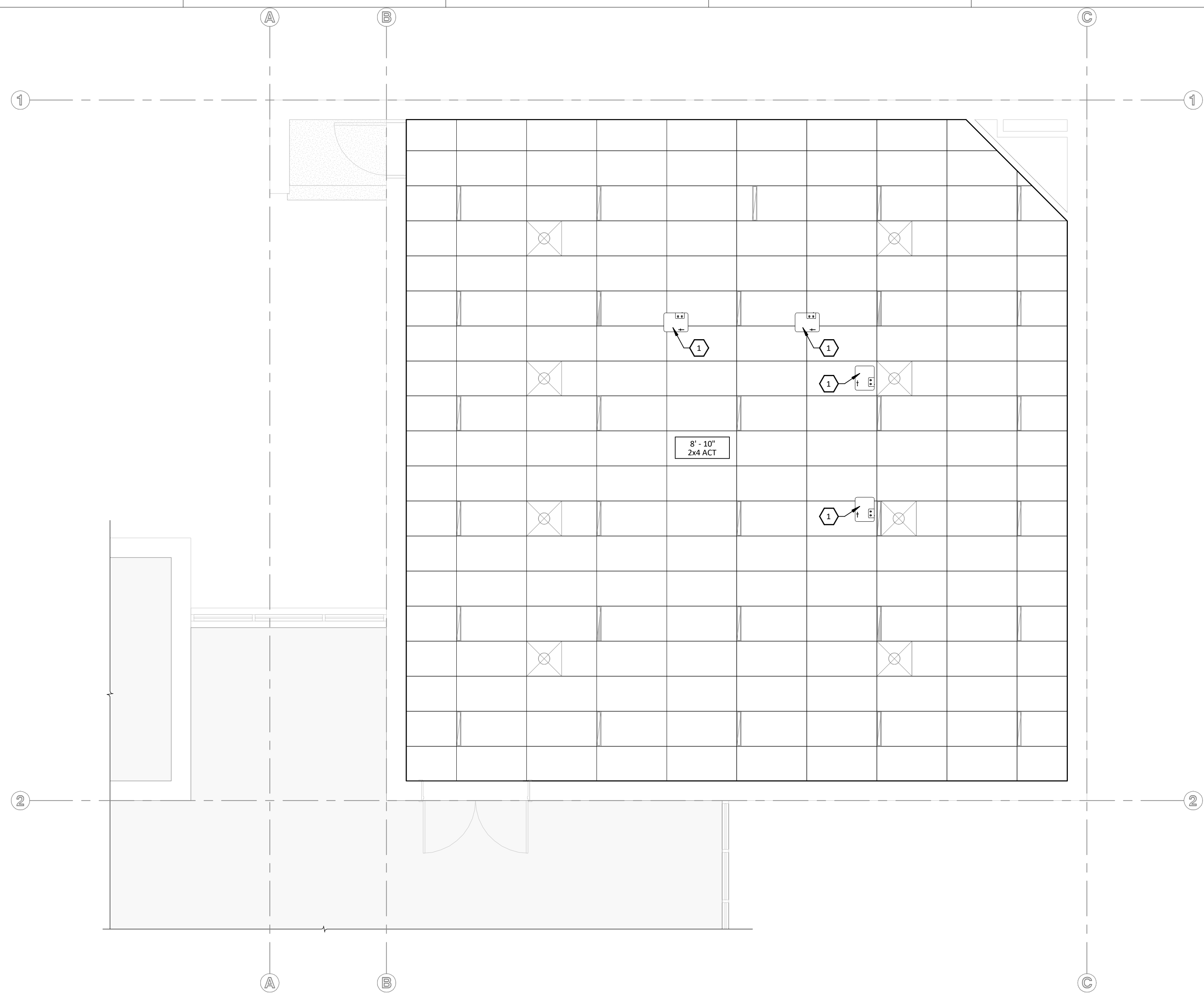
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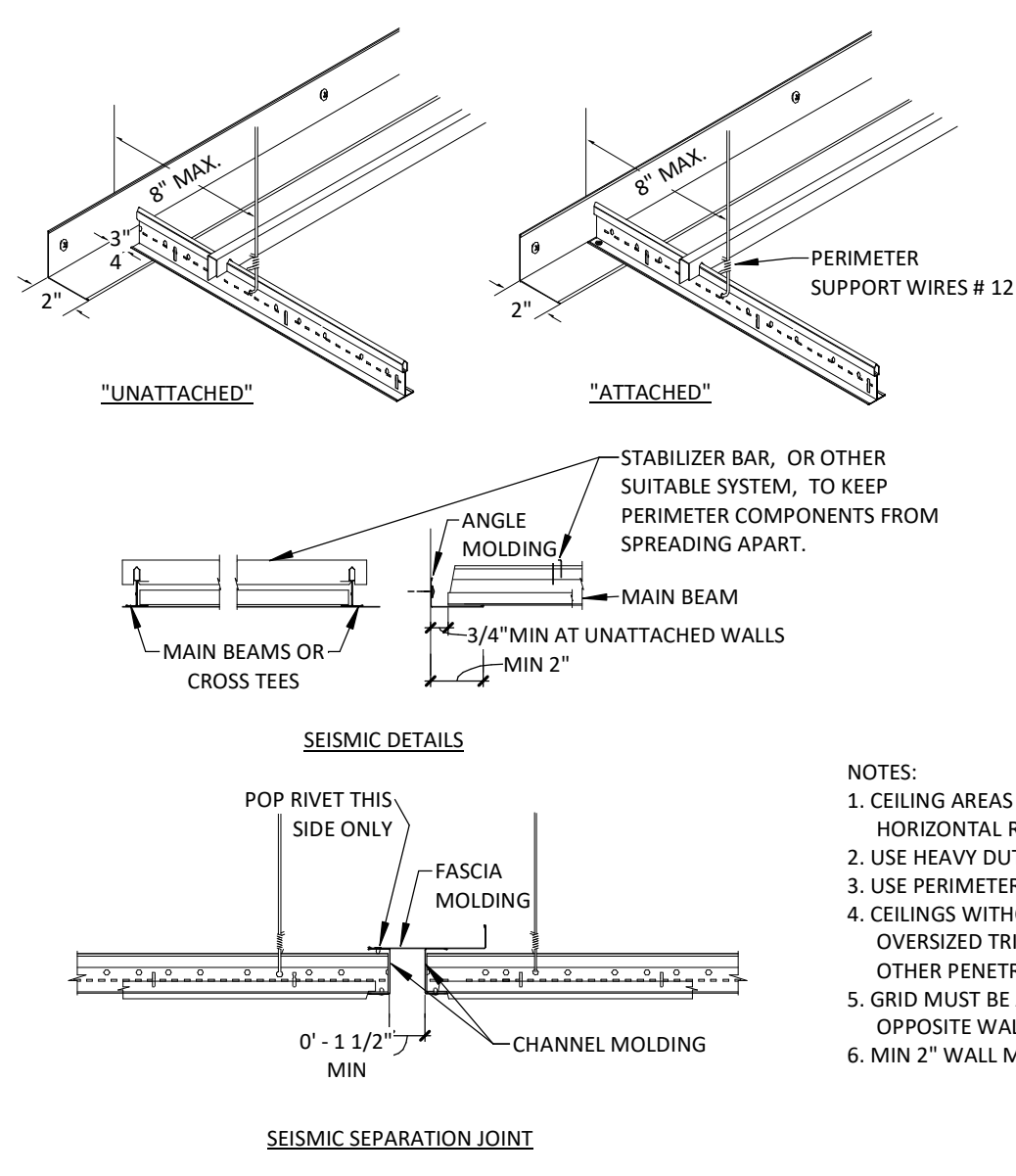
REVISIONS:

CLASSROOM
REFLECTED
CEILING PLAN

A-121



1 REFLECTED CEILING PLAN
1/4" = 1'-0"
0 2' 4' 8'

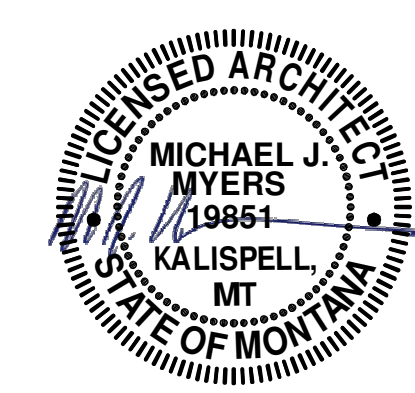


- NOTES:
1. CEILING AREAS OVER 1,000 SF MUST HAVE HORIZONTAL RESTRAINT WIRE OR RIGID BRACING
 2. USE HEAVY DUTY GRID SYSTEM
 3. USE PERIMETER SUPPORT WIRES
 4. CEILINGS WITHOUT RIGID BRACING MUST HAVE 2" OVERSIZED TRIM RINGS FOR SPRINKLERS AND OTHER PENETRATIONS
 5. GRID MUST BE ATTACHED TO 2 ADJACENT WALLS, OPPOSITE WALLS MUST HAVE 3/4" CLEARANCE
 6. MIN 2" WALL MOLDING

2 HUNG CLG DTL - SEISMIC
1 1/2" = 1'-0"



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REVISIONS:

CLASSROOM
FINISH PLAN

A-131

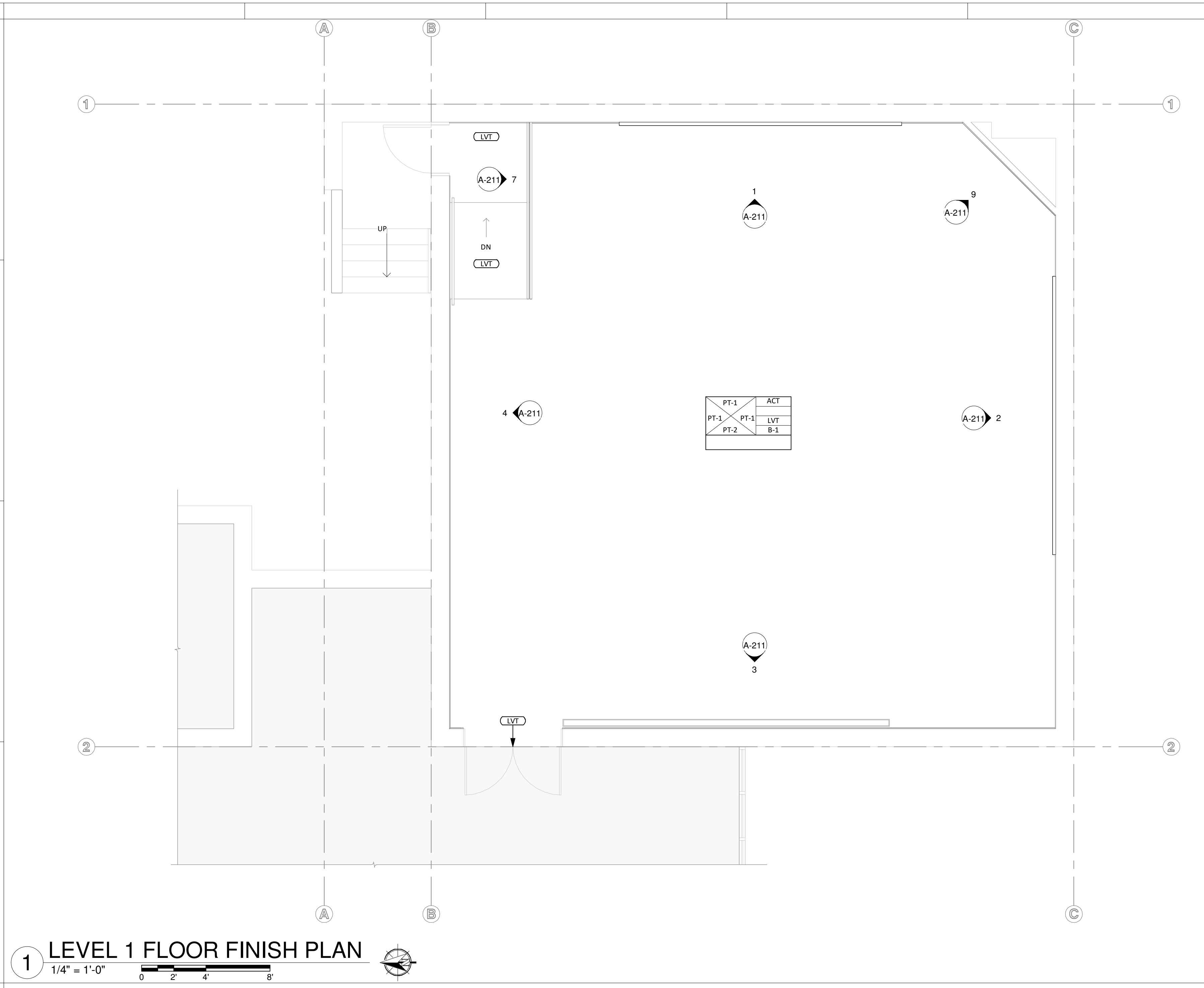
FINISH SCHEDULE

TAG	KEY	COLOR	MANUFACTURER	STYLE	NOTE
ACT	ACOUSTICAL CEILING TILES	WHITE	ARMSTRONG	CIRRUS 584	ANGLED TEGULAR EDGE
B-1	6" RUBBER BASE	BLACK	JOHNSONITE	DURACOVE 6"	THERMOPLASTIC RUBBER 1/8"
LVT	LUXURY VINYL TILE	IMPLY 43518	SHAW	DIALOGUE	BRICK INSTALLATION METHOD
PT-1	PAINT	SW 7650 ELLIE GRAY	SHERWIN WILLIAMS	EGGSHELL	
PT-2	PAINT	SW 7602 INDIGO BATIK	SHERWIN WILLIAMS	EGGSHELL	ACCENT WALL
SS-1	SOLID SURFACE	DEEP STORM	CORIAN		CHAIR RAIL (9' 5/8" H X 1/2" D)

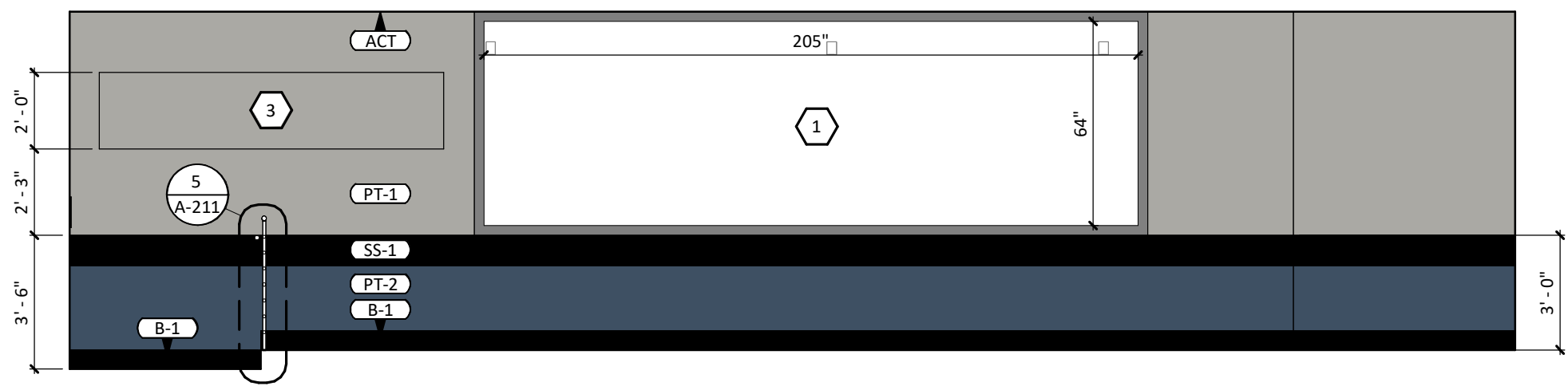
ROOM FINISH KEY

WALL	CEILING
WALL	SILL
WALL	FLOOR
WALL	BASE
NOTES	

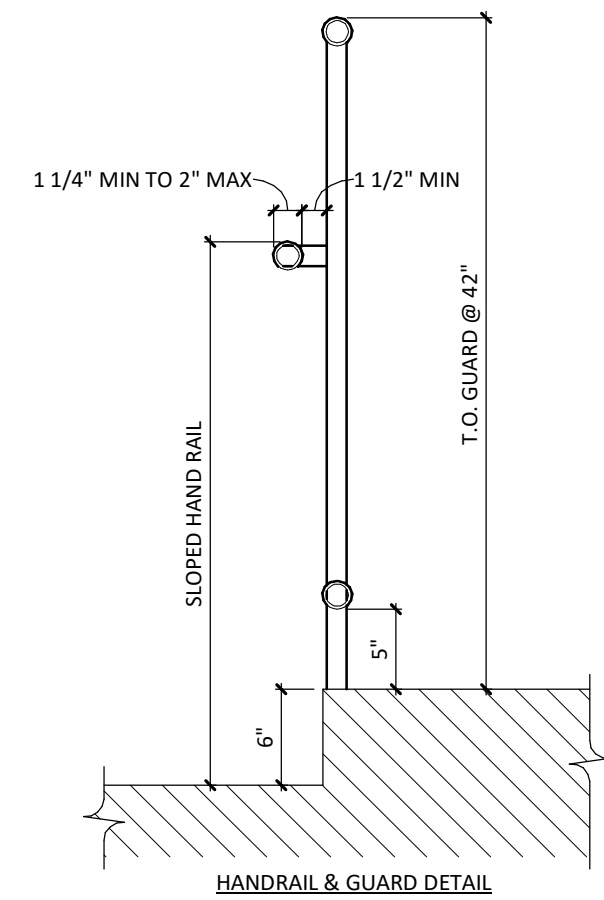
PT-1	ACT
PT-1	LVT
PT-2	B-1



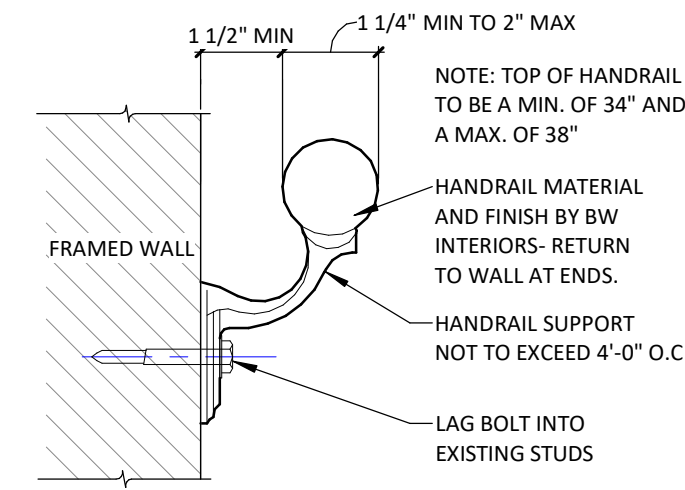
1 LEVEL 1 FLOOR FINISH PLAN
 1/4" = 1'-0"
 0 2' 4' 8'



