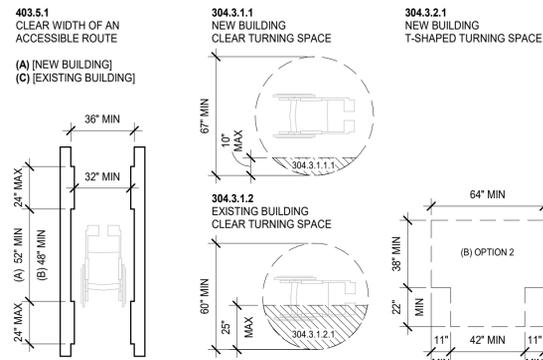


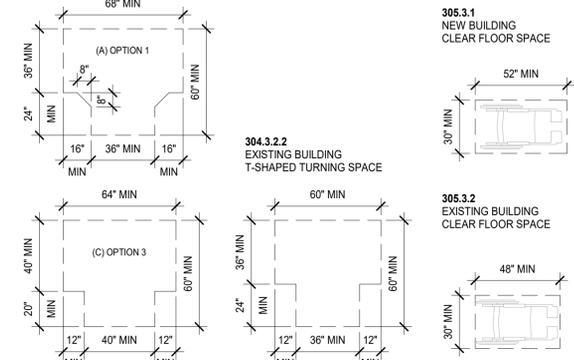
MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

REID HALL CENTER FOR
 RESEARCH ON RURAL
 EDUCATION SPACE
 TRANSFORMATION

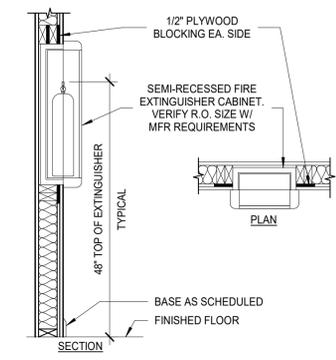
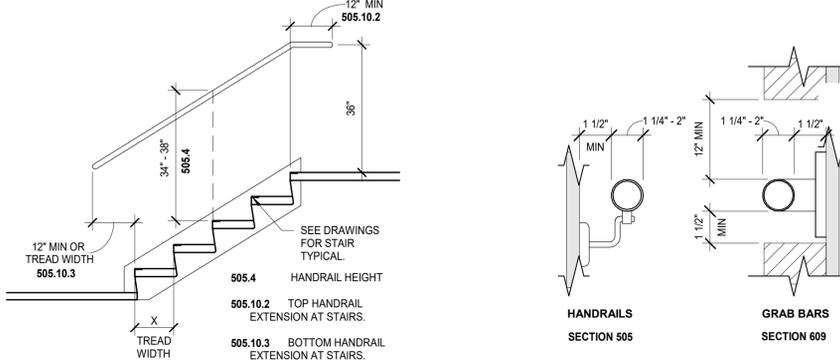
1 HANDICAP PARKING
 FOR REFERENCE ONLY



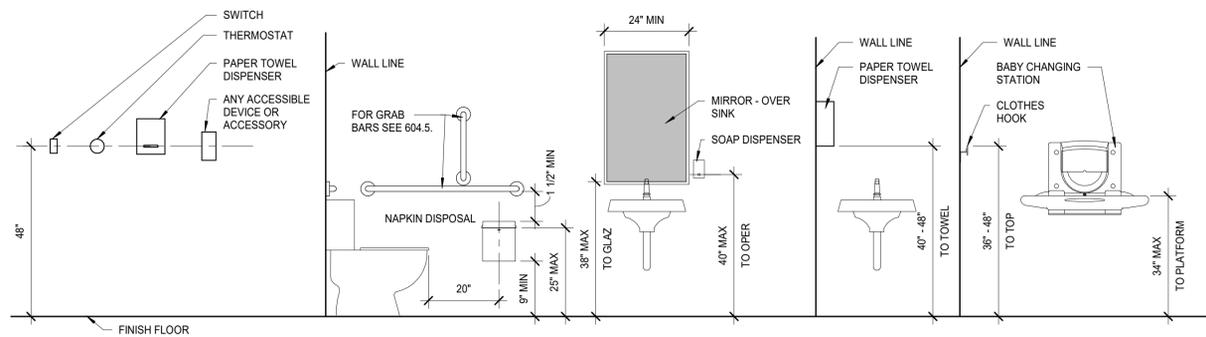
2 ACCESSIBLE PARKING SIGN
 FOR REFERENCE ONLY



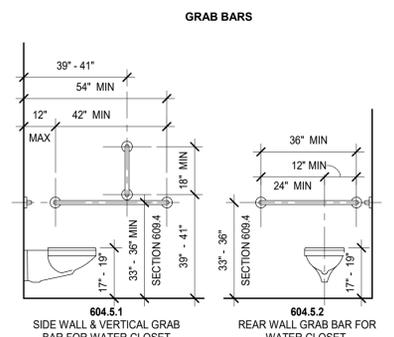
3 ADA MANEUVERING CLEARANCES
 FOR REFERENCE ONLY



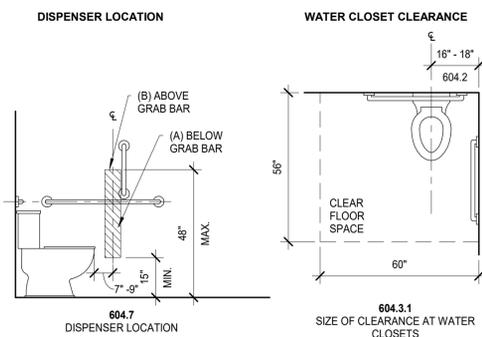
4 ADA FLOOR SPACE CLEARANCE
 FOR REFERENCE ONLY



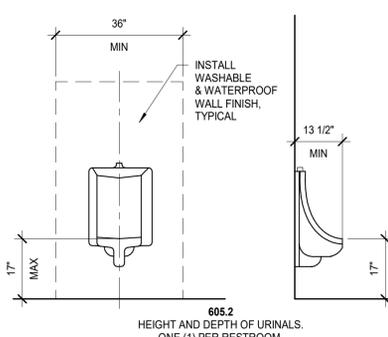
5 ADA HANDRAIL EXTENSIONS
 FOR REFERENCE ONLY



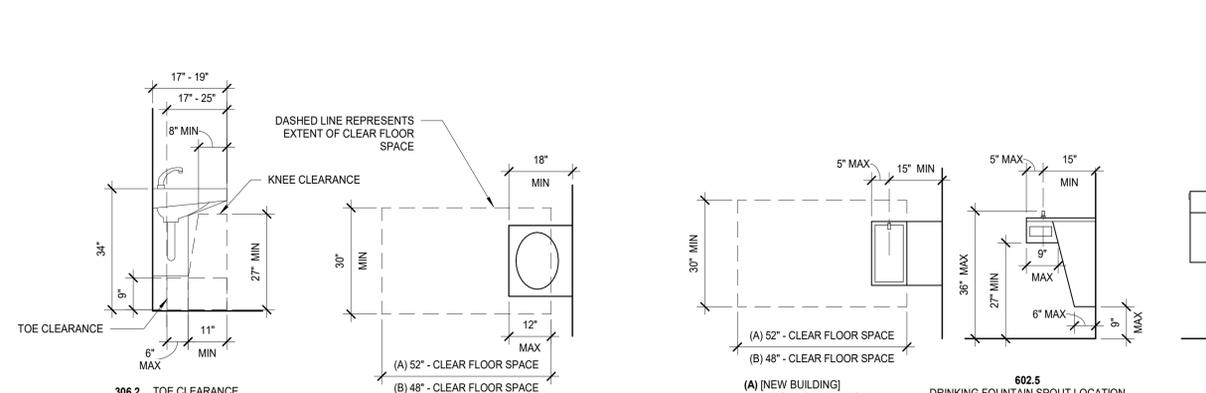
6 ADA HANDRAILS & GRAB BARS
 FOR REFERENCE ONLY



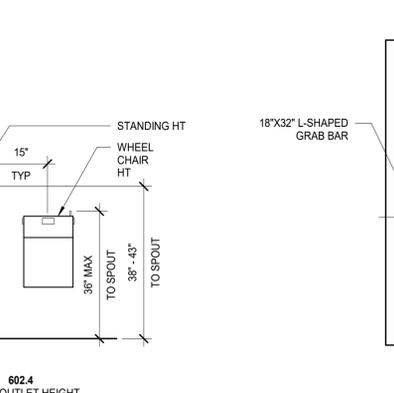
7 FIRE EXTINGUISHER CABINET
 FOR REFERENCE ONLY



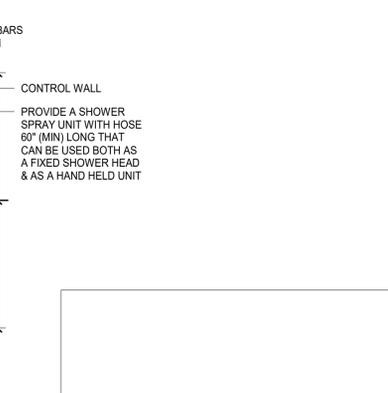
8 ADA ACCESSIBLE DEVICES & ACCESSORIES HEIGHT
 FOR REFERENCE ONLY



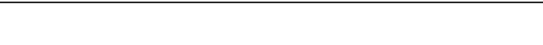
9 ADA ACCESSIBLE TOILET
 FOR REFERENCE ONLY



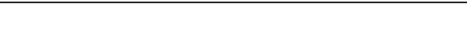
10 ADA URINAL HEIGHT AND DEPTH
 FOR REFERENCE ONLY



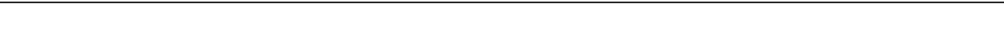
11 ADA SINK CLEARANCE
 FOR REFERENCE ONLY



12 ADA WATER FOUNTAIN
 FOR REFERENCE ONLY



13 ADA SHOWER CLEARANCES
 FOR REFERENCE ONLY



100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
 1470 NORTH ROBERTS ST.
 HELENA, MONTANA 59601

slate ARCHITECTURE

WWW.SLATEARCHITECTURE.COM

T 406.457.0360

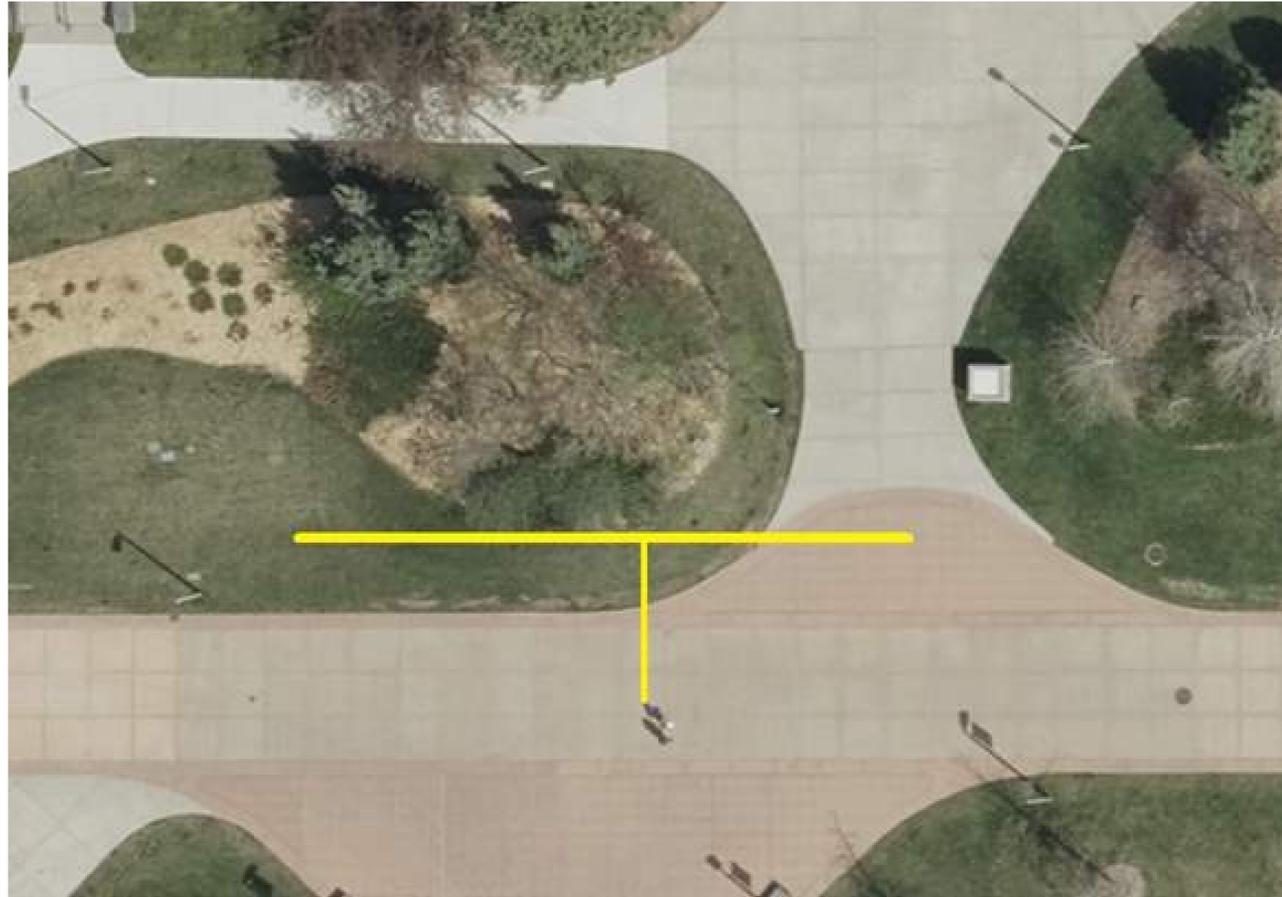
DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



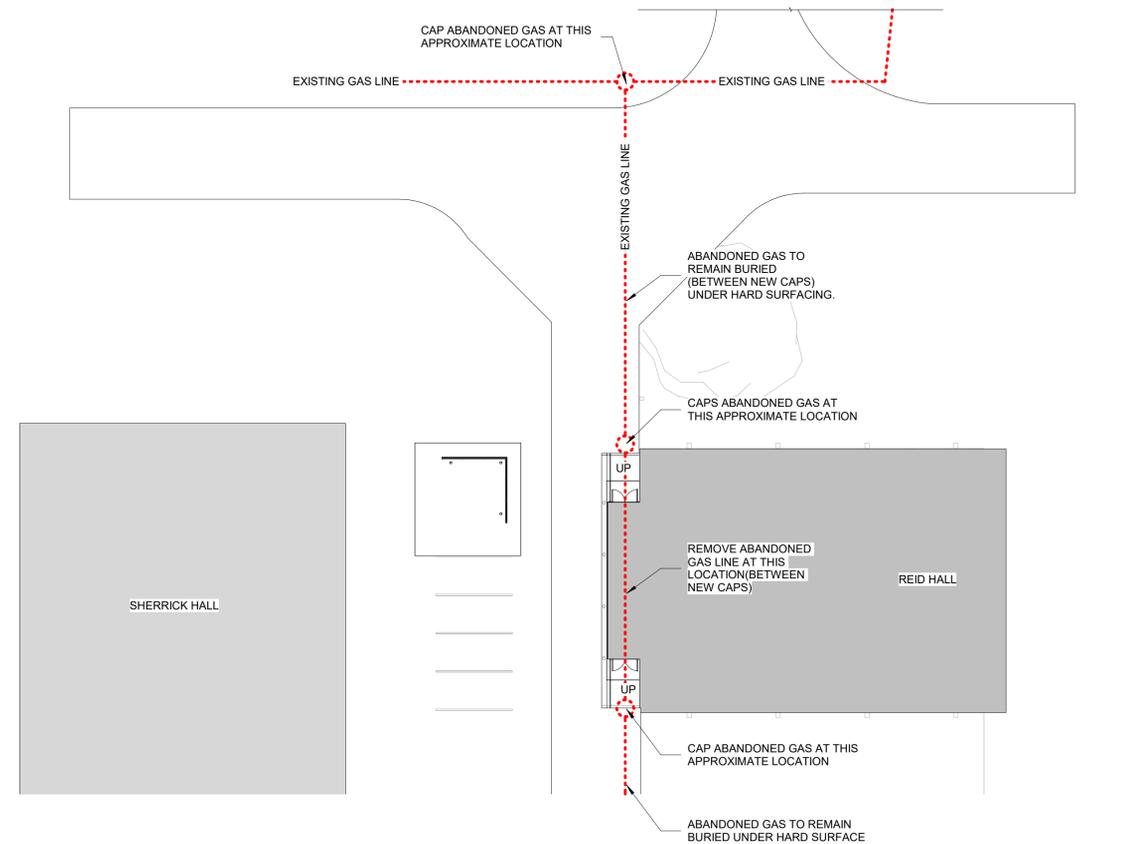
PPA#25-1217
 A/E#25032
 ADA STANDARDS
 - IIC A117.1
 2017

SHEET
G003

DATE
02.23.2026



EXISTING GAS LINE REFERENCE PHOTO



① SITE PLAN - GAS LINE
1" = 20'-0"



EXISTING GAS LINE REFERENCE PHOTO



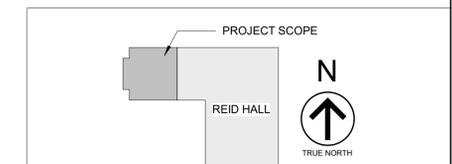
EXISTING GAS LINE REFERENCE PHOTO



EXISTING GAS LINE REFERENCE PHOTO



EXISTING GAS LINE REFERENCE PHOTO



DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE

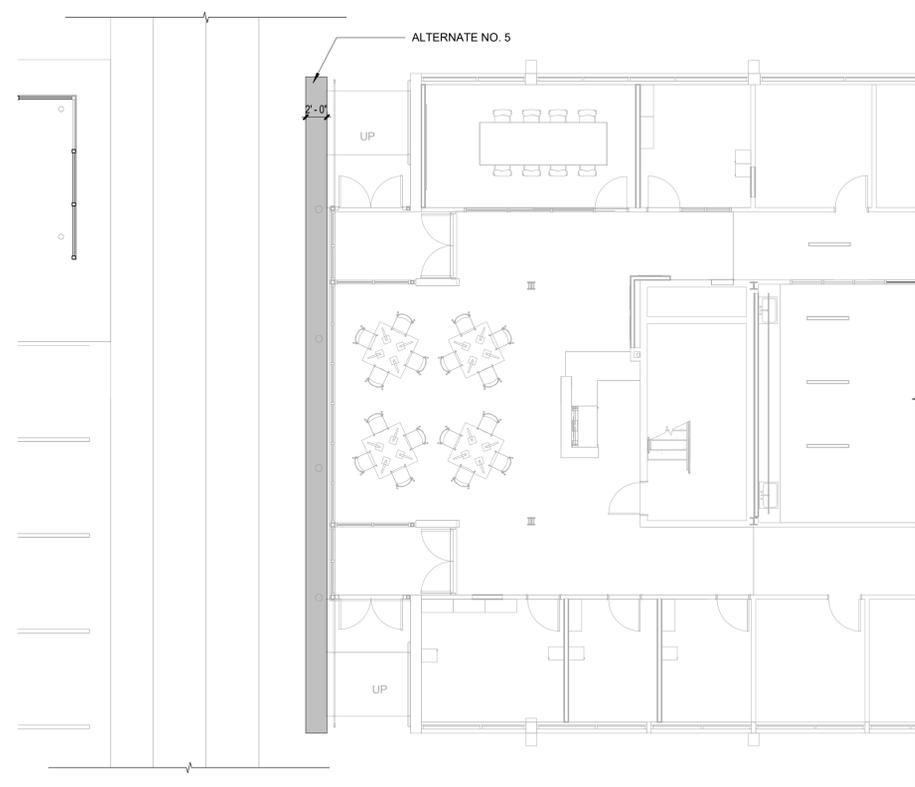


PPA#25-1217
A/E#25032
SITE PLAN - MAIN
LINE

SHEET
G050

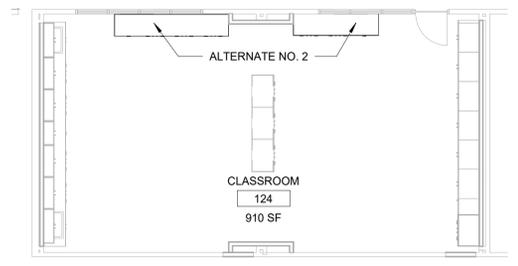
DATE
02.23.2026

100% CONSTRUCTION DOCUMENTS

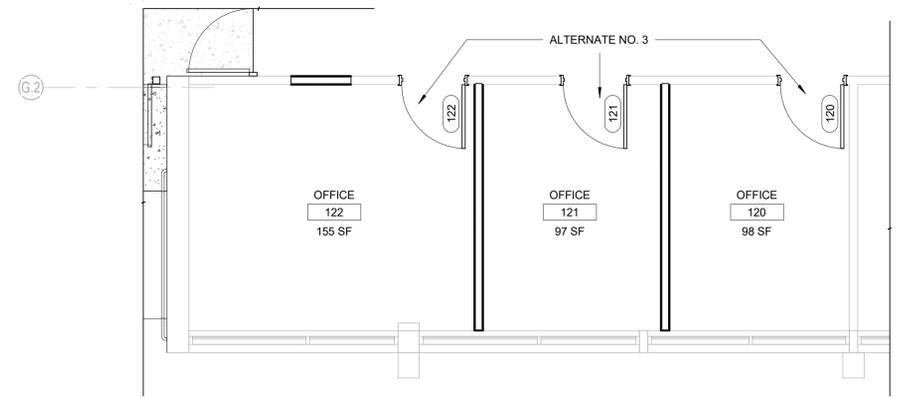


5 ALTERNATE NO. 4 - EXPOSED AGGREGATE
1/8" = 1'-0"

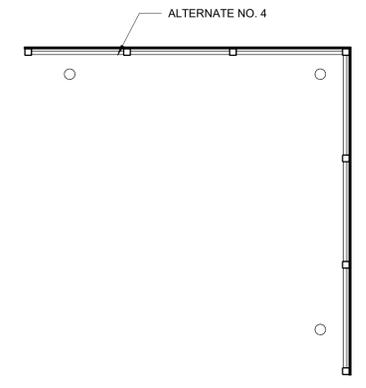
REFERENCE SHEET A/051



2 ALTERNATE NO. 1 - NEW CABINETS ON THE NORTH WALL
1/8" = 1'-0" REFERENCE SHEET A/401



3 ALTERNATE NO. 2 - DOOR WINDOW KITS FOR OFFICES
1/4" = 1'-0" REFERENCE SHEET A/601



4 ALTERNATE NO. 3 - DUMPSTER ENCLOSURE
1/4" = 1'-0" REFERENCE SHEET A/311

ACCEPTANCE OF ALTERNATES

- ALTERNATES QUOTED ON BID FORMS WILL BE REVIEWED AND ACCEPTED OR REJECTED AT OWNERS OPTION. ACCEPTED ALTERNATES WILL BE IDENTIFIED IN THE OWNER-CONTRACT AGREEMENT.
- COORDINATE RELATED WORK AND MODIFY SURROUNDING WORK TO INTEGRATE THE WORK OF EACH ALTERNATE.

SCHEDULE OF ALTERNATES

- ALTERNATE NO. 1 - NEW CABINETS ON THE NORTH WALL CLASSROOM 124:**
 - BASE BID: NO WORK NECESSARY.
 - ALTERNATE: ALL MATERIALS AND LABOR NECESSARY TO PROVIDE AND INSTALL NEW CABINETS ON THE NORTH WALL OF CLASSROOM 124.
- ALTERNATE NO. 2 - DOOR WINDOW KITS FOR THE OFFICES:**
 - BASE BID: NO WORK NECESSARY.
 - ALTERNATE: ALL MATERIALS AND LABOR REQUIRED TO PROVIDE AND INSTALL NEW WINDOWS IN EXISTING DOORS AT OFFICES 120,121,122.
- ALTERNATE NO. 3 - DUMPSTER ENCLOSURE:**
 - BASE BID: NO WORK NECESSARY.
 - ALTERNATE: ALL MATERIALS AND LABOR REQUIRED TO CONSTRUCT AND INSTALL A TWO-SIDED GARBAGE DUMPSTER SCREEN.
- ALTERNATE NO. 4 - EXPOSED AGGREGATE FEATURE STRIP:**
 - BASE BID: ROUGH SURFACE, STEEL TROWELED GRAY CONCRETE ADJACENT TO NEW ADDITION.
 - ALTERNATE: ALL MATERIALS AND LABOR REQUIRED TO PLACE AN INTEGRAL COLORED, EXPOSED AGGREGATE CONCRETE STRIP NEAR THE NEW ADDITION.



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



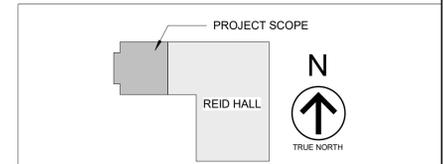
PPA#25-1217

A/E#25032

ALTERNATE PRICING

SHEET
G400

DATE
02.23.2026





HALLWAY



CONFERENCE ROOM



CLASSROOM



COLLABORATION SPACE



CLASSROOM



THE CENTER



EXTERIOR 1



EXTERIOR 2

BUILDING CODE (IBC) 2021
 BUILDING REQUIREMENTS FROM INTERNATIONAL
 USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)
 ASSEMBLY: B

CHAPTER 10 - MEANS OF EGRESS
 SECTION 1004 OCCUPANT LOAD:
 TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT: EDUCATIONAL CLASSROOM OCC. TYPE
 CLASSROOM 124 FLOOR AREA BY OCCUPANT TYPE AT 20 NET SF: 931 SF/20 = 47 OCC. PROVIDED OCCUPANT
 LOAD: 25 OCCUPANTS

COMMON PATH OF EGRESS TRAVEL:
 NO CHANGE TO COMMON PATH OF EGRESS TRAVEL

SECTION 1006 NUMBER OF EXITS:
 TWO EXITS FROM ANY SPACE SHALL BE PROVIDED WHERE THE DESIGN OCCUPANT LOAD EXCEEDS THE VALUES
 LISTED IN TABLE 1006.2.1
 CLASSROOM 124: 1 EXIT REQUIRED, 1 EXIT PROVIDED

SECTION 1010.1.1 SIZE OF DOORS: THE REQUIRED CAPACITY OF EACH DOOR OPENING SHALL BE SUFFICIENT
 FOR THE OCCUPANT LOAD AND SHALL PROVIDE A MINIMUM CLEAR OPENING WIDTH OF 32 INCHES.

CHAPTER 12 - INTERIOR ENVIRONMENT
 SECTION 1208.2 MINIMUM CEILING HEIGHTS: OCCUPIABLE SPACES, HABITABLE SPACES AND CORRIDORS
 SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7-FEET 6-INCHES ABOVE THE FINISHED FLOOR
 (COLLABORATION SPACE ADDITION IS 7'-8")

NOTE: PLUMBING FIXTURE COUNT HAS NOT CHANGED.
 NO CHANGE IS BEING MADE TO OCCUPANCY SIZE OR TYPE.
 NO CHANGE TO EXIT DISTANCE OR PATH.



MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

REID HALL CENTER FOR
 RESEARCH ON RURAL
 EDUCATION SPACE
 TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
 1470 NORTH ROBERTS ST.
 HELENA, MONTANA 59601
 T 406.457.0360
 WWW.SLATEARCHITECTURE.COM

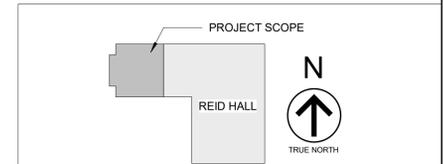
DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



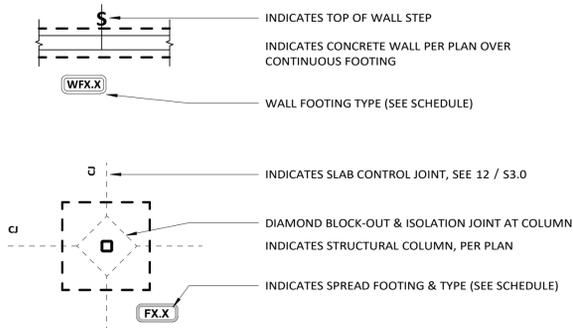
PPA#25-1217
 A/E#25032
 3D VIEW AND
 CODE REVIEW

SHEET
G901

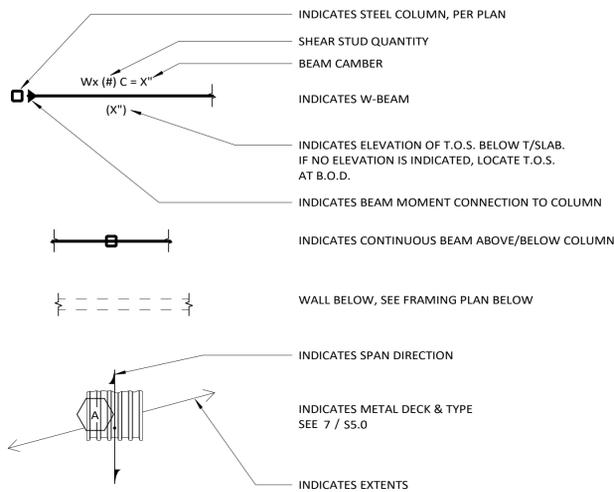
DATE
02.23.2026



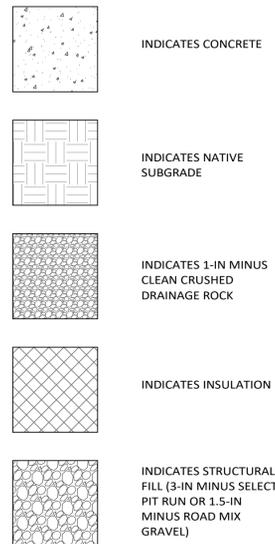
FOUNDATION PLAN LEGEND



FRAMING PLAN LEGEND



MATERIALS LEGEND



STRUCTURAL SHEET ORGANIZATION

PREFIX	SUFFIX	DESCRIPTION
S1.	1... x	GENERAL STRUCTURAL NOTES, SYMBOL DESCRIPTIONS, ABBREVIATIONS, SHEET INDEX
S2.	1... x	STRUCTURAL PLAN, ELEVATION, AND BUILDING SECTION VIEWS
S3.0	A... x	STANDARD CONCRETE CONSTRUCTION DETAILS (DIV. 03 00 00)
S3.	1... x	FOUNDATION RELATED NON-STANDARD DETAILS
S4.0	A... x	STANDARD MASONRY CONSTRUCTION DETAILS (DIV. 04 00 00)
S4.	1... x	MASONRY RELATED NON-STANDARD DETAILS
S5.0	A... x	STANDARD STRUCTURAL STEEL CONSTRUCTION DETAILS (DIV. 05 10 00)
S5.	1... x	STEEL RELATED NON-STANDARD DETAILS
S6.0	A... x	STANDARD WOOD CONSTRUCTION DETAILS (DIV. 06 00 00)
S6.	1... x	WOOD RELATED NON-STANDARD DETAILS
S7.	1... x	STAIR FRAMING PLANS & DETAILS

- NOTES:
- WHERE DRAWING SERIES OMITTED FROM SHEET INDEX, SUCH CONSTRUCTION TYPE DOES NOT EXIST IN PROJECT OR IS A VERY MINOR COMPONENT OF THE STRUCTURE AND SUCH CONSTRUCTION IS COVERED IN OTHER PREVALENT CONSTRUCTION TYPE DETAILING.
 - SEE SHEET INDEX SCHEDULE FOR PROJECT SPECIFIC SHEET LIST AND ISSUE HISTORY.