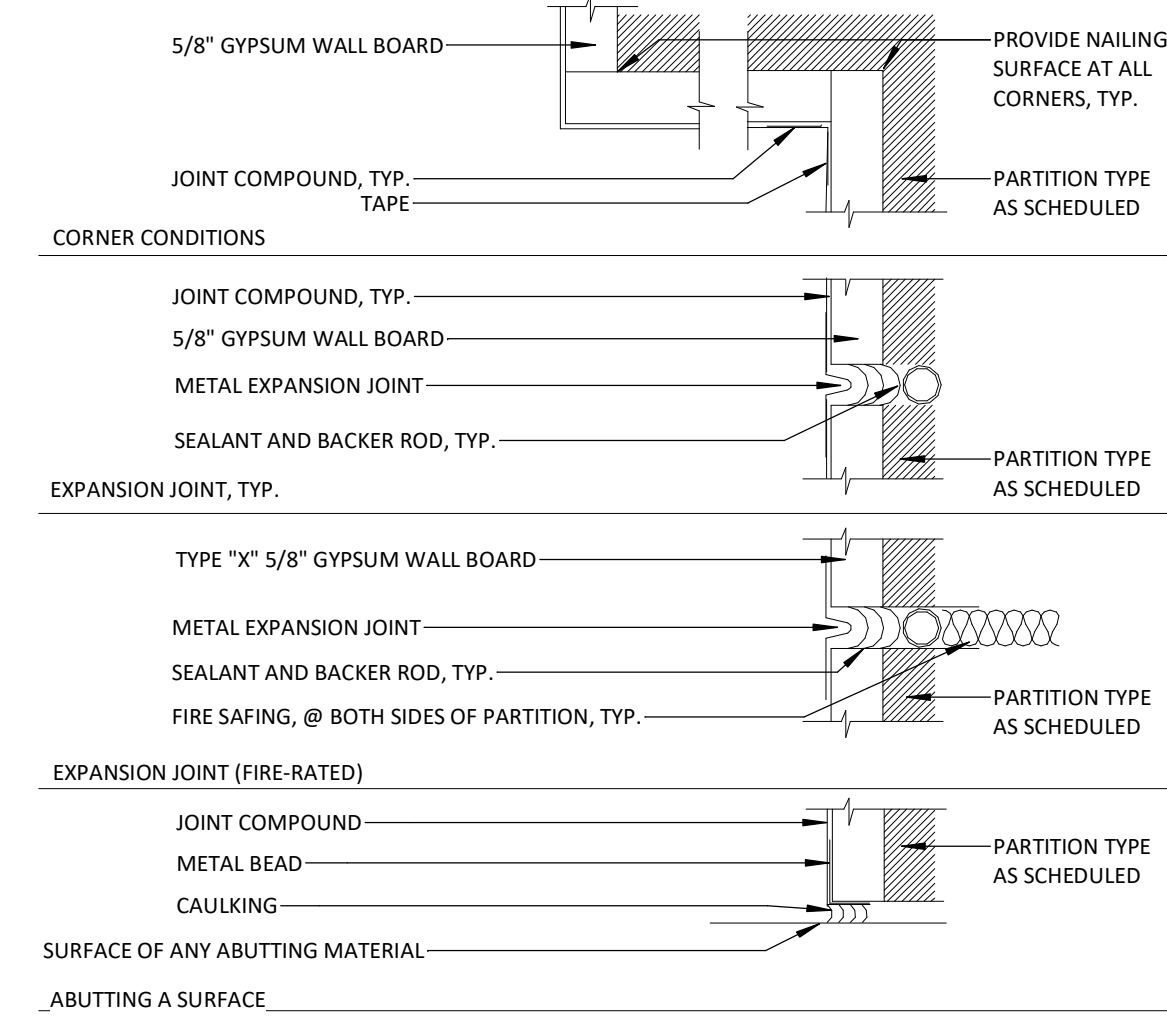
1 EAST INTERIOR ELEVATION
1/4" = 1'-0"



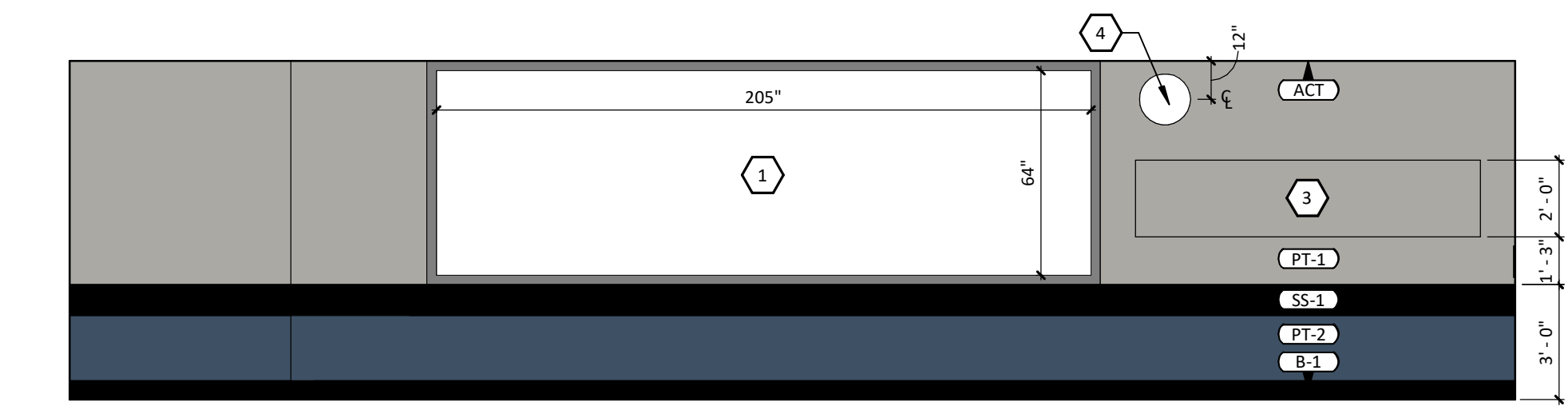
5 GUARD RAIL DETAIL
1" = 1'-0"



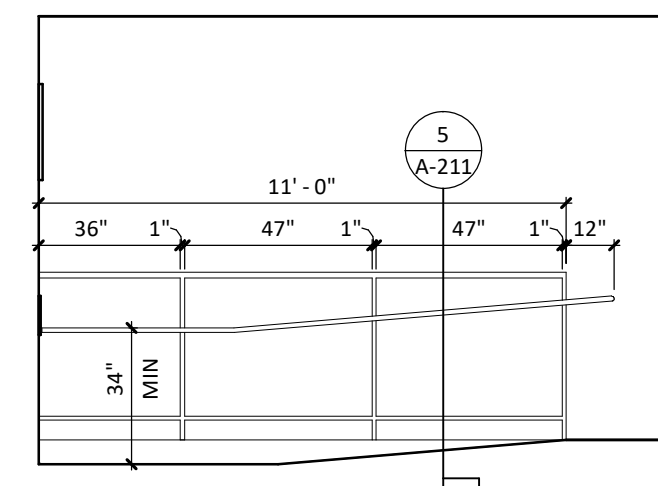
6 HANDRAIL DETAIL
1/4" = 1'-0"



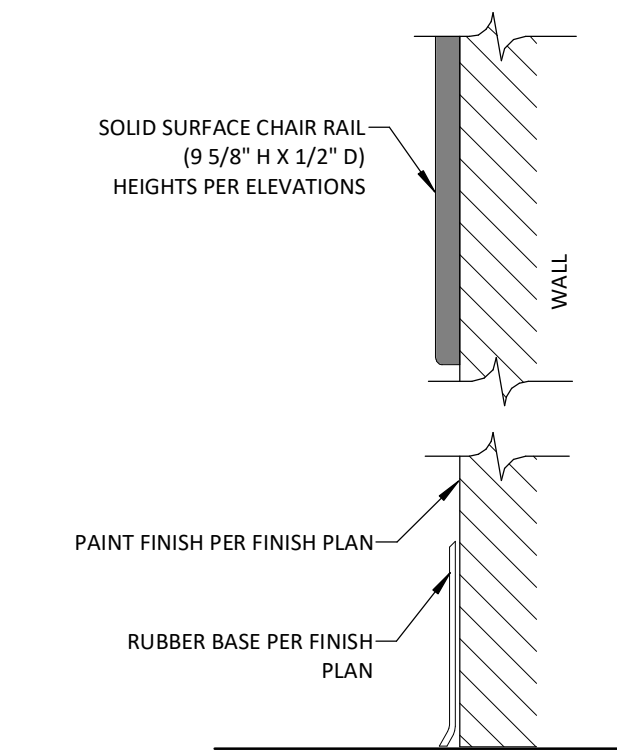
10 GYPSUM WALLBOARD DETAIL
3" = 1'-0"



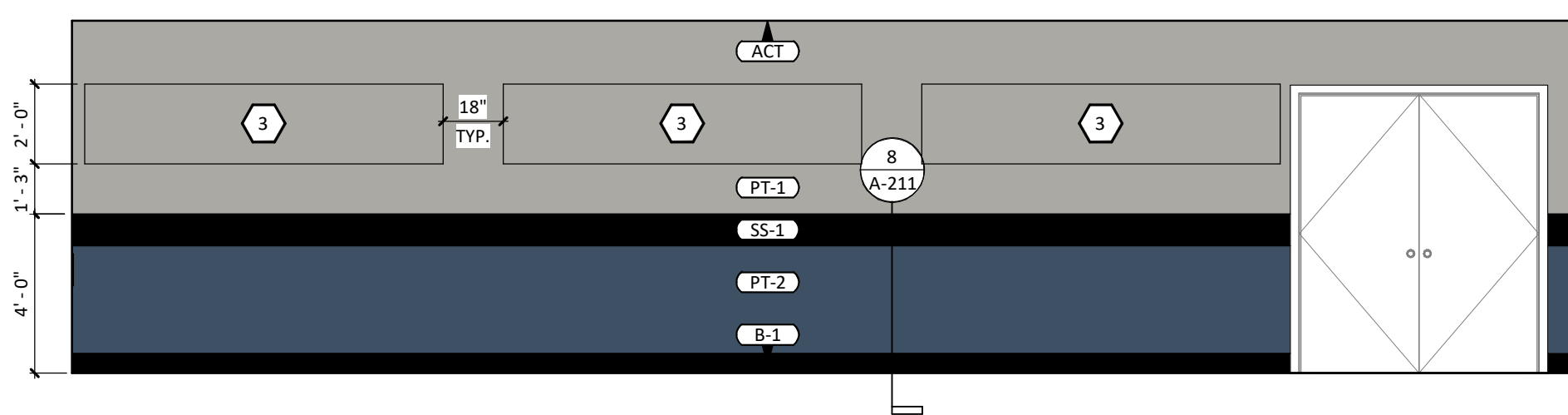
2 SOUTH INTERIOR ELEVATION
1/4" = 1'-0"



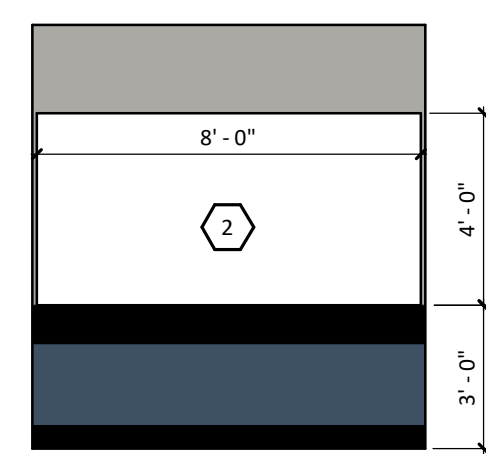
7 RAMP ELEVATION
1/4" = 1'-0"



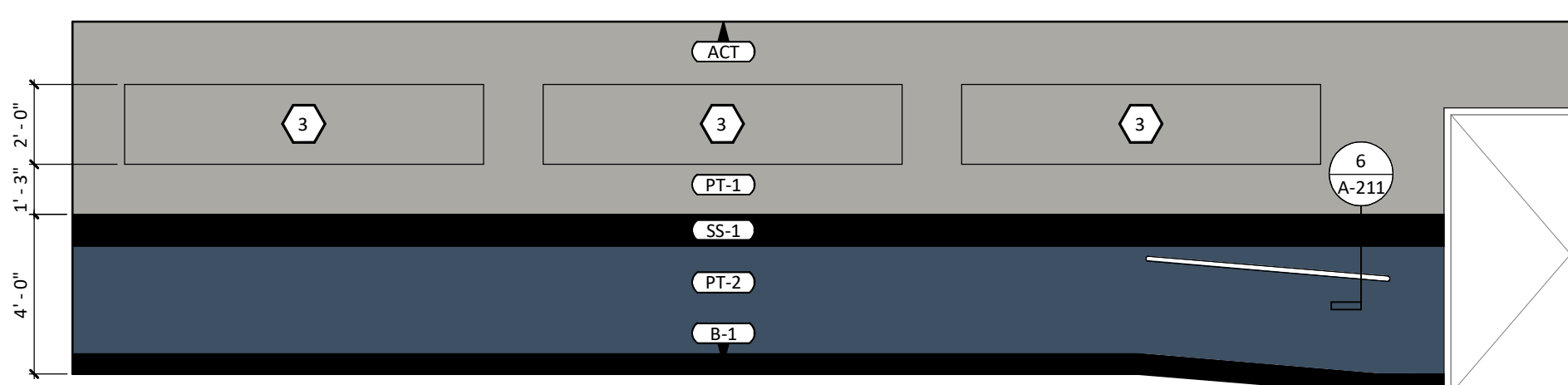
8 FINISH WALL DTL
3" = 1'-0"



3 WEST INTERIOR ELEVATION
1/4" = 1'-0"



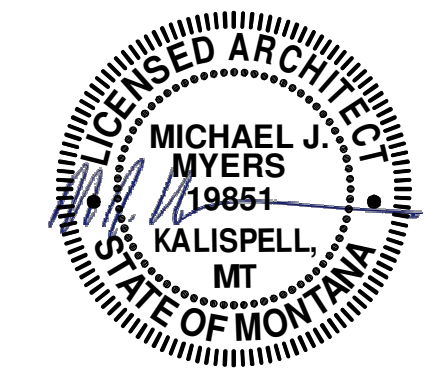
9 SOUTH-EAST INTERIOR ELEVATION
1/4" = 1'-0"



4 NORTH INTERIOR ELEVATION
1/4" = 1'-0"

INTERIOR ELEVATION KEYNOTES

- 1 FIXED PROJECTOR SCREEN, DUAL CONTENT (OFCI)
- 2 8'-0" W x 4'-0" H WHITE BOARD, NO TRAY (CFCI)
- 3 ACOUSTIC WALL PANEL, B.O.D: ARMSTRONG SOUNDOAK 85 FIBERGLASS, 24" x 108", 1" THICK, 0.80 NRC, COLOR: FR-701 GREY MX (CFCI)
- 4 ROE WALL CLOCK (OFCI)



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REVISIONS:

INTERIOR ELEVATIONS

A-211

ABBREVIATIONS

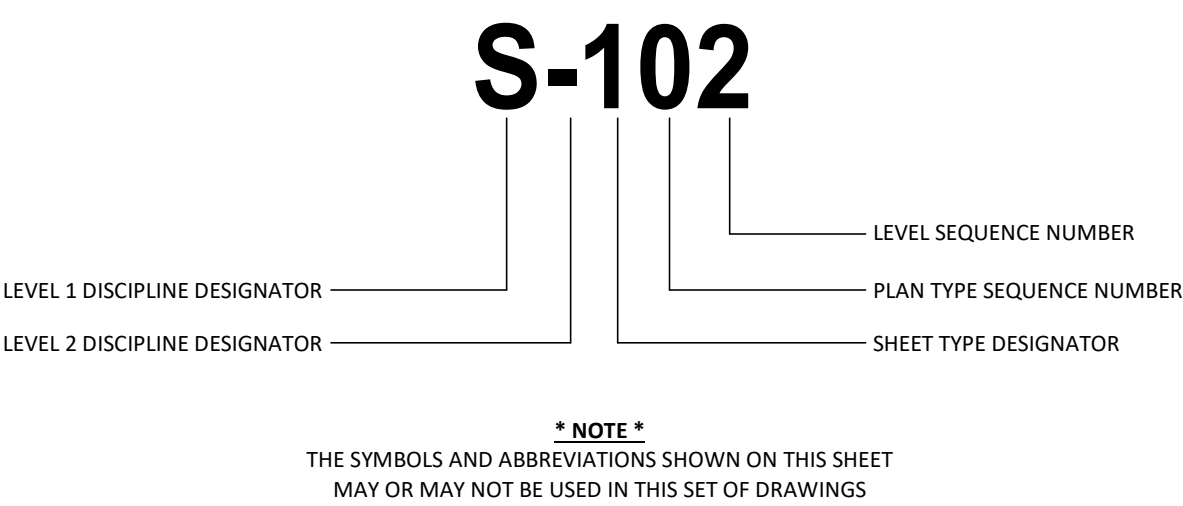
A	AFF ABOVE FINISH FLOOR ACT ACOUSTICAL CEILING TILE ADJ ADJUSTABLE AB ANCHOR BOLT ALUM ALUMINUM ALT ALTERNATE ANOD ANODIZED APPROX APPROXIMATE ARCH ARCHITECT AVG AVERAGE	F.O.S. FIN FINISH FF FINISH FLOOR FL FLASHING FLR FLOOR FN FIELD NAILING FD FLOOR DRAIN FT FOOT, FEET FTG FOOTING FDN FOUNDATION FUT FUTURE FBO FURNISHED BY OTHERS FRP FIBER REINFORCED PANEL FS FAR SIDE	MATL MAX MAXIMUM MECH MECHANICAL, MECHANICAL ROOM MIN MINIMUM MISC MISCELLANEOUS	STRUCT SF SQUARE FEET SUSP SUSPENDED SQ SQUARE SW SHEAR WALL SYMM SYMMETRY, SYMMETRICAL
B	BSMT BASEMENT BM BEAM BRG BEARING BET BETWEEN BLDG BUILDING BLKG BLOCKING B.O. BOTTOM OF BOT BOTTOM BN BOUNDARY NAILING BS BOTH SIDES	G GA GAUGE GALV GALVANIZED GEN GENERAL GL GLASS G/L, GLM GLULAM BEAM/COLUMN GWB GYPSUM WALL BOARD GYPC GYPCRETE	N N NORTH (N) NEW NA NOT APPLICABLE NIC NOT IN CONTRACT NTS NOT TO SCALE NO NUMBER NOM NOMINAL NS NEAR SIDE NWC NORMAL WEIGHT CONCRETE	I TBD TO BE DETERMINED/DESIGNED TBU TO BE UPDATED TEL TELEPHONE TEMP TEMPERED, TEMPORARY T&B TOP AND BOTTOM NO TONGUE AND GROOVE THK THICK THRU THROUGH T.O. TOP OF T.O.B. TOP OF BRICK T.O.C. TOP OF CONCRETE T.O.S. TOP OF SLAB T.O.W. TOP OF WALL T.O.M. TOP OF MASONRY T TREAD TYP TYPICAL
C	CIP CAST-IN-PLACE CLG CEILING CLR CLEAR CLT CROSS LAMINATED TIMBER COL COLUMN CONC CONCRETE CONN CONNECTION CONST CONSTRUCTION CONT CONTINUOUS CONTR CONTRACT, CONTRACTOR CORR CORRIDOR CJ CONTROL JOINT CMU CONCRETE MASONRY UNIT	H HALL HALLWAY HD HOLDOWN, HOLD-DOWN HDR HEADER HDW HARDWARE HVAC HEATING, VENTILATING, & AIR CONDITIONING HT HEIGHT HM HOLLOW METAL HORIZ HORIZONTAL HR HOUR HSS HOLLOW STRUCTURAL SECTION	O OC ON CENTER OFF OFFICE OPG OPENING OPP OPPOSITE OD OUTSIDE DIAMETER OF OUTSIDE FACE O/O OUT TO OUT OSB ORIENTED STRAND BOARD	U UBC UNIFORM BUILDING CODE UNO UNLESS NOTED OTHERWISE UTIL UTILITY
D	DBL DOUBLE DBL TP DOUBLE TOP PLATE DEG DEGREE DEMO DEMOLISH, DEMOLITION DTL DETAIL DIA DIAMETER DIM DIMENSION DST DISTANCE DF/L DOUGLAS/FIR LARCH DIV DIVISION DL DEAD LOAD DR DOOR DN DOWN DS DOWNSPOUT DWG DRAWING	I IBC INTERNATIONAL BUILDING CODE ICC INTERNATIONAL CODE COUNCIL INCL INCLUDE, INCLUDED (ING) INFO INFORMATION ID INSIDE DIAMETER IJ ISOLATION JOINT INSUL INSULATE, INSULATION INT INTERIOR	P PERP PERPENDICULAR PNT PAINT, PAINTED PNL PANEL PH PHASE PI PERIMETER ISOLATION JOINT PLAS PLASTIC PL PLATE PLF POUNDS PER LINEAR FOOT PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSL PARALLEL STRAND LUMBER PLYWD PLYWOOD PVC POLYVINYL CHLORIDE PREFIN PREFINISHED PROP PROPERTY PT PRESSURE TREATED	V VF VAPOR BARRIER VENEER VENEER VERT VERTICAL VCT VINYL COMPOSITION TILE VIF VERIFY IN FIELD
E	EA EACH E EAST (E) EXISTING EF EACH FACE EIFS EXTERIOR INSULATION FINISHING SYSTEMS ELEC ELECTRIC EN EDGE/END NAIL ELEV ELEVATION, ELEVATOR EMBED EMBEDMENT EOS EDGE OF SLAB EOR ENGINEER OF RECORD EQ EQUAL EQUIP EQUIPMENT EW EACH WAY EXIST EXISTING EXP EXPANSION EXC EXCAVATION EJ EXPANSION JOINT EXT EXTERIOR	J JST JOIST(S) JT JOINT	Q QUAN QUANTITY	W WF WIDE FLANGE WD WOOD WIN WINDOW WP WATERPROOF (ING) WRB WEATHER RESISTANT BARRIER WWF WELDED WIRE FABRIC WWM WELDED WIRE MESH WT WEIGHT W WEST, WASHER W/ WITH W/O WITHOUT
F.O.B. F.O.C. F.O.M.	FACE OF BRICK FACE OF CONCRETE FACE OF MASONRY	K KO KNOCK OUT	R RAD RADIUS REB REBAR REF REFERENCE REINF REINFORCE, REINFORCEMENT RCP REFLECTED CEILING PLAN REQ'D REQUIRED RFI REQUEST FOR INFORMATION REV REVISION R RISER RD ROOF DRAIN RM ROOM RO ROUGH OPENING	X XX SECTION XX ELEVATION XX DETAIL XX ITEM IDENTIFICATION SHEET WHERE FOUND XX NORTH ARROW
		L LB POUND(S) LBL LABEL LAM LAMINATED LAV LAVATORY LVL LAMINATED VENEER LUMBER LL LIVE LOAD LT LIGHT LOC'N LOCATION LSL LAMINATED STRAND LUMBER LWC LIGHT WEIGHT CONCRETE	S SCHED SCHEDULE SEC SECTION SHTG SHEATHING SIM SIMILAR SOG SLAB ON GRADE S SOUTH (S) SIMPSON SPEC SPECIFICATION SQ SQUARE STAG STAGGERED STD STANDARD STL STEEL STOR STORAGE	Y Y HOLD DOWN Y HANGER Y REVISION NUMBER Y KEY NOTE Y DEMOLITION NOTE