STRUCTURAL SHEET INDEX

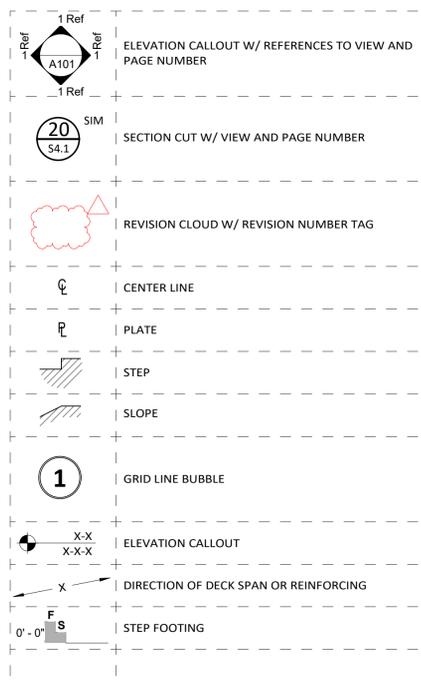
Sheet Number	Sheet Name	Sheet Issue Date	DD 12/17/2025	95% CD 02/23/2026	100% CD 02/23/2026
S1.0	STANDARDS	02/23/26	X	X	X
S1.1	GENERAL STRUCTURAL NOTES	02/23/26	X	X	X
S2.0	PLAN VIEWS	02/23/26	X	X	X
S3.0	STANDARD CONCRETE DETAILS	02/23/26	X	X	X
S3.1	FOUNDATION DETAILS	02/23/26	X	X	X
S5.0	STANDARD STEEL DETAILS	02/23/26	X	X	X
S5.1	STEEL DETAILS	02/23/26	X	X	X

12	9	6	3
11	8	5	2
10	7	4	1

DETAIL ORGANIZATION

1 1/2" = 1'-0"

SYMBOLS LEGEND



ABBREVIATIONS

AASTHO	American Association of State Highway and Transportation Officials	ABT	About	GAL	Gage	R	Radius
ACI	American Concrete Institute	ABUT	Abutment	GAU	Galvanized	RC	Reinforced concrete
AIA	American Institute of Architects	ADJ	Adjacent	GC	General contractor	RD	Round
AISC	American Institute of Steel Construction	ALT	Alternate	GL	Glued-laminated	REBAR	Deformed reinforcing bar
AISI	American Iron and Steel Institute	APPROX	Approximate	GR	Grade	REG	Register
ANSI	American National Standards Institute	ARCH	Architect	GT	Girder truss	REIN	Reinforcement
ASTM	ASTM International	ARCH	Architect	HK	Hook	REQ	Require
AWS	American Welding Society	B, BOT	Bottom	H, HOR,	Horizontal	RESTEEL	Plain bars used for reinforcement, reinforcing bar, wire, welded wire fabric
CSI	Concrete Reinforcing Steel Institute	BAL	Balance	HORIZ, HZ	Horizontal	RET WALL,	Retaining wall
FSI	Federal Highway Administration	BDL	Bundle	HP	High point	REV	Revision
ICC	International Code Council	BDTW, BTW	Between	HT	Height	RM	Room
NCA	National Concrete Masonry Association	BLK	Block	ID	Inside diameter	RT	Right
PCA	Portland Cement Association	BLKG	Blocking	IF	Inside face	S	South
PTI	Post-Tensioning Institute	BM	Beam	IN	Inch, inches	SAD	See architectural drawings
WRI	Wire Reinforcement Institute	B.N.	Boundary nailing	INCL	Include	SC	Shotcrete
(E)	Existing	BNT	Bottom of, bottom of footing	INT	Interior	SCD	See civil drawings
(N)	New	BO, BOF	Bottom of, bottom of footing	INT	Interior	SCHED	Schedule
f'	specified compressive strength of concrete, psi	BP	Bearing plate	JT	Joint	SD	Storm drain
f _s	minimum specified yield strength of reinforcing steel, psi	BSMT	Basement	JT	Joint	SE	Slab edge
psf	pounds per square foot used for loads on building or reactions as from soil on footings	CANT	Cantilever	KIP	Thousand pounds	SECT	Section
psi	pounds per square inch used for stress or strength of concrete and reinforcing bars	CB	Catch basin, corner bar	LB	Pound	SF	Square feet, square footage
kip	1000 pounds	CC	Center-to-center	LD	Development length of reinf. bar	SHTG	Sheathing
ksi	kips per square inch	CF	Counterfort	LGTH	Length	SIM	Similar
C	American Standard Channels	CIP	Cast-in-place	LN	Linear	SM	Sheet metal
HP	Bearing pile shapes	CL, CLR	Control joint	LOC	Location	SMD	See mechanical drawings
HSS	Hollow structural sections	CL	Claw	LONGIT	Longitudinal	SP	Slab on ground
L	Angles	CLG	Ceiling	LP	Low point	SPR	Spiral
M	Miscellaneous shapes	CMU	Concrete masonry unit	LT	Left	SPA	Space
MC	Miscellaneous channels	COL(S)	Column(s)	LONGIT	Longitudinal	SPG	Spacing
MT	Structural tees from M-shapes	CONC	Concrete	LP	Low point	SPCR	Spacer
S	American Standard Beams	CONST	Construction	LT	Left	SQ	Square
ST	Structural tees from S-shapes	CONT	Continuous	LVL	Laminated veneer lumber	ST	Stair, step, stirrup, street
TS	Structural tubing	CONTR	Contractor	LW	Long way	STA	Station
WT	Wide-flange shapes	CONTR JT	Contractor joint	MAX	Maximum	STD	Standard
B	Beams, Bottom	COR	Corner	MB	Metal building	STR	Stirrup
C	Columns	CTR, CTRD	Center, centered	MH	Manhole	STR	Straight
F	Footings	CT	Cubic yard	MID	Middle	STRUCT	Structural structures
G	Girders	D10	Deformed wire, 0.10 in.² area	MIN	Minimum	SUPP	Support
J	Joists	DB	Diameter of reinf. bar	MK	Mark	SW	Short way
L	Limits	DBL	Double	MP	Midpoint	SYM	Symmetric
P	Piers, caissons, drilled shafts, parapet	DET	Detail	MPH	Miles per hour	T	Top
R	Roof	DETLR	Detailer	MS	Metal stud	TBL	Table
S	Slabs	DIA	Diameter	N	North	TC, TOC	Top of concrete
SW	Shearwall(s)	DIAP	Diaphragm	NE	Near face	TEMP	Temperature
W	Walls	DIAG	Diagonal	NF	Near face	TO	Top of footing
		DIR	Direction	NI	Not in contract	TOF	Top of footing
		DIST	Distance, distribution	NO	Nominal	TOM	Top of masonry
		DWG	Drawing	NOM	Nominal	TOP	Top of pier, top of pier
		DWL	Dowel	NS	Near side	TOS	Top of slab, top of steel
		E	East	NTS	Not to scale	TOW, TW	Top of wall
		E, EC, EPOI	Epoxy-coated	OC	On center	TRANSV	Transverse
		EA	Each	OD	Outside diameter	TYP	Typical
		EE	Each end	OF	Outside face	UNO, UNO	Unless noted otherwise
		EF	Each face	OH	Opposite hand, overhang	USO, USOS	Unless shown otherwise
		EL, EXP JT	Expansion joint	OPNG	Opening	V, VERT, VT	Vertical
		EL, ELEV	Elevation, elevator	OPP	Opposite	VIF	Verify in field
		E.N.	Edge nailing	OPNG	Opening		
		EOR	Engineer on record	PC	Precast		
		EQ	Equal, equation	PCP	Precast-concrete panels	W 10	Plain wire, 0.10 in.² area
		EQUIV	Equivalent	PCS	Pieces	W	West
		E.S.	Each side	PI	Point of inflection, point of intersection	WB	Weather barrier
		EST	Estimate	PIP	Poured-in-place	WO	Wood
		EW	Each way	PL	Plane-bar, plate	WP	Work point
		EXST	Existing	PLCS	Places	WT	Weight
		EXP	Expansion	PLS	Places	WWF	Welded wire fabric
		EXT	Extend, exterior	PR	Pair	X-SECT	Cross section
		FDN, FNDN	Foundation	PROJ	Project		
		FD	Floor drain	PSL	Parallel strand lumber		
		FE	Far face	PT	Point		
		FIG	Figure	P.T.	Preservative treated		
		FIN	Finish	PVMT	Pavement		
		FL	Floor	QC/QA	Quality control/quality assurance		
		FRTW	Fire-retardant treated wood	QTY	Quantity		
		FS	Far side				
		FT	Feet, foot				
		FTG	Footing				



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS



DRAWN BY: ECS
REVIEWED BY: MTM

REV. DESCRIPTION DATE



PPA#25404

A/E#25032

STANDARDS

SHEET
S1.0

DATE
02/23/26

00.00 - GENERAL

- THIS PROJECT IS REGULATED BY THE INTERNATIONAL BUILDING CODE, 2021 ED. HEREINAFTER REFERRED TO AS "CODE", INCLUDING THE CODE'S REFERENCE STANDARDS.
- WHERE THERE IS A CONFLICT BETWEEN THESE GENERAL STRUCTURAL NOTES AND A SPECIFIC REQUIREMENT IN THE PLANS AND DETAILS, THE SPECIFIC REQUIREMENT SHALL BE CONTROLLING. WHERE, IN ANY SPECIFIC CASE, DIFFERENT PORTIONS OF THESE DRAWINGS SPECIFY DIFFERENT MATERIALS, METHODS OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN.
- STRUCTURAL PROVISIONS OF A PROJECT MANUAL (SPECIFICATIONS) APPLY AND THE MORE RESTRICTIVE SPECIFICATION BETWEEN THESE DRAWINGS AND THE PROJECT MANUAL SHALL APPLY.
- THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. CONSULTANT DRAWINGS BY OTHER DISCIPLINES ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ALL OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN THE VARIOUS ELEMENTS OF THE CONSULTANTS' DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT AS DIRECTED BY THE ARCHITECT WITH ADDITIONAL COST TO THE OWNER. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK.
- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS. PRIMARY STRUCTURAL ELEMENTS AND OVERALL STRUCTURAL LAYOUT ARE INDICATED WITH THE STRUCTURAL PLANS AND DETAILS. SOME SECONDARY ELEMENTS, ARCHITECTURAL LAYOUTS, ELEVATIONS, SLOPES, DEPRESSIONS, CURBS, MECHANICAL EQUIPMENT AND ELECTRICAL EQUIPMENT, ARE NOT INDICATED WITH THE STRUCTURAL DRAWINGS. DETAILING AND SHOP DRAWING PRODUCTION FOR THE STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION (INCLUDING DIMENSIONS) CONTAINED IN THE ARCHITECTURAL, STRUCTURAL AND/OR OTHER CONSULTANTS' DRAWINGS.
- DO NOT SCALE THESE DRAWINGS, USE THE DIMENSIONS SHOWN.
- NO STRUCTURAL MODIFICATIONS, ALTERATIONS, OR REPAIRS SHALL BE MADE WITHOUT PRIOR REVIEW BY THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS, METHODS AND SAFETY OF ERECTION OF THE STRUCTURE, AND SHALL PROVIDE TEMPORARY SHORING AND BRACING AS THE CONTRACTOR'S METHOD REQUIRES TO PROVIDE ADEQUATE VERTICAL AND LATERAL SUPPORT. TEMPORARY SHORING AND BRACING SHALL REMAIN IN PLACE AS THE CHOSEN METHOD REQUIRES UNTIL ALL PERMANENT MEMBERS ARE IN PLACE AND ALL FINAL CONNECTIONS ARE COMPLETED. THE BUILDING SHALL NOT BE CONSIDERED STABLE UNTIL ALL CONNECTIONS ARE COMPLETE.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT IT AGAINST INJURY, DAMAGE, OR LOSS.
- QUALITY CONTROL:
 - THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL, INCLUDING WORKMANSHIP AND MATERIALS FURNISHED BY HIS SUBCONTRACTORS AND SUPPLIERS.
 - THE CONTRACTOR IS RESPONSIBLE AND SHALL BEAR THE COST OF CORRECTING WORK WHICH DOES NOT CONFORM TO THE SPECIFIED REQUIREMENTS.
 - CORRECT DEFICIENT WORK BY MEANS ACCEPTABLE TO THE ARCHITECT. THE COSTS OF EXTRA WORK INCURRED BY THE ARCHITECT TO APPROVE CORRECTIVE WORK SHALL BE BORNE BY THE CONTRACTOR.

01.00 BASIS OF DESIGN

- GOVERNING CODES:
 - INTERNATIONAL BUILDING CODE (IBC), 2021 ed.
 - ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES.
- RISK CATEGORY: I [], II [X], III [], IV []
- DEAD LOADS:
 - STRUCTURE SELF-WEIGHT
 - SUPERIMPOSED:
 - ROOF = 15 PSF
- LIVE LOADS: 100 PSF
- ROOF LIVE LOADS:
 - UNIFORM: 20 PSF (ORDINARY, NON-OCCUPIABLE)
 - CONCENTRATED: 300 LBS
- SNOW LOAD DATA:
 - GROUND SNOW LOAD, $P_g = 46$ PSF
 - FLAT-ROOF SNOW LOAD, $P_f = 50$ PSF
 - SNOW EXPOSURE FACTOR, $C_e = 1.0$
 - THERMAL FACTOR, $C_t = 1.0$
 - SNOW LOAD IMPORTANCE FACTOR, $I_s = 1.0$
 - SLOPE FACTOR, $C_s = 1.0$
 - DRIFTING & SLIDING SNOW: PER ASCE 7
- WIND LOAD DATA:
 - ULTIMATE DESIGN WIND SPEED, V_{ult} (3-SEC GUST) = 107 MPH
 - NOMINAL DESIGN WIND SPEED, V_{ref} (3-SEC GUST) = 83 MPH
 - WIND EXPOSURE: A [], B [X], C [], D []
 - INTERNAL PRESSURE COEFFICIENT, $GCF_i = \pm 0.18$
 - COMPONENT AND CLADDING DESIGN PRESSURES: AS INDICATED IN 1/5.1.1
- EARTHQUAKE DESIGN DATA:
 - SEISMIC IMPORTANCE FACTOR, $I_p = 1.0$
 - MAPPED SPECTRAL RESPONSE ACCELERATION, $S_s = 0.68$ AND $S_1 = 0.21$
 - SITE CLASS: A [], B [], C [], D [X], E [], F []
 - DESIGN SPECTRAL RESPONSE ACCELERATION, $S_{DS} = 0.57$ AND $S_{M1} = 0.31$
 - SEISMIC DESIGN CATEGORY: A [], B [], C [], D [X], E [], F []
 - BASIC SEISMIC FORCE-RESISTING SYSTEM(S):
 - STEEL ORDINARY CANTILEVER COLUMNS
 - RESPONSE MODIFICATION COEFFICIENT(S), $R = 1.25$
 - SEISMIC RESPONSE COEFFICIENT(S), $C_s = 0.46$
 - ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE METHOD
 - DESIGN BASE SHEAR(S): 5 KIP (ULT.)
- GEOTECHNICAL DATA:
 - SOURCE: A GEOTECHNICAL INVESTIGATION AND REPORT WAS NOT COMPLETED FOR THIS PROJECT. PRESUMPTIVE LOAD-BEARING VALUES OF SOILS PER CODE SECTION 1806 WERE USED.
 - SUBSURFACE CLASS OF MATERIALS: CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT AND SANDY SILT (CL, ML, MH AND CH)
 - SOIL BEARING PRESSURE (ASD): 1,500 PSF
 - COEFFICIENT OF FRICTION: 0.4
 - EQUIVALENT FLUID PRESSURE:
 - ACTIVE CASE: 50 PSF/FT
 - AT REST CASE: 60 PSF/FT
 - PASSIVE CASE: 200 PSF/FT
 - ONE-THIRD STRESS INCREASE FOR WIND OR EARTHQUAKE LOADS

01.14 SPECIAL INSPECTION

- THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION.
- SPECIAL INSPECTOR QUALIFICATIONS: THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING HIS OR HER COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING.
- ACCESS FOR SPECIAL INSPECTION: THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION PURPOSES UNTIL THE REQUIRED SPECIAL INSPECTIONS ARE COMPLETE.
- REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE APPLICANT AND THE BUILDING OFFICIAL.
- CONTRACTOR RESPONSIBILITY: EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-OR SEISMIC FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR A WIND-OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
- STRUCTURAL OBSERVATIONS ARE REQUIRED FOR THIS PROJECT. THE ENGINEER SHALL PERFORM ANY STRUCTURAL OBSERVATIONS. OBSERVATIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
 - FOUNDATION - PRIOR TO CLOSING UP FORMWORK FOR WALLS.
 - COMPLETION OF EACH LEVEL - PRIOR TO ANY FINISH MATERIAL BEING APPLIED.
- INSPECTION AND TESTING:
 - SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS/PERIODICALLY DURING TASK	
	CONTINUOUS LISTED	PERIODICALLY LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACH PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

VERIFICATION AND INSPECTION TASK	CONTINUOUS/PERIODIC	
	CONTINUOUS	PERIODIC
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT.	-	X
2. REINFORCING BAR WELDING: <ol style="list-style-type: none"> VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706; INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND INSPECT ALL OTHER WELDS. 	X	X
3. INSPECT ANCHORS CAST IN CONCRETE.	-	X
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. <ol style="list-style-type: none"> ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A. 	X	-
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
7. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X

01.14 SPECIAL INSPECTION (CONT.)

- STEEL CONSTRUCTION SPECIAL INSPECTIONS/TESTING (NON-SEISMIC BLDG COMPONENTS):
 - SPECIAL INSPECTION AND TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AISC 360, CHAPTER N "QUALITY CONTROL AND QUALITY ASSURANCE".
 - SPECIAL INSPECTION OF SHOP-FABRICATED STEEL IS NOT REQUIRED FOR FABRICATION SHOPS CERTIFIED "BU-BUILDING QMS" ACCORDING TO AISC 206.
- STEEL CONSTRUCTION SPECIAL INSPECTIONS/TESTING (BUILDING SEISMIC COMPONENTS):
 - REPORT REQUIREMENT: REQUIREMENTS OF AISC 360, CHAPTER N, SPECIAL INSPECTION AND TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AISC 341, CHAPTER J "QUALITY CONTROL AND QUALITY ASSURANCE".
 - WELDING INSPECTION AND NONDESTRUCTIVE TESTING SHALL SATISFY THE REQUIREMENTS OF STEEL CONSTRUCTION INSPECTIONS/TESTING (NON-SEISMIC BLDG COMPONENTS).
 - INSPECTION OF HIGH-STRENGTH BOLTING: BOLTING INSPECTION SHALL SATISFY THE REQUIREMENTS OF STEEL CONSTRUCTION INSPECTIONS/TESTING (NON-SEISMIC BLDG COMPONENTS).
 - COLD-FORMED STEEL DECK:
 - SPECIAL INSPECTIONS AND QUALIFICATION OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK AND QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC.
 - QUALITY ASSURANCE (QA) WELDING INSPECTION PERSONNEL SHALL BE QUALIFIED IN EITHER OF THE FOLLOWING:
 - WELDING INSPECTOR (WI) OR HIGHER AS DEFINED IN AWS B5.1, EXCEPT ASSOCIATE WELDING INSPECTORS (AWI) SHALL BE PERMITTED TO BE USED UNDER THE DIRECT SUPERVISION OF WI'S OR HIGHER WHO ARE ON THE PREMISES AND AVAILABLE WHEN WELD INSPECTION IS BEING CONDUCTED; OR
 - QUALIFIED BY TRAINING OR EXPERIENCE, OR BOTH, IN DECK INSTALLATION, INSPECTION, OR TESTING AND COMPETENT TO PERFORM INSPECTION OF THE WORK.
 - QUALITY ASSURANCE TASKS: THE QA SHALL PERFORM THE FOLLOWING VERIFICATIONS AND INSPECTIONS, AS APPLICABLE. ACCEPTANCE SHALL BE BASED ON CONFORMANCE WITH THE FOLLOWING:
 - FIELD WELDING OF DECK IN ACCORDANCE WITH AWS D1.3, SDI C, SDI NC, AND SDI RD
 - INSTALLATION OF MECHANICAL FASTENERS IN ACCORDANCE WITH SDI C, SDI NC, SDI RD, AND MANUFACTURER'S INSTRUCTIONS.
- SPECIAL INSPECTION AND QUALIFICATION OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK AND QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC.
- QUALITY ASSURANCE (QA) WELDING INSPECTION PERSONNEL SHALL BE QUALIFIED IN EITHER OF THE FOLLOWING:
 - WELDING INSPECTOR (WI) OR HIGHER AS DEFINED IN AWS B5.1, EXCEPT ASSOCIATE WELDING INSPECTORS (AWI) SHALL BE PERMITTED TO BE USED UNDER THE DIRECT SUPERVISION OF WI'S OR HIGHER WHO ARE ON THE PREMISES AND AVAILABLE WHEN WELD INSPECTION IS BEING CONDUCTED; OR
 - QUALIFIED BY TRAINING OR EXPERIENCE, OR BOTH, IN DECK INSTALLATION, INSPECTION, OR TESTING AND COMPETENT TO PERFORM INSPECTION OF THE WORK.
- QUALITY ASSURANCE TASKS: THE QA SHALL PERFORM THE FOLLOWING VERIFICATIONS AND INSPECTIONS, AS APPLICABLE. ACCEPTANCE SHALL BE BASED ON CONFORMANCE WITH THE FOLLOWING:
 - FIELD WELDING OF DECK IN ACCORDANCE WITH AWS D1.3, SDI C, SDI NC, AND SDI RD
 - INSTALLATION OF MECHANICAL FASTENERS IN ACCORDANCE WITH SDI C, SDI NC, SDI RD, AND MANUFACTURER'S INSTRUCTIONS.
- SPECIAL INSPECTION AND QUALIFICATION OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK AND QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC.

03.30 CAST-IN-PLACE

- CONCRETE CONSTRUCTION & MATERIALS SHALL COMPLY WITH THE STANDARDS SPECIFIED IN AMERICAN CONCRETE INSTITUTE (ACI) 318-19, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
- CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301-16 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
- SEE SPECIFICATION SECTION 03 30.0.
- CONCRETE MIX DESIGN REQUIREMENTS SHALL BE AS FOLLOWS:

COMPONENT	CONCRETE MIX DESIGNS						
	f'c at 28 days (psi)	Max w/cm Ratio	Air Content (%)	Max Aggregate Size	Exposure Classes*		
					F	S	C
Footings	3500	0.55	4.5	1	F1	S0	C1
Foundation Walls	4500	0.45	6	1	F2	S0	C1
Slab-on-grade (interior)	4000	0.45	<3	1	F0	S0	C0

- *EXPOSURE CLASSES ARE PER ACI 318, WHERE F, S, AND C ARE EXPOSURE CATEGORIES FOR FREEZING AND THAWING, SULFATE, AND CORROSION PROTECTION OF REINFORCEMENT, RESPECTIVELY.
- MINIMUM CEMENT OF 564 lbs./cu.yd. REQUIRED FOR ALL SLABS-ON-GRADE
 - REINFORCEMENT MATERIALS AND CONSTRUCTION REQUIREMENTS
 - REINFORCING BARS SHALL BE DEFORMED, EXCEPT SPIRALS AND WWR, WHICH MAY BE PLAIN.
 - DEFORMED REINFORCING BARS SHALL CONFORM TO:
 - ASTM A615 - STANDARD REINFORCING, GRADE 60; GRADE 40 SHALL BE ALLOWED FOR #3 AND SMALLER BARS.
 - REINFORCING BARS SHALL NOT BE WELDED UNLESS SPECIFICALLY SHOWN ON DRAWINGS.
 - FIELD BENDING OF REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE PERMITTED, EXCEPT AS SHOWN IN THE CONSTRUCTION DOCUMENTS. E. OFFSET BARS SHALL BE BENT BEFORE PLACEMENT IN THE FORMS.
 - ALL REINFORCEMENT SHALL BE BENT COLD, AND SHALL BE BENT ONLY ONCE AT THE SAME LOCATION. ALL REINFORCEMENT SHALL BE SHOP BENT, UNLESS OTHERWISE PERMITTED BY THE EOR.
 - SPECIFIED CONCRETE FOR CAST-IN-PLACE NONPRESTRESSED CONCRETE MEMBERS:
 - CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND.....COVER = 3"
 - FORMED CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
 - No. 6 THRU No. 18 BARS.....COVER = 2"
 - No.5 BAR, W31 OR D31 WIRE, AND SMALLER.....COVER = 1 1/2"
 - NOT EXPOSED TO WEATHER OR IN CONTACT W/ GROUND:
 - SLABS, JOISTS, & WALLS: No. 11 BAR & SMALLER.....COVER = 2"
 - BEAMS, COLUMNS: PRIMARY REINF., STIRRUPS, TIES, SPIRALS, HOOPS.....COVER = 1 1/2"
 - REINFORCING SHALL BE ACCURATELY FORMED TO DIMENSIONS INDICATED IN DRAWINGS AND PER BENDING DETAILS-- SEE DETAIL 10/53.0
 - NO SPLICING SHALL BE PERMITTED EXCEPT AS NOTED ON DRAWINGS. WHERE PERMITTED SPLICES MAY BE MADE BY CONTACT LAPS -- SEE LAP DETAIL 6/53.0
 - PLACEMENT TOLERANCE
 - PLACEMENT OF NONPRESTRESSED REINFORCEMENT
 - WHEN MEMBER DEPTH (OR THICKNESS) IS 4" OR LESS: ± 1/4"
 - WHEN MEMBER DEPTH (OR THICKNESS) IS OVER 4" AND NOT OVER 12": ± 3/4"
 - CONCRETE COVER MEASURED PERPENDICULAR TO CONCRETE SURFACE
 - WHEN MEMBER DEPTH (OR THICKNESS) IS 12" OR LESS: - 3/4"
 - VERTICAL DEVIATION FOR SLAB-ON-GROUND REINFORCEMENT: ± 1/4"
 - CLEARANCE BETWEEN REINFORCEMENT OR BETWEEN REINFORCEMENT AND EMBEDMENT
 - ONE-QUARTER SPECIFIED DISTANCE NOT TO EXCEED: ± 1/4"
 - DISTANCE BETWEEN REINFORCEMENT SHALL NOT BE LESS THAN THE GREATER OF THE BAR DIAMETER OR 1".
 - SPACING OF NONPRESTRESSED REINFORCEMENT, MEASURED ALONG A LINE PARALLEL TO THE SPECIFIED SPACING
 - EXCEPT AS NOTED BELOW: ± 3/8"
 - TIES, THE LESSER OF 2 1/2" OR 1 1/2" PER FT OF LEAST COLUMN WIDTH
 - THE TOTAL NUMBER OF BARS SHALL NOT BE FEWER THAN THAT SPECIFIED
 - LONGITUDINAL LOCATION OF BENDS IN BARS AND ENDS OF BARS
 - AT DISCONTINUOUS ENDS OF CORBELS AND BRACKETS: ± 1/4"
 - AT DISCONTINUOUS ENDS OF OTHER ELEMENTS: ± 1/2"
 - AT OTHER LOCATIONS: ± 1/2"
 - EMBEDDED LENGTH OF BARS AND LENGTH OF BAR LAPS
 - #3 THROUGH #11 BAR SIZES -1"
 - ANCHOR BOLTS IN CONCRETE
 - TOP OF ANCHOR BOLTS SPECIFIED ELEVATION
 - VERTICAL DEVIATION: ± 1/4"
 - CENTERLINE OF INDIVIDUAL ANCHOR BOLTS FROM SPECIFIED LOCATION
 - HORIZONTAL DEVIATION
 - FOR 1/2" AND 3/4" BOLTS: ± 1/4"
 - FOR 1", 1 1/2", AND 1 3/4" BOLTS: ± 3/8"
 - FOR 1 1/2", 2", AND 2 1/2" BOLTS: ± 1/2"

05.05 19 - POST-INSTALLED ANCHORS

- POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY SHALL BE IN ACCORDANCE WITH THESE NOTES UNLESS NOTED DIFFERENTLY IN PLANS AND DETAILS. SEE PLANS AND DETAILS FOR ANCHOR TYPE, SIZE, AND SPACING. POST-INSTALLED ANCHORS SHALL NOT BE USED IN PLACE OF SPECIFIED CAST-IN-PLACE ANCHORS SPECIFIED IN DRAWINGS, UNLESS SPECIFIED IN PLANS OR DETAILS, OR WRITTEN APPROVAL BY ENGINEER OF RECORD.
- SUBMIT:
 - PRODUCT ICC ES EVALUATION REPORTS.
 - MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - INSTALLER QUALIFICATIONS & PROCEDURES.
- QUALITY ASSURANCE: INSTALLER FOR DRILLED-IN ANCHORS SHALL HAVE AT LEAST (3) YEARS OF EXPERIENCE PERFORMING SIMILAR INSTALLATIONS.
- STORE ANCHORS AND INJECTION ADHESIVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- CONCRETE ANCHORS:
 - EXPANSION ANCHORS (CARBON THREADS/STAINLESS CLIP)
 - DEWALT/POWERS POWER-STUD+ SD2 (ICC-ES ESR-2502)
 - HILTI KWIK BOLT T2 (ICC-ES ESR-1917)
 - SIMPSON STRONG-BOLT 2 (ICC-ES ESR-3037)
 - EXPANSION ANCHORS (FULLY STAINLESS)
 - DEWALT/POWERS POWER-STUD+ SD4 (ICC-ES ESR-2502)
 - DEWALT/POWERS POWER-STUD+ SD6 (ICC-ES ESR-1917)
 - SIMPSON STRONG-BOLT 2 (ICC-ES ESR-3037)
 - SCREW ANCHORS
 - DEWALT/POWERS SCREWBOLT+ (ICC-ES ESR-3889)
 - HILTI HUS-EZ (ICC-ES ESR-3027)
 - SIMPSON TITAN HD (ICC-ES ESR-2713)
 - ADHESIVE ANCHORS
 - DEWALT/POWERS PURE 110+ (ICC-ES ESR-3298)
 - DEWALT/POWERS AC208+ GOLD (ICC-ES ESR-4027)
 - HILTI RESO-SD (ICC-ES ESR-2322)
 - HILTI HIT HY-200 (ICC-ES ESR-3013)
 - SIMPSON AT-XP (ICC-ES ESR-2508)
 - SIMPSON AT-XP (IAPMO UES ER-263)
 - POWDER/GAS ACTUATED FASTENERS
 - DEWALT/POWERS POWER DRIVEN FASTENERS (ICC-ES ESR-2024)
 - HILTI X-U POWDER DRIVEN (ICC-ES ESR-2269)
 - SIMPSON POWDER ACTUATED (ICC-ES ESR-2138)
- MASONRY ANCHORS:
 - ADHESIVE ANCHORS
 - DEWALT/POWERS WEDGEBOULT+ (ICC-ES ESR-3200)
 - HILTI HY-70 (ICC-ES ESR-2682)
 - SIMPSON AT-XP (IAPMO 0281)
- INSTALLATION OF POST-INSTALL ANCHORS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- INSTALLATION OF ADHESIVE ANCHORS THAT ARE TO BE UNDER SUSTAINED TENSION LOADING IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED FOR STRUCTURAL STEEL BUILDINGS.
- ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.
- WHERE ANCHORS ARE INSTALLED IN CONTACT WITH WOOD FRAMING AN OVERSIZED WASHER IS REQUIRED IN ORDER TO ACHIEVE TORQUE REQUIRED BY THE IC REPORT. THE WASHER SHALL BE OF SUFFICIENT SIZE TO PREVENT NOTICEABLE DEFORMATION OF WOOD FIBERS ON FACE OF MEMBER DUE TO TIGHTENING OF NUT.
- EXISTING REINFORCING SHALL NOT BE DAMAGED DURING INSTALLATION OF ANCHOR.
- ALL MESSRILLED OR UNACCEPTABLE HOLES SHALL NOT BE USED.
- REMOVE AND REPLACE MISPLACED OR MALFUNCTIONING ANCHORS. FILL EMPTY ANCHOR HOLES AND PATCH FAILED ANCHOR LOCATIONS WITH HIGH-STRENGTH NON-SHRINK GROUT.