SYMBOLS USED AS ABBREVIATIONS

&	AND
L	ANGLE
2L	DOUBLE ANGLE
@	AT
€	CENTERLINE
u	CHANNEL
Ø	DIAMETER
#	NUMBER

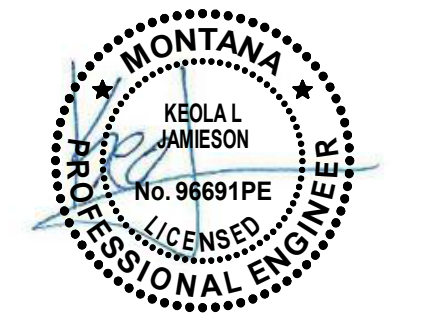
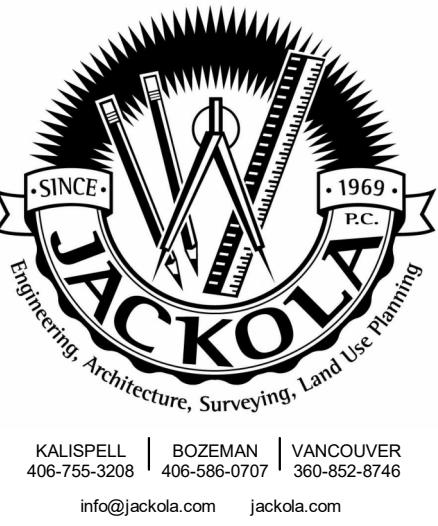
SYMBOLS & MATERIALS

	STRUCTURAL FILL		FINISHED WOOD
	UNDISTURBED EARTH		PLYWOOD
	DISTURBED EARTH		RIGID INSULATION
	GRAVEL		BATT INSULATION
	POURED CONCRETE		SPRAYFOAM INSULATION
	CONCRETE BLOCK VENEER		SAND, PLASTER, GROUT
	BRICK VENEER		METAL
	EIFS		STEEL
	ROUGH WOOD		GYPCRETE
	BLOCKING		FLOOR SHEATHING



STRUCTURAL SHEET INDEX

S-001	STRUCTURAL TITLE SHEET
S-002	STRUCTURAL NOTES
S-111	FRAMING PLAN



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DRAWN: MES CHECKED: KLJ

DATE: 11/19/2024

REVISIONS:

STRUCTURAL TITLE SHEET

S-001

STRUCTURAL DESIGN

GOVERNING CODES AND GENERAL NOTES

- A. INTERNATIONAL BUILDING CODE (IBC) 2021
- B. INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2021
- C. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) - MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES - ASCE 7-16 WITH SUPPLEMENT 1
- D. AMERICAN CONCRETE INSTITUTE (ACI) - BUILDING CODE & COMMENTARY ACI 318-19
- E. THE MASONRY SOCIETY (TMS) - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES TMS 402-16
- F. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) - STEEL CONSTRUCTION MANUAL FOURTEENTH EDITION AISC 360-16
- G. AMERICAN FOREST & PAPER ASSOCIATION (AF&PA) - NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION NDS 2018
- H. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) 9TH EDITION

PROJECT SCOPE

- A. THE SCOPE OF THIS DESIGN AND PLANS IS LIMITED TO A NEW SLAB ON GRADE AT LEON JOHNSON ROOM 346. NO ANALYSIS OF THE EXISTING BUILDING'S ENTIRE GRAVITY OR LATERAL SYSTEMS WAS PERFORMED AND NO ENDORSEMENT OF THE ADEQUACY OF THE EXISTING BUILDING'S ENTIRE GRAVITY OR LATERAL SYSTEMS IS EXPRESSED OR IMPLIED.

DESIGN LOADS

- A. RISK CATEGORY - II
- B. GRAVITY LOADS
 - 1. FLOOR LOADS
 - a. NEW FLOOR DEAD LOAD - 150 PSF (SLAB ON GRADE)
 - b. FLOOR LIVE LOAD - 40 PSF (CLASSROOMS)
- C. LATERAL LOADS
 - 1. THE NEW GROUND LEVEL FLOOR DOES NOT IMPOSE NEW WIND OR SEISMIC LOADS ON THE BUILDING.

1 STRUCTURAL DESIGN INFORMATION

CONCRETE

- A. MATERIALS:
 - 1. ALL CEMENT IN CONCRETE SHALL BE TYPE I/II AND CONFORM TO ASTM C150 SPECIFICATION FOR PORTLAND CEMENT.
 - 2. ALL AGGREGATE TO CONFORM TO ASTM C33 SPECIFICATION FOR CONCRETE AGGREGATES.
 - 3. CONCRETE SUPPLIER TO MIX BASED ON TESTING TO ASSURE THE MINIMUM COMPRESSIVE STRENGTH PER ACI 318 26.4.4.1 (a). IN THE ABSENCE OF SUFFICIENT TEST DATA, CONCRETE PROPORTIONING SHALL BE DONE IN ACCORDANCE WITH ACI 318 26.4.4.1 (c).
 - 4. THE MAXIMUM NOMINAL AGGREGATE SIZE SHALL BE THE SMALLEST OF:
 - a. ONE FIFTH THE NARROWEST DIMENSION BETWEEN THE FORMS.
 - b. ONE THIRD THE DEPTH OF THE SLAB.
 - c. THREE-FOURTHS THE MINIMUM CLEAR SPACING BETWEEN INDIVIDUAL REINFORCING BARS OR WIRES.
 - d. THESE PROVISIONS ARE TO ASSURE CONCRETE PLACEMENT WITHOUT VOIDS OR HONEYCOMBS AND MAY BE WAIVED ONLY BY THE BUILDING OFFICIAL IF THEY JUDGE THAT LARGER SIZES ARE ADEQUATE BECAUSE OF WORKABILITY AND METHODS OF CONSOLIDATION.
- B. INSTALLATION:
 - 1. CONCRETE CURING (OTHER THAN HIGH-EARLY) SHALL BE MAINTAINED ABOVE A TEMPERATURE OF 50°F AND IN A MOIST CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACEMENT.
 - 2. HIGH EARLY CONCRETE SHALL BE CURED ABOVE 50°F AND IN A MOIST CONDITION FOR AT LEAST THE FIRST THREE DAYS.
 - 3. ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR-FREEZING WEATHER.
 - 4. FROZEN MATERIALS OR MATERIALS CONTAINING ICE SHALL NOT BE USED.
 - 5. ALL CONCRETE MATERIALS, REINFORCEMENT, FORMS, FILLERS, AND GROUND WHICH THE CONCRETE IS TO BE IN CONTACT WITH IS TO BE FREE OF FROST.
 - 6. DURING HOT WEATHER, PROPER ATTENTION SHALL BE GIVEN TO INGREDIENTS, PRODUCTION METHODS, HANDLING, PLACING, PROTECTION, AND CURING TO PREVENT EXCESSIVE CONCRETE TEMPERATURES AND EVAPORATION THAT MAY IMPAIR REQUIRED STRENGTH OR SERVICEABILITY OF THE MATERIAL.
 - 7. ALL WALLS & FOUNDATIONS SHALL BE MECHANICALLY CONSOLIDATED.
 - 8. VIBRATORS SHALL BE INSERTED IN PREVIOUS Poured FRESH CONCRETE TO PREVENT COLD JOINTS WHEN MULTIPLE LAYER OF CONCRETE ARE PLACED IN A WALL.
 - 9. CONDUITS, PIPES, AND SLEEVES SHALL BE ALLOWED ONLY WHERE NOTED ON THE PLANS.
 - 10. ANY ADDITIONAL ALTERATIONS ARE NOT PERMITTED WITHOUT ENGINEER APPROVAL THAT IT WILL NOT COMPROMISE STRUCTURAL INTEGRITY.
 - 11. CONSTRUCTION JOINTS:
 - a. THE SURFACE OF ALL CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED.
 - b. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.
 - c. PROVISIONS SHALL BE MADE TO TRANSFER SHEAR FORCES THROUGH CONSTRUCTION JOINTS.
- C. SLABS:
 - 1. INTERIOR SLAB ON GRADE SHALL BE CLASS 1 W/ A NORMAL STEEL TROWELED FINISH.
 - 2. FLOOR SHALL BE WITHIN 1/8" PER 10 FT FOR FLATNESS REQUIREMENTS.
 - 3. WHERE EXPOSED, SLAB SHALL BE SEALED WITH A HIGH SOLID CONTENT SOLVENT BASED CURE & SEAL, EUCLID SUPER DIAMOND OR APPROVED EQUAL.
 - 4. CONCRETE IN SIDEWALKS OR EXTERIOR SLABS THAT WILL BE EXPOSED TO FREEZING/THAWING OR DEICING CHEMICALS SHALL HAVE A MAXIMUM 0.45 WATER/CEMENTITIOUS RATIO BY WEIGHT FOR NORMAL WEIGHT AGGREGATE CONCRETE AND BE 4500 PSI MINIMUM.
- D. REINFORCEMENT:
 - 1. ALL REINFORCING BARS SPECIFIED SHALL BE DEFORMED BARS AT LEAST GRADE 60.
 - 2. ALL BENDING OF REINFORCING MATERIAL SHALL BE DONE COLD AND MINIMUM BEND DIAMETER SHALL BE 6 TIMES THE NOMINAL BAR DIAMETER FOR #3-#8 BAR AND 8 TIMES THE NOMINAL BAR DIAMETER FOR #9-#11 BARS.
 - 3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE MAY NOT BE FIELD BENT WITHOUT PRIOR APPROVAL FROM EOR.
 - 4. REINFORCEMENT, ANCHORS AND EMBEDDED ITEMS SHALL BE ACCURATELY PLACED AND SUPPORTED BEFORE CONCRETE IS PLACED AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN TOLERANCES OF SECTION 1901.7 OF THE CURRENT VERSION OF THE IBC.
 - 5. STANDARD HOOK ON REINFORCING BAR SHALL BE:
 - a. 180° BEND PLUS 4d EXTENSION, BUT NOT LESS THAN 2 1/2" AT FREE END OF BAR.
 - b. 90° BEND PLUS 12d EXTENSION AT FREE END OF BAR.
 - c. FOR STIRRUP AND TIE HOOKS: SEE DETAILS.
 - 6. MINIMUM REBAR LAPS - PER SCHEDULE
 - a. CLEAR SPACING OF NOT LESS THAN 2d AND CLEAR COVER OF NOT LESS THAN d.
 - b. ALL OTHER SPLICES CONDITIONS SHALL BE BY THE EOR AND ILLUSTRATED ON FOUNDATION PLAN & DETAIL SHEETS.
- E. GYPCRETE:
 - 1. GYPCRETE SHALL BE MAXXON GYP-CRETE MULTIFAMILY 2,000 FLOOR UNDERLAYMENT OR APPROVED EQUAL.
- F. REFER TO TABLE BELOW FOR MINIMUM COVER AND TOTAL AIR CONTENT FOR CONCRETE IN DIFFERENT SERVICE CONDITIONS.

CONCRETE PROTECTION FOR REINFORCEMENT

CAST-IN-PLACE CONCRETE (NON-PRESTRESSED)

DESCRIPTION	MINIMUM COVER (IN)
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3
CONCRETE EXPOSED TO EARTH OR WEATHER:	
No. 6 THRU No. 18 BAR	2
No. 5 BAR, W31 OR D31 WIRE AND SMALLER	1-1/2
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:	
SLABS, WALLS, AND JOISTS:	
No. 14 AND No. 18 BAR	1-1/2
No. 11 BAR AND SMALLER	3/4
CONCRETE THL-UP PANELS CAST AGAINST A RIGID HORIZONTAL SURFACE SUCH AS A CONCRETE SLAB EXPOSED TO THE WEATHER:	
No. 8 BAR AND SMALLER	1
No. 9 THRU No. 18 BAR	2

	28 DAY COMPRESSIVE STRENGTH	SLUMP (IN) MAX/MIN	MAX W/C RATIO	AIR CONTENT (%)
FOOTINGS	3000 PSI	5/3	.5	6 +/- 1.5%
FOUNDATION WALLS	3000 PSI	5/3	.5	6 +/- 1.5%
INTERIOR SLAB	4000 PSI	5/3	.45	3 MAX
EXTERIOR SLAB	4500 PSI	5/3	.45	6 +/- 1.5%

NOTE: SLABS WITH SUPER PLASTICIZER SHALL HAVE A MAXIMUM SLUMP OF 6 1/2".

2 CONCRETE NOTES

SUBMITTALS

SUBMITTALS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD (EOR) FOR REVIEW. ALLOW 7-14 DAYS FOR REVIEW BY THE EOR.

- A. SUBMIT MIX DESIGNS FOR:
 - 1. CAST-IN-PLACE CONCRETE

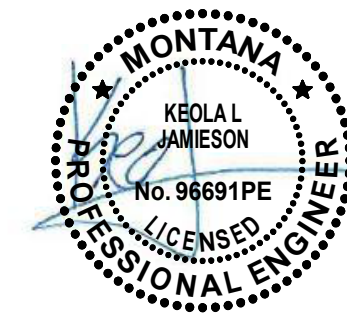
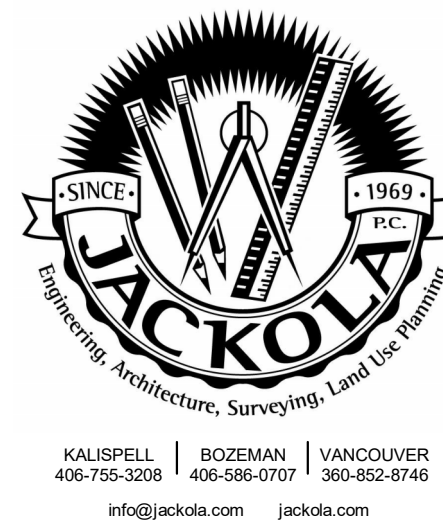
3 LIST OF SUBMITTALS

SOILS AND FOUNDATIONS

- A. CONSTRUCTION MATERIALS:
 - 1. VAPOR BARRIER:
 - a. 10 MIL WR MEADOWS PERMIATOR, STEGO INDUSTRIES STEGO WRAP CLASS A OR APPROVED EQUAL.
 - b. ALL SEAMS SHALL BE OVERLAPPED & SEALED WITH MANUFACTURER APPROVED TAPE. ALL PROTRUSIONS & PENETRATIONS SHALL BE SEALED. HOLES SHALL BE REPAIRED.
 - c. SEAL THE VAPOR BARRIER TO THE VERTICAL FACE OF THE STEM WALL WITH THE MANUFACTURER RECOMMENDED ATTACHMENT DETAIL.
 - d. INSTALLATION SHALL MEET ASTM E 1643-C STANDARD PRACTICE FOR INSTALLATION OF VAPOR RETARDER USED IN CONTACT WITH EARTH OR FILL UNDER CONCRETE SLAB. SUBSTITUTIONS SHALL BE SUBMITTED FOR APPROVAL.
 - 2. FOUNDATION & SLAB INSULATION:
 - a. USE DOW CHEMICAL BUILDING PRODUCT OR APPROVED EQUAL
 - b. HORIZONTAL INSULATION
 - STYROFOAM BRAND EXTRUDED POLYSTYRENE FOAM SQUARE EDGE INSULATION W/ MIN COMPRESSIVE STRENGTH OF 25 PSI.
- B. SLAB PREPARATION:
 - 1. INTERIOR SLAB PREPARATION:
 - A. A LAYER OF OPEN-GRADED ANGULAR CRUSHED ROCK TO BE INSTALLED BENEATH THE SLAB WHERE SHOWN.
 - B. THE UPPER 2 INCHES OF CRUSHED ROCK MAY BE SUBSTITUTED FOR 3/4-INCH MINUS CRUSHED ROCK FOR LEVELING.
 - C. THE SLAB-ON GRADE BASE COURSE SHOULD BE COMPACTED USING VIBRATORY COMPACTION METHODS UNTIL WELL KEYED.