05.12 - STRUCTURAL STEEL FRAMING

- THE DETAILING, FABRICATION, AND ERECTION OF STRUCTURAL STEEL ELEMENTS SHALL BE IN ACCORDANCE WITH:
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
 - AISC/AISC 360-16 "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS"
 - AISC 341-16 "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS" INCLUDING SUPPLEMENT No.1.
 - AISC 303-16 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
 - AMERICAN WELDING SOCIETY (AWS) D1.1-2020 "STRUCTURAL WELDING CODE - STEEL" (SPECIFIC ITEMS DO NOT APPLY WHEN THEY CONFLICT WITH THE AISC REQUIREMENTS).
 - AWS D1.8-2016 "STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT" (SPECIFIC ITEMS DO NOT APPLY WHEN THEY CONFLICT WITH THE AISC REQUIREMENTS).
- MATERIALS:
 - HOT-ROLLED STRUCTURAL SHAPES
 - W-SHAPES: ASTM A992
 - M, S, C, MC, AND L-SHAPES: ASTM A36
 - STRUCTURAL TUBING
 - HSS-RECTANGULAR & SQUARE SHAPES: ASTM A500 Gr. C, fy= 50ksi
 - PLATES - ASTM A36, U.N.O.
 - BOLTS, WASHERS AND NUTS
 - BOLTS:
 - STEEL-TO-STEEL CONNECTIONS - ASTM A325N, TYPE 1, U.N.O.
 - NUTS: ASTM A563
 - WASHERS: ASTM F436
 - ANCHOR RODS AND THREADED RODS
 - ANCHOR RODS: ASTM F1554, Gr. 36, U.N.O.
 - CONSUMABLES FOR WELDING
 - ELECTRODES: E-70xx U.N.O.; E60xx MAY BE USED FOR WELDING STEEL FLOOR AND ROOF DECKS; E60xx IS REQUIRED FOR STRUCTURAL STEEL-TO-COLD FORMED METAL FRAMING WELDS.
 - GROUT - HIGH STRENGTH, NON-SHRINK, NON-METALLIC CONFORMING TO ASTM C1107. MINIMUM 7,000 PSI STRENGTH AT 28 DAYS.
- GROUT PLACEMENT SHALL BE PROMPTLY PLACED SOLIDLY BETWEEN BEARING SURFACES AND BASE PLATES SO NO VOIDS REMAIN. NEATLY FINISH EXPOSED SURFACES; AND PROTECT GROUT AND ALLOW TO CURE. COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- DO NOT USE THERMAL CUTTING DURING ERECTION WITHOUT WRITTEN APPROVAL BY CO, UPON REVIEW BY E.O.R.

05.31 - STEEL DECKING

- STEEL DECK:
 - SEE "METAL DECK SCHEDULE" 7/55.0 FOR MATERIALS, PROFILES, AND CONNECTIONS TO STRUCTURE.
- SEE SPECIFICATION SECTION 05 31 00.

31.00 - EARTHWORK

- THE FOUNDATION DESIGN IS PREDICATED UPON PRESUMPTIVE LOAD-BEARING VALUES OF SOILS PER TABLE 1806.2 OF THE IBC.
- REGISTERED PROFESSIONAL GEOTECHNICAL ENGINEER SHALL JUDGE SUITABILITY OF UNDERLYING MATERIAL TO SUPPORT FOUNDATIONS AND SHALL APPROVE BEARING MATERIAL BEFORE FOUNDATION INSTALLATION.
- ALL FILL MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH RECOMMENDATIONS OF GEOTECHNICAL REPORT, WHEN PRODUCED FOR THE PROJECT, BUT NOT LESS THAN THE FOLLOWING:
 - STRUCTURAL FILL.....98% OF *MAX DRY DENSITY.
 - SOILS BENEATH SLABS.....95% OF *MAX DRY DENSITY.
 - BACKFILL.....95% OF *MAX DRY DENSITY.

* ASTM D698 STANDARD PROCTOR
- ALL FOOTINGS SHALL BEAR ON COMPACTED STRUCTURAL FILL. WHERE SOFT OR LOOSE MATERIAL IS FOUND, SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER.
- ALL PERIMETER FOOTINGS AND EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 4FT BELOW FINISH GRADE, U.N.O.
- CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF EXCAVATIONS, PROTECTION OF EXISTING UTILITIES AND STRUCTURES, ETC. WHETHER INDICATED OR NOT.
- UTILITY LINES SHALL NOT BE PLACED BELOW FOUNDATIONS WITHOUT THE APPROVAL OF EOR.
- BACKFILL SHALL BE PLACED AGAINST BOTH SIDES OF WALLS SIMULTANEOUSLY.
- CONTRACTOR SHALL PROVIDE CONTINUOUS SITE DRAINAGE BY A MECHANICAL METHOD TO CONTROL SURFACE AND UNDERGROUND WATER AS REQUIRED TO MAINTAIN A DRY WORKING SITE.
- COORDINATE FOUNDATION DRAINAGE AND WATER PROOFING REQUIREMENTS (PERIMETER DRAINS, UNDERSLAB DRAINS, WATER PROOFING, ETC.) WITH ARCHITECT, PLUMBING AND CIVIL DRAWINGS.
- FOUNDATION DESIGN HAS NOT BEEN DESIGNED FOR HYDROSTATIC PRESSURES. PROPER DRAINAGE IS REQUIRED TO ELIMINATE PRESSURES.
- ALL FOOTINGS SHALL BE CENTERED UNDER WALLS AND COLUMNS, U.N.O.
- THE TOP SURFACE OF FOOTINGS SHALL BE LEVEL. FOOTING SHALL BE STEPPED PER STANDARD DETAIL WHERE IT IS NECESSARY TO CHANGE THE TOP SURFACE OF THE FOOTING.

WIND DESIGN PRESSURE (COMPONENTS & CLADDING)						
ZONE	EFFECTIVE AREA (ft. ²)	SURFACE PRESSURES (PSF)				
		10	50	100	200	500
4 (NEGATIVE)		-34.5	-31.2	-29.7	-28.3	-26.4
5 (NEGATIVE)		-42.6	-35.9	-33.1	-30.2	-26.4
4/5 (POSITIVE)		+31.8	+28.5	+27.0	+25.6	+23.7

- NOTES:
- WIND LOADS ARE ULTIMATE LEVEL (e.g., 1.0W OF ASCE 7-16)
 - WIND ZONES LOCATIONS ARE DEFINED BY FIGURE 30.3-1 OF ASCE 7-16
 - ZONE 5 WIDTH = 3 FT
 - NEGATIVE PRESSURES SIGNIFY PRESSURES ACTING AWAY FROM THE SURFACE. POSITIVE PRESSURES ACT TOWARD THE SURFACE.

1 WIND DESIGN PRESSURES COMPONENTS AND CLADDING 12" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR RESEARCH ON RURAL EDUCATION SPACE TRANSFORMATION

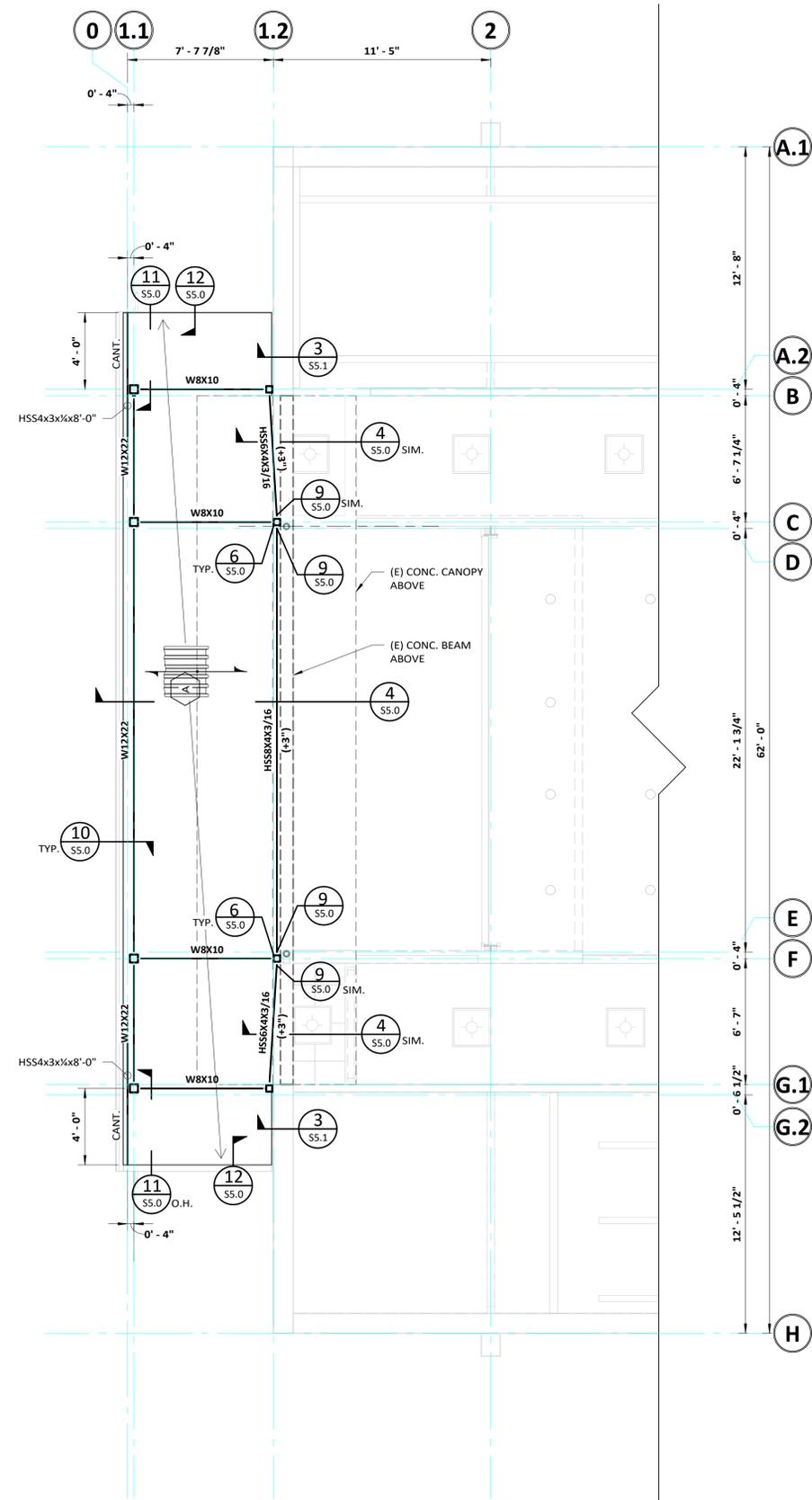
100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.467.0360
WWW.SLATEARCHITECTURE.COM

DRAWN BY:	ECS
REVIEWED BY:	MTM
REV.	DESCRIPTION DATE



PPA#25404
A/E#25032
GENERAL STRUCTURAL NOTES
SHEET
S1.1
DATE
02/23/26



2 ROOF FRAMING PLAN

ROOF FRAMING PLAN NOTES

- SEE ARCHITECTURAL DWGS FOR DIMENSIONS AND SLOPES NOT SHOWN.
- ROOF SYSTEM: UNTOPPED METAL DECK (PER PLAN) SUPPORTED BY STRUCTURAL STEEL.
- SEE SHEET S1.0 FOR STANDARDS AND S1.1 FOR GENERAL STRUCTURAL NOTES.
- REFERENCE SHEET S5.0 FOR STANDARD DETAILS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR UNDERSTANDING AND APPLYING DETAILS FROM THESE SHEETS, AS THEY ARE GENERALLY NOT REFERENCED ON PLANS BUT APPLY.
- FASTEN ROOF DECKING TO SUPPORTS W/ 24/4 PATTERN.
- T.O.S. = 108'-2", U.N.O.

1/4" = 1'-0"

CONCRETE FOOTING SCHEDULE

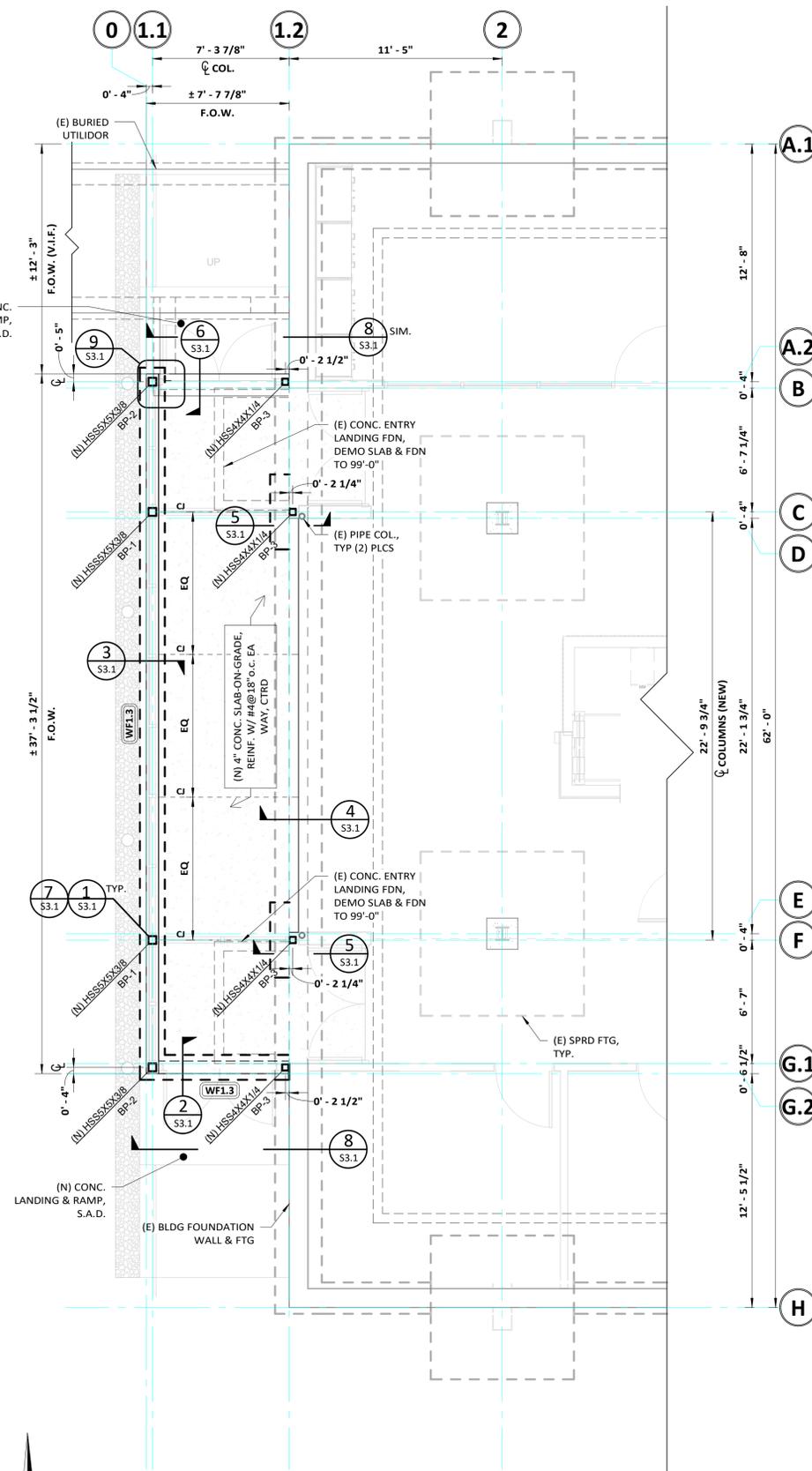
MARK	WIDTH (ft.)	LENGTH (ft.)	THICK. (in.)	BOTTOM REINF. TRANS. LONG.	TOP REINF. TRANS. LONG.	COMMENTS
WF1.3	1'-4"	CONT.	10"	- (2) #4	-	

NOTES:

- WF = CONTINUOUS WALL FOOTING; F = SPREAD FOOTING.
- BOTTOM REINFORCING SHALL BE 3" CLEAR OF BOTTOM OF FOOTING, U.N.O.
- TOP REINFORCING SHALL BE 2" CLEAR FROM TOP OF FOOTING, U.N.O.
- TRANSVERSE AND LONGITUDINAL REINFORCING SHALL BE ORIENTED PARALLEL TO THE SHORT AND LONG DIMENSION OF FOOTING, RESPECTIVELY.

FOUNDATION PLAN NOTES:

- GROUND FLOOR CONSISTS OF: CONCRETE SLAB-ON-GRADE (THICKNESS PER PLAN) OVER VAPOR RETARDER (S.A.D.), OVER 6" CRUSHED GRAVEL BASE. TOP OF FLOOR ELEVATION DATUM = 100'-0". UNDERSLAB INSULATION AT SELECT LOCATIONS, S.A.D.
- SEE SHEET S1.0 FOR STANDARDS AND S1.1 FOR GENERAL STRUCTURAL NOTES.
- REFERENCE SHEET S3.0 FOR STANDARD DETAILS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR UNDERSTANDING AND APPLYING DETAILS FROM THESE SHEETS, AS THEY ARE GENERALLY NOT REFERENCED ON PLANS BUT APPLY.
- SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
- VERIFY EXISTING BLDG DIMENSIONS NEW CONSTRUCTION RELIES UPON. NOTIFY ARCH OF DISCREPANCIES BEFORE PROCEEDING W/ CONSTRUCTION.
- B.O.S. = 99'-5 1/2" AT GRID '0' B.O.S. = 99'-9 1/2" AT GRID '1'.



1 FOUNDATION PLAN

1/4" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR RESEARCH ON RURAL EDUCATION SPACE TRANSFORMATION

100% CONSTRUCTION DOCUMENTS



DRAWN BY: ECS
REVIEWED BY: MTM

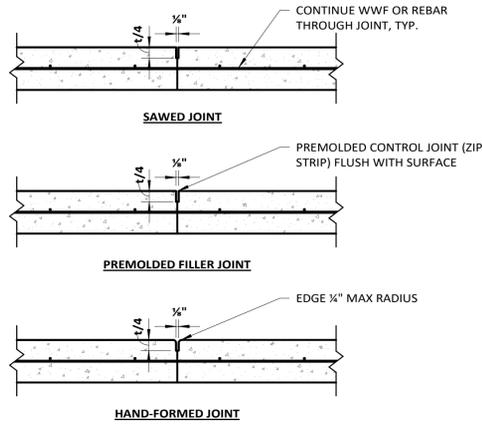
REV.	DESCRIPTION	DATE



PPA#25404
A/E#25032
PLAN VIEWS

SHEET
S2.0

DATE
02/23/26



CONTROL JOINTS¹
t ≤ 6"

- NOTES:**
1. AT CONTRACTOR'S OPTION, CONTROL JOINTS MAY BE FORMED OR SAWED. JOINTS MUST BE SAWED BETWEEN 12 TO 24 HOURS AFTER CONCRETE HAS BEEN PLACED.
 2. SEAL CONSTRUCTION JOINT WITH URETHANE SEALANT, 1" x 3/4" JOINT.

CONCRETE REINFORCING BAR DEVELOPMENT & LAP SPLICE LENGTH SCHEDULE																				
BAR SIZE "db" (GRADE 60)	f _c = 3500 PSI					f _c = 4000 PSI					f _c = 4500 PSI					f _c = 5000 PSI				
	L _d	L _t	L _{sb}	L _{st}	L _{sh}	L _d	L _t	L _{sb}	L _{st}	L _{sh}	L _d	L _t	L _{sb}	L _{st}	L _{sh}	L _d	L _t	L _{sb}	L _{st}	L _{sh}
#4	22"	29"	29"	38"	8"	19"	25"	25"	33"	7"	18"	24"	24"	31"	7"	17"	23"	23"	30"	6"
#5	28"	36"	36"	47"	10"	24"	31"	31"	41"	9"	23"	30"	30"	38"	8"	22"	28"	28"	37"	8"
#6	33"	43"	43"	56"	12"	29"	37"	37"	49"	10"	27"	35"	35"	46"	10"	26"	34"	34"	45"	9"
#7	48"	63"	63"	81"	14"	42"	54"	54"	71"	12"	40"	51"	51"	67"	11"	38"	49"	49"	64"	11"
#8	51"	67"	67"	86"	15"	48"	62"	62"	81"	14"	45"	59"	59"	77"	13"	43"	56"	56"	73"	12"
#9	58"	76"	76"	98"	16"	54"	70"	70"	91"	15"	51"	66"	66"	86"	15"	48"	63"	63"	82"	14"

- NOTES:**
1. ALL TABULATED VALUES REQUIRE CLEAR SPACING BETWEEN BARS ≥ 2*db & CLEAR COVER ≥ db (IF THESE CONDITIONS ARE NOT SATISFIED, MULTIPLY TABULATED VALUES BY 1.5).
 2. L_d = TENSION DEVELOPMENT LENGTH
 3. L_t = DEVELOPMENT LENGTH FOR "TOP" BARS IN TENSION.
 4. L_{sb} = TENSION LAP SPLICE LENGTH FOR BARS OTHER THAN "TOP" BARS ("CLASS B").
 5. L_{st} = TENSION LAP SPLICE LENGTH OF "TOP" BARS.
 6. L_{sh} = TENSION HOOK DEVELOPMENT LENGTH (SIDE COVER ≥ 2d, END COVER ≥ 2").
 7. "TOP" BARS = REINFORCEMENT WITH > 12" OF FRESH CONCRETE CAST BELOW.

12

SLAB JOINTS (THIN SLAB)

1" = 1'-0"

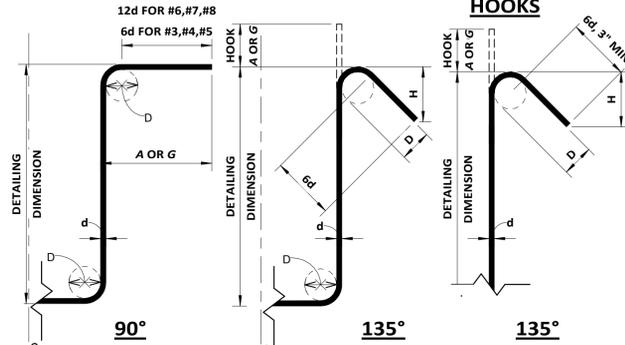
6

REINFORCING BAR DEVELOPMENT SCHEDULE

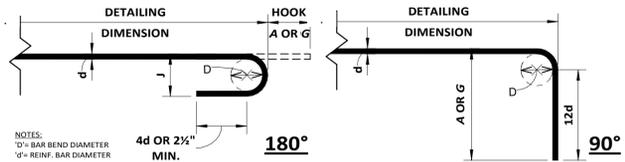
1 1/2" = 1'-0"

STIRRUP AND TIE HOOKS

SEISMIC STIRRUP/TIE HOOKS



RECOMMENDED END HOOKS



NOTES:
"D" = BAR BEND DIAMETER
"G" = REINF. BAR DIAMETER

STIRRUP (TIES SIMILAR) STIRRUP AND TIE HOOK DIMENSIONS					135° SEISMIC STIRRUP/TIE HOOK DIMENSIONS				
BAR SIZE, No.	D, " in.	90° HOOK		135° HOOK		BAR SIZE, No.	D, " in.	135° HOOK	
		HOOK A OR G, ft-in.	HOOK A OR G, ft-in.	H APPROX, ft-in.	HOOK A OR G, ft-in.			H APPROX, ft-in.	
#3	3/8	4	4	2 1/2	#3	3/8	4 1/2	3	
#4	1/2	4 1/2	4 1/2	3	#4	1/2	4 1/2	3	
#5	5/8	5	5 1/2	3 1/2	#5	5/8	5 1/2	3 1/2	
#6	3/4	5 1/2	6	4	#6	3/4	6	4 1/2	
#7	7/8	6 1/2	7 1/2	4 1/2	#7	7/8	7 1/2	5 1/2	
#8	1	7 1/2	8 1/2	5 1/2	#8	1	8 1/2	6	

RECOMMENDED END HOOKS (D= FINISHED BEND DIAMETERS)					
BAR SIZE, No.	D, " in.	135° HOOK		90° HOOK	
		A OR G, ft-in.	L, ft-in.	A OR G, ft-in.	L, ft-in.
#3	3/8	5	3	6	3
#4	1/2	6	4	8	4
#5	5/8	7	5	10	5
#6	3/4	8	6	10	6
#7	7/8	10	7	12	7
#8	1	11	8	14	8
#9	1 1/8	13	11	17	9
#10	1 1/4	15	13	20	10
#11	1 1/2	17	15	23	11
#14	1 3/4	23	20	27	14
#18	2 1/4	30	27	35	18

10

STANDARD REBAR HOOKS

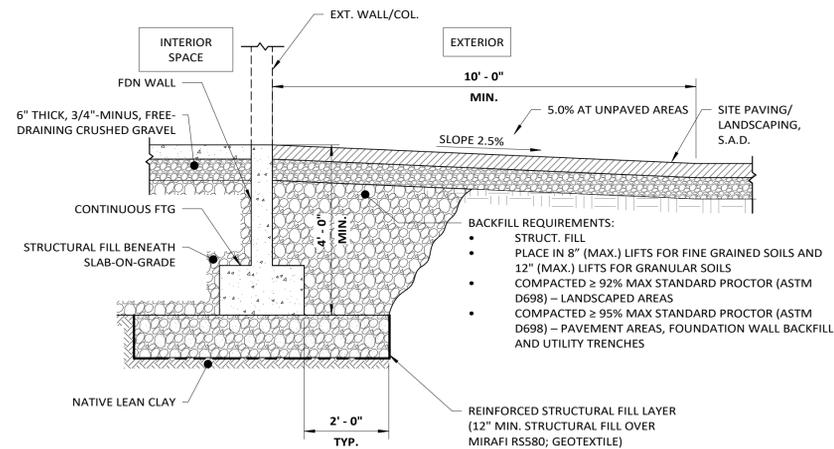
1 1/2" = 1'-0"

7

SUBGRADE PREPARATION REQ'MNTS

1/2" = 1'-0"

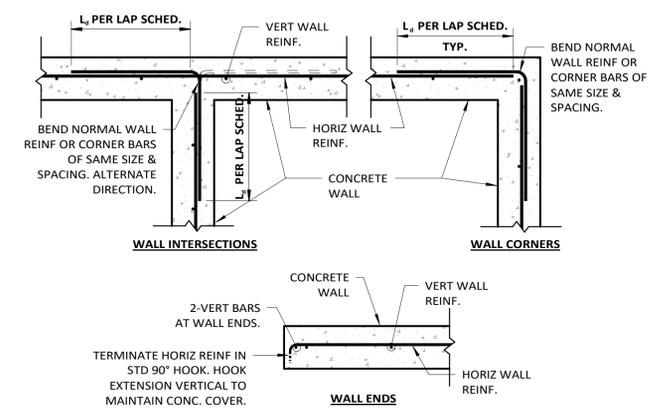
- STRUCTURAL FILL REQUIREMENTS:**
- GRANULAR AND NON-EXPANSIVE
 - FREE OF ORGANICS, VEGETATION, OR DELETERIOUS MATERIAL
 - CONFORM TO MATERIAL REQUIREMENTS OUTLINED IN SECTION 02234 OF THE MONTANA PUBLIC WORKS SPECIFICATIONS
 - MOISTURE CONDITIONED W/IN 2% OPTIMUM MOISTURE CONTENT
 - 8" LIFTS COMPACTED ≥ 98% MAX STANDARD PROCTOR (ASTM D698)
 - STANDARD PROCTOR METHODS (ASTM D698) SHALL NOT BE USED FOR MATERIALS CONTAINING <70% PASSING THE 3/4-INCH SIEVE. THE FIELD COMPACTION VALUE MUST BE DETERMINED USING A RELATIVE DENSITY TEST OUTLINED IN ASTM D4253-4254.



2

STANDARD REINFORCING AT CORNERS & INTERSECTIONS

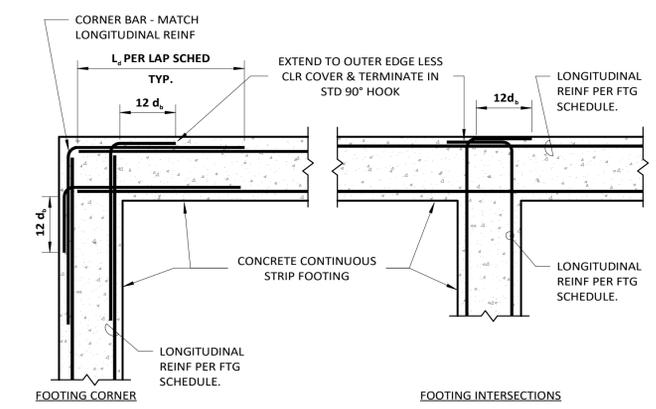
3/4" = 1'-0"



1

REINFORCING AT CONTINUOUS FOOTING INTERSECTIONS

3/4" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS



DRAWN BY: ECS
REVIEWED BY: MTM

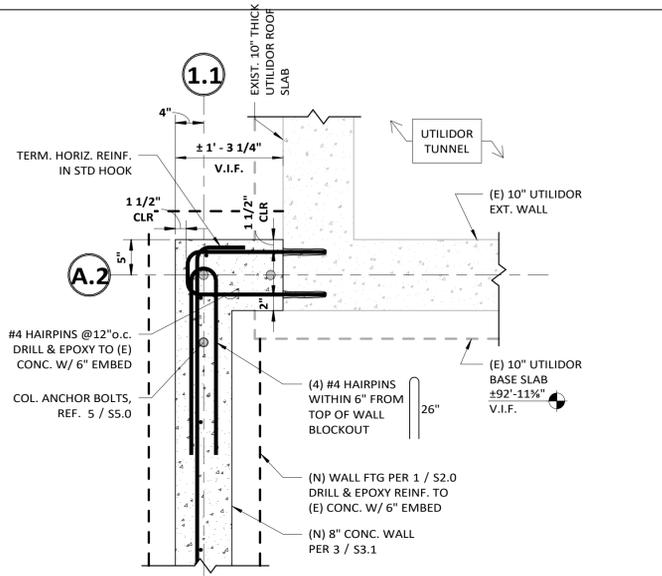


PPA#25404
A/E#25032

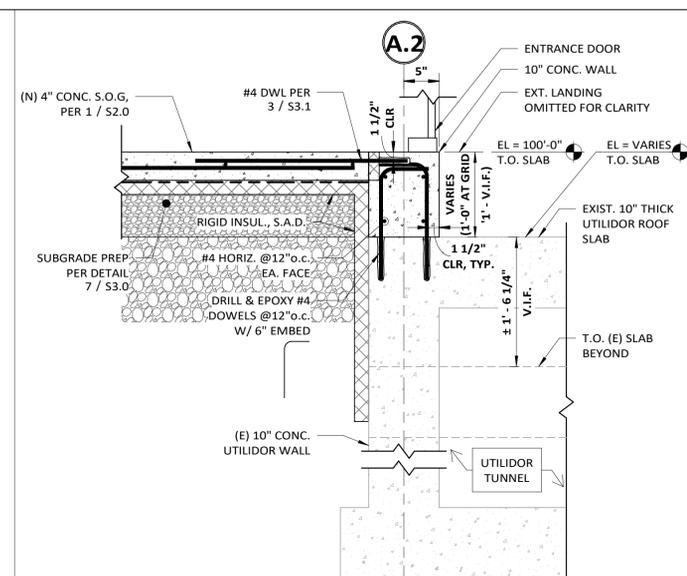
STANDARD
CONCRETE
DETAILS

SHEET
S3.0

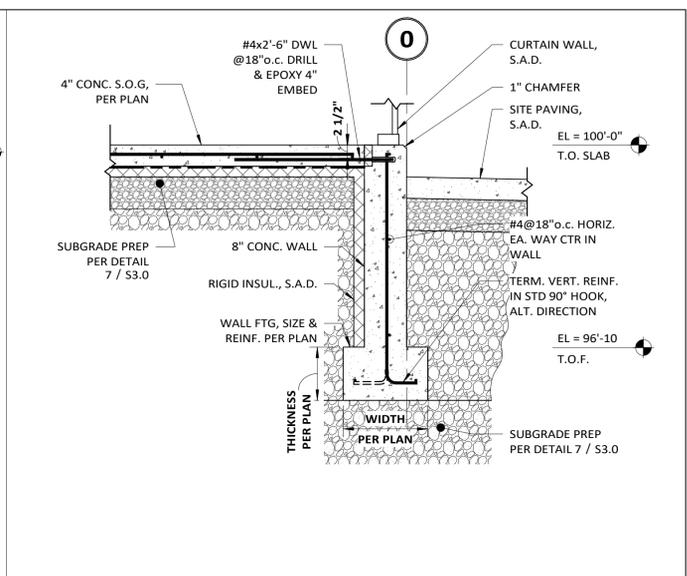
DATE
02/23/26



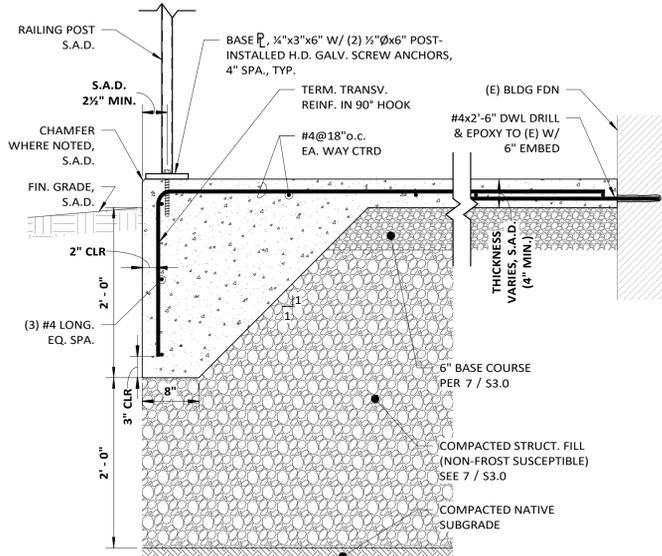
9 NEW FOUNDATION WALL CONNECTION TO (E) UTILIDOR
1" = 1'-0"



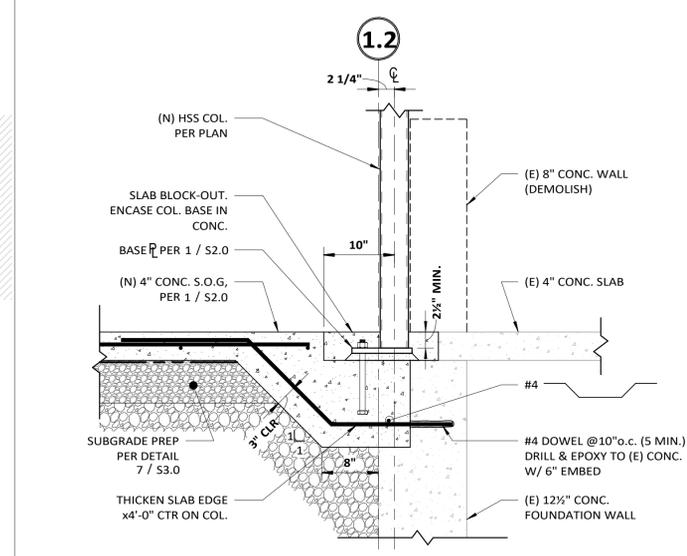
6 NEW FOUNDATION ADJACENT TO (E) UTILIDOR SPACE
1" = 1'-0"



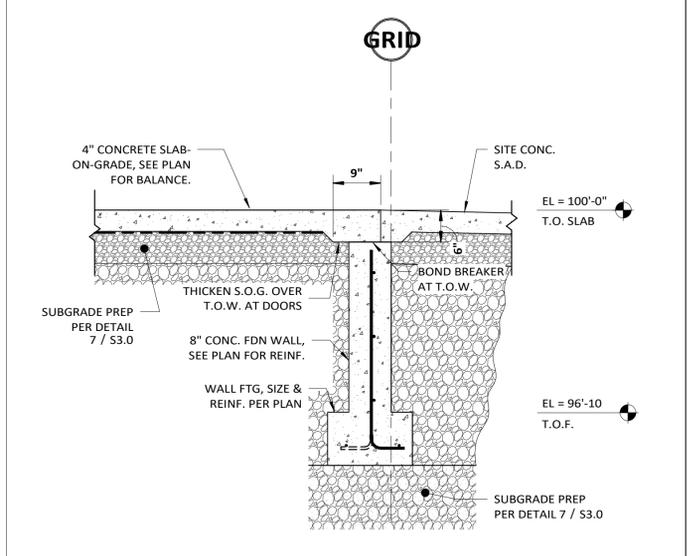
3 TYPICAL PERIMETER FOUNDATION SECTION (U.N.O.)
3/4" = 1'-0"



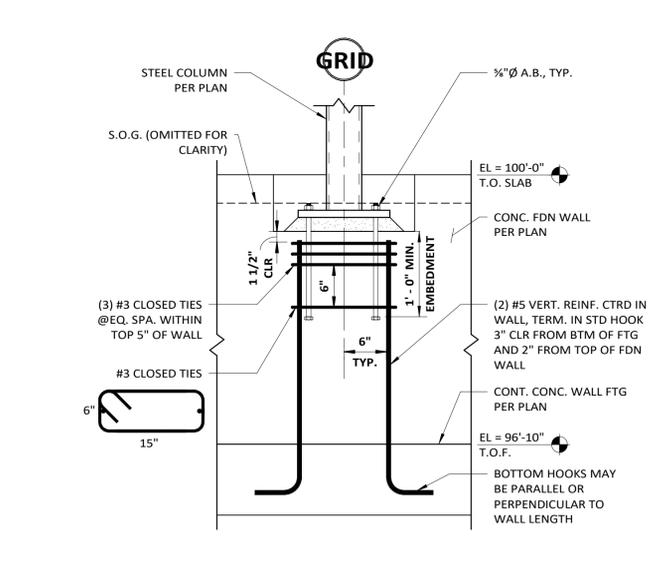
8 NEW CONCRETE LANDING AND RAMP
1" = 1'-0"



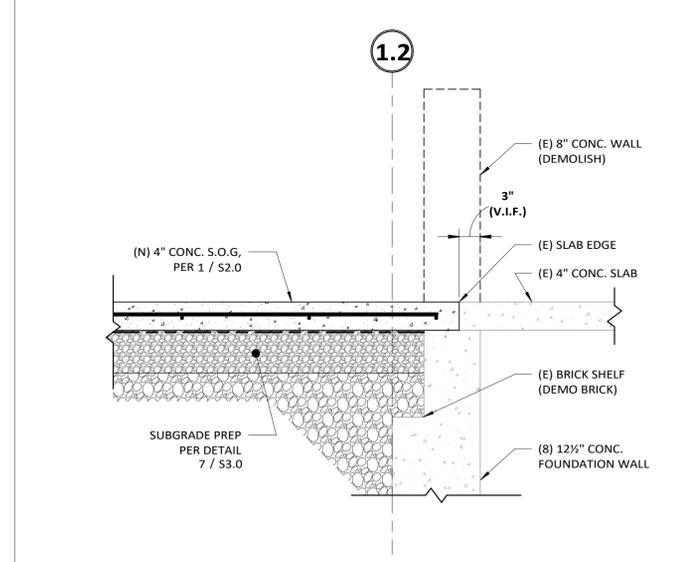
5 NEW COLUMN BASE CONNECTION TO (E) FOUNDATION
1" = 1'-0"



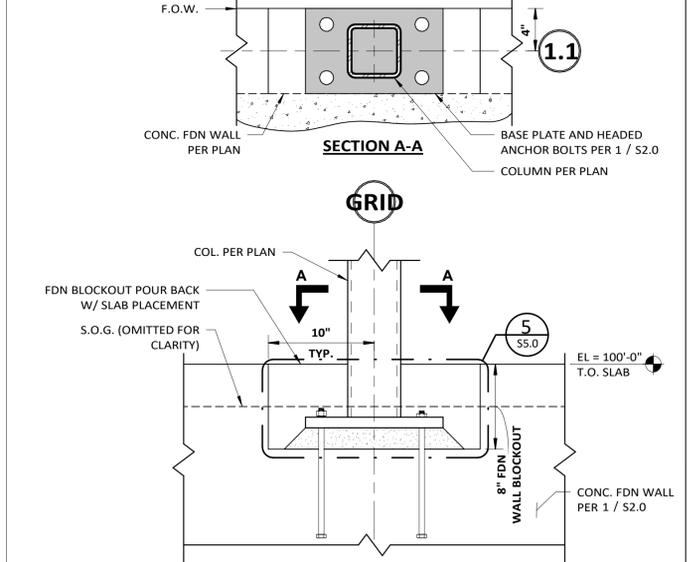
2 TYPICAL FOUNDATION WALL SECTION AT DOORS
3/4" = 1'-0"



7 COLUMN BASE FOUNDATION DETAIL
1" = 1'-0"



4 NEW SLAB-ON-GRADE CONNECTION TO (E) FOUNDATION
1" = 1'-0"



1 TYPICAL COLUMN BLOCKOUT AT FOUNDATION WALL
1 1/2" = 1'-0"

REV.	DESCRIPTION	DATE

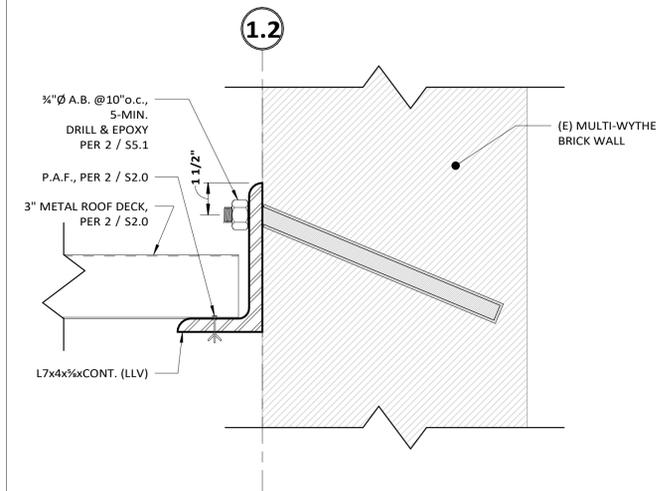
DRAWN BY:	ECS
REVIEWED BY:	MTM
REV.	DESCRIPTION DATE



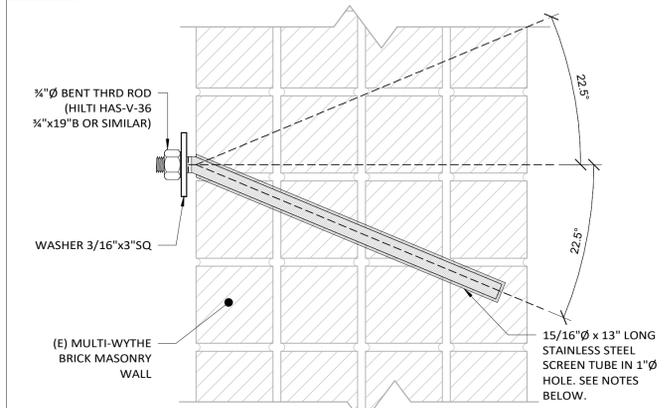
PPA#25404
A/E#25032
STEEL DETAILS

SHEET
S5.1

DATE
02/23/26



3 NEW ROOF SUPPORT AT EXISTING EXTERIOR WALL
3" = 1'-0"



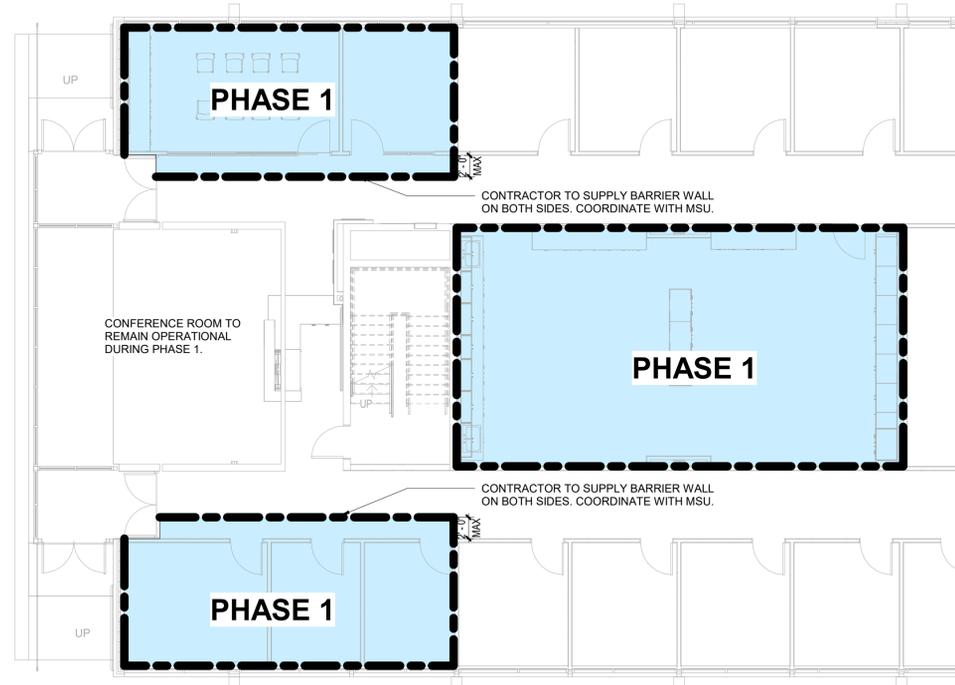
NOTES:
1. 1" Ø HOLES MUST BE DRILLED USING STANDARD CARBIDE-TIPPED MASONRY DRILL BITS COMPLYING WITH ANSI B212.15-1994. A ROTARY DRILL, OR A ROTARY HAMMER DRILL SET ON "ROTATION ONLY", MUST BE USED TO DRILL THE HOLES.
2. SCREEN TUBES ARE ALLOWED TO BE OMITTED AT CONTRACTOR'S OPTION WHERE NO AIR GAPS EXIST AND SOLID MORTAR IS PRESENT BETWEEN INDIVIDUAL WYTHES OF MULTI-WYTHE MASONRY WALLS. DRILLED HOLES SHALL BE INSPECTED BY A SPECIAL INSPECTOR PRIOR TO PLACEMENT OF EPOXY TO VERIFY HOLE DOES NOT REQUIRE A SCREEN TUBE. WHERE SCREEN TUBES ARE OMITTED, DRILL & EPOXY INSTALLATION PROCEDURES SHALL FOLLOW THE EPOXY MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SOLID BRICK MASONRY.

2 STANDARD 22.5 DEGREE ANCHOR CONFIGURATION
3" = 1'-0"

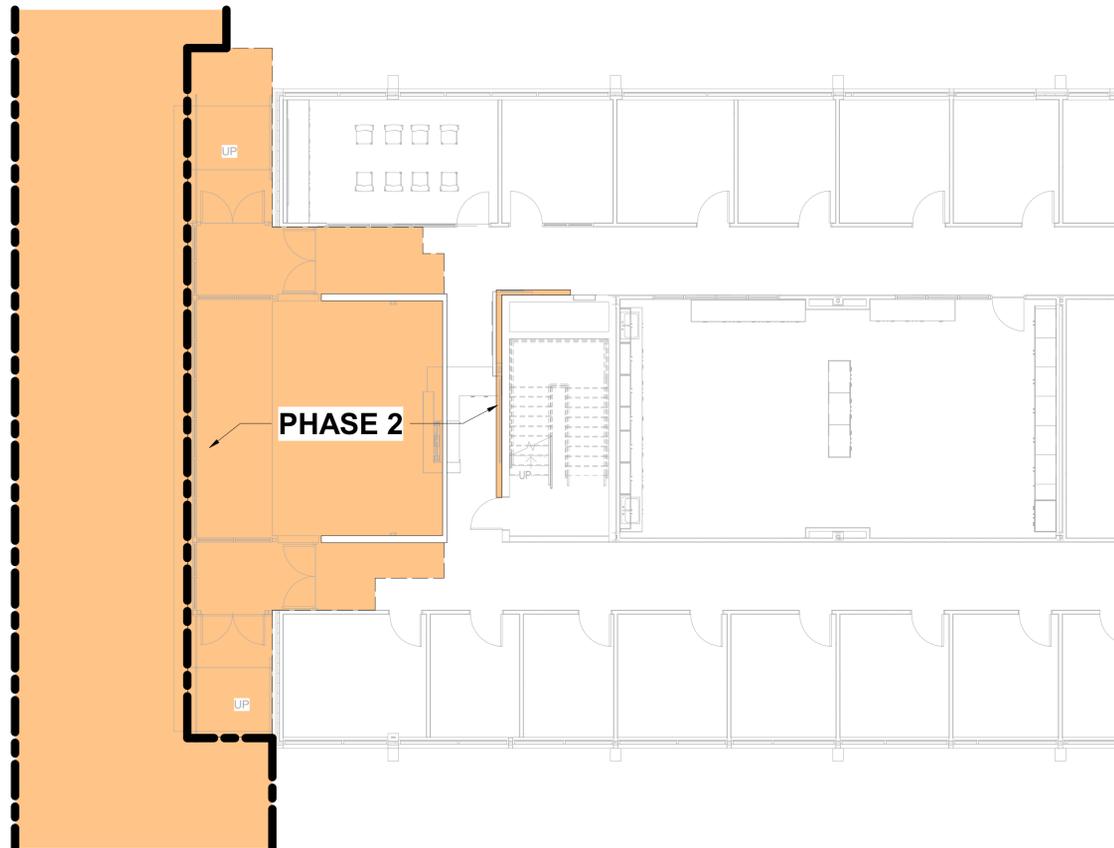


NOTE: STAGING AREA TO BE SHARED WITH OTHER CLASSROOM PROJECTS. NO CONTRACTOR VEHICLES WILL BE ALLOWED TO PARK IN THE AREA.

3 STAGING AREA
N.T.S.



1 PHASING PLAN 1
1/8" = 1'-0"



2 PHASING PLAN 2
1/8" = 1'-0"

GENERAL NOTES

1. THE INTENT OF THE PHASING PLAN IS TO KEEP THE OPERATIONS OF THE REID HALL FUNCTIONAL DURING THE RENOVATION.
2. PROTECT ALL OCCUPIED SPACES DURING CONSTRUCTION.
3. COORDINATE ALL WORK WITH MONTANA STATE UNIVERSITY TO ENSURE THAT NO INTERRUPTIONS OR CONFLICTS OCCUR. ALL OUTAGES OR DISRUPTIONS MUST BE SCHEDULED AT LEAST 72 WORKING HOURS IN ADVANCE.
4. PHASING PLAN TO BE FINALIZED WITH MONTANA STATE UNIVERSITY AND THE SELECTED CONTRACTOR.

SYMBOL LEGEND

- PHASE NO. 1 CLASSROOM TO BE COMPLETED BY AUGUST 1, 2026
- PHASE NO. 2



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC

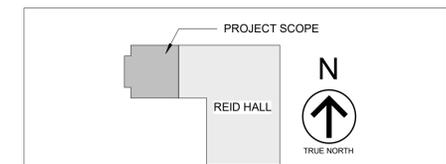
REV.	DESCRIPTION	DATE



PPA#25-1217
A/E#25032
PHASING PLAN

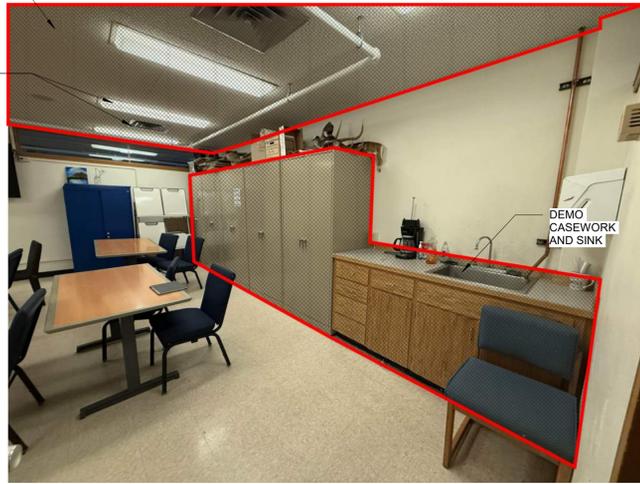
SHEET
A010

DATE
02.23.2026

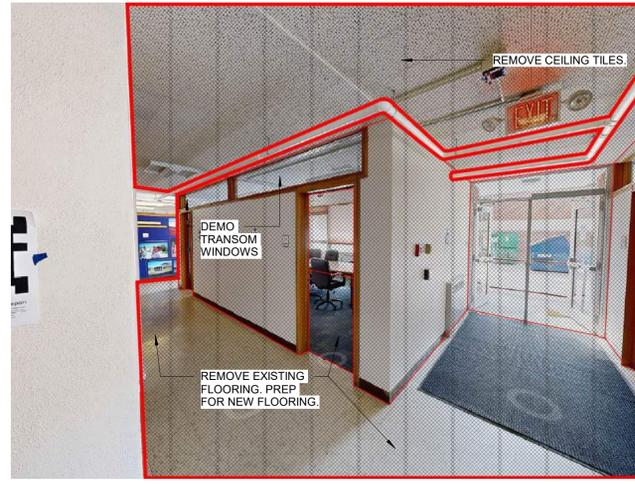


100% CONSTRUCTION DOCUMENTS

REMOVE CEILING TILES. RETURN UNDAMAGED TILES TO OWNER FOR REUSE.
REMOVE LIGHT FIXTURES AND LOUVERS. RETURN TO OWNER.