4 SOILS & GEOTECHNICAL NOTES

1" = 1'-0"



FOR PERMIT & BIDDING

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LEON JOHNSON HALL
MONTANA STATE UNIVERSITY
ROOM #346
PPA#: 23-0828

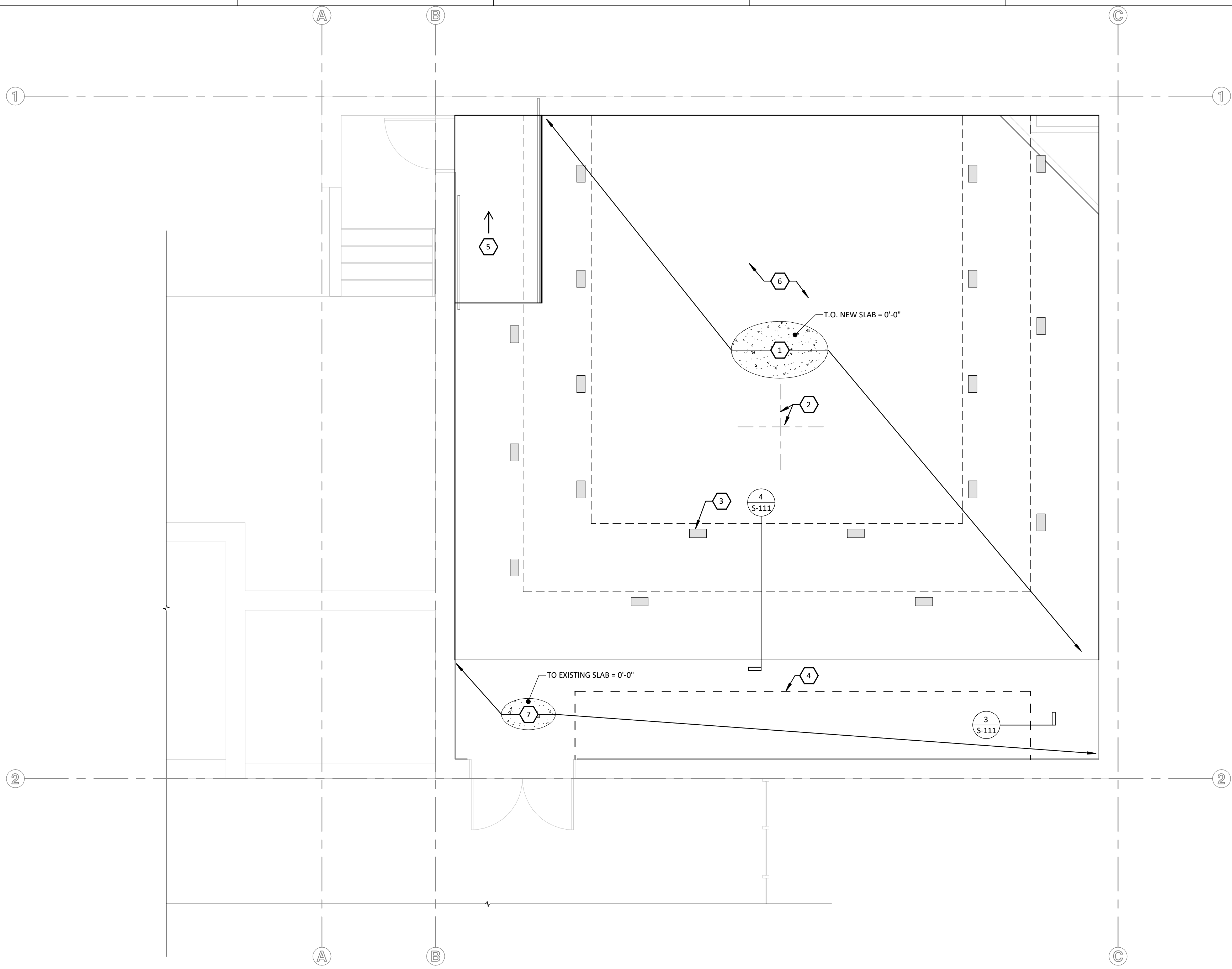
DRAWN: MES CHECKED: KLJ

DATE: 11/19/2024

REVISIONS:

STRUCTURAL NOTES

S-002



LEGEND	
	CONTROL JOINT
	CONCRETE SLAB

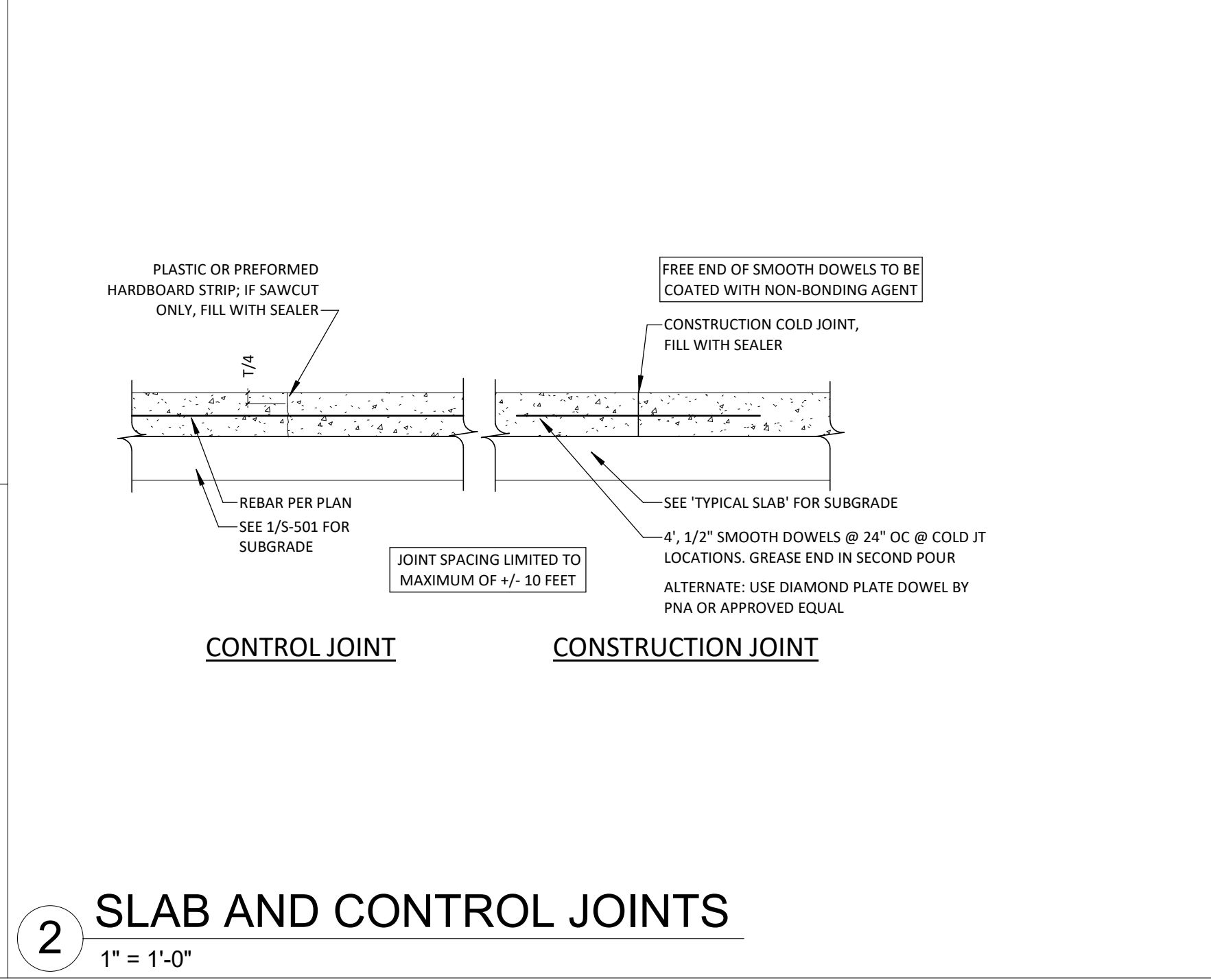
GENERAL NOTES:

- SEE S-501-S50X FOR TYPICAL DETAILS.
- SEE S-501-S-00X FOR DESIGN CRITERIA AND GENERAL STRUCTURAL NOTES.
- DIMENSIONS ARE SHOWN FOR INFORMATION ONLY. LAYOUT SHOULD BE COORDINATED WITH ARCHITECTURAL PLANS.
- DIMENSIONS ARE SHOWN TO OUTSIDE OF FRAMING AND OUTSIDE OF CONCRETE UNLESS NOTED OTHERWISE.
- VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND ROOFS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING OR HAVING LOCATED THE BUILDING ON THE SITE AND VERIFYING ALL FOUNDATION DIMENSIONS, AND SETBACK REQUIREMENTS FROM EASEMENTS AND PROPERTY LINES WITH THE ARCHITECT PRIOR TO CONSTRUCTION.
- COORDINATE GROUNDING ELECTRODE REQUIREMENTS WITH ELECTRICAL DRAWINGS AND CONTRACTOR.

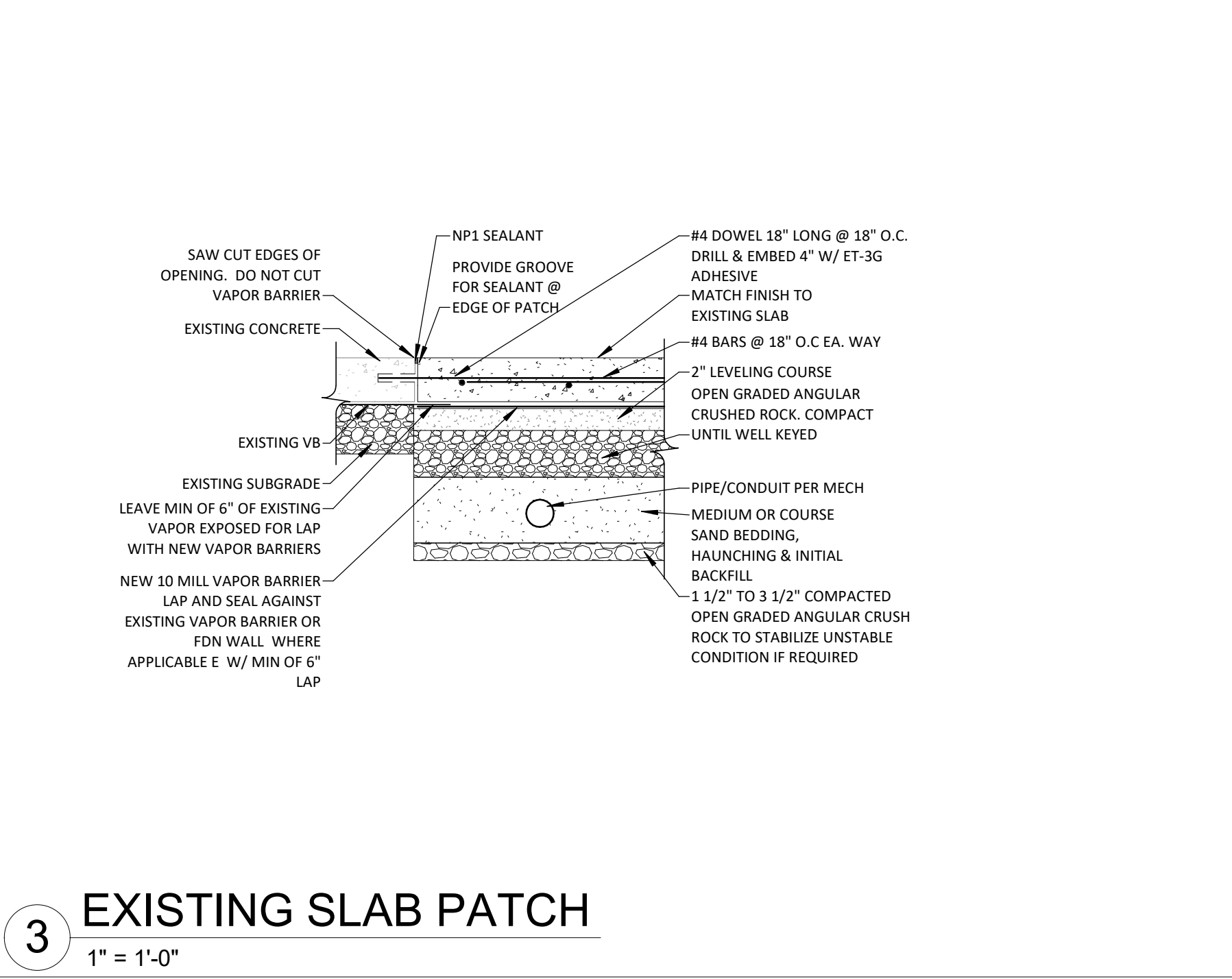
KEYNOTES

- 4" MIN. THICKNESS SLAB ON GRADE ON TOP OF (E) SLAB ON GRADE. REINFORCE W/ #4 BARS @ 18" O.C. EA WAY TOP
- CONTROL JOINT SEE 02/S-501
- EXISTING VENTS. COVER
- SAWCUT AND PATCH EXISTING SLAB FOR NEW MECH.
- NEW RAMP TO EXISTING DOOR
- FILL SPACE UNDER SLAB WITH UP TO 14" OF COMPACTED GRANULAR STRUCTURAL FILL
- EXISTING SLAB TO REMAIN

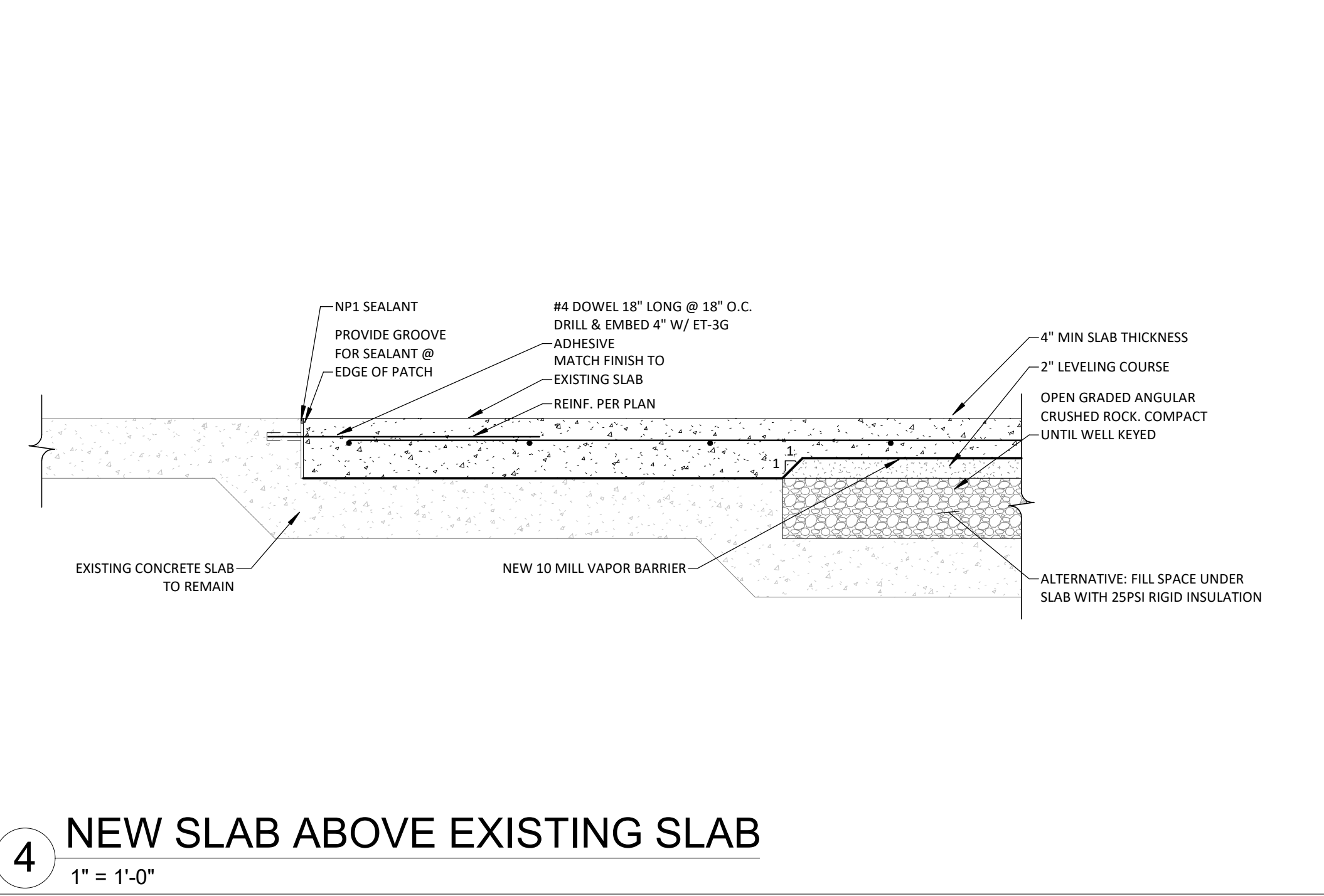
1 FRAMING PLAN
1/4" = 1'-0"



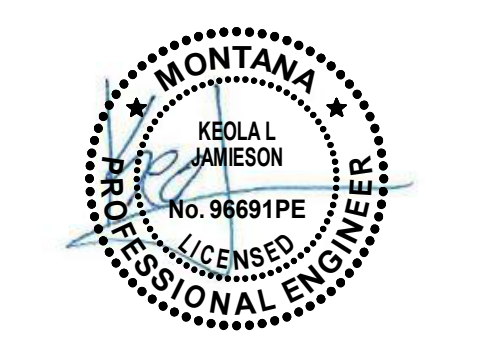
2 SLAB AND CONTROL JOINTS
1" = 1'-0"



3 EXISTING SLAB PATCH
1" = 1'-0"



4 NEW SLAB ABOVE EXISTING SLAB
1" = 1'-0"



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DRAWN: MES CHECKED: KLJ
DATE: 11/19/2024

REVISIONS:

FRAMING PLAN

S-111

PROJECT GENERAL NOTES

- REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING AS SHOWN AND LOCAL MECHANICAL SYSTEMS WITHIN TENANT SPACE AND WITHIN CLOSE PROXIMITY OF TENANT SPACE. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENINGS PRIOR TO START OF WORK. UNSAID DRAINS AT COMPLETION OF CONSTRUCTION. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE. LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT. FIRE SEAL AROUND DUCT AND PIPING PENETRATIONS OF FIRE RATED WALLS. REFER TO SPECIFICATION. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT. PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWINGS, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD. INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS U.N.O.