CLASSROOM DEMO REFERENCE IMAGE



HALLWAY/ CONFERENCE ROOM DEMO REFERENCE IMAGE

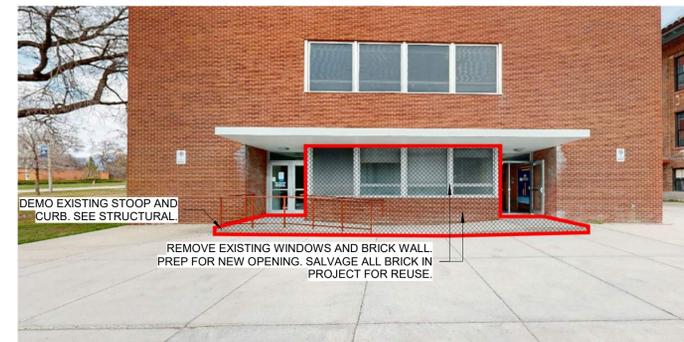


EXTERIOR BRICK WALL REFERENCE IMAGE



SAVE EXISTING BRICK. PATCH AND REPLACE EXISTING CORNER

RELOCATE. SEE ELECTRICAL DRAWINGS



EXTERIOR DEMO REFERENCE IMAGE

DEMOLITION NOTES

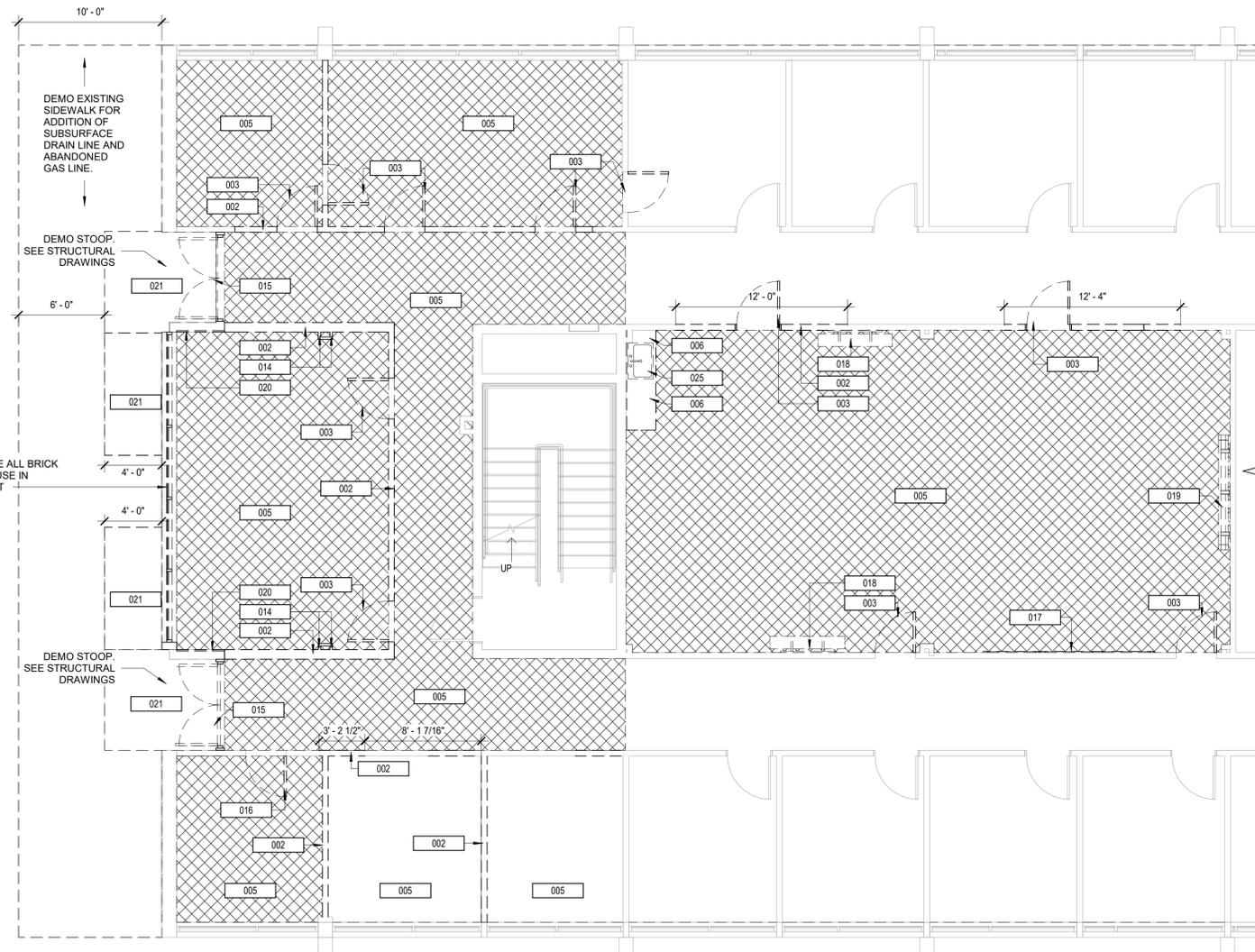
1. THE DEMOLITION DRAWING REPRESENTS THE INTENT OF DEMOLITION TO OCCUR AND IS SCHEMATIC IN NATURE WITH THE INTENT BEING TO REMOVE ALL ASSOCIATED ITEMS AS REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL ITEMS IN THEIR ENTIRETY AND UNLESS NOTED TO BE RELOCATED OR SALVAGED, DISPOSED OF ACCORDINGLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RETURN TO ORIGINAL CONDITION ANY EXISTING SURFACES AND FINISHES THAT ARE DAMAGED OR DESTROYED DURING THE PERFORMANCE OF DEMOLITION OR NEW CONSTRUCTION WORK THAT MAY OCCUR OUTSIDE THE DEFINED BOUNDARIES OF WORK. CONTRACTOR SHALL ALSO NOTIFY THE OWNER OF ANY PRE-EXISTING DAMAGES OR WILL BE RESPONSIBLE TO CORRECT THEM. ALL PATCH OR REPAIR WORK TO PROVIDE A SMOOTH, EVEN TRANSITION TO EXISTING SURFACES. FINISH TO MATCH ADJACENT EXISTING SURFACES, UNLESS OTHERWISE SCHEDULED. IF ANY DAMAGE HAS BEEN DONE, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO REPAIR.
2. ALL EQUIPMENT, FURNITURE, ETC. LEFT IN AREAS WHERE DEMOLITION IS TO COMMENCE IS TO BE COORDINATED WITH OWNER, PRIOR TO REMOVING FROM THE PREMISES.
3. PROTECT ALL ITEMS/ELEMENTS NOT SPECIFIED AS BEING DEMO'D, AND PATCH AND REPAIR ALL DAMAGED ITEMS/ELEMENTS TO REMAIN.
4. PATCH AND INFILL ALL MECHANICAL, ELECTRICAL & PLUMBING WORK THAT ARE OUTLINED IN THEIR SHEETS, EVEN IF NOT CALLED OUT IN THE ARCHITECTURAL SHEETS.
5. THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
6. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS.
7. THE CONTRACTOR SHALL MAINTAIN AND ADHERE TO ALL CURRENT LIFE-SAFETY AND INTERIM LIFE-SAFETY RULES AND REGULATIONS THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.
8. NOTIFY THE ARCHITECT OF ALL ITEMS UNCOVERED DURING DEMOLITION WHICH ARE NOT INDICATED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM ALL REQUIRED CAPPING AND ABANDONMENT WORK REQUIRED IN REMOVING ALL EXISTING EQUIPMENT AND FIXTURES - SEE MECHANICAL / ELECTRICAL DEMOLITION DRAWING FOR MORE INFORMATION.
10. CONTRACTOR TO PROTECT, REMOVE AND REINSTALL ANY EQUIPMENT WHICH MAY INTERFERE WITH DEMOLITION WORK.
11. REMOVE FLOOR COVERINGS AND TRANSITION STRIPS (WHERE THEY OCCUR). ALL DEBRIS, EXCESSIVE GLUE, ETC MUST BE REMOVED TO PROVIDE A SMOOTH, CLEAN SURFACE FOR THE NEW FLOOR FINISH - SEE FINISH SCHEDULE.
12. ITEMS TO BE RELOCATED SHALL BE KEPT ON-SITE, IN A SAFE AND CLEAN ENVIRONMENT, IN AN AREA NOT TO INTERRUPT NORMAL BUILDING ACTIVITIES. COORDINATE W/ OWNER AND PHASING PLAN.
13. GENERAL CONTRACTOR TO HIRE ABATEMENT CONTRACTOR AND CERTIFIED INDUSTRIAL HYGIENIST.

DEMOLITION LEGEND

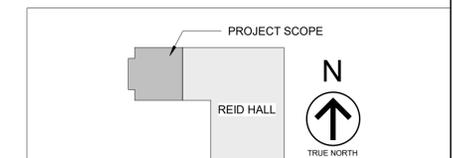
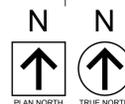
	EXISTING CEILING/FLOOR IS TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS.
	EXISTING WALL/ITEM/ELEMENT TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS.
	EXISTING WALL/ ITEM/ ELEMENTS TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS.

KEYNOTE LEGEND

NO.	DESCRIPTION
002	DEMO WALL & FINISHES.
003	DEMO DOOR, FRAME AND HARDWARE.
005	DEMO FLOORING.PREPARE FOR NEW CONTRACTOR TO GIVE BACK NEW FLOORING.
006	DEMO CASEWORK.
014	DEMO COVERING ON COLUMNS.
015	DEMO DOOR AND FRAME. SALVAGE OPERATOR FOR REUSE.
016	SALVAGE DOOR, FRAME AND HARDWARE. RELOCATE IN PROJECT. SEE DRAWINGS.
017	REMOVE MARKER BOARD. RETURN TO OWNER.
018	REMOVE TV AND WALL MOUNT.
019	REMOVE PROJECTOR SCREEN. RETURN TO OWNER.
020	DEMO PLASTER LAYER ONLY. CLEAN BRICK BEHIND AND LEAVE EXPOSED.
021	DEMO SITE PAVING/ RAMP.
025	DEMO PLUMBING FIXTURE. SEE PLUMBING DRAWINGS.



1 FIRST FLOOR DEMOLITION PLAN
3/16" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

Slate Architecture, Inc.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC

REV.	DESCRIPTION	DATE



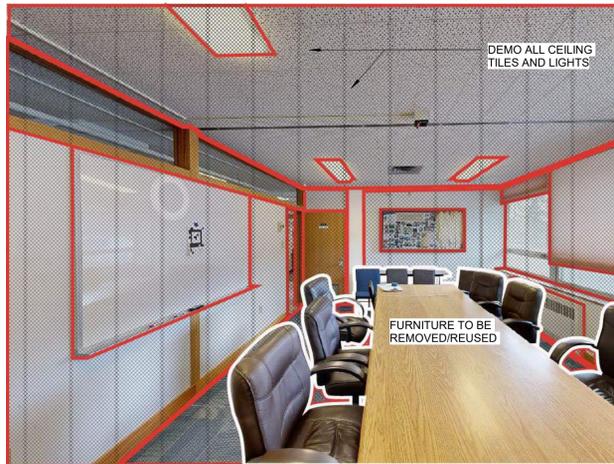
PPA#25-1217

A/E#25032

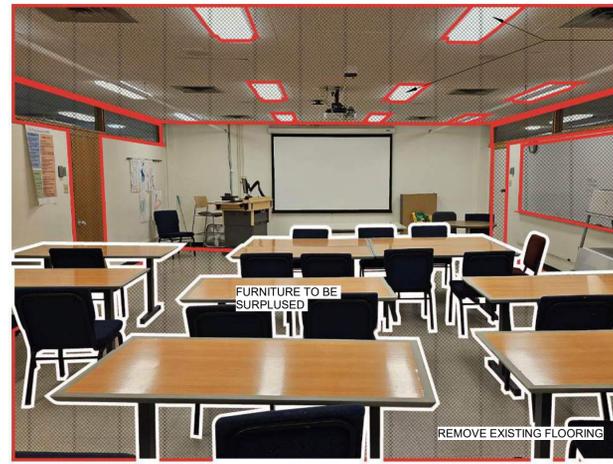
DEMOLITION
FLOOR PLANS

SHEET
A011

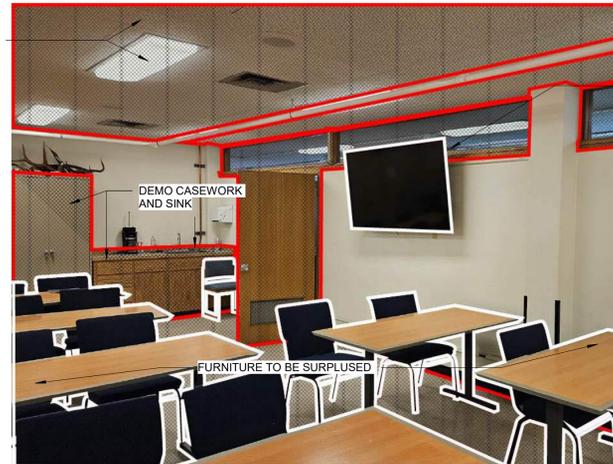
DATE
02.23.2026



CONFERENCE ROOM DEMO REFERENCE PLAN



CLASSROOM DEMO REFERENCE PLAN



CLASSROOM DEMO REFERENCE PLAN

DEMOLITION NOTES

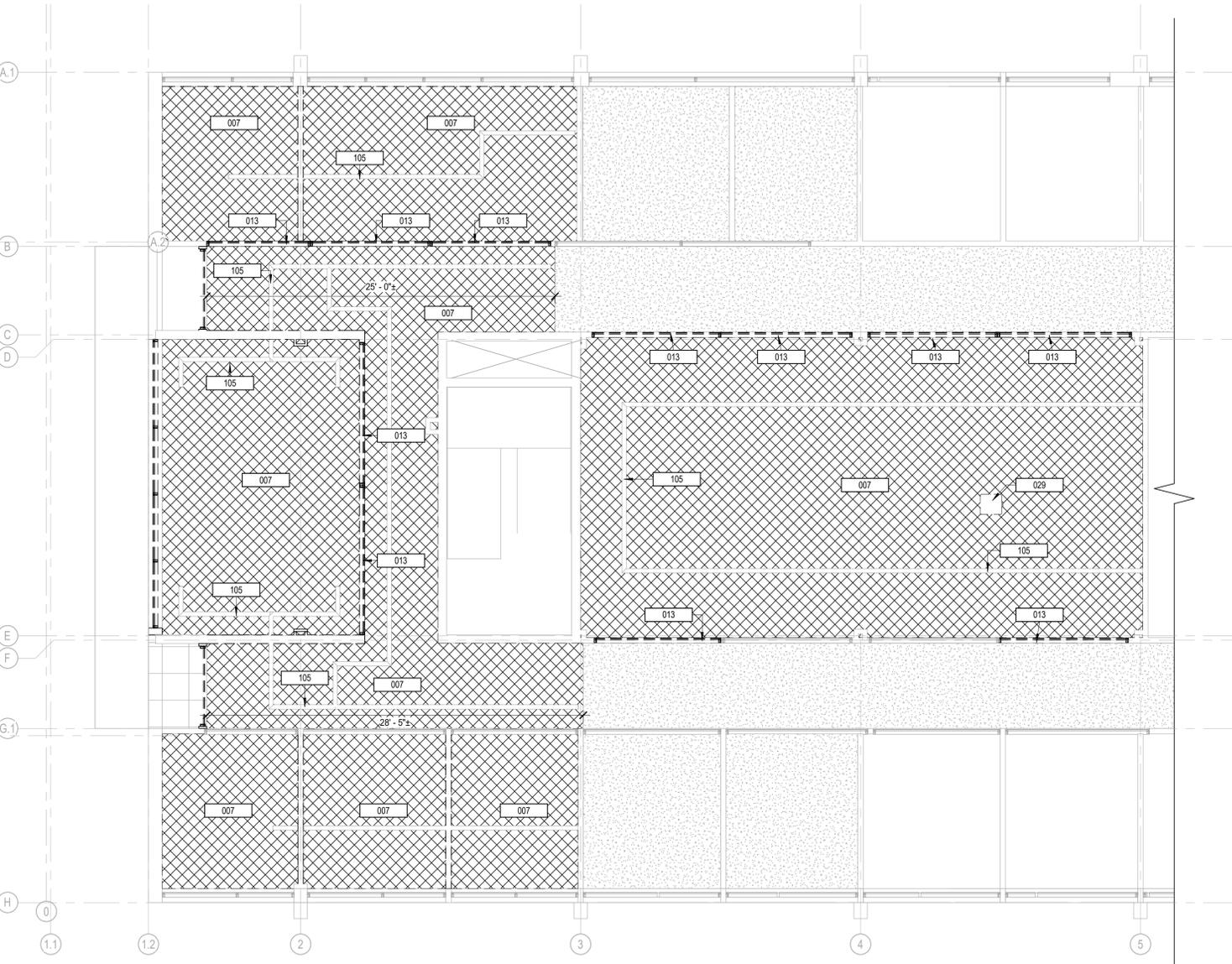
1. THE DEMOLITION DRAWING REPRESENTS THE INTENT OF DEMOLITION TO OCCUR AND IS SCHEMATIC IN NATURE WITH THE INTENT BEING TO REMOVE ALL ASSOCIATED ITEMS AS REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL ITEMS IN THEIR ENTIRETY AND, UNLESS NOTED TO BE RELOCATED OR SALVAGED, DISPOSED OF ACCORDINGLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RETURN TO ORIGINAL CONDITION ANY EXISTING SURFACES AND FINISHES THAT ARE DAMAGED OR DESTROYED DURING THE PERFORMANCE OF DEMOLITION OR NEW CONSTRUCTION WORK THAT MAY OCCUR OUTSIDE THE DEFINED BOUNDARIES OF WORK. CONTRACTOR SHALL ALSO NOTIFY THE OWNER OF ANY PRE-EXISTING DAMAGES OR WILL BE RESPONSIBLE TO CORRECT THEM. ALL PATCH OR REPAIR WORK TO PROVIDE A SMOOTH, EVEN TRANSITION TO EXISTING SURFACES. FINISH TO MATCH ADJACENT EXISTING SURFACES, UNLESS OTHERWISE SCHEDULED. IF ANY DAMAGE HAS BEEN DONE, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO REPAIR.
2. ALL EQUIPMENT, FURNITURE, ETC. LEFT IN AREAS WHERE DEMOLITION IS TO COMMENCE IS TO BE COORDINATED WITH OWNER, PRIOR TO REMOVING FROM THE PREMISES.
3. PROTECT ALL ITEMS/ELEMENTS NOT SPECIFIED AS BEING DEMO'D, AND PATCH AND REPAIR ALL DAMAGED ITEMS/ELEMENTS TO REMAIN.
4. PATCH AND INFILL ALL MECHANICAL, ELECTRICAL & PLUMBING WORK THAT ARE OUTLINED IN THEIR SHEETS, EVEN IF NOT CALLED OUT IN THE ARCHITECTURAL SHEETS.
5. THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS.
6. THE CONTRACTOR SHALL MAINTAIN AND ADHERE TO ALL CURRENT LIFE-SAFETY AND INTERIM LIFE-SAFETY RULES AND REGULATIONS THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.
7. NOTIFY THE ARCHITECT OF ALL ITEMS UNCOVERED DURING DEMOLITION WHICH ARE NOT INDICATED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM ALL REQUIRED CAPPING AND ABANDONMENT WORK REQUIRED IN REMOVING ALL EXISTING EQUIPMENT AND FIXTURES - SEE MECHANICAL / ELECTRICAL DEMOLITION DRAWING FOR MORE INFORMATION.
9. CONTRACTOR TO PROTECT, REMOVE AND REINSTALL ANY EQUIPMENT WHICH MAY INTERFERE WITH DEMOLITION WORK. REMOVE FLOOR COVERINGS AND TRANSITION STRIPS (WHERE THEY OCCUR). ALL DEBRIS, EXCESSIVE GLUE, ETC MUST BE REMOVED TO PROVIDE A SMOOTH, CLEAN SURFACE FOR THE NEW FLOOR FINISH - SEE FINISH SCHEDULE.
10. ITEMS TO BE RELOCATED SHALL BE KEPT ON-SITE, IN A SAFE AND CLEAN ENVIRONMENT, IN AN AREA NOT TO INTERRUPT NORMAL BUILDING ACTIVITIES. COORDINATE W/ OWNER AND PHASING PLAN.
11. GENERAL CONTRACTOR TO HIRE ABATEMENT CONTRACTOR AND CERTIFIED INDUSTRIAL HYGIENIST.

DEMOLITION LEGEND

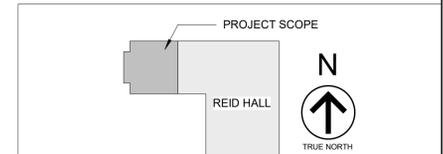
- EXISTING CEILING/FLOOR IS TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS.
- EXISTING WALL/ITEM/ELEMENT TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS.
- EXISTING WALL/ ITEM/ ELEMENTS TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS.

KEYNOTE LEGEND

NO.	DESCRIPTION
007	DEMO CEILING COMPLETE.
013	DEMO EXISTING TRANSOM WINDOW.
029	REMOVE PROJECTOR AND REUSE IN CLASSROOM.
105	MAINTAIN AND PROTECT EXISTING FIRE SPRINKLER



1 DEMO REFLECTED CEILING PLAN FIRST FLOOR
3/16" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC

REV.	DESCRIPTION	DATE



PPA#25-1217

A/E#25032

DEMOLITION
REFLECTED
CEILING PLAN

SHEET
A021

DATE
02.23.2026

DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



PPA#25-1217
A/E#25032
ARCHITECTURAL
SITE PLAN

SHEET
A051

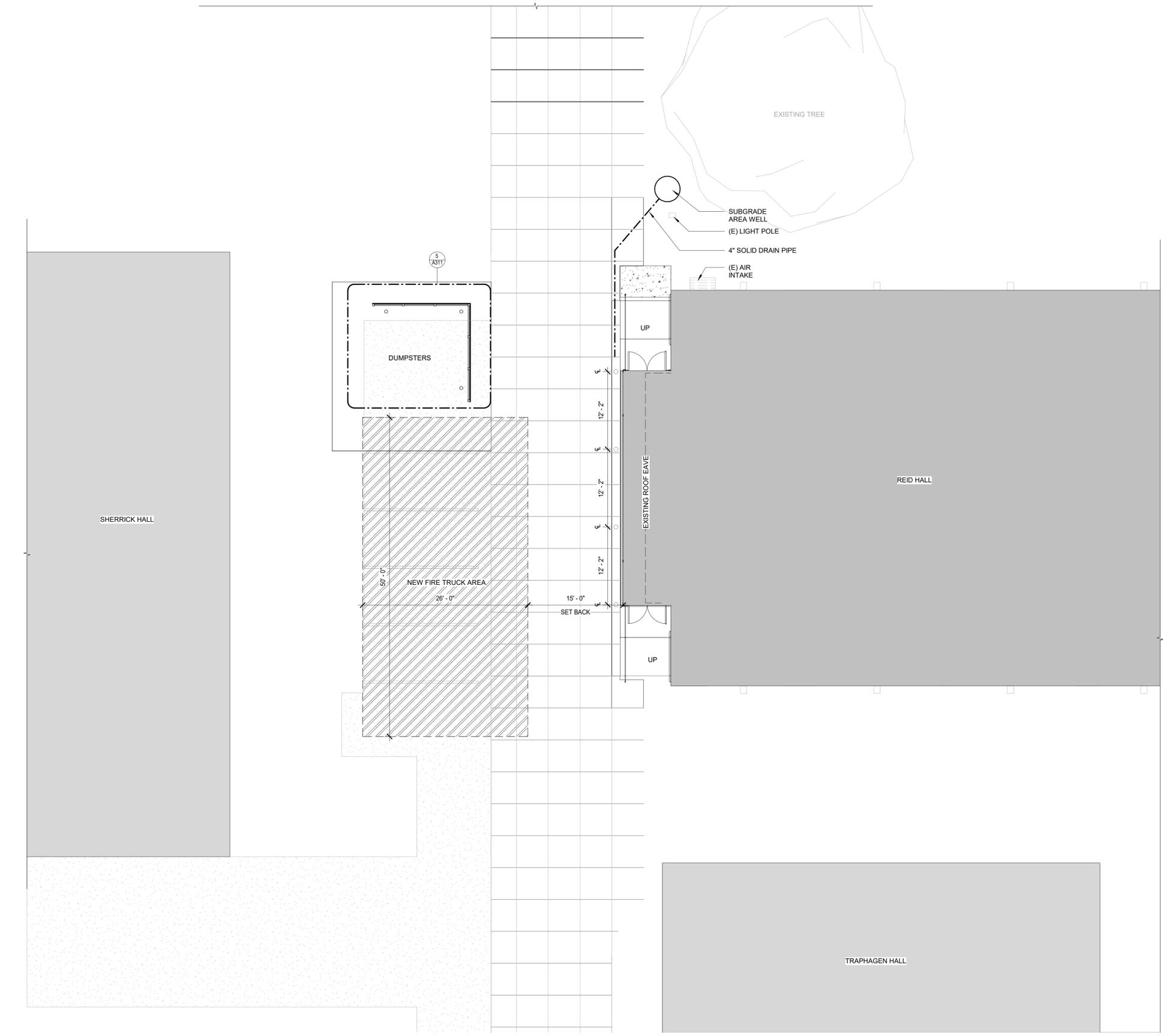
DATE
02.23.2026

GENERAL SITE NOTES

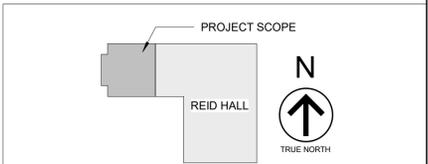
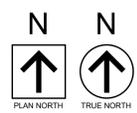
- THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
- DETAILS AND NOTES ON THIS SHEET ARE INTENDED TO COMPLEMENT OTHER DOCUMENTS AND ARE NOT A SUBSTITUTE FOR COORDINATION ACROSS ALL PROJECT DISCIPLINES. REFER TO THE SET OF DOCUMENTS AS PRODUCED BY THE RESPECTIVE DISCIPLINE FOR ADDITIONAL INFORMATION.
- CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
- DIMENSIONS:
 - FROM FINISH FACE OF WALLS AND BACK OF CURB.
 - ELEVATIONS RELATIVE TO FINISH FLOOR.

SITE PLAN LEGEND

- NEW WALL/ ITEM/ ELEMENTS TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS.
- EXISTING WALL/ ITEM/ ELEMENTS TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS.
- SITE FINISHES**
- CONCRETE DRIVE/ LOT/ SIDEWALK
- GRAVEL LANDSCAPING COORDINATE WITH OWNER.



1 SITE PLAN
1/8" = 1'-0"

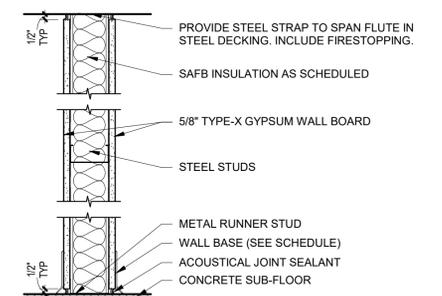


GENERAL NOTES

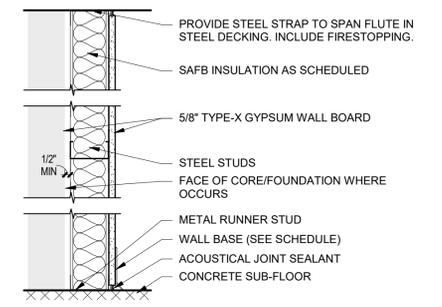
- THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
- DETAILS AND NOTES ON THIS SHEET ARE INTENDED TO COMPLEMENT OTHER DOCUMENTS AND ARE NOT A SUBSTITUTE FOR COORDINATION ACROSS ALL PROJECT DISCIPLINES. REFER TO THE SET OF DOCUMENTS AS PRODUCED BY THE RESPECTIVE DISCIPLINE FOR ADDITIONAL INFORMATION.
- CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
- DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.
- ALL NEW WALLS ARE TO EXTEND TO DECK, U.N.O.
- FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.

PLAN LEGEND

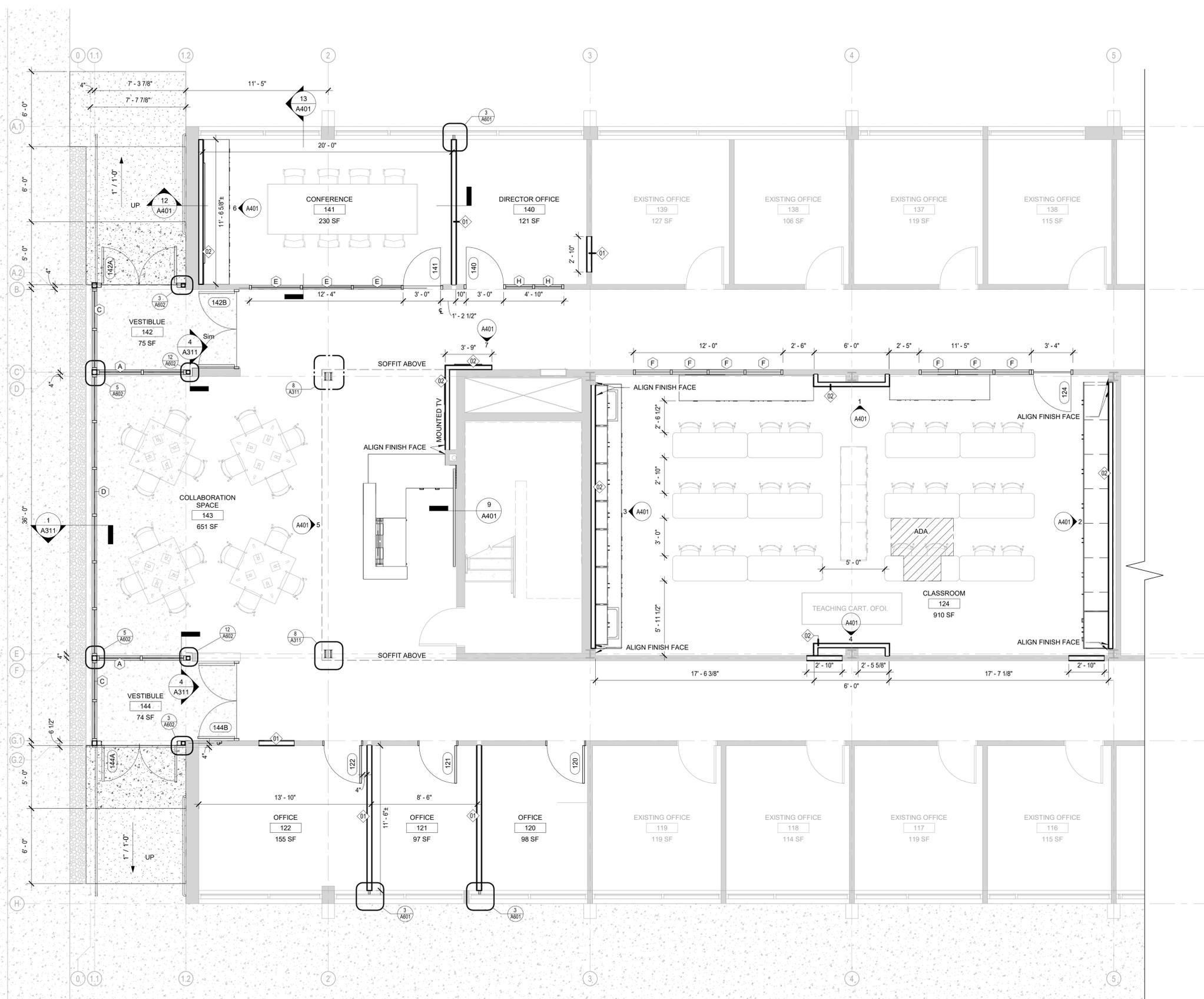
- NEW WALL/ ITEM/ ELEMENTS TO BE CONSTRUCTED. FIELD VERIFY TYPES AND CONDITIONS.
- EXISTING WALL/ ITEM/ ELEMENTS TO REMAIN AND BE PROTECTED. FIELD VERIFY TYPES AND CONDITIONS.