HVAC GENERAL NOTES

- ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE. THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH. INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE BY A LICENSED CONTRACTOR PER THE STATE BUILDING, MECHANICAL ENERGY, FIRE, PLUMBING AND HEALTH CODES, AND REGULATIONS AS ADOPTED BY LOCAL JURISDICTIONS. ALL EQUIPMENT SHALL BE THE CAPACITY AND TYPE AS SHOWN ON THE EQUIPMENT SCHEDULE AND SHALL BE THE LISTED MANUFACTURER AND MODEL NUMBER OR SHALL BE AN EQUAL APPROVED BY THE OWNER/ENGINEER. CONTRACTOR IS TO BRING UP THE DISCREPANCIES AND ITEMS WHICH ARE NOT SPECIFICALLY CALLED FOR OR SHOWN BUT ARE REQUIRED FOR A COMPLETE MECHANICAL SYSTEM. ALL SUCH ITEMS REQUIRED FOR A COMPLETE SYSTEM READY FOR THE OWNER'S BENEFICIAL USE SHALL BE FURNISHED AND INSTALLED INCLUDING ALL SUCH DISCREPANCY ITEMS MENTIONED ABOVE, AT NO ADDITIONAL COST TO THE OWNER AND PER LOCAL CODES, MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE STANDARDS WITH THE ARCHITECT/ENGINEER'S APPROVAL. ALL EQUIPMENT SUPPLIED FOR THESE SPECIFICATIONS SHALL BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND TITLE, AND SHALL BE OF THE KIND AND QUALITY DESCRIBED HEREIN. IF IT APPEARS WITHIN ONE YEAR FROM DATE OF FINAL ACCEPTANCE THAT EQUIPMENT DOES NOT MEET THE WARRANTIES ABOVE, THE CONTRACTOR SHALL IMMEDIATELY CORRECT ANY DEFECT AND SHALL RESTORE THE SYSTEM TO THE ORIGINAL SATISFACTORY CONDITIONS AT HIS EXPENSE. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF OTHER WARRANTIES, WHETHER WRITTEN, ORAL, IMPLIED, OR STATUTORY. NO WARRANTY OR MERCHANTABILITY OF FITNESS FOR PURPOSE SHALL APPLY (THE WARRANTY SHALL START FROM THE TIME OF ARCHITECT/ENGINEER'S FINAL ACCEPTANCE). COORDINATE THE CONSTRUCTION SCHEDULE WITH THE GC AND PERFORM ALL REQUIRED WORK IN STRICT ACCORDANCE WITH THE OWNER'S SCHEDULE. MECHANICAL CONTRACTOR SHALL PAY FOR AND OBTAIN ALL REQUIRED PERMITS AND CERTIFICATES REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. HVAC NOTES: PROVIDE FLEXIBLE JOSECTION IN ALL DUCTS CONNECTING TO AIR MOVING EQUIPMENT AS CLOSE TO FAN AS POSSIBLE. FLEXIBLE JOSECTION SHALL CONSIST OF 6" OR MORE OF AIR TIGHT, FIRE PROOF FLEXIBLE NEOPRENE COATED WOVEN FIBROUS GLASS MATERIAL. VENT FABRICS, INC. OR APPROVED EQUAL. ALL MAIN TRUNK AND BRANCH TAKEOFF DUCTWORK SHALL BE SHEET METAL. FLEXIBLE DUCT IS ALLOWED ON LAST 6' SERVING GRDS. FIBERGLASS DUCTWORK SHALL NOT BE USED. ALL SUPPLY & RETURN FLEXIBLE DUCTS CONNECTING TO GRILLES, REGISTERS AND DIFFUSERS SHALL BE CONSTRUCTED OF DOUBLE LAMINATION OF POLYESTER ENCAPSULATED STEEL WIRE HELIX FOR INNER CORE HIGH DENSITY FIBERGLASS INSULATION AND GRAY POLYESTER FILM WITH SPIRAL REINFORCEMENTS, EQUAL TO ATCO-70 SERIES (MIN. POS. PRESS. = 6" W.G. NEG. PRESS. = 0.75" W.G. & R-15.79). SEAL ALL DUCTWORK JOINTS PER SMACNA CLASS F FOR SYSTEMS UP TO 2 IN W.G. AND SEAL ALL JOINTS AND SEAMS PER SMACNA CLASS B FOR SYSTEMS GREATER THAN 2 IN W.G. ALL EQUIPMENT, DUCTWORK AND PIPING SHALL BE STRUCTURALLY SUPPORTED AND SECURELY FASTENED TO BUILDING STRUCTURE IN AN ACCEPTABLE MANNER TO OWNER, ARCHITECT, ENGINEER AND LOCAL JURISDICTION AND SHALL BE SEISMICALLY BRACED PER THE SMACNA AND/OR REQUIRED BY LOCAL JURISDICTIONS. PROVIDE LOCKABLE VOLUME DAMPERS IN ALL TAKEOFFS. DUCT HANGERS, SUPPORTS AND METHODS OF INSTALLATION SHALL CONFORM TO ASHRAE & SMACNA RECOMMENDATIONS. DUCT SIZES SHOWN ON PLANS INDICATE INSIDE FREE AREA. ALL DUCTWORK SHALL BE CLASS-1 AIR DUCT AS APPROVED BY UL-181. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES. DUCT INSULATION SHALL BE PROVIDED PER DUCT INSULATION SCHEDULE ON M0.00. ALL FIRE RATED STRUCTURE SHALL BE FIRE DAMPERED AS REQUIRED BY THE JURISDICTION. FLEXIBLE DUCTS SHALL HAVE MAXIMUM 6 FEET LENGTH UNLESS SHOWN OTHERWISE AND SHALL NOT PENETRATE THROUGH ANY FIRE RATED WALLS. DO NOT INSTALL FLEXIBLE DUCTS WITHIN 6 FEET OF HEATING ELEMENT. HVAC SYSTEM SHALL BE STARTED UP AND FUNCTIONALLY TESTED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL CONFIRM THAT ALL HVAC SYSTEMS ARE READY FOR TESTING, ADJUSTING, AND BALANCING. HVAC SYSTEMS SHALL BE TESTED, ADJUSTED, AND BALANCED (TAB) BY CONTRACTOR CERTIFIED BY THE AABC, NEBB, OR OTHER APPROVED AGENCY. REFRIGERATION PIPING SHALL BE TESTED UNDER PRESSURE AND PROVEN TO BE LEAK FREE. REFRIGERATION SYSTEM SHALL BE STARTED UP AND BROUGHT DOWN TO DESIGN TEMPERATURE. 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ALL PRODUCT WARRANTY REGISTRATION CARDS, APPLICATIONS, AND CERTIFICATES SHALL BE COMPLETED AND TURNED OVER TO THE OWNER.

GENERAL MECHANICAL NOTES

- INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE BY A LICENSED CONTRACTOR PER THE STATE BUILDING, MECHANICAL ENERGY, FIRE, PLUMBING AND HEALTH CODES, AND REGULATIONS AS ADOPTED BY LOCAL JURISDICTIONS. ALL EQUIPMENT SHALL BE THE CAPACITY AND TYPE AS SHOWN ON THE EQUIPMENT SCHEDULE AND SHALL BE THE LISTED MANUFACTURER AND MODEL NUMBER OR SHALL BE AN EQUAL APPROVED BY THE OWNER/ENGINEER. CONTRACTOR IS TO BRING UP THE DISCREPANCIES AND ITEMS WHICH ARE NOT SPECIFICALLY CALLED FOR OR SHOWN BUT ARE REQUIRED FOR A COMPLETE MECHANICAL SYSTEM. ALL SUCH ITEMS REQUIRED FOR A COMPLETE SYSTEM READY FOR THE OWNER'S BENEFICIAL USE SHALL BE FURNISHED AND INSTALLED INCLUDING ALL SUCH DISCREPANCY ITEMS MENTIONED ABOVE, AT NO ADDITIONAL COST TO THE OWNER AND PER LOCAL CODES, MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE STANDARDS WITH THE ARCHITECT/ENGINEER'S APPROVAL. 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ABBREVIATIONS

Table listing abbreviations for mechanical components such as ROUND, ABOVE, AIR CONDITIONING, AREA DRAIN, ADDENDUM, ABOVE FINISHED FLOOR, ANNUAL FUEL UTILIZATION EFFICIENCY, ALTERNATE, ACCESS PANEL, ARCHITECT/ARCHITECTURAL, BELOW FINISHED FLOOR, BELOW, BRITISH THERMAL UNITS, BRITISH THERMAL UNITS PER HOUR, CAPACITY, CATCH BASIN, CUBIC FEET PER MINUTE, CEILING, CLEAN OUT, COLD WATER, DEGREE, DRY BULB, DIAMETER, DOWN, DISTILLED WATER, EACH, ENTERING AIR TEMPERATURE, ELECTRICAL EQUIPMENT, ELECTRIC WATER COOLER, ENTERING WATER TEMPERATURE, EXHAUST AIR, EXISTING, DEGREES FAHRENHEIT, FLOOR CLEAN OUT, FLOOR DRAIN, FIRE DAMPER, FIRE DEPARTMENT VALVE, FLOOR, FUEL OIL, FUEL OIL VENT, FUEL OIL RETURN, FUEL OIL SUPPLY, FEET PER MINUTE, FLOOR SINK, FOOT/FEET, FIN TUBE RADIATION, GALLON, GENERAL CONTRACTOR, GALLONS PER MINUTE, GREASE WASTE, HOSE BIB, HORSE POWER, HEATING, HEATER, HOT WATER, HYDRANT, INDIRECT, INCH, INVERT, POUND, POUNDS PER HOUR, LEAVING AIR TEMPERATURE, LOW PRESSURE, LIQUEFIED PETROLEUM GAS, LOUVER, LEAVING WATER TEMPERATURE, MIXED AIR, MAXIMUM, ONE THOUSAND BTU PER HOUR, ONE THOUSAND CUBIC FEET, MOTORIZED DAMPER, MECHANICAL, MANUFACTURER, MINIMUM, MISCELLANEOUS, MOTOR, MAKE-UP/AIR, NOISE CRITERIA, NORMALLY CLOSED, NOT IN CONTRACT, NUMBER, NORMALLY OPEN, NOT TO SCALE, OXYGEN, OUTSIDE AIR, OVERFLOW ROOF DRAIN, PRESSURE DROP, POST INDICATOR VALVE, PLUMBING, PRESSURE, PRESSURE REDUCING VALVE, POUNDS PER SQUARE INCH, POUNDS PER SQUARE INCH GAUGE, POWER, DUCT RISER, RETURN AIR, RADIANT CEILING PANEL, ROOF DRAIN, RECESSED, REDUCER, RELATIVE HUMIDITY, RELIEF AIR, ROOM, REVOLUTIONS PER MINUTE, RAIN WATER, SQUARE FOOT, SUPPLY AIR, SANITARY, SQUARE FOOT, SMOKE DAMPER, SURFACE MOUNT, STANDPIPE, STATIC PRESSURE, STEAM, THERMOSTAT, TEMPERATURE DROP, TRENCH DRAIN, TEMPERATURE, TYPICAL, UNDERGROUND, VACUUM, VENT, VARIABLE AIR VOLUME, VENTILATION, VENT THROUGH ROOF, WASTE, WET BULB, WALL CLEAN OUT, WALL HYDRANT.

CODE COMPLIANCE

- BUILDING MECHANICAL SYSTEMS ARE DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES: 2021 INTERNATIONAL MECHANICAL CODE, 2021 UNIFORM PLUMBING CODE, 2021 IECC INTERNATIONAL ENERGY CONSERVATION CODE, ANSI/ASHRAE/IESNA STANDARD 90.1-2019 ENERGY STANDARD FOR BUILDINGS EXCEPT FOR LOW-RISE RESIDENTIAL BUILDINGS, ANSI/ASHRAE STANDARD 62.2-2019 VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY.

HVAC DESIGN CRITERIA

BOZEMAN, MONTANA ANNUAL DESIGN CONDITIONS: ASHRAE FUNDAMENTALS 2017 WEATHER STATION - BOZEMAN, MT WMO# 726797 ELEVATION: 4427' LAT: 44.788N LONG: 111.161W WINTER: -13.4 (99.6%) SUMMER: 98.1 DRY BULB (0.4%) 62.5 WET BULB (0.4%) INDOOR DESIGN CONDITIONS: WINTER: 70 ± 2°F SUMMER: 75 ± 2°F

EQUIPMENT ABBREVIATIONS

Table listing equipment abbreviations: AC AIR CONDITIONING UNIT, AHU AIR HANDLING UNIT, AS AIR SEPARATOR, B BOILER, BP BOILER PUMP, CC COOLING COIL, CH CHILLER, CT COOLING TOWER, CU CONDENSING UNIT, CWP CONDENSER WATER PUMP, CHWP CHILLED WATER PUMP, DBP DOMESTIC WATER BOOSTER PUMP, DCP DOMESTIC WATER CIRCULATING PUMP, DF DUCT FURNACE, DH DUCT HEATER, EF EXHAUST FAN, EH ELECTRIC HEATER, ERV ENERGY RECOVERY VENTILATOR, ET EXPANSION TANK, F FURNACE, FC FAN COIL, FP FIRE PUMP, GI GREASE INTERCEPTOR, GRV GRAVITY ROOF VENTILATOR, HS HEAT PUMP, HP HYDRAULIC SEPARATOR, HWP HEATING WATER PUMP, HX HEAT EXCHANGER, HRV HEAT RECOVERY VENTILATOR, MAU MAKE-UP AIR UNIT, P PUMP, RF RETURN FAN, RTU ROOF TOP UNIT, SD SLIM DUCT, SEP SEWAGE EJECTOR PUMP, SF SUPPLY FAN, SP SUMP PUMP, SH UNIT HEATER, VAV VARIABLE AIR VOLUME BOX, WH WATER HEATER, WM WALL MOUNT.

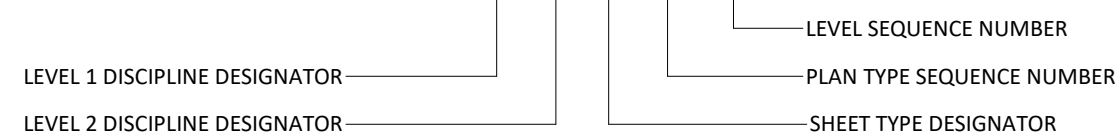
DUCT INSULATION SCHEDULE table with columns: DUCT SYSTEM, OUTSIDE BUILDING ENVELOPE, EXPOSED TO ENVIRONMENT, OUTSIDE BUILDING ENVELOPE, WITHIN BUILDING, WITHIN THE BUILDING ENVELOPE. Rows include SUPPLY AIR, RETURN AIR, GENERAL EXHAUST AIR, RETURN AIR, PLENUMS @ GRILLES, GREASE EXHAUST AIR.

- REMARKS: 1. ALL DUCT DIMENSIONS INDICATE INSIDE FREE DIMENSIONS AND DO NOT INCLUDE INSULATION THICKNESS. 2. THE 6" OF EXHAUST DUCT NEAREST TO THE EXTERIOR TO BE INSULATED WITH MIN. R-6 INSULATION (1 1/2" THICKNESS, 0.24 K VALUE).

2021 INTERNATIONAL ENERGY CONSERVATION CODE NOTES

- 1. PROVIDE COMMISSIONING PLAN IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE SECTION C408.2.1. 2. PROVIDE COMMISSIONING COMPLIANCE REPORT IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE SECTION C407.3.1 & C407.3.2. 3. PROVIDE SYSTEMS TESTING AND BALANCING IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE SECTION C408.2.2. 4. PROVIDE SYSTEMS TESTING AND BALANCING IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE SECTION C408.2.3. 5. PROVIDE SUPPORTING DOCUMENTATION IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE CHAPTER 1 CHECKLIST, INCLUDING OPERATION AND MAINTENANCE MANUALS, HVAC CONTROL SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, HVAC CONTROL SEQUENCE OF OPERATIONS, COMMISSIONING REPORT, AND RECORD DRAWINGS. 6. PROVIDE OWNER SYSTEMS OPERATION TRAINING IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE SECTION C103.6. 7. MOTORS SHALL COMPLY WITH SECTION C403.8 OF THE INTERNATIONAL ENERGY CONSERVATION CODE. FOR ADDITIONAL DETAILS, SEE EQUIPMENT SCHEDULES CONTAINED WITHIN THIS DRAWING SET. 8. SYSTEMS SHALL BE INSULATED AS PRESCRIBED IN SECTION C403.12. FOR ADDITIONAL DETAILS, SEE DUCTWORK AND PIPING SPECIFICATION MATRICES CONTAINED WITHIN THIS DRAWING SET.