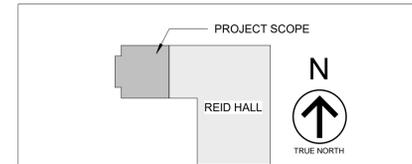
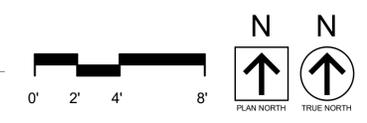
TYPE	STUD	GAUGE	SPACING	STC	FIRE & UL LISTING
01	3 5/8"	25 GA	16" O.C.	45	--



TYPE	STUD	GAUGE	SPACING	STC	FIRE & UL LISTING
02	3 5/8"	25 GA	16" O.C.	--	--



1 FIRST FLOOR PLAN
1/4" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

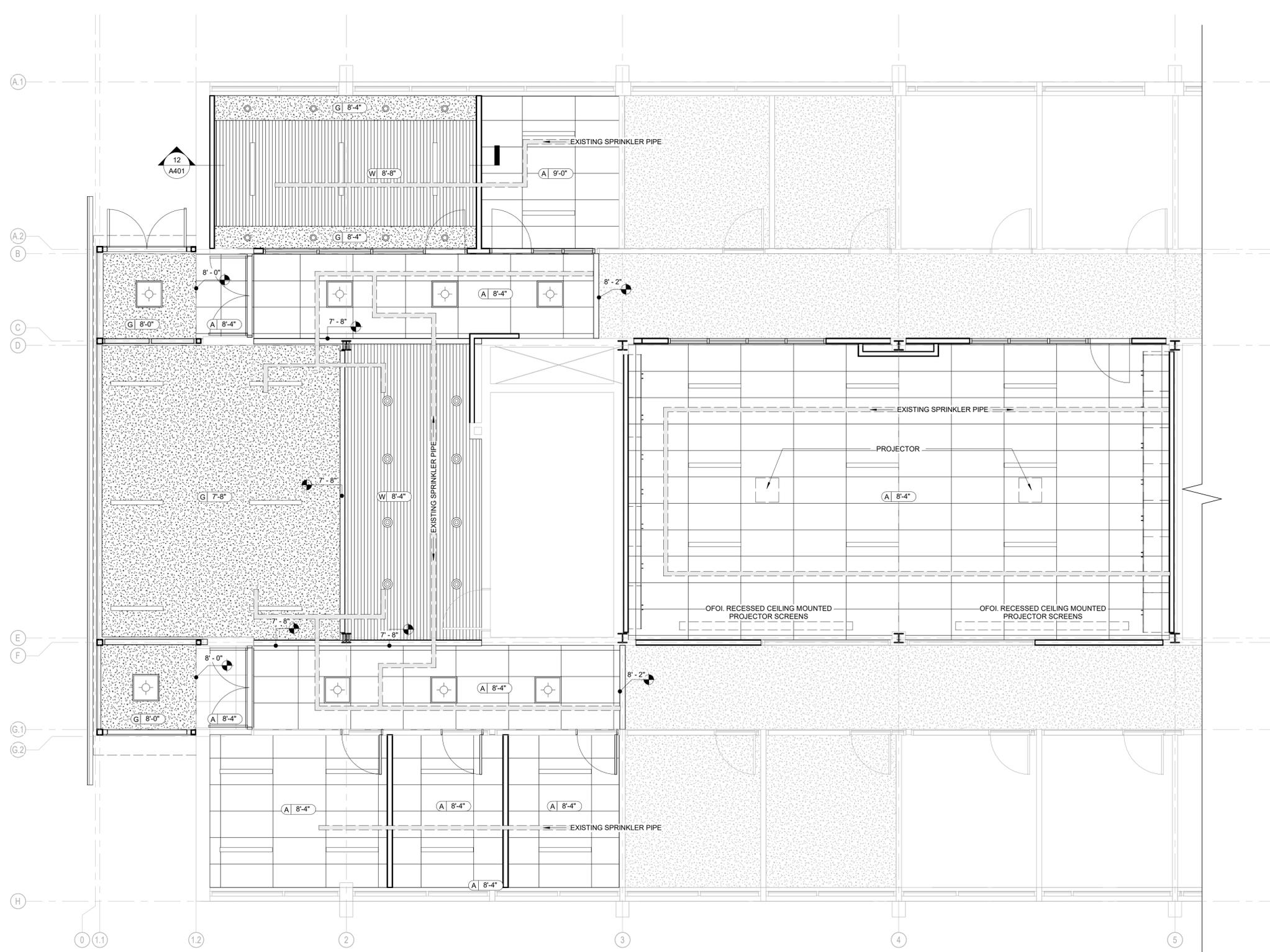
SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC



PPA#25-1217
A/E#25032
OVERALL FLOOR
PLANS

SHEET
A101
DATE
02.23.2026



GENERAL CEILING NOTES

1. THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
2. DETAILS AND NOTES ON THIS SHEET ARE INTENDED TO COMPLEMENT OTHER DOCUMENTS AND ARE NOT A SUBSTITUTE FOR COORDINATION ACROSS ALL PROJECT DISCIPLINES. REFER TO THE SET OF DOCUMENTS AS PRODUCED BY THE RESPECTIVE DISCIPLINE FOR ADDITIONAL INFORMATION.
3. CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
4. THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
5. DIMENSIONS:
 - FROM FINISH FACE OF WALLS AND SOFFITS.
 - LAY-IN CEILINGS TO CENTERLINE OF GRID.
 - ELEVATIONS RELATIVE TO FINISH FLOOR.
6. REFER TO FINISH PLANS & SCHEDULES FOR FINISHES U.N.O.
7. SEE MECHANICAL, ELECTRICAL, LIGHTING AND FIRE PROTECTION PLANS FOR ADDITIONAL CEILING ITEMS AND DEVICES. NOTIFY ARCHITECT OF ANY CONFLICTS.

CEILING PLAN LEGEND

NEW WALL/ ITEM ELEMENTS TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS.

EXISTING WALL/ ITEM ELEMENTS TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS.

CEILING TAG
 TYPE MARK
 ELEVATION ABOVE FINISH FLOOR
 BOS = BOTTOM OF STRUCTURE

CEILING/SOFFIT TYPES

- 'A' 2'X4' ACOUSTICAL DROP CEILING. SEE SPECIFICATIONS.
- 'G' GYPSUM CEILING BOARD. SEE SPECIFICATIONS.
- 'W' WOOD SLAT CEILING PANEL. SEE LEVEL ABOVE/ SPECIFICATIONS.



MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

**REID HALL CENTER FOR
 RESEARCH ON RURAL
 EDUCATION SPACE
 TRANSFORMATION**

100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
 1470 NORTH ROBERTS ST.
 HELENA, MONTANA 59601
 T 406.457.0380
 WWW.SLATEARCHITECTURE.COM

DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



PPA#25-1217

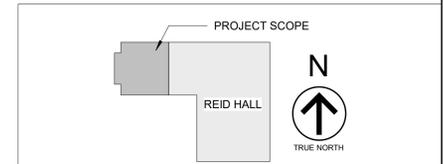
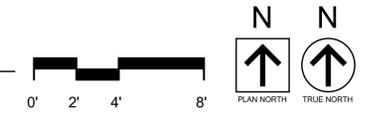
A/E#25032

REFLECTED
 CEILING PLANS

SHEET
A121

DATE
02.23.2026

1 FIRST FLOOR REFLECTED CEILING PLAN
 1/4" = 1'-0"





GENERAL FINISH NOTES

1. THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
2. CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
3. DIMENSIONS:
 - FROM FINISH FACE OF WALLS.
 - ELEVATIONS RELATIVE TO FINISH FLOOR.
4. REFER TO FINISH PLANS & SCHEDULES FOR FINISHES U.N.O.

FINISH PLAN LEGEND

ROOM FINISH TAG

ROOM NAME	ROOM NUMBER
101	WALL FINISH. SEE BELOW.
W-1	WALL FINISH. SEE BELOW.
B-1	WALL BASE. SEE BELOW.
CP-1	FLOOR FINISH. SEE BELOW.

FINISH CHANGE

PNT-2 → INDICATES CHANGE IN FINISH TYPE FROM GENERAL ROOM FINISHES.

FINISH TRANSITION

PNT-1 ↔ PNT-2 → INDICATES TRANSITION IN FINISH TYPE TO A DIFFERENT FINISH TYPE. COORDINATE TRANSITION STRIPS.

CORNER GUARD

↻ → CORNER GUARD. SEE SPECIFICATIONS.

WALL FINISH TYPES

- W-1: GWB; LEVEL 4 FINISH; PNT-1; BASE; SEE SPECIFICATIONS.
- W-2: GWB; LEVEL 4 FINISH; PNT-2; ACCENT PAINT; SEE SPECIFICATIONS.

WALL BASE TYPES

- B-1: VINYL BASE; 4" - BLACK; SEE SPECIFICATIONS.
- N/A: NO WALL BASE. CONTINUE WALL FINISH TO BOTTOM OF WALL.

FLOOR FINISH TYPES

- CP-1: CARPET TILE. SEE SPECIFICATIONS.
- CP-2: WALK-OFF CARPET TILE. SEE SPECIFICATIONS.
- LVT-1: LUXURY VINYL TILE. SEE SPECIFICATIONS.



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

**REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION**

100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC

REV.	DESCRIPTION	DATE

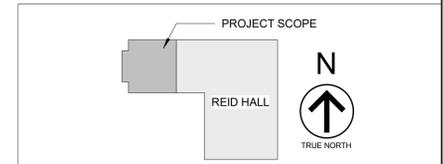
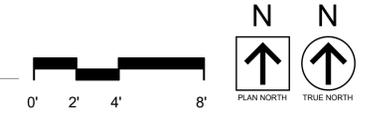


PPA#25-1217
A/E#25032
FLOOR FINISH
PLAN

SHEET
A131

DATE
02.23.2026

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



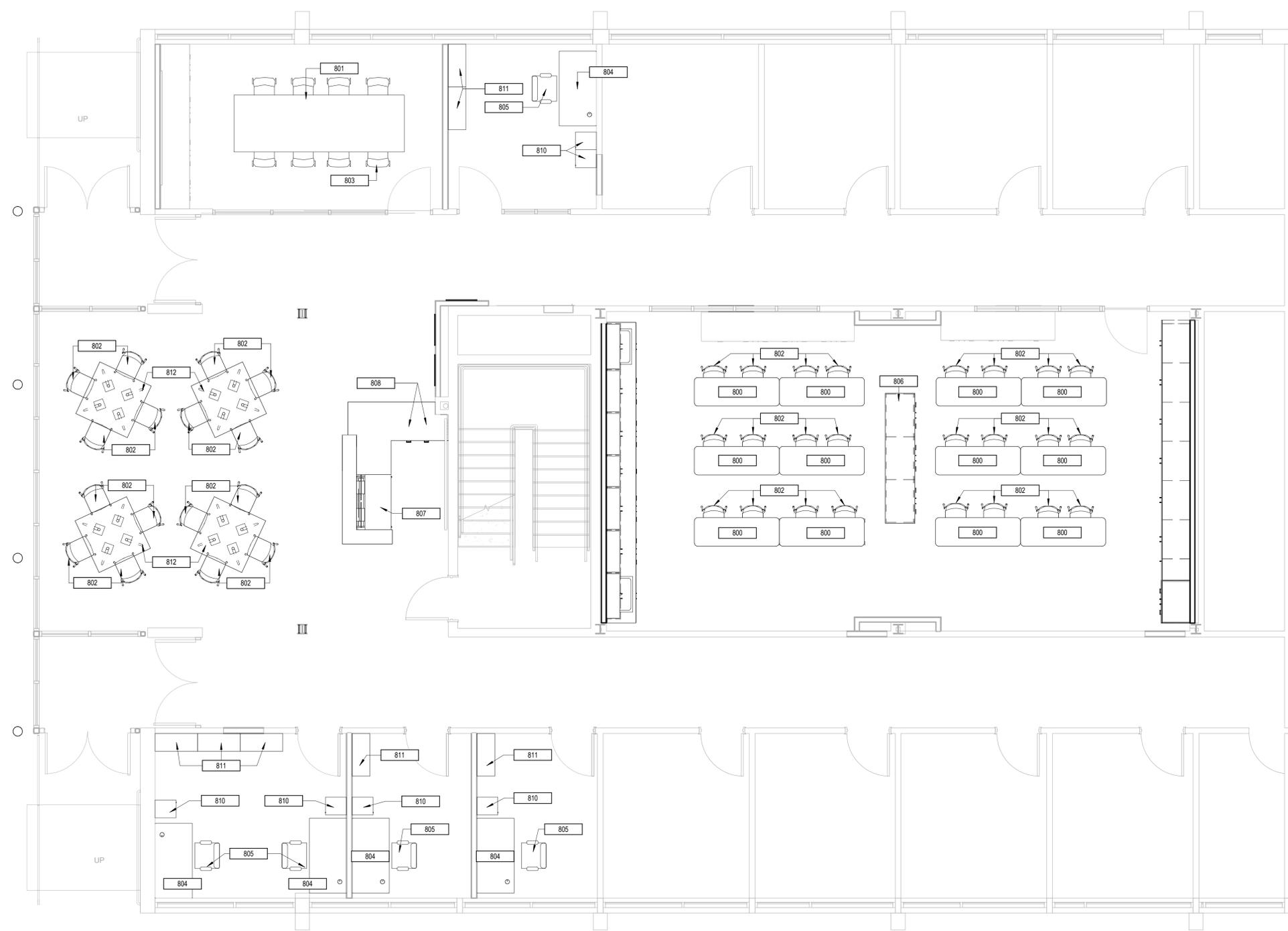
DRAWN BY:	MV	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



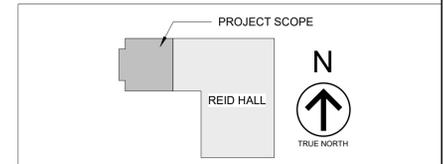
PPA#25-1217
 A/E#25032
 FURNITURE PLAN

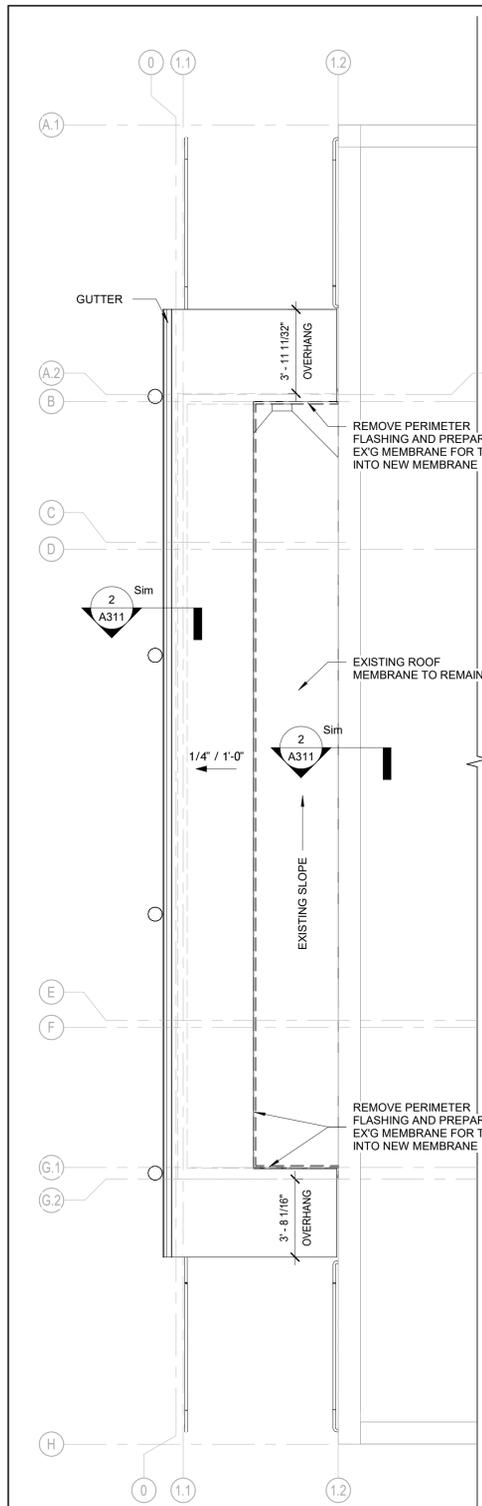
SHEET
A132
 DATE
02.23.2026

NO.	DESCRIPTION
800	CLASSROOM DESKS, BOD KI PIRQUETTE TABLE RECTANGULAR TRAINING T-BASE. https://www.ki.com/products/name/pirouette-table/
801	CONFERENCE TABLE, BOD, SERENADE, PANEL LEG. https://www.ki.com/products/name/serenade-conference-table/options-and-
802	CLASSROOM/COLLABORATION CHAIR, BOD KI ARMLESS LIMELITE CHAIR https://www.ki.com/products/category/seating/task-chairs/
803	CONFERENCE CHAIR, BOD KI SETU CHAIR https://www.ki.com/products/name/diem-task-chair/
804	OFFICE STANDING DESK, BOD, WORKUP HEIGHT ADJUSTABLE TABLES https://www.ki.com/products/name/workup-height-adjustable-tables/
805	OFFICE CHAIRS, BOD KI SETU CHAIR https://www.ki.com/products/name/diem-task-chair/
806	DEMONSTRATION CART, BOD. https://3branch.com/product/demonstration-table/
807	RECEPTION DESK, BOD. https://www.raproducts.com/products/delta-view-computer-desk-with-hidden-m
808	RECEPTION DESK CASEWORK, BOD. https://www.raproducts.com/products/tevista-laminate-casegoods-series
810	WORKSURFACE, BOD KI PEDESTAL U SERIES, BOD. https://www.ki.com/products/name/u-series-storage/styles-and-materials/
811	BOOKCASE, BOD KI BOOKCASE 700 SERIES. https://www.ki.com/products/name/700-series-storage/
812	COLLABORATION DESKS, BOD KI PIRQUETTE TABLE SQUARE C-BASE. https://www.ki.com/products/name/pirouette-table/

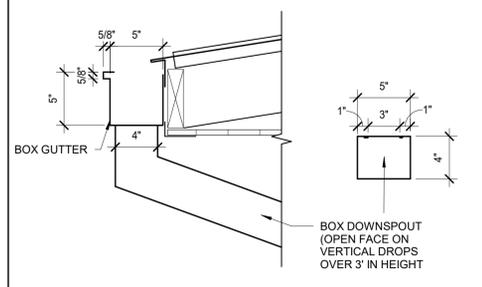


1 FIRST FLOOR FURNITURE PLAN
 1/4" = 1'-0"

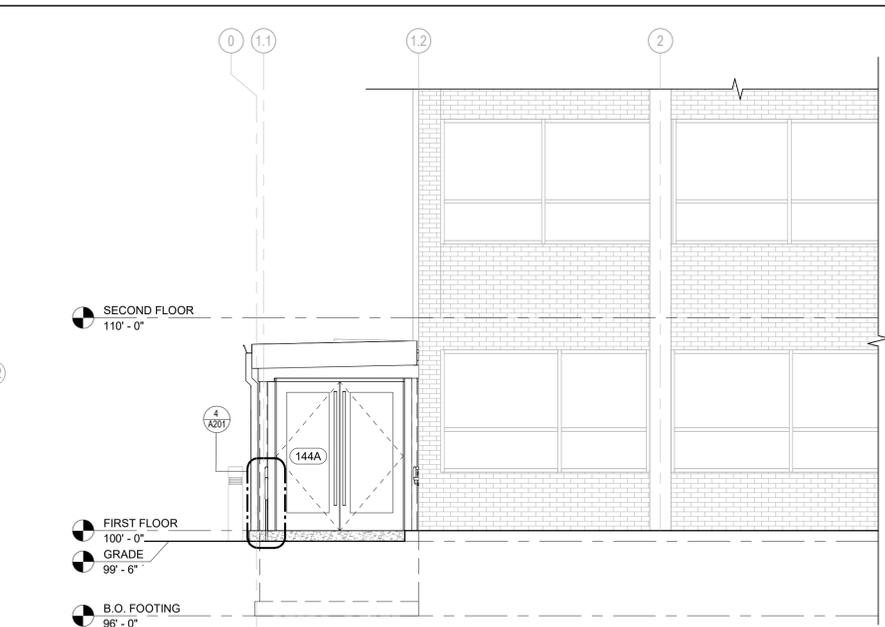




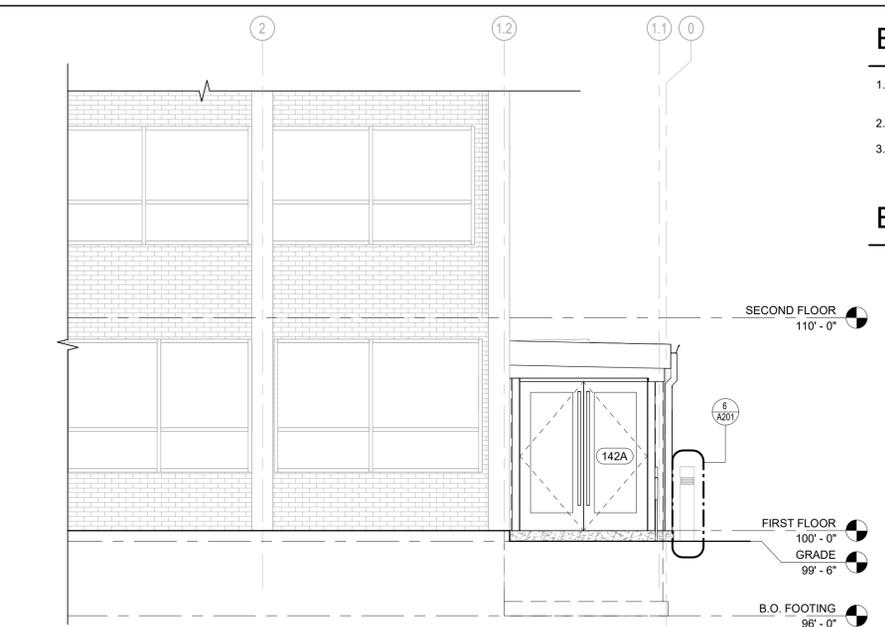
5 ROOF PLAN
1/4" = 1'-0"



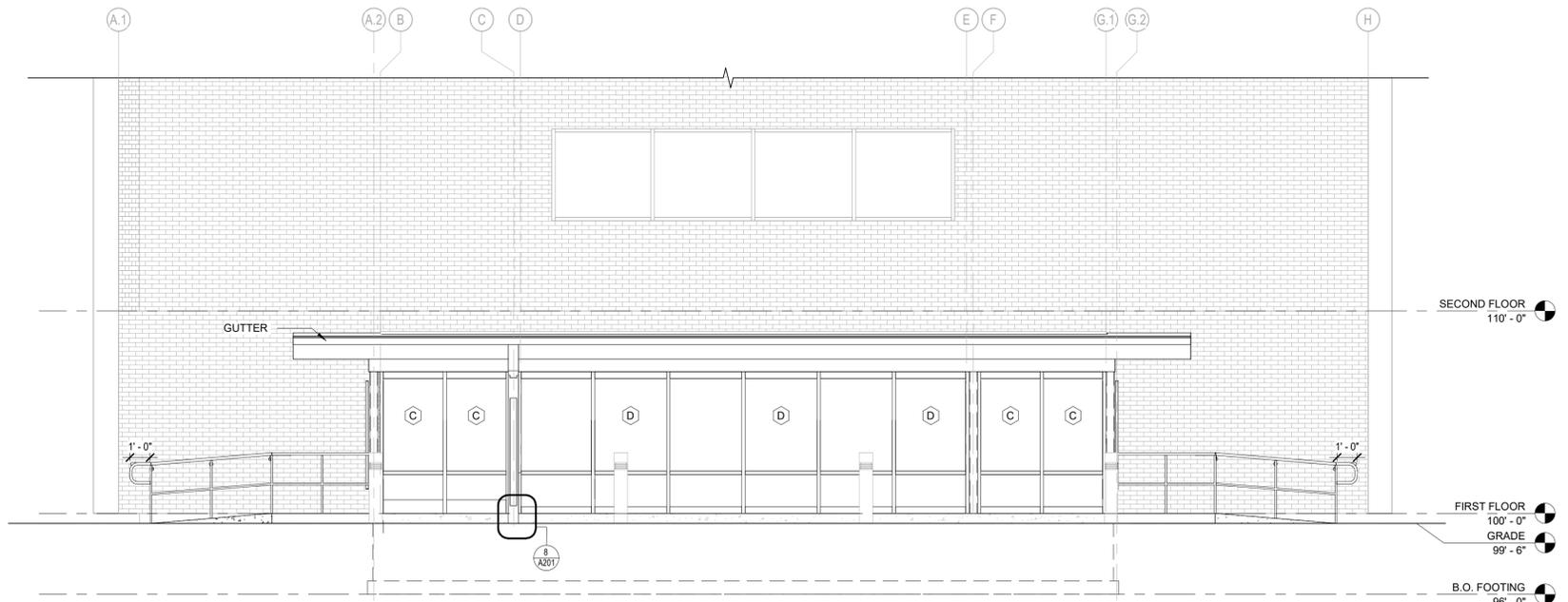
7 GUTTER DETAIL
1 1/2" = 1'-0"



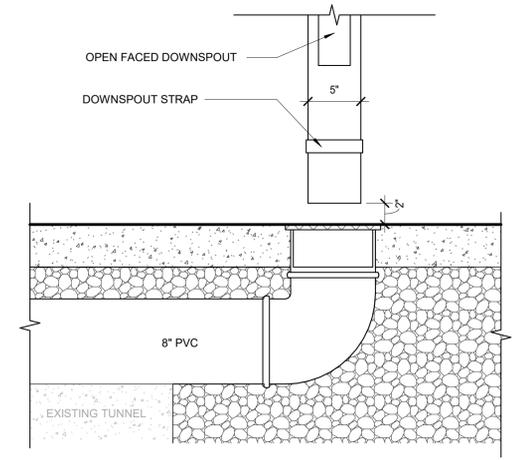
1 SOUTH EXTERIOR ELEVATION
1/4" = 1'-0"



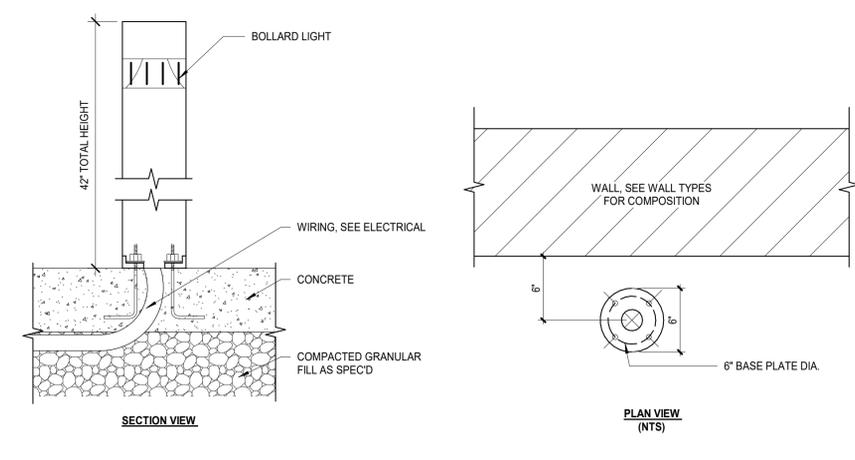
2 NORTH EXTERIOR ELEVATION
1/4" = 1'-0"



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



8 DOWNSPOUT DETAIL
1 1/2" = 1'-0"

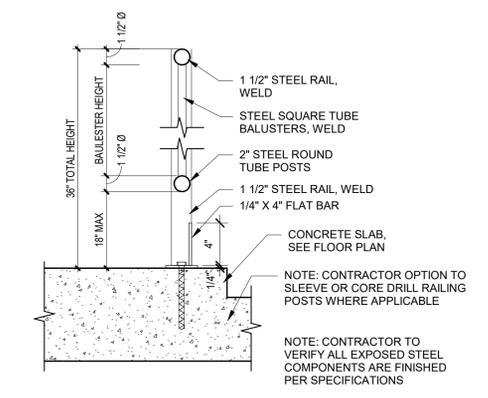


6 BOLLARD @ BUILDING APRON
1 1/2" = 1'-0"

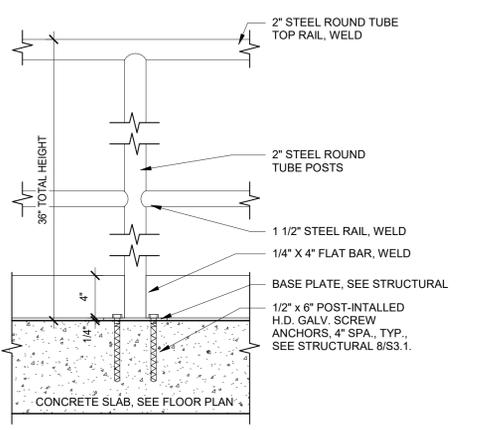
ELEVATION NOTES

- COORDINATE ALIGNMENT OF EXTERIOR FINISHES WITH ADJACENT SITE FEATURES, INCLUDING SIDEWALKS, LANDSCAPING, AND GRADE TRANSITIONS.
- GRADE SHOWN FOR REFERENCE ONLY. VERIFY SITE GRADING TO ENSURE PROPER DRAINAGE AWAY FROM THE BUILDING.
- ALL MATERIALS AND WORKMANSHIP MUST COMPLY WITH INDUSTRY STANDARDS, MANUFACTURER'S GUIDELINES, AND PROJECT SPECIFICATIONS.