M-102

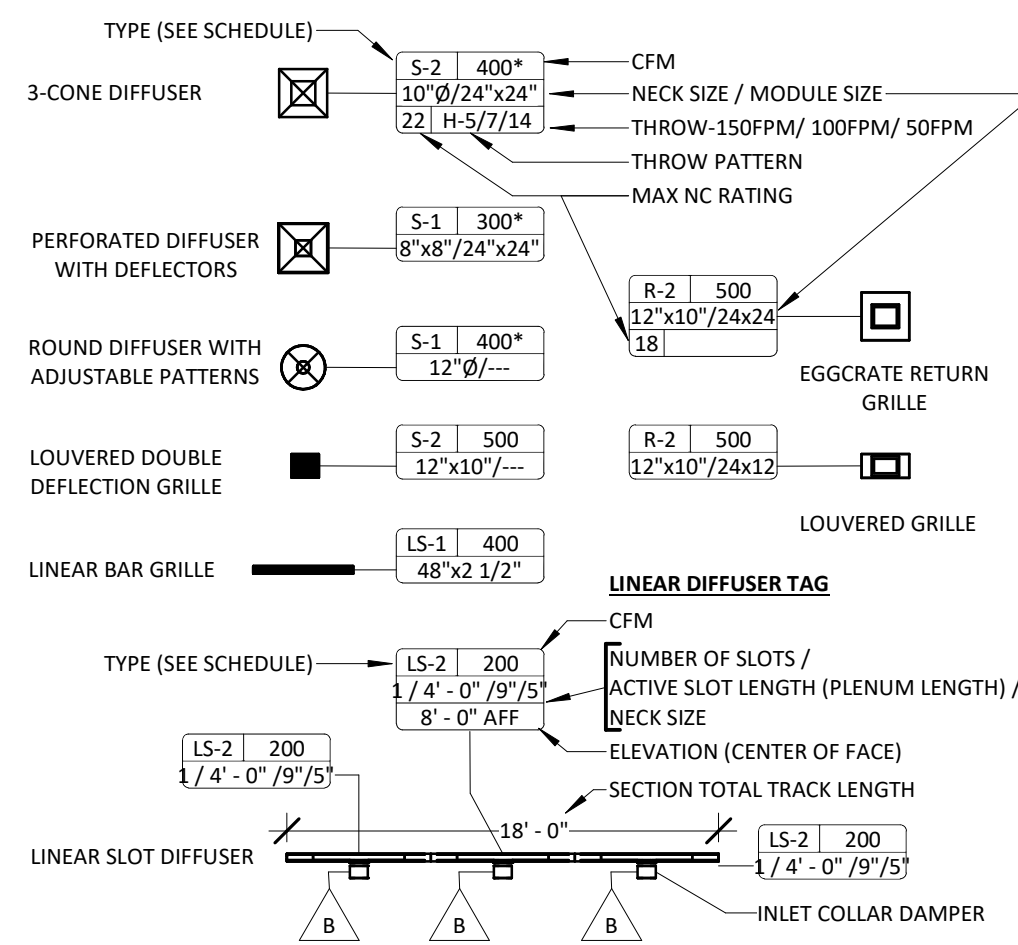


NOTE: THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

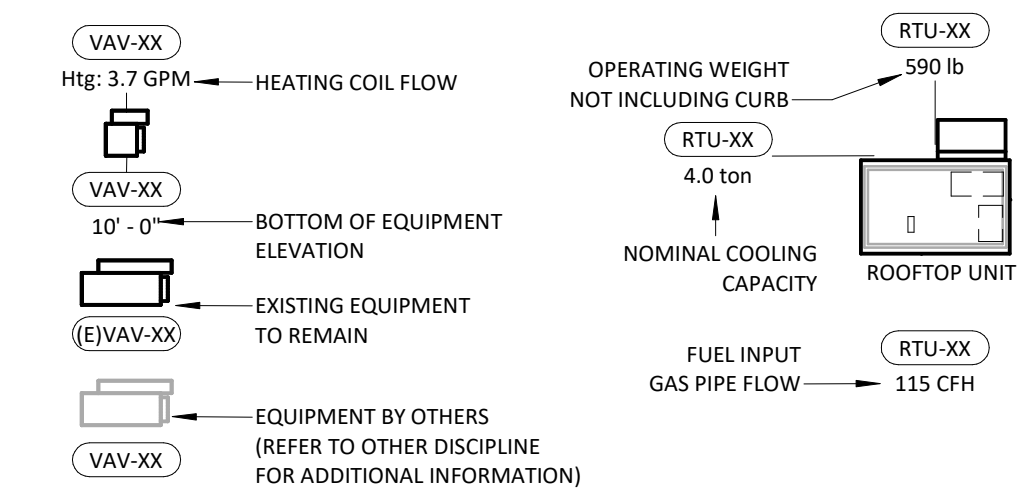
PLUMBING AND PIPING SYMBOLS

Table of plumbing and piping symbols: CHWR CHILLED WATER RETURN, CHWS CHILLED WATER SUPPLY, CWR CONDENSER WATER RETURN, CWS CONDENSER WATER SUPPLY, GWR GEOTHERMAL WATER RETURN, GWS GEOTHERMAL WATER SUPPLY, HWR HEATING WATER RETURN, HWS HEATING WATER SUPPLY, REF-L REFRIGERANT-LIQUID, REF-S REFRIGERANT-SUCTION, REF-HG REFRIGERANT-HOT GAS, DV-I DIRECT VENT - INTAKE, DV-E DIRECT VENT - EXHAUST, CD CONDENSATE DRAINAGE, NG NATURAL GAS.

GRILLES, REGISTERS & DIFFUSERS TAG



MECHANICAL EQUIPMENT TAGS



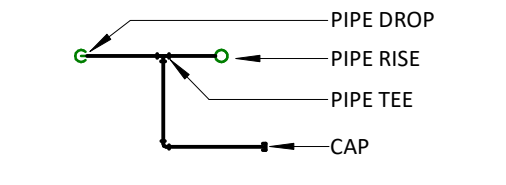
HVAC SYMBOLS

Table of HVAC symbols: SQUARE DUCT SIZE TAG, OVAL DUCT SIZE TAG, ROUND DUCT SIZE TAG, EXISTING DUCT TAG, DUCT BEING DEMOLISHED, RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE, ROUND SUPPLY/OUTSIDE AIR DUCT RISE, RECTANGULAR RETURN/TRANSFER AIR DUCT RISE, ROUND RETURN/TRANSFER AIR DUCT RISE, RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE, ROUND EXHAUST/RELIEF AIR DUCT RISE, SUPPLY AIR, CONDITIONED OUTSIDE AIR, OUTSIDE AIR, RETURN AIR, TRANSFER AIR, RELIEF AIR, EXHAUST AIR, VENTILATION EXHAUST AIR, DRYER EXHAUST AIR, GREASE EXHAUST AIR, SMOKE EXHAUST AIR, EXHAUST GAS FLUE, COMBUSTION AIR.

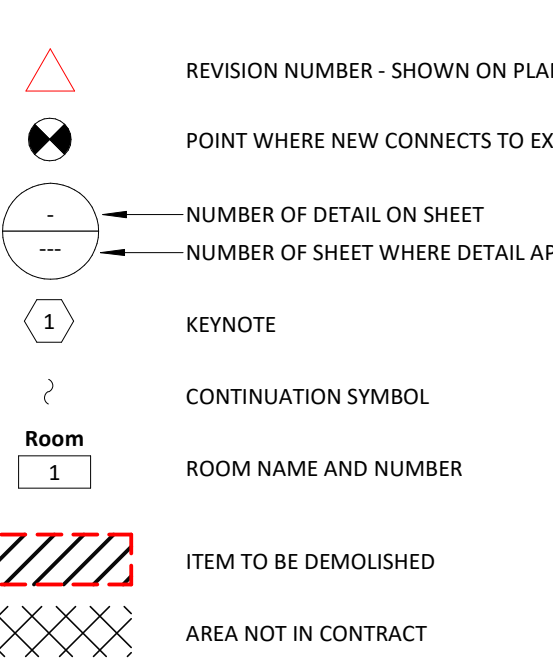
PIPE ACCESSORY TAGS

Table of pipe accessory tags: 2" BALANCING VALVE, 2" SHUTOFF 1/4" TURN BALL VALVE, 2" CHECK CHECK VALVE, 2" TMV 3-WAY MIXING VALVE, 2" M-CNTRL MOTORIZED CONTROL VALVE, 2" 3-WAY CNTRL 3 WAY MOTORIZED CONTROL VALVE, 2" PRV PRESSURE REDUCING VALVE, 3/8" SOLENOID REFRIGERANT SOLENOID VALVE, 2" BUTTERFLY BUTTERFLY VALVE.

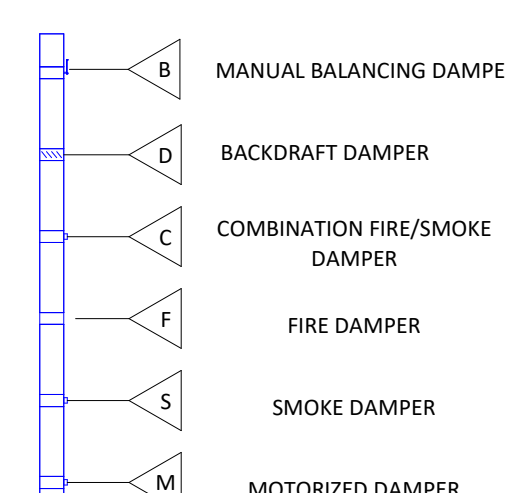
PIPE SYMBOLS



GENERAL DRAWING SYMBOLS



DAMPER TAGS

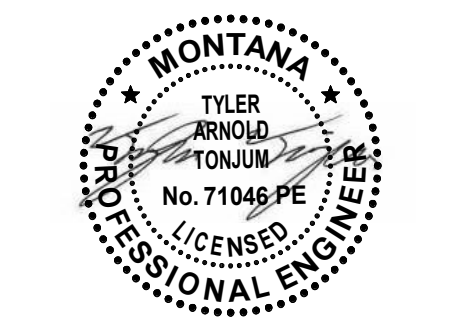
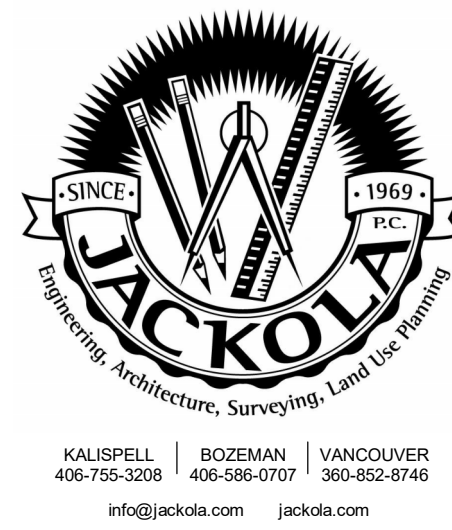


MECHANICAL CONTROL DEVICE TAGS

Table of mechanical control device tags: TH THRESHOLD, TS TEMPERATURE & HUMIDITY SENSOR, T TS TEMPERATURE SENSOR, T THERMOSTAT, C CONTROLLER, LT LOW VOLT TIMER, MS MANUAL SWITCH, S SENSOR, CO2 CARBON DIOXIDE SENSOR, CO CARBON MONOXIDE SENSOR, NO2 NITROGEN DIOXIDE SENSOR, HS HUMIDITY SENSOR, H HUMIDISTAT.

MECHANICAL SHEET INDEX

Table listing sheet indices: M-001 MECHANICAL TITLE SHEET, M0111 MECHANICAL DEMOLITION PLAN, M-111 HVAC PLAN, M-131 HVAC RCP.



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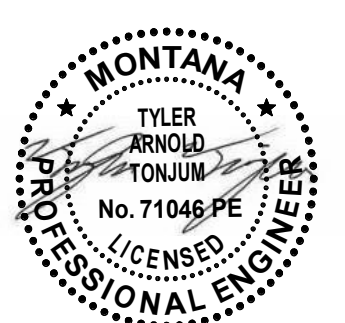
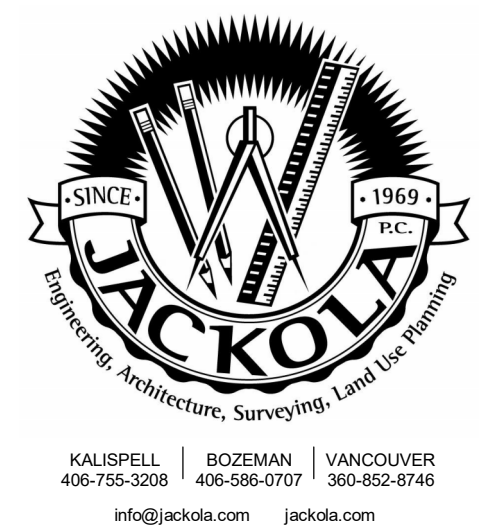
MECHANICAL TITLE SHEET

M-001

NOTE: THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

KEYNOTES

- 1 DEMOLISH EXISTING DIFFUSERS AND PREP FLEXIBLE DUCT FOR CONNECTION TO NEW AIR OUTLET.
- 2 CAP EXISTING RETURN DIFFUSERS IN THE FLOOR IN PREARATION FOR COVERING WITH CONCRETE. ABANDON IN PLACE.
- 3 REMOVE EXISTING DUCT IN THIS LOCATION IN PREPARATION FOR NEW DUCT BELOW SLAB, CAP EXISTING NOT DEMOLISHED DUCT AND ABANDON IN PLACE.



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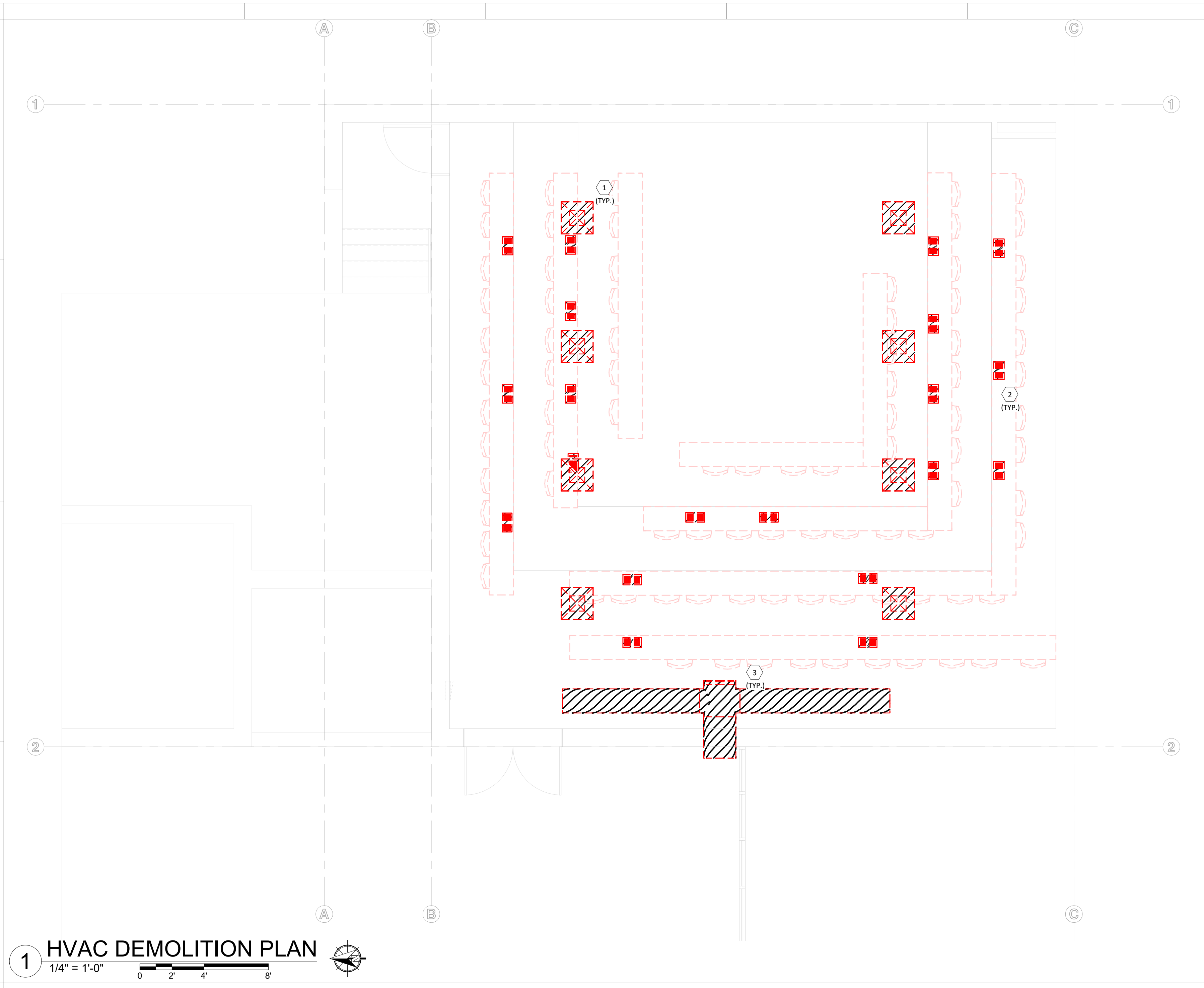
DATE: 11/19/2024

REVISIONS:

NO.	DESCRIPTION

MECHANICAL DEMOLITION PLAN

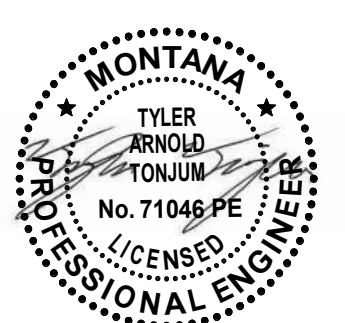
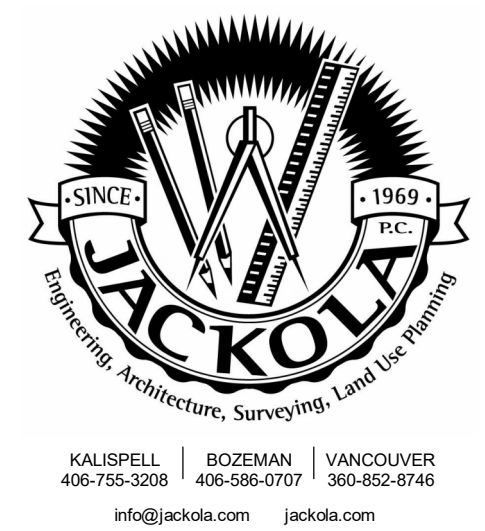
MD111



1 HVAC DEMOLITION PLAN
 1/4" = 1'-0"
 0 2 4 8

KEYNOTES

- COORDINATE DIFFUSERS WITH ACT AND REUSE FLEX DUCT AND DUCTWORK WHERE POSSIBLE.
- NEW RETURN DUCT IN FLOOR TO BE REPLACED WITH NEW BLUE DUCT, OR EQUAL, UNDERGROUND DUCT OR EQUIVALENT AND ROUTED UP TO NEW FLOOR GRILLE. ROUTE DUCT AS CLOSE AS POSSIBLE TO WALL AND UP TO RETURN GRILLE WITH MANUFACTURER BOOT.



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1 HVAC PLAN
 1/4" = 1'-0"
 0 2 4 8'

INTERIOR AIR INLETS & OUTLETS SCHEDULE								
TAG	DESCRIPTION	BASIS OF DESIGN			INSTALLATION			
		MANUFACTURER	MODEL NO.	FINISH	FACE SIZE	BORDER TYPE	DAMPER	REMARKS
R-1	LINEAR BAR GRILLE	Titus	CT-PP-0	WHITE ENAMEL		TYPE 1	---	
R-1	LINEAR BAR GRILLE	Titus	CT-PP-0	WHITE ENAMEL		TYPE 1	---	
S-1L	PLAQUE FACE DIFFUSER	TITUS	OMNI	WHITE ENAMEL	24"x24"	TYPE 3 (LAY-IN)	---	1

1. MATCH EXISTING DIFFUSER SIZES AND AIRFLOWS

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DATE: 11/19/2024

REVISIONS:

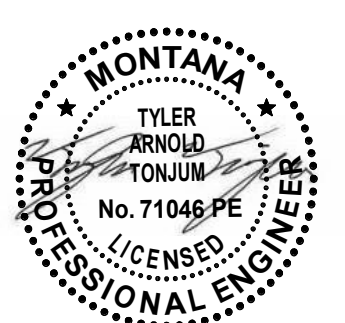
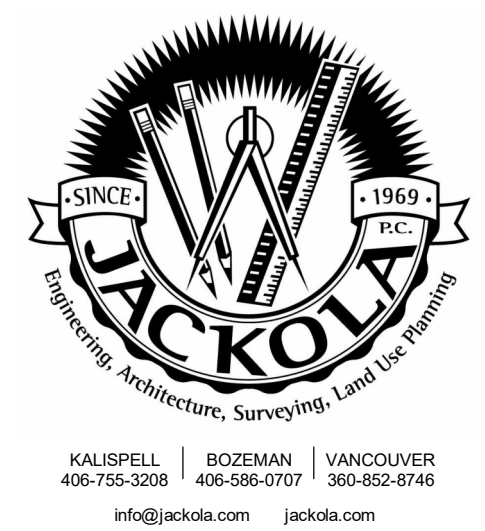
NO.	DESCRIPTION

HVAC PLAN

M-111

PROJECT #24002

KEYNOTES
 1 NEW DIFFUSERS TO MATCH EXISTING SIZE AND AIRFLOW.
 CORRINATE WITH NEW ACT.