ELEVATIONS LEGEND

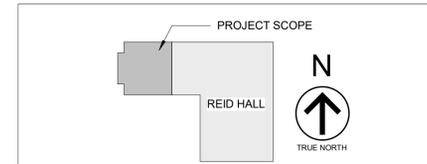


SECTION VIEW



ELEVATION VIEW

4 STEEL GUARD RAILING @ CONC. SLAB
1 1/2" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

Slate ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC

REV.	DESCRIPTION	DATE



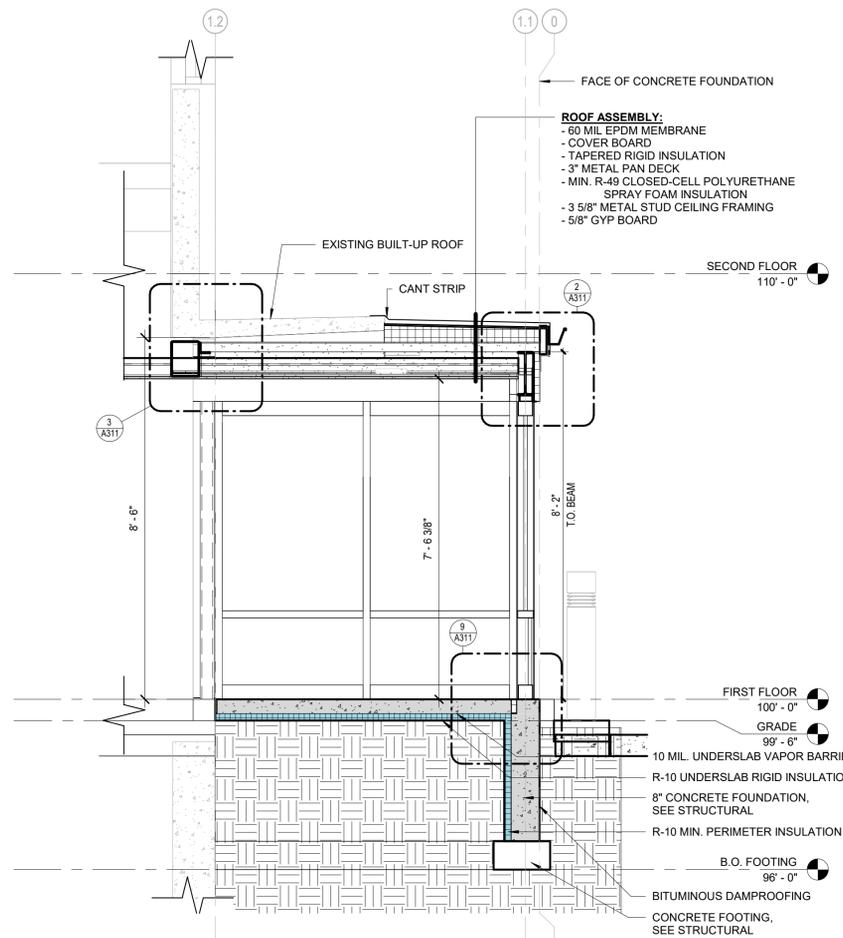
PPA#25-1217

A/E#25032

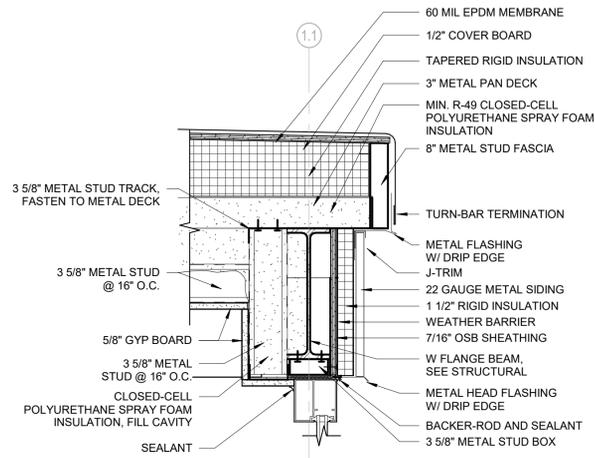
EXTERIOR ELEVATIONS

SHEET
A201

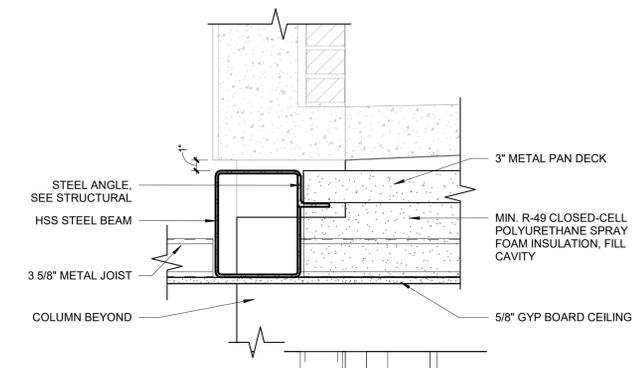
DATE
02.23.2026



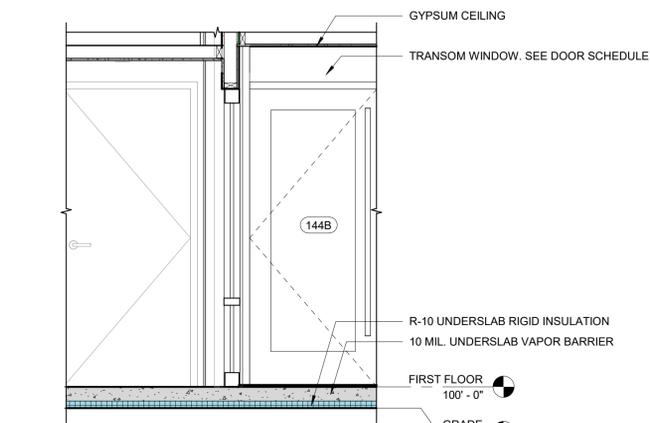
1 ADDITION SECTION DETAIL
1/2" = 1'-0"



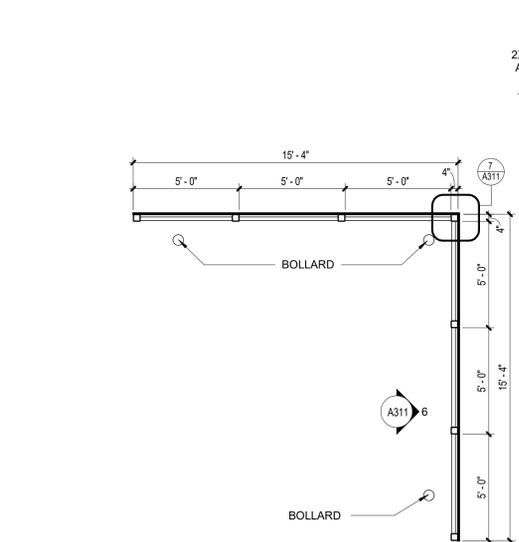
2 FASCIA DETAIL
1 1/2" = 1'-0"



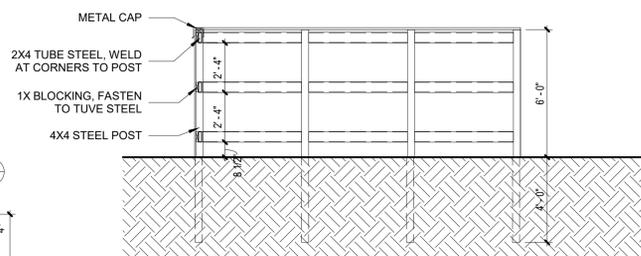
3 HSS BEAM DETAIL
1 1/2" = 1'-0"



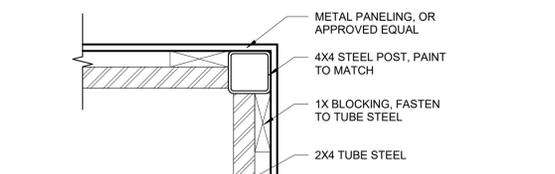
4 ENTRY SECTION
1/2" = 1'-0"



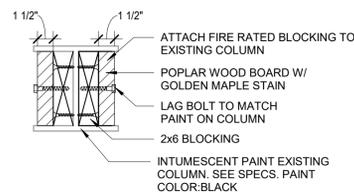
5 DUMPSTER ENCLOSURE
1/4" = 1'-0"



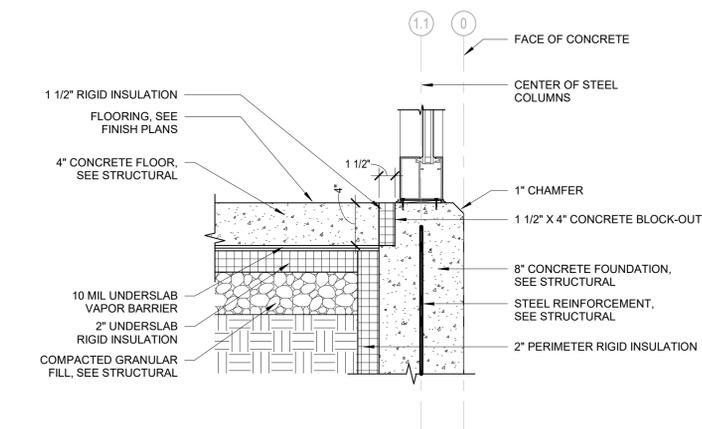
6 DUMPSTER ENCLOSURE
1/4" = 1'-0"



7 DUMPSTER ENCLOSURE CORNER DETAIL
1 1/2" = 1'-0"



8 INTERIOR COLUMN DETAIL
1 1/2" = 1'-0"



9 FOUNDATION DETAIL
1 1/2" = 1'-0"

GENERAL SECTION NOTES

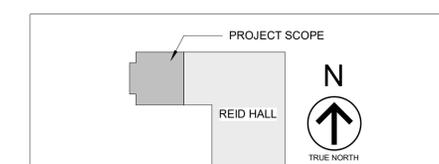
- REFER TO TYPICAL ASSEMBLIES FOR EXTERIOR ENVELOPE COMPOSITION U.N.O.
- REFER TO EXTERIOR ELEVATIONS FOR EXTERIOR FINISHES. DETAILS AND NOTES ON THIS SHEET ARE INTENDED TO COMPLEMENT OTHER DOCUMENTS AND ARE NOT A SUBSTITUTE FOR COORDINATION ACROSS ALL PROJECT DISCIPLINES. REFER TO THE SET OF DOCUMENTS AS PRODUCED BY THE RESPECTIVE DISCIPLINE FOR ADDITIONAL INFORMATION.

SECTION LEGEND

	NEW WALL/ ITEM/ ELEMENTS TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS.
	EXISTING WALL/ ITEM/ ELEMENTS TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS.

KEYNOTE LEGEND

NO.	DESCRIPTION
-----	-------------



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR RURAL RESEARCH ON EDUCATION SPACE TRANSFORMATION

100% CONSTRUCTION DOCUMENTS

SLATE ARCHITECTURE, INC.
1470 NORTH ROBERTS ST.
HELENA, MONTANA 59601
T 406.457.0380
WWW.SLATEARCHITECTURE.COM

DRAWN BY: MV
REVIEWED BY: SC

REV.	DESCRIPTION	DATE
------	-------------	------



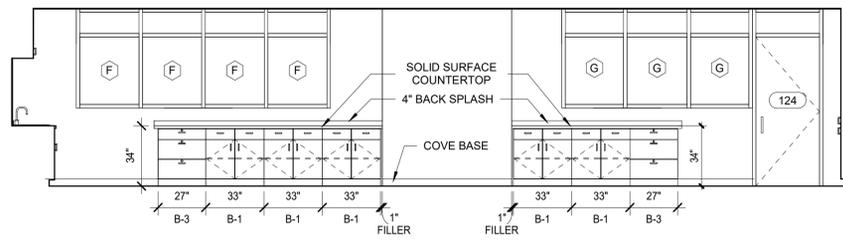
PPA#25-1217

A/E#25032

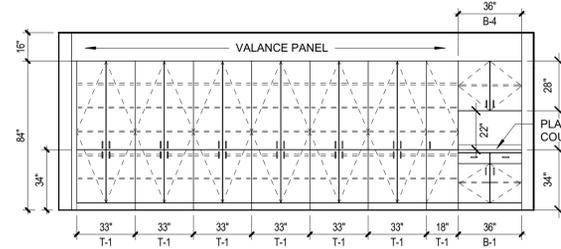
WALL SECTIONS & DETAILS

SHEET
A311

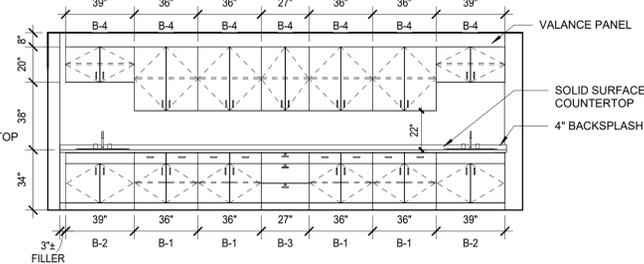
DATE
02.23.2026



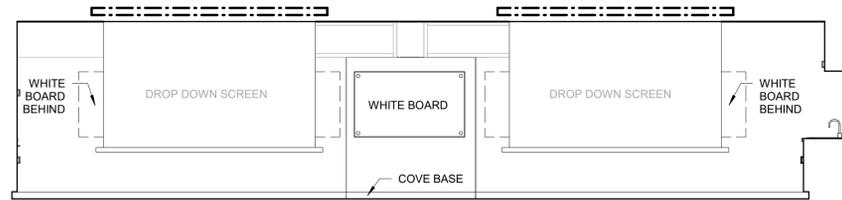
1 CLASSROOM - NORTH WALL
1/4" = 1'-0"



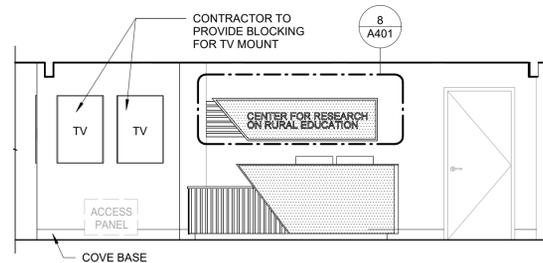
2 CLASSROOM - EAST WALL
1/4" = 1'-0"



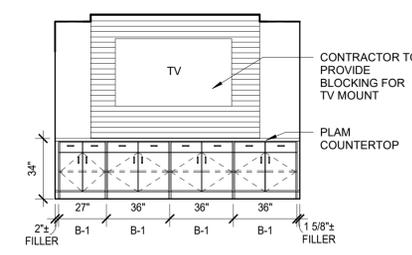
3 CLASSROOM - WEST WALL
1/4" = 1'-0"



4 CLASSROOM - SOUTH WALL
1/4" = 1'-0"



5 THE CENTER
1/4" = 1'-0"



6 CONFERENCE - WEST WALL
1/4" = 1'-0"

GENERAL NOTES

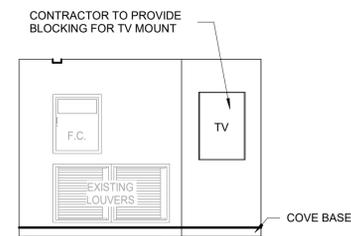
- THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
- DETAILS AND NOTES ON THIS SHEET ARE INTENDED TO COMPLEMENT OTHER DOCUMENTS AND ARE NOT A SUBSTITUTE FOR COORDINATION ACROSS ALL PROJECT DISCIPLINES. REFER TO THE SET OF DOCUMENTS AS PRODUCED BY THE RESPECTIVE DISCIPLINE FOR ADDITIONAL INFORMATION.
- CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
- DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A ROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.
- DIMENSIONS:
 - STUD WALLS, ARE FROM FACE OF STUD AND CENTERLINE OF OPENINGS.
 - MASONRY WALLS, ARE FROM FACE UNIT AND R.O.
 - EXISTING WALLS, ARE FROM FACE OF WALL FINISH.
- ALL NEW WALLS ARE TO EXTEND TO DECK, U.N.O.
- FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.

PLAN LEGEND

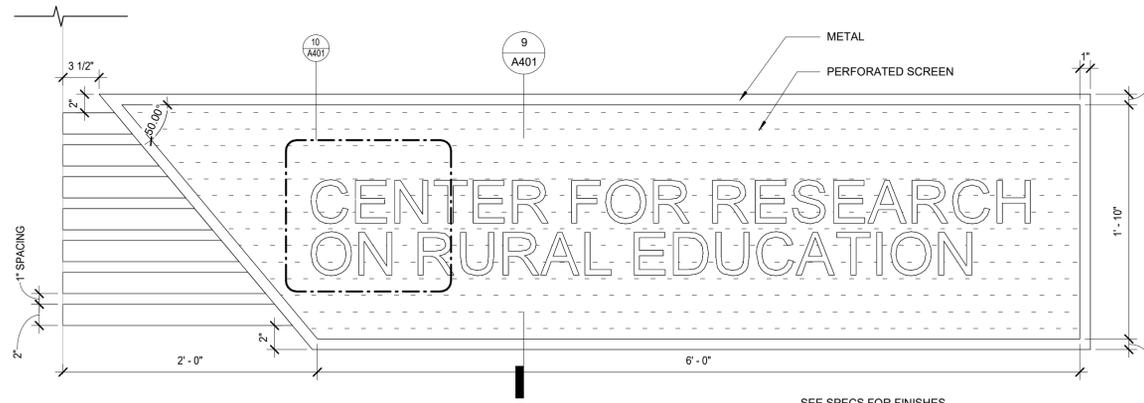
	NEW WALL/ITEM/ELEMENTS TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS.
	EXISTING WALL/ITEM/ELEMENTS TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS.

KEYNOTE LEGEND

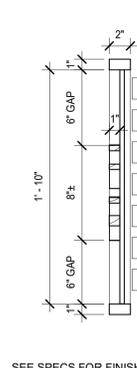
NO.	DESCRIPTION
-----	-------------



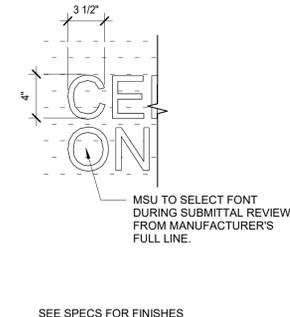
7 HALLWAY ENTRY WALL
1/4" = 1'-0"



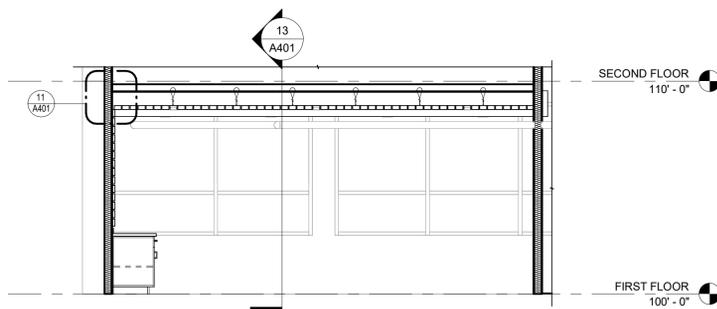
8 SIGNAGE ELEVATION DETAIL
1 1/2" = 1'-0"



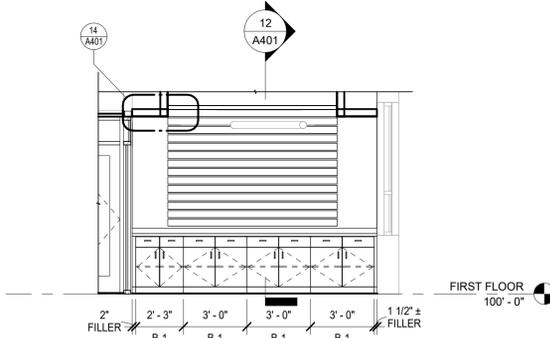
9 SIGNAGE SECTION
1 1/2" = 1'-0"



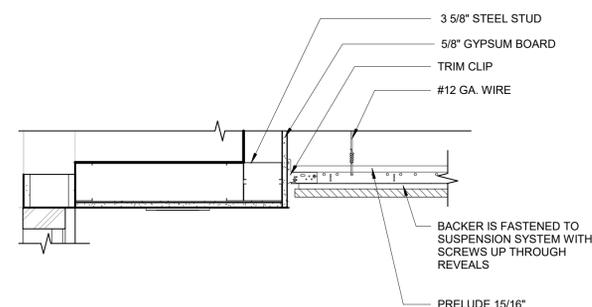
10 LETTER DETAIL
1 1/2" = 1'-0"



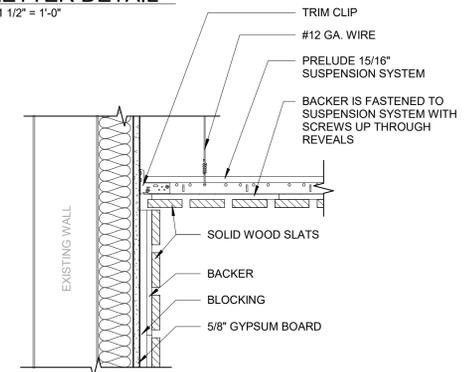
12 CONFERENCE ROOM SECTION 1
1/4" = 1'-0"



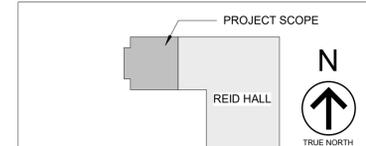
13 CONFERENCE ROOM SECTION 2
1/4" = 1'-0"



14 SOFFIT WOOD SLAT DETAIL
1 1/2" = 1'-0"



11 CEILING WOOD SLAT DETAIL
1 1/2" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR
RESEARCH ON RURAL
EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS



DRAWN BY: MV
REVIEWED BY: SC

REV.	DESCRIPTION	DATE
------	-------------	------



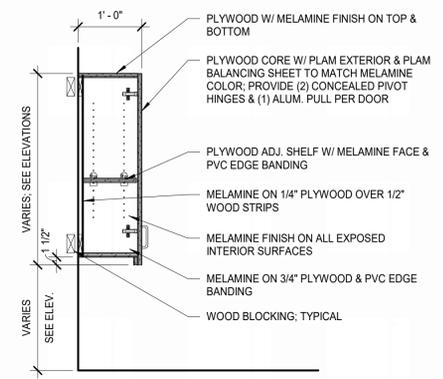
PPA#25-1217

A/E#25032

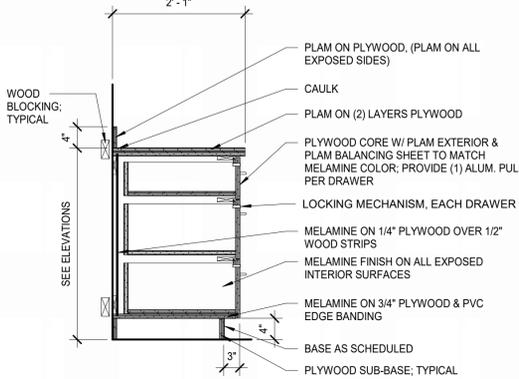
INTERIOR
ELEVATIONS &
DETAILS

SHEET
A401

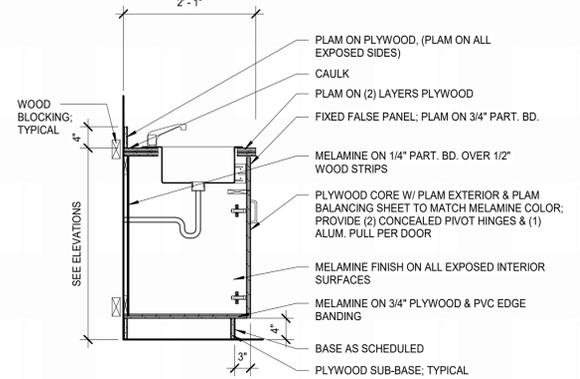
DATE
02.23.2026



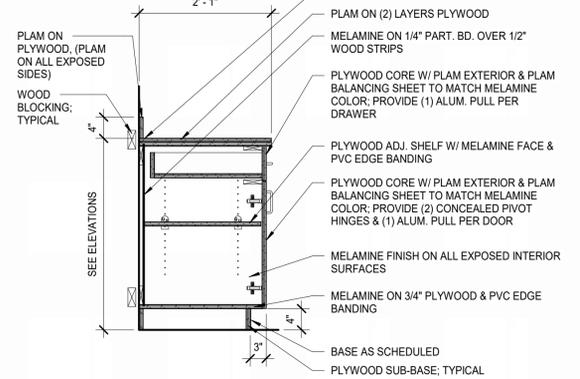
④ B-4 (TYPICAL WALL CABINET)
3/4" = 1'-0"



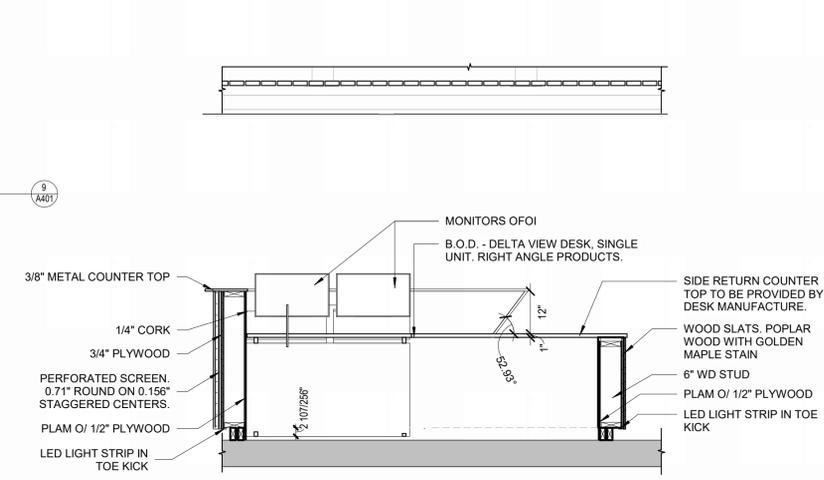
③ B-3 (BASE UNIT DRAWER) (SIM)
3/4" = 1'-0"



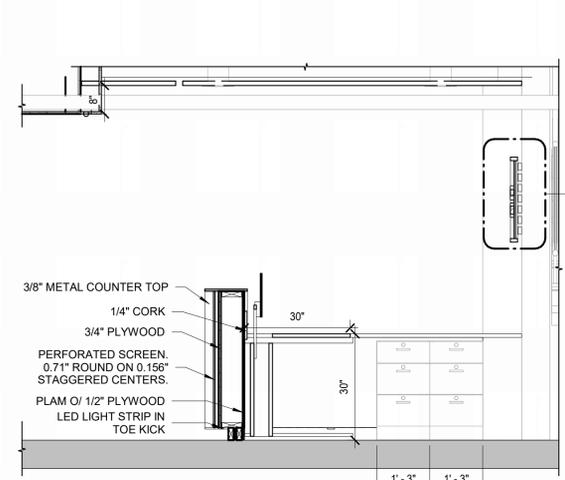
② B-2 (BASE UNIT SINK W/ FIXED PANEL)
3/4" = 1'-0"



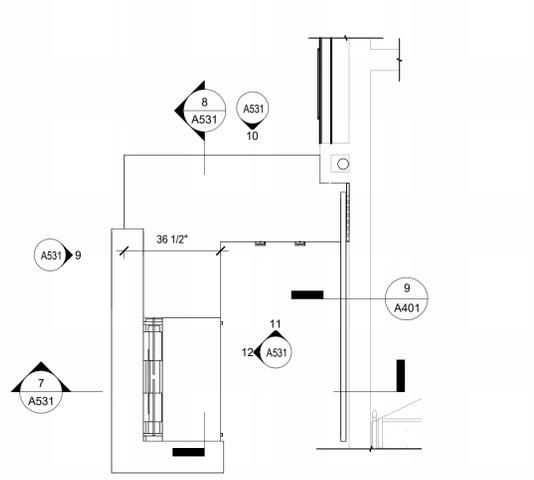
① B-1 (BASE UNIT DOOR/DRAWER COMBO)
3/4" = 1'-0"



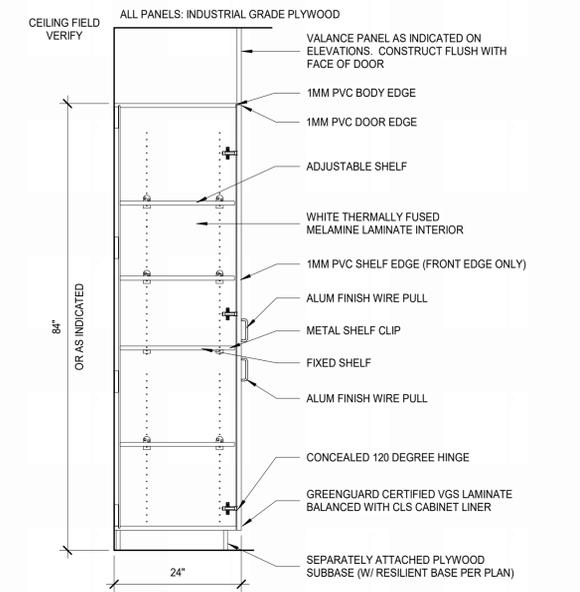
⑧ RECEPTION DESK SECTION 2
1/2" = 1'-0"



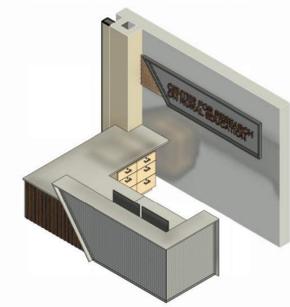
⑦ RECEPTION DESK SECTION 1
1/2" = 1'-0"



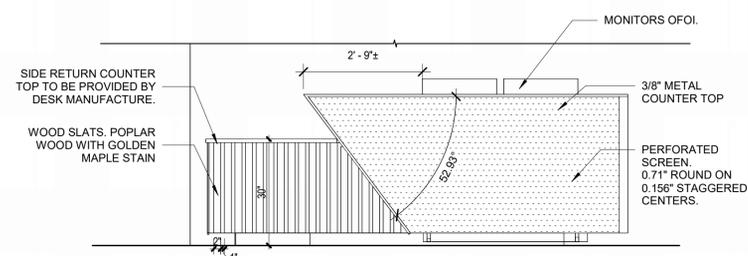
⑥ ENLARGED PLAN - DESK
3/8" = 1'-0"