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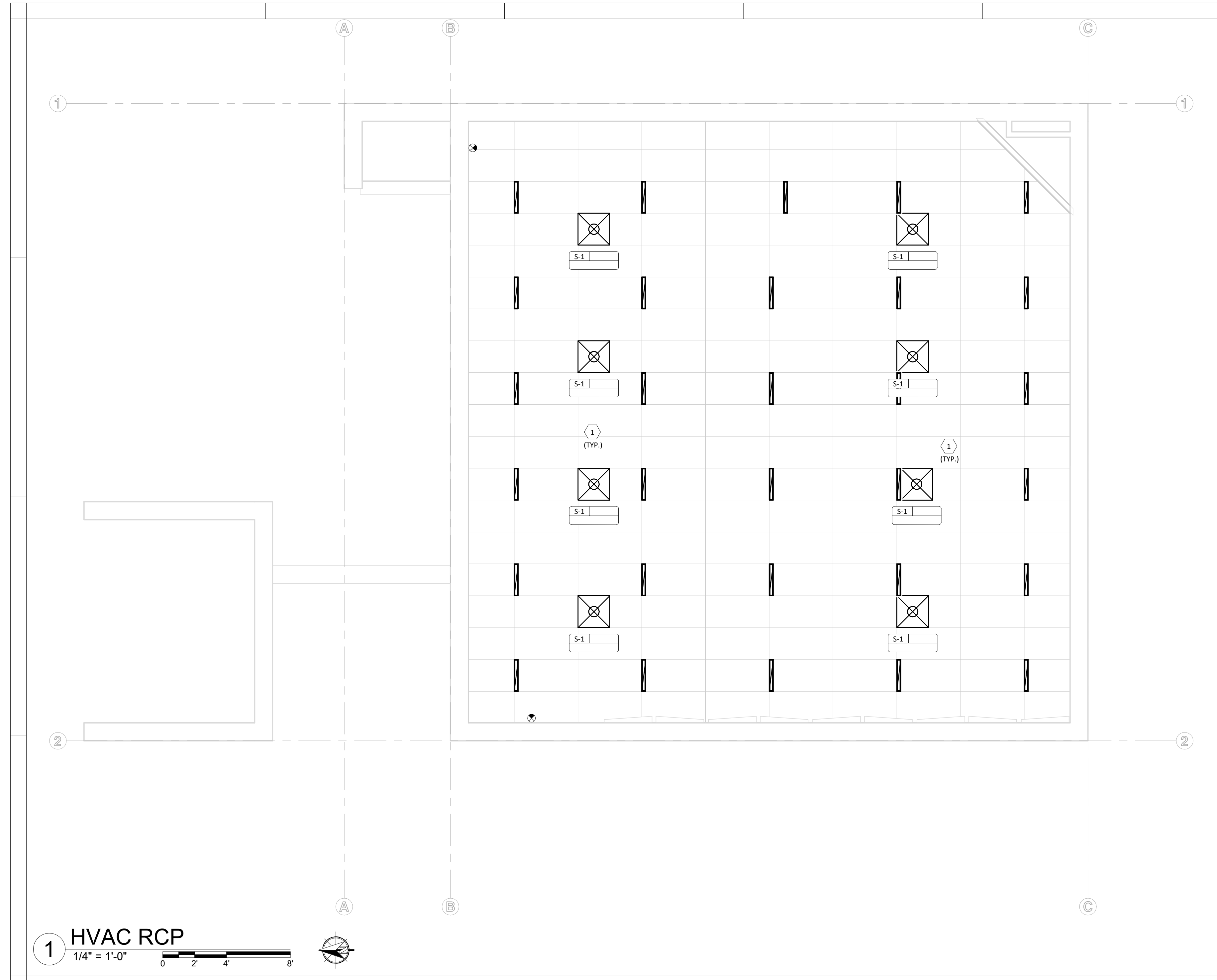
DRAWN: ADM CHECKED: TAT

DATE: 11/19/2024

REVISIONS:

HVAC RCP

M-131



PROJECT #24002

ELECTRICAL SYMBOL LEGEND

Table with columns: SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION. Lists various electrical symbols like surface light, fire alarm horn, static ground receptacle, etc.

ELECTRICAL ABBREVIATIONS LIST

Table with columns: ABBR, DESCRIPTION, ABBR, DESCRIPTION, ABBR, DESCRIPTION. Lists abbreviations like 1P (1 POLE), AC (AMPERE), A (ABOVE CEILING), etc.

GENERAL ELECTRICAL NOTES AND SPECIFICATIONS

GENERAL NOTES: ALL WORK SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF FEDERAL AND STATE CODES, REGULATIONS, LAWS AND ORDINANCES... CONTRACTOR RESPONSIBILITIES: CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL ELECTRICAL WORK... GROUNDING AND BONDING FOR ELECTRICAL SYSTEM: GROUNDING AND BONDING WORK SHALL COMPLY WITH REQUIREMENTS OF NEC...

ELECTRICAL SYMBOL NOTES

THE PANELBOARD DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "a" TO CONTROL LIGHTING FIXTURES INDICATED BY "a". SPECIAL CONNECTIONS: THE EQUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE LOAD DESCRIPTION AND TYPE OF CONNECTION...

Table with columns: SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION. Lists symbols for fire protection and sound requirements like fire alarm horn, fire alarm bell, etc.

SPECIFIC CODE NOTES

FIRE PROTECTION & SOUND REQUIREMENTS: PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRE STOPPED WITH AN APPROVED MATERIAL. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACoustICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC...

E-102 ELECTRICAL TITLE SHEET. Includes level sequence number, plan type sequence number, sheet type designator, and revision table.

ELECTRICAL SYMBOL NOTES

THE PANELBOARD DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "a" TO CONTROL LIGHTING FIXTURES INDICATED BY "a". SPECIAL CONNECTIONS: THE EQUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE LOAD DESCRIPTION AND TYPE OF CONNECTION...

CODE COMPLIANCE

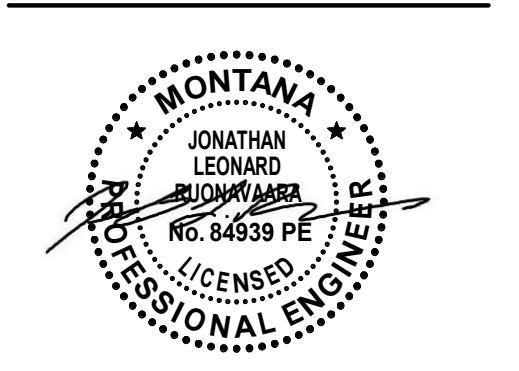
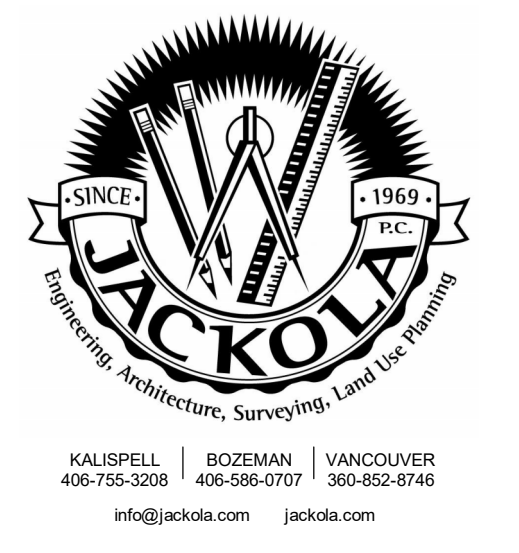
BUILDING ELECTRICAL SYSTEMS ARE DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS: 2021 IRC (INTERNATIONAL BUILDING CODE), 2021 IEBC (INTERNATIONAL EXISTING BUILDING CODE), 2017 ICC A117.1 - ACCESSIBILITY, 2020 NFPA 70 (NATIONAL ELECTRICAL CODE), 2019 NFPA 72, MONTANA STATE UNIVERSITY - BOZEMAN ENGINEERING GUIDELINES REVISION 04-05-2024

ELECTRICAL MOUNTING HEIGHTS

Table with columns: RECEPTACLE, SWITCH, THERMOSTAT, DATA/TEL, PANELBOARD, FA PULL STATION, FA HORN STROBE, FA HORN HORN, TV/AV/INTERCOM, EXIT SIGN. Lists mounting heights for various electrical components.

ELECTRICAL SHEET INDEX

Table with columns: SHEET NUMBER, SHEET TITLE. Lists E-001 ELECTRICAL TITLE SHEET, E-111 ELECTRICAL DEMOLITION PLAN, E-121 LIGHTING PLAN, E-122 POWER PLAN.



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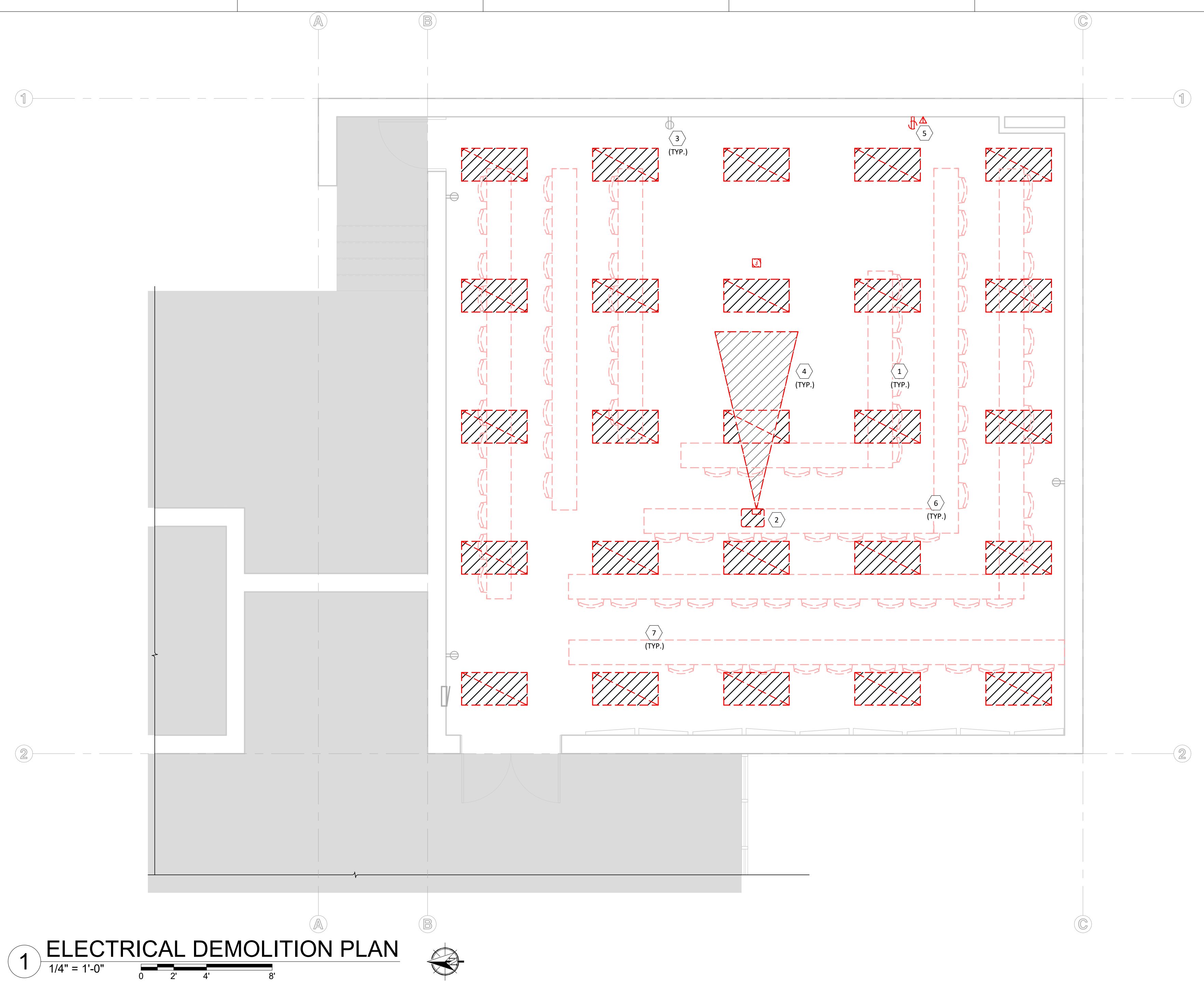
DRAWN: CDH CHECKED: JLR

DATE: 11/19/2024

Table with columns: NO., REVISIONS. Lists revision entries.

ELECTRICAL TITLE SHEET

E-001

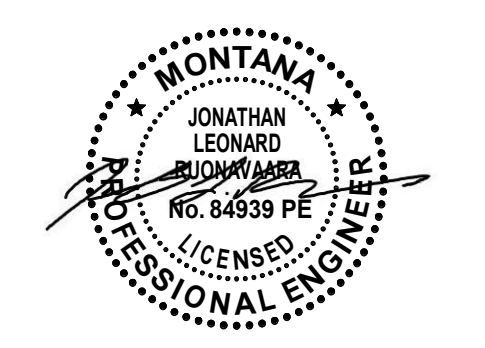
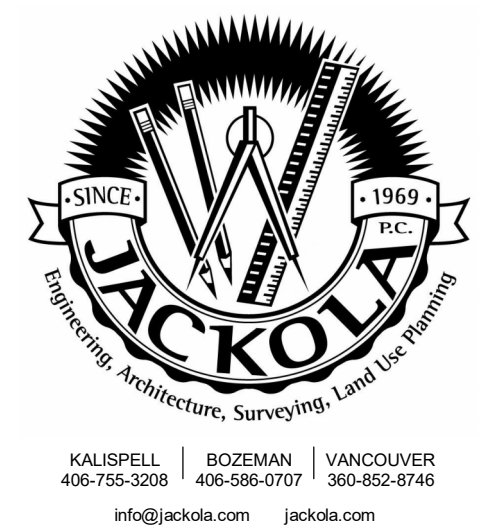


1 ELECTRICAL DEMOLITION PLAN
 1/4" = 1'-0"
 0 2 4 8'

DEMOLITION GENERAL NOTES

- SAVE CIRCUITS FOR DEMOLISHED ELECTRICAL COMPONENTS FOR REUSE. COORDINATE ELECTRICAL DEMOLITION WORK WITH GENERAL CONTRACTOR.
- FURNISH AND INSTALL CONDUIT AND WIRE AS NECESSARY FOR CONTINUITY OF ANY FEEDERS OR BRANCH CIRCUITS ORIGINATING OUTSIDE THE DEMOLITION AREA THAT SERVES ANY ELECTRICAL EQUIPMENT OR DEVICES TO REMAIN AFTER DEMOLITION. MODIFY OR REPLACE AS REQUIRED.
- NOT ALL EXISTING DEVICES/EQUIP ARE SHOWN. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DEMOLITION WORK WITH EXISTING CONDITIONS.
- REROUTE/REINSTALL DEMOLISHED ELECTRICAL AS NOTED. DISPOSE OF ALL OTHER DEMOLISHED ELECTRICAL MATERIALS IN A SAFE AND LEGAL MANNER.

- KEYNOTES**
- 1 DEMOLISH ALL TROFFER LIGHT FIXTURES IN ROOM. SAFE OFF EXISTING CIRCUITING FOR RECONNECTION OF NEW FIXTURES, SEE KEYNOTE 1/E-111.
 - 2 DEMOLISH EXISTING PROJECTOR. REMOVE WIRING BACK TO NEAREST JUNCTION BOX.
 - 3 UNLESS NOTED OTHERWISE, REPLACE HALFTONED EXISTING RECEPTACLE AND PHONE DATA DEVICES AND COVERS. REUSE EXISTING BOXES, CONDUIT, AND WIRING. SEE KEYNOTE 4/E-121.
 - 4 DEMOLISH DEVICE, WIRING, AND RACEWAY WHERE SHOWN IN DASHED BOLD.
 - 5 DEMOLISH EXISTING SURFACE RACEWAY, POWER, AND DATA WIRING BACK TO NEAREST ACCESSIBLE JUNCTION BOX. REROUTE DATA TO NEW LECTURN, SEE KEYNOTE 2/E-121.
 - 6 REINSTALL ALL DEVICES AFTER NEW CEILING IS REPLACED, SEE DIVISION OF RESPONSIBILITY.
 - 7 FLOOR HEIGHT INCREASED, SEE A-301. COORDINATE ALL DEVICES AND CONDUIT WITH INCREASE IN FLOOR HEIGHT. EXTEND/RELOCATE DEVICES AS REQUIRED.



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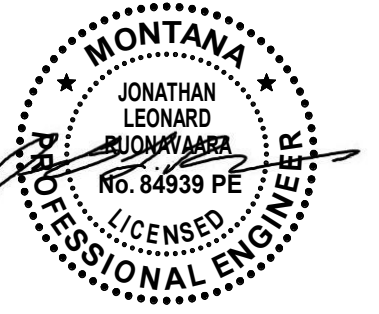
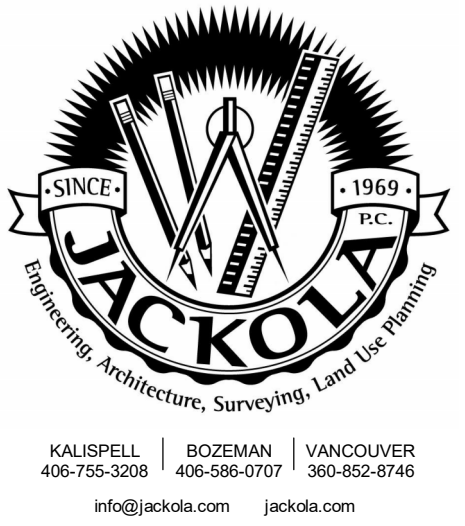
DATE: 11/19/2024

REVISIONS:

ELECTRICAL DEMOLITION PLAN

ED111

PROJECT #240802



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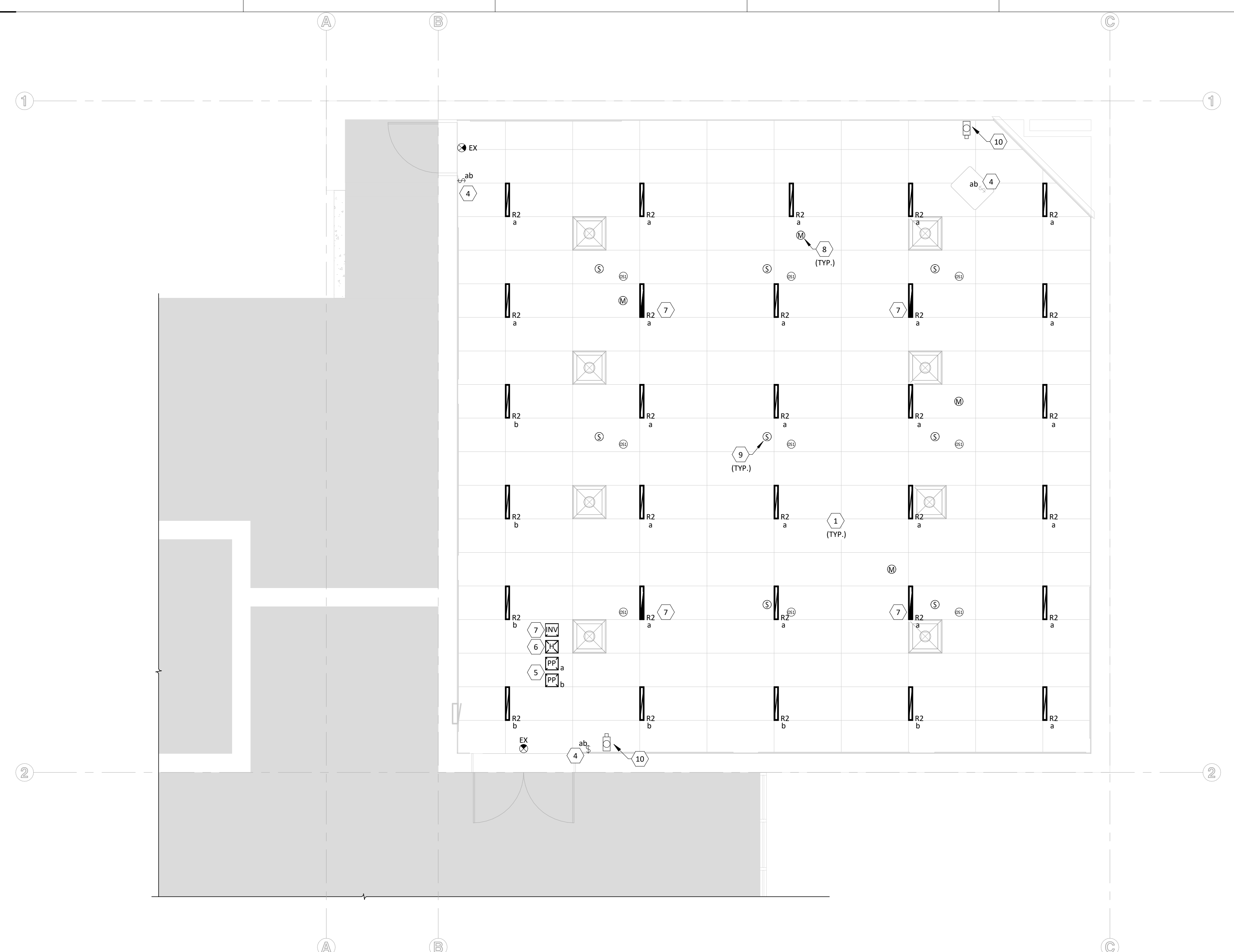
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LIGHTING GENERAL NOTES

- LIGHTING LAYOUT AND PLACEMENT IS SCHEMATIC ONLY. COORDINATE EXACT LOCATION OF LIGHT FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLAN TO AVOID INTERFERENCE WITH MECHANICAL, PLUMBING, AND STRUCTURAL SYSTEMS.
- EXIT AND EMERGENCY EGRESS LIGHTING SHALL BE NON-SWITCHED AND CIRCUITED TO THE NEAREST INTERIOR LIGHTING CIRCUIT. EMERGENCY FIXTURES SHALL HAVE A 90 MINUTE MINIMUM BATTERY BACKUP. WHERE EMERGENCY FIXTURES HAVE AN ADJUSTABLE HEAD, DIRECT LIGHT TOWARDS PATH OF EGRESS.
- CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR SWITCHING INTENT OF FIXTURES AND CONTROL OF DEVICES. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.
- SEE ELECTRICAL SYMBOL NOTES ON TITLE SHEET E-001 FOR SWITCHING NOMENCLATURE. SWITCHES DESIGNATED WITH LOWER CASE LETTERS TO CONTROL FIXTURES WITH MATCHING DESIGNATIONS.
- LAY-IN LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENT OF GRID CEILINGS FROM THE STRUCTURE ABOVE FROM AT LEAST TWO CORNERS. ATTACH WITH GRID CLIPS OR TABS RATED FOR LAY-IN CEILINGS.

KEYNOTES

- RECONNECT/REUSE EXISTING CIRCUITING FOR NEW FIXTURES AS POSSIBLE. SEE KEYNOTE 1/ED111. REWIRE AS NECESSARY. CONFORM TO NEC ARTICLE 300 FOR WIRING METHODS.
- NOT USED.
- NOT USED.
- LUTRON VIVE SWITCHING WITH DIMMING, PROVIDED BY OWNER'S AV DEPARTMENT.
- LUTRON VIVE POWERPACK, PROVIDED BY OWNER'S AV DEPARTMENT. MOUNT POWER PACK WITHIN 30' OF ALL CONTROLS, SENSORS, AND DEVICES. ROUTE FIXTURE AND FAN POWER AND CONTROLS BACK TO APPROPRIATE POWERPACK.
- LUTRON VIVE HUB, PROVIDED BY OWNER'S AV DEPARTMENT. ROUTE 1-1/2" DATA CABLE PATHWAY FROM HUB TO 521A TELECOMM ROOM.
- PROVIDE AND INSTALL 100VA BATTERY BACKUP INVERTER, BASIS OF DESIGN: BODINE ELI-S-100 OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATION. FEED CONTROL SWITCH LEG a OF EMERGENCY FIXTURE FROM INVERTER.
- CEILING MICROPHONE PROVIDED AND INSTALLED BY MSU. MSU AV DEPARTMENT TO RUN CABLE TO PODIUM LOCATION.
- CEILING SPEAKER PROVIDED AND INSTALLED BY MSU. MSU AV DEPARTMENT TO RUN CABLE TO PODIUM LOCATION.
- CAMERA PROVIDED AND INSTALLED BY MSU. MSU AV DEPARTMENT TO RUN CABLE TO 521 TELECOMM ROOM.



1 LIGHTING PLAN
1/4" = 1'-0"
0 2 4 8'

LIGHTING FIXTURE SCHEDULE

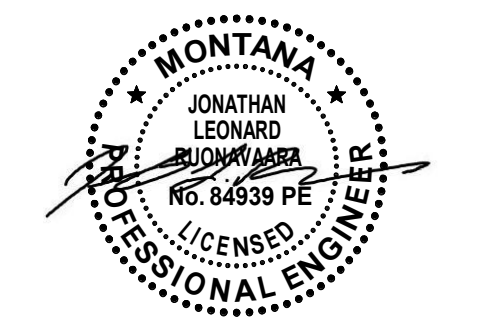
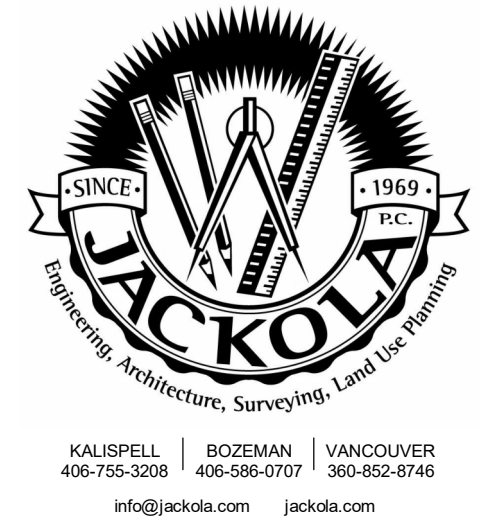
TAG	DESCRIPTION	BASIS OF DESIGN				LED LAMP			NOTE	
		MFR	CATALOG SERIES	MOUNTING	VOLT	WATTS	COLOR TEMP	LUMENS		CRI
EX	EXIT - WALL MOUNT	LITHONIA	EDG 1 R EL SD	WALL/SURFACE	120 V	5 W	NA	0 lm	NA	MOUNT BOTTOM OF SIGN 12" ABOVE DOOR.
R2	RECESSED LINEAR - 2'	LUMENWERX	SQUR-D-MR035-BK-SW-90CRI-1000LMF-35K-2FTOIN-UNF-D1-1C-NA-W-FWC	RECESSED	120 V	20 W	3500K	2000 lm	90	

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REVISIONS:

LIGHTING PLAN



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POWER GENERAL NOTES

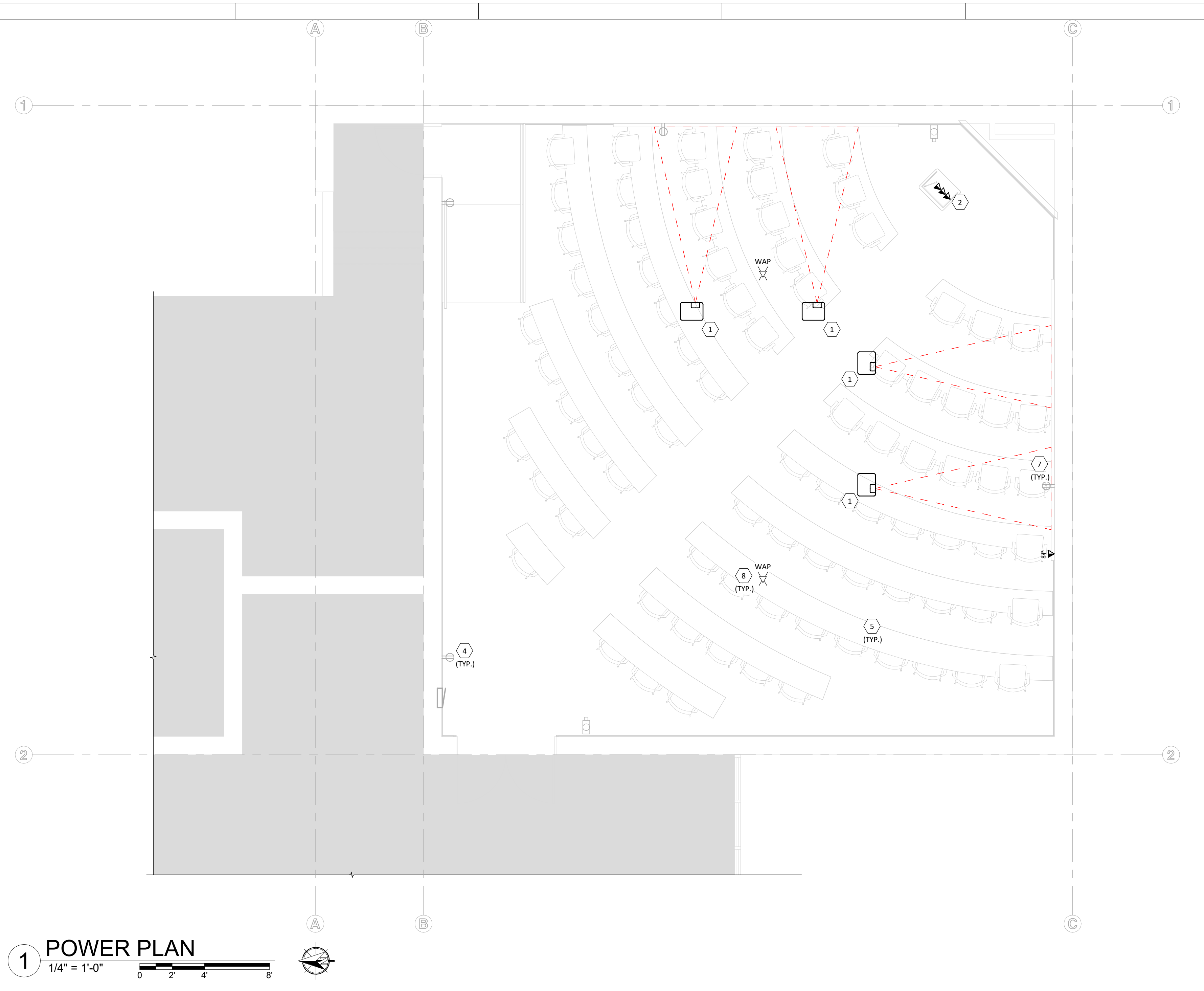
- PRIOR TO ROUGH-IN AND INSTALLATION, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND REQUIREMENTS OF ALL ELECTRICAL ITEMS. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF HVAC EQUIPMENT.
- CONDUIT IS REQUIRED, PROVIDE 3/4" EMT (MINIMUM) HOMERUNS FOR ALL BRANCH CIRCUITS.
- WHERE POSSIBLE, CONCEAL ALL CONDUITS AND RACEWAYS EXCEPT ABOVE ACT CEILINGS.
- FIRE SEAL ALL PENETRATIONS IN FIRE RATED ASSEMBLIES, SEE FIRE PROTECTION NOTES ON E-001.
- CIRCUIT WIRING IS NOT SHOWN EXCEPT FOR SWITCHING INTENT OF FIXTURES AND CONTROL OF DEVICES. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.
- ROUTE ALL DATA CABLE PATHWAYS TO 236 TELECOMM ROOM, SEE DETAIL 2/E-121.
- LIMIT LENGTHS OF EXPOSED RACEWAYS WHERE POSSIBLE, MATCH EXISTING INSTALLATION/ROUTING METHODS.
- ROUTE NEW CIRCUITS TO ELECTRICAL PANEL IN ROOM 346, SEE G-001 FOR LOCATION.

KEYNOTES

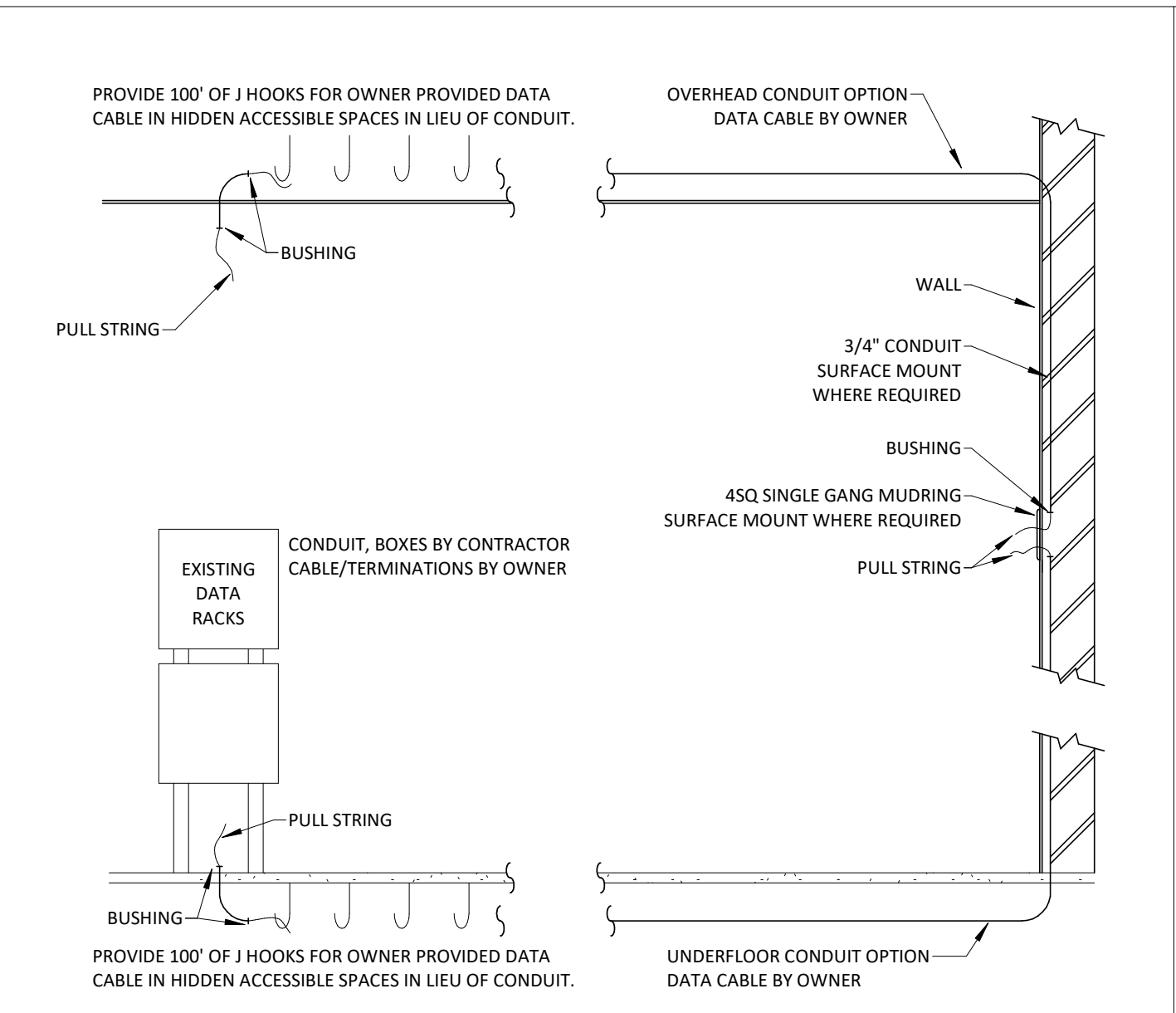
- 1 PROJECTOR OFCI, PROJECTOR OFOI. COORDINATE DATA AND POWER REQUIREMENTS WITH OWNER'S IT DEPARTMENT. VERIFY INSTALL LOCATION ON-SITE. REROUTE EXISTING WIRING TO NEW LOCATION AND EXTEND AS NECESSARY, SEE KEYNOTE 2/ED111.
- 2 REROUTE EXISTING POWER UNDER FLOOR TO NEW LECTURN AND PROVIDE (2) 1-1/2" C SLEEVES FOR DATA, SEE KEYNOTE 5/ED111. COORDINATE EXACT LOCATIONS ON-SITE WITH GC. COORDINATE ALL CONTROLS REQUIREMENTS WITH OWNER'S IT DEPARTMENT PRIOR TO INSTALL.
- 3 NOT USED.
- 4 REPLACE 1/2 TONE EXISTING RECEPTACLE AND PHONE DATA DEVICES AND COVERS. REUSE EXISTING BOXES, CONDUIT AND WIRING. SEE KEYNOTE 3/ED111.
- 5 ADD ALTERNATE #5: PROVIDE AND INSTALL POWER IN EACH ROW OF TABLES. INSTALL (1) DUPLEX FOR EVERY (4) CHAIRS OR FRACTION THEREOF. ROUTE CONDUIT UNDER NEW FLOOR. MOUNT RECEPTACLE(S) TO SURFACE OF TABLE.
- 7 FLOOR HEIGHT INCREASED, SEE A-301. COORDINATE ALL DEVICES AND CONDUIT WITH INCREASE IN FLOOR HEIGHT. EXTEND/RELOCATE DEVICES AS REQUIRED.
- 8 REINSTALL ALL DEVICES AFTER NEW CEILING IS REPLACED, SEE DIVISION OF RESPONSIBILITY.

DIVISION OF RESPONSIBILITY:

- CONTRACTOR FURNISHED, CONTRACTOR INSTALLED (CFCI):**
 JUNCTION BOXES, CONDUIT, & HOOKS
 SHADES
 BACKING FOR ALL MOUNTS
- OWNER FURNISHED, CONTRACTOR INSTALLED (OFCI):**
 CENTER PEDESTAL FOR THE WIRED DESKS (ADD ALTERNATE #4)
 MOUNTS FOR TVS, PROJECTORS, & CAMERAS
 PROJECTOR SCREENS
 SPEAKERS
 FANS
- OWNER FURNISHED, OWNER INSTALLED (OFOI):**
 LECTURNS
 AV CONTROLS, INCLUDING LIGHTING CONTROLS
 AV EQUIPMENT, INCLUDING TVS, PROJECTORS, WAP, SWITCHES, & COVER PLATES
 AV EQUIPMENT CABINETS
 ALL AV CABLES & WIRING
 WALL CLOCKS



1 POWER PLAN
 1/4" = 1'-0"
 0 2 4 8'



2 DATA DETAIL
 N.T.S.

DRAWN: CDH CHECKED: JLR

DATE: 11/19/2024

REVISIONS:

POWER PLAN

E-121

PROJECT #240802