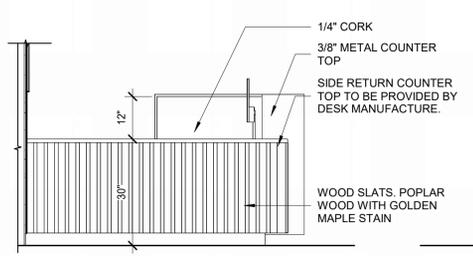
⑤ T-1 (TALL CABINET).
3/4" = 1'-0"



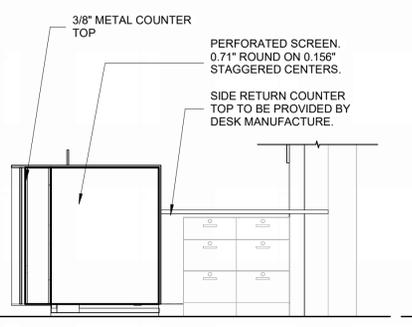
⑬ 3D DESK 1
SEE SPECS FOR FINISHES



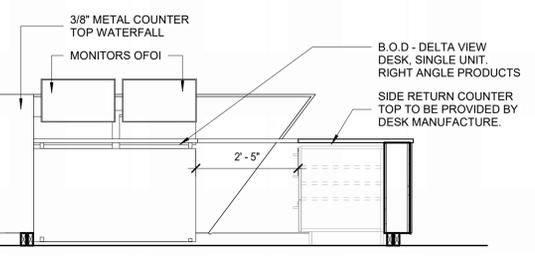
⑨ RECEPTION DESK - EAST ELEVATION
1/2" = 1'-0"



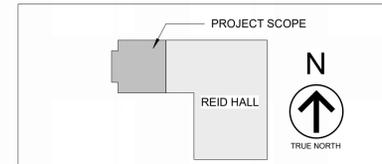
⑩ RECEPTION DESK - NORTH ELEVATION
1/2" = 1'-0"



⑪ RECEPTION DESK - SOUTH ELEVATION
1/2" = 1'-0"

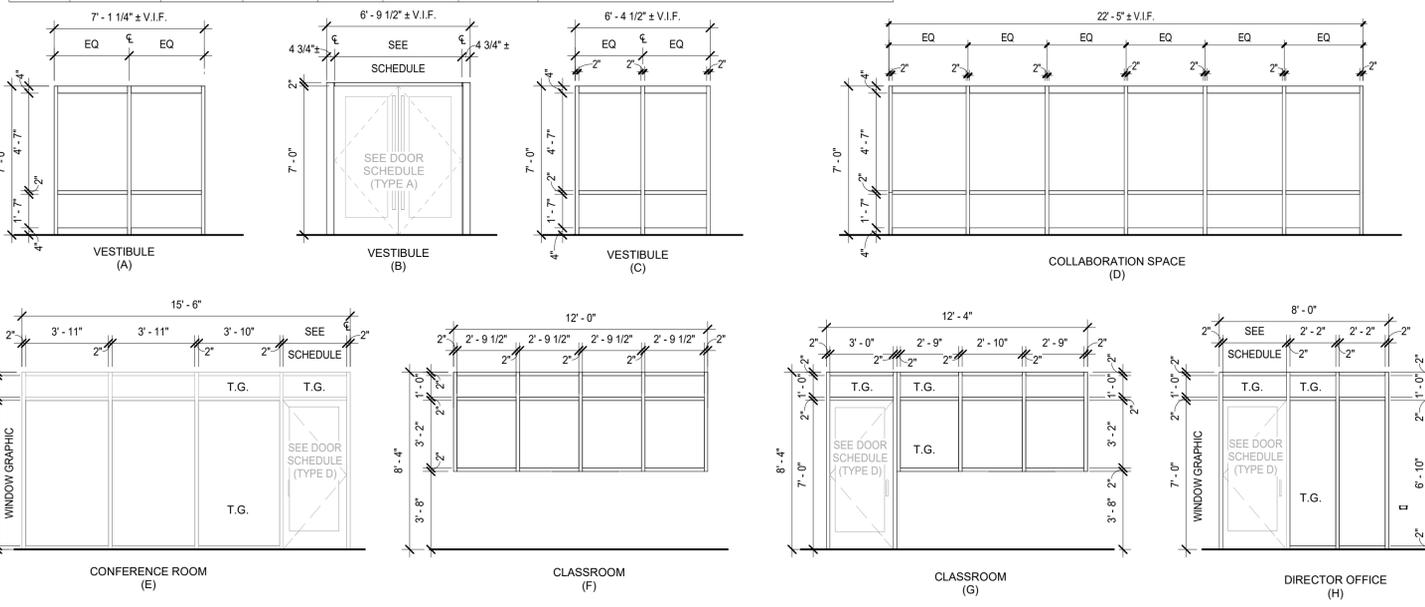


⑫ RECEPTION DESK - WEST ELEVATION
1/2" = 1'-0"

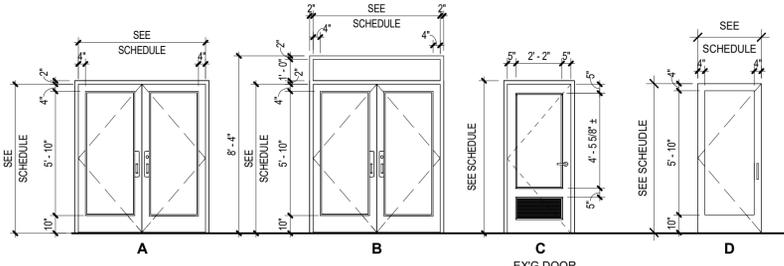


WINDOW SCHEDULE

MARK	FRAME		DETAILS			WDW GLAZING TYPE	COMMENTS
	MATERIAL	FINISH	HEAD	JAMB	SILL		
A	ALUM.	CLR. ANO.	4/A602	3/A602	6/A602	IG-1	
C	ALUM.	CLR. ANO.	4/A602	3/A602	6/A602	IG-1	
D	ALUM.	CLR. ANO.	4/A602	5/A602	6/A602	IG-1	
E	ALUM.	CLR. ANO.	11/A602	8/A602	7/A602	G-1	
F	ALUM.	CLR. ANO.	11/A602	8/A602	7/A602	G-1	
G	ALUM.	CLR. ANO.	11/A602	8/A602	7/A602	G-1	
H	ALUM.	CLR. ANO.	11/A602	8/A602	7/A602	G-1	



DOOR ELEVATIONS



DOOR HARDWARE GROUPS

- HARDWARE SET - "H1" (BADGE ENTRY)**
- 3 PAIR HINGES
 - 2 EXIT DEVICE WITH LEVER LOCKSET, STOREROOM FUNCTION
 - 1 WALL STOP
 - 1 SET WEATHERSEAL
 - 2 CLOSER W/ STOPS
 - 1 THRESHOLD, THERMALLY BROKEN
 - 2 AUTOMATIC DROP BOTTOM
 - 1 BADGE READER
- HARDWARE SET - "H2" (CLASSROOM)**
- 1 1/2 PAIR HINGES
 - 1 LEVER LOCKSET, CLASSROOM FUNCTION
 - 1 WALL STOP
 - 1 SET GASKETING
- HARDWARE SET - "H3" (OFFICE/CONFERENCE)**
- 1 1/2 PAIR HINGES
 - 1 LEVER LOCKSET - OFFICE FUNCTION
 - 1 WALL STOP
 - 1 SET OF GASKETING

DOOR SCHEDULE

DOOR NO.	TYPE	DOOR					FRAME		GLAZING TYPE	HARDWARE	DETAILS			COMMENTS
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	MATERIAL	FINISH			JAMB	HEAD	SILL	
120	C	3'-0"	7'-0"	0' - 1 3/4"	ALUM	(E) STAIN			G-1				REUSE EXISTING DOOR, NEW WINDOW CUT IN KIT	
121	C	3'-0"	7'-0"	0' - 1 3/4"	ALUM	(E) STAIN			G-1				REUSE EXISTING DOOR, NEW WINDOW CUT IN KIT	
122	C	3'-0"	7'-0"	0' - 1 3/4"	ALUM	(E) STAIN			G-1				REUSE EXISTING DOOR, NEW WINDOW CUT IN KIT	
124	D	3'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	G-1	H3	10/A602	9/A602		
140	D	3'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	G-1	H2	10/A602	9/A602		
141	D	3'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	G-1	H2	10/A602	9/A602		
142A	A	6'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	IG-1	H1	3/A602	2/A602	1/A602	
142B	B	6'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	IG-1	H1	3/A602	2/A602	1/A602	
144A	A	6'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	IG-1	H1	3/A602	2/A602	1/A602	
144B	B	6'-0"	7'-0"	0' - 1 3/4"	ALUM	CLR. ANO.	ALUM	CLR. ANO.	IG-1	H1	3/A602	2/A602	1/A602	

EXIT

206

206

OFFICE

CONFERENCE ROOM

SIGNAGE SCHEDULE

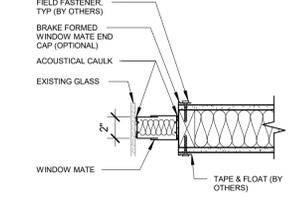
DOOR NO.	ROOM NO.	ROOM NAME	TYPE	SIGN TEXT	BRAILLE	SIGN COMMENTS
120	120	OFFICE	SN-2: ROOM NUMBER AND WINDOW	OFFICE 120	Yes	EXISTING DOOR WITH NEW SIGN
121	121	OFFICE	SN-2: ROOM NUMBER AND WINDOW	OFFICE 121	Yes	EXISTING DOOR WITH NEW SIGN
122	122	OFFICE	SN-2: ROOM NUMBER AND WINDOW	OFFICE 122	Yes	EXISTING DOOR WITH NEW SIGN
124	124	CLASSROOM	SN-2: ROOM NUMBER AND WINDOW	CLASSROOM 124	Yes	
140	140	DIRECTOR OFFICE	SN-2: ROOM NUMBER AND WINDOW	OFFICE 140	Yes	
141	141	CONFERENCE	SN-3: ROOM NUMBER AND NAME	CONFERENCE ROOM	Yes	
142A	142	VESTIBULE	SN-1: EXIT	EXIT	Yes	
142B	142	VESTIBULE	SN-1: EXIT	EXIT	Yes	
144A	144	VESTIBULE	SN-1: EXIT	EXIT	Yes	
144B	144	VESTIBULE	SN-1: EXIT	EXIT	Yes	

SIGN TYPES

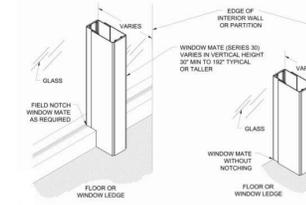
FOR REFERENCE ONLY. USE MSU STANDARD.

GENERAL NOTES

- ALL EXTERIOR GLAZING TO BE IG-1 U.N.O.
- ALL EXTERIOR SAFETY GLAZING TO BE IG-5. COORDINATE LOCATIONS AS REQUIRED BY APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
- ALL INTERIOR GLAZING TO BE G-2 U.N.O.
- ALL INTERIOR SAFETY GLAZING TO BE G-3. COORDINATE LOCATIONS AS REQUIRED BY APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
- EXTERIOR STOREFRONT SYSTEM BASIS OF DESIGN TO BE TRIFAB VERSAGLAZE -451T or 601T> FRAMING SYSTEM IN ARCHITECTURAL CLASS 1 FINISH <DARK BRONZE or CLEAR> FRONT PLANE.

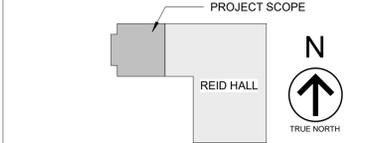


NOTE: FIELD CAULKING REQUIRED. A PAINTABLE ACOUSTICAL CAULK IS SUPPLIED WITH EACH ORDER TO SEAL EDGES FOR A HIGHER STC RATING.



WINDOW MATE

1 1/2" = 1'-0"



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

REID HALL CENTER FOR RESEARCH ON RURAL EDUCATION SPACE TRANSFORMATION

100% CONSTRUCTION DOCUMENTS



DRAWN BY:	KA	
REVIEWED BY:	SC	
REV.	DESCRIPTION	DATE



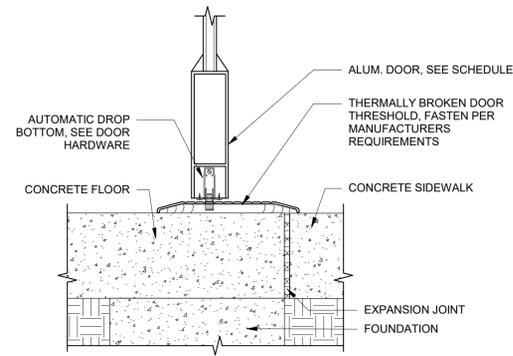
PPA#25-1217

A/E#25032

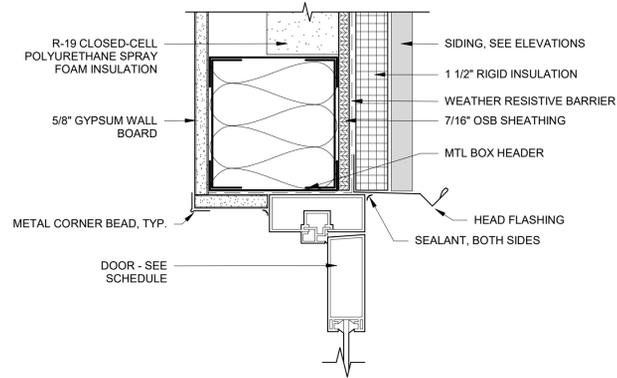
DOOR & WINDOW SCHEDULE

SHEET
A601

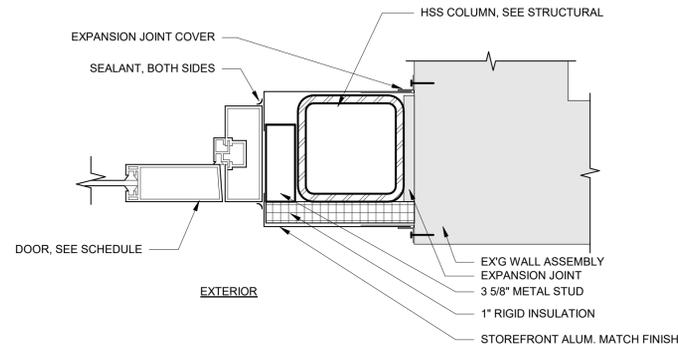
DATE
02.23.2026



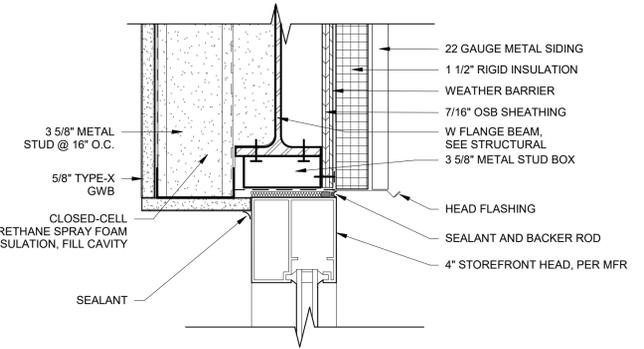
1 ALUM. AUTO DROP BOTTOM
3" = 1'-0"



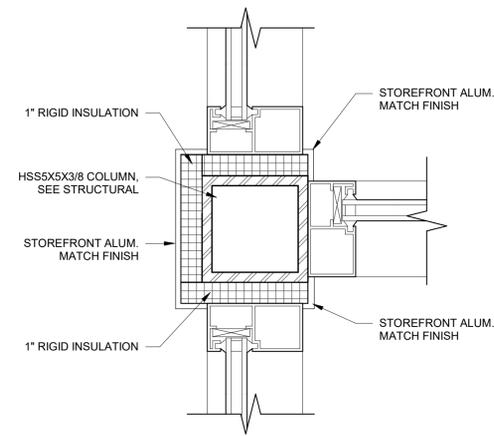
2 EXT. ALUM. STOREFRONT DOOR HEAD
3" = 1'-0"



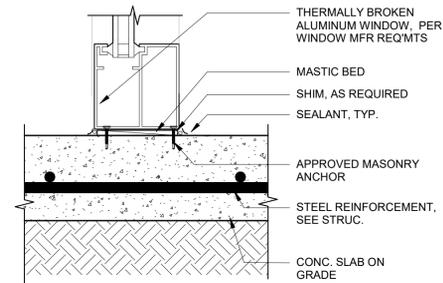
3 EXT. ALUM. STOREFRONT DOOR JAMB
3" = 1'-0"



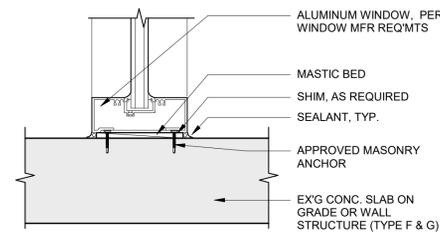
4 WEST STOREFRONT HEAD @ METAL SIDING
3" = 1'-0"



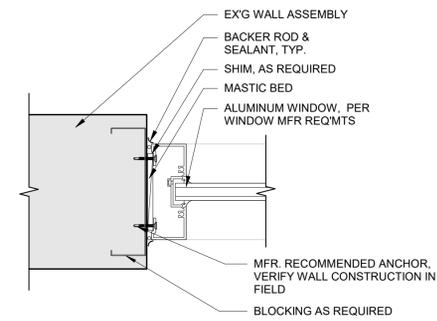
5 COLUMN & STOREFRONT JAMB DETAIL
3" = 1'-0"



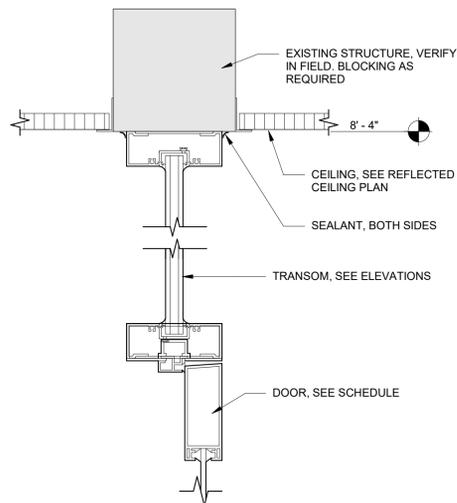
6 EXT. ALUM. STOREFRONT SILL
3" = 1'-0"



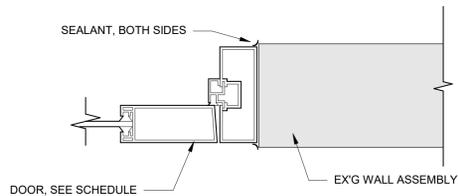
7 INT. ALUM. STOREFRONT SILL
3" = 1'-0"



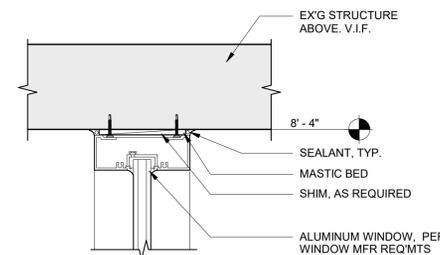
8 INT. ALUM. STOREFRONT JAMB
3" = 1'-0"



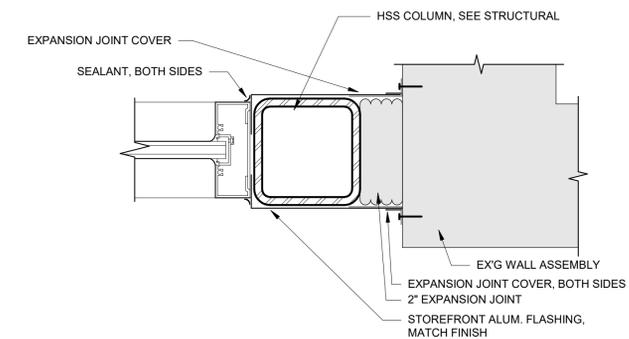
9 INT. ALUM. STOREFRONT DOOR HEAD
3" = 1'-0"



10 INT. ALUM. STOREFRONT DOOR JAMB
3" = 1'-0"



11 INT. ALUM. STOREFRONT HEAD
3" = 1'-0"



12 INT. ALUM. STOREFRONT @ COLUMN
3" = 1'-0"

CONTROL NOTES

- A. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY FOR A COMPLETE AND OPERATING HVAC DDC TEMPERATURE CONTROL SYSTEM INCLUDING, BUT NOT LIMITED TO, WIRING, DEVICES, MOTOR VARIABLE SPEED DRIVES, AND CONTROLLERS. SYSTEM SHALL BE AN EXTENSION OF THE EXISTING BUILDING CONTROL SYSTEM AND SHALL BE PROVIDED AND INSTALLED BY ELECTRO CONTROLS.
- B. CONTRACTOR SHALL PROVIDE ALLOWANCE FOR A NEW SYSTEM CONTROLLER LOCATED NEAR THE AREA OF WORK. PROVIDE AND COORDINATE EXACT LOCATION OF ONE (1) 120V POWER CIRCUIT AND ONE (1) NETWORK DATA JACK FOR THE CONTROLLER. COORDINATE WITH UNIVERSITY IT STAFF FOR CONNECTION REQUIREMENTS.
- C. THERMOSTATS LOCATED IN CORRIDORS AND PUBLIC SPACES SHALL BE PROVIDED AS A FLAT STAINLESS STEEL SENSOR PLATE. THERMOSTATS LOCATED IN OFFICES AND CONFERENCE ROOMS SHALL BE PROVIDED WITH +/- TEMPERATURE ADJUSTMENT WITH NO DIGITAL READOUT.
- D. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THERMOSTAT ROUGH-IN AND ELECTRICAL CONDUIT ROUGH-IN FROM THERMOSTAT TO ABOVE THE CEILING LINE. COORDINATE WITH THE ELECTRICAL CONTRACTOR.
- E. PROVIDE VAV BOX ACTUATORS FOR FACTORY MOUNTING BY VAV BOX MANUFACTURER
- F. SPACE ABOVE CEILING BEING USED AS A RETURN AIR PLENUM. TEMPERATURE CONTROL SYSTEM INSTALLATION SHALL UTILIZE PLENUM RATED CABLE.
- G. SEQUENCE OF OPERATION:
 - A. DUAL DUCT VAV TERMINAL UNIT:
 1. GENERAL
 - a. INDIVIDUAL DUAL DUCT VARIABLE AIR VOLUME (VAV) TERMINAL BOXES THROUGHOUT THE BUILDING PROVIDE ZONE HEATING, COOLING, AND VENTILATION TO THEIR RESPECTIVE ZONES AND ARE FED TEMPERED SUPPLY AIR FROM HV-3. PROVIDE A TIME SCHEDULE THAT INDEXES THE OCCUPIED/UNOCCUPIED MODES.
 2. PRIMARY AIR DAMPER (COLD DECK)
 - a. THE PRIMARY AIR DAMPER (COLD DECK) MODULATES TO MAINTAIN THE VENTILATION/COOLING VOLUME SET POINT, WHICH IS RESET BETWEEN MINIMUM (VENTILATION/DEADBAND) AND MAXIMUM (FULL COOLING) BASED ON COOLING CALCULATION. DURING COOLING MODE THE AUXILIARY AIR DAMPER (HOT DECK) SHALL BE CLOSED. IN ZONES WITH CO2 SENSING, MINIMUM VENTILATION SETPOINT IS RESET TO MINIMIZE ENERGY USAGE DURING PERIODS OF LOW OCCUPANCY AND MAXIMIZE OCCUPANT COMFORT DURING HIGH OCCUPANCY TIMES.
 3. AUXILIARY AIR DAMPER (HOT DECK)
 - a. THE AUXILIARY AIR DAMPER (HOT DECK) MODULATES TO MAINTAIN THE HEATING VOLUME SETPOINT, WHICH IS RESET BETWEEN 0 CFM AND MAXIMUM (FULL HEATING) BASED ON HEATING CALCULATION. DURING HEATING MODE, THE PRIMARY AIR DAMPER MAINTAINS A MINIMUM VOLUME OF COLD DECK AIR FOR VENTILATION.
 4. OCCUPIED MODE
 - a. SPACE IS MAINTAINED AT OCCUPIED HEATING/COOLING SET POINTS. MINIMUM VENTILATION AIR IS UTILIZED.
 5. UNOCCUPIED MODE
 - a. SPACE TEMPERATURE IS MAINTAINED AT THE REDUCED UNOCCUPIED HEATING SET POINT. A (EXISTING) UNIT CONVECTORS*
 1. DDC SPACE TEMPERATURE SENSOR SHALL OPEN THE HOT WATER CONTROL VALVE ON A CALL FOR SPACE HEATING. UNIT SHALL BE INTERLOCKED WITH SPACE DUAL-DUCT VAV UNIT. UNIT SHALL BE DISABLED UPON A CALL FOR COOLING AT THE DUAL DUCT VAV UNIT.
 2. UNIT SHALL BE INTERLOCKED WITH SPACE DUAL-DUCT VAV UNIT. UNIT SHALL BE DISABLED UPON A CALL FOR COOLING AT THE DUAL DUCT VAV UNIT.
 - B. TRENCH HEATERS:
 1. DDC SPACE TEMPERATURE SENSOR SHALL OPEN THE HOT WATER CONTROL VALVE ON A CALL FOR SPACE HEATING. A UNIT-MOUNTED RETURN WATER SENSOR SHALL ENABLE THE INTEGRAL FAN UNIT. FAN SHALL MODULATE AS REQUIRED TO MAINTAIN THE ZONE HEATING SETPOINT.
 2. UNIT SHALL BE INTERLOCKED WITH SPACE DUAL-DUCT VAV UNIT. UNIT SHALL BE DISABLED UPON A CALL FOR COOLING AT THE DUAL DUCT VAV UNIT.
 - C. DUCTLESS FAN COIL UNITS:
 - a. DDC SPACE TEMPERATURE SENSOR SHALL COMMUNICATE WITH THE FAN COIL UNIT ON-BOARD CONTROL SYSTEM AND SHALL PROVIDE A CALL FOR COOLING.
 - b. UPON A CALL FOR COOLING, UNIT SHALL OPERATE UNDER FACTORY CONTROLS TO MAINTAIN THE SPACE COOLING SETPOINT.
 - c. UNIT SHALL BE INTERLOCKED WITH SPACE DUAL-DUCT VAV UNIT. UNIT SHALL BE DISABLED UPON A CALL FOR HEATING WITHIN THE ZONE.

DUCTWORK CONSTRUCTION SCHEDULE

1. SUPPLY DUCTWORK DOWNSTREAM OF VAV TERMINAL UNITS SHALL BE CONSTRUCTED AS LOW-PRESSURE DUCTWORK OPERATING AT STATIC PRESSURES LESS THAN OR EQUAL TO 2" W.C.
2. RETURN DUCTWORK SHALL BE CONSTRUCTED AS LOW-PRESSURE DUCTWORK OPERATING AT STATIC PRESSURES LESS THAN OR EQUAL TO 2" W.C.
3. EXHAUST DUCTWORK SHALL BE CONSTRUCTED AS LOW-PRESSURE DUCTWORK OPERATING AT STATIC PRESSURE LESS THAN 2" W.C.
4. SUPPLY DUCTWORK BETWEEN VAV TERMINAL UNITS AND AIR HANDLING UNITS SHALL BE CONSTRUCTED AS HIGH-PRESSURE DUCTWORK OPERATING AT STATIC PRESSURES GREATER THAN OR EQUAL TO 3" W.C.
5. INSULATED DUCTWORK SHALL INCLUDE THE FOLLOWING
 - A. ALL UN-LINED INTERIOR SUPPLY DUCTWORK
 - B. ALL EXHAUST DUCTWORK FROM THE BACKDRAFT DAMPER TO THE BUILDING EXTERIOR
 - C. ALL FRESH AIR AND COMBUSTION AIR DUCTWORK
6. LINED DUCTWORK SHALL INCLUDE THE FOLLOWING
 - A. ALL TRANSFER DUCTWORK
 - B. ALL SUPPLY AND RETURN DUCTWORK WITHIN 25' OF AIR HANDLING UNITS.
7. UN-INSULATED AND UN-LINED DUCTWORK SHALL INCLUDE THE FOLLOWING
 - A. ALL INTERIOR EXHAUST DUCTWORK UNLESS OTHERWISE NOTED
 - B. ALL INTERIOR RETURN DUCTWORK UNLESS OTHERWISE NOTED
 - C. ALL EXPOSED INTERIOR SUPPLY DUCTWORK DOWNSTREAM OF VAV TERMINAL UNITS AND WITHIN THE SPACE SERVED
8. INSULATED FLEXIBLE DUCTWORK MAY BE USED AT THE CONTRACTOR'S OPTION FOR A MAXIMUM OF 5 FT. LENGTH TO EACH DIFFUSER/REGISTER/GRILLE UNLESS OTHERWISE NOTED.
9. DUCT INSULATION SHALL BE 1 1/2-INCH FIBERGLASS INSULATION WITH MINIMUM R-VALUE OF 5 AND A HEAVY DUTY FSK VAPOR BARRIER. EXPOSED INTERIOR SUPPLY DUCTWORK IN PAINTED CEILING APPLICATIONS AND REQUIRING INSULATION SHALL BE PROVIDED AS BLACK OR WHITE PSK FACING W/O PRINT TO MATCH CEILING FINISH.
10. ACOUSTICAL DUCT LINER SHALL BE 1-INCH FIBERGLASS WITH REINFORCED ACRYLIC COATING TO MEET ASTM C 1071 WITH MINIMUM CONDUCTIVITY (K) NOT EXCEEDING 0.24 BTU PER INCH/H-SQ FT-°F.
11. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE CLEAR INTERIOR DIMENSIONS.
12. ALL INSULATION SYSTEMS SHALL NOT EXCEED THE 25/50 FLAME AND SMOKE SPREAD RATINGS AS DEFINED BY ASTM E 84.

TEST AND BALANCE NOTES

1. TEST AND BALANCE WORK IS TO BE IN ACCORDANCE WITH NEBB STANDARDS.
2. CONTRACTOR SHALL PROVIDE TEST AND BALANCE SERVICES FOR EACH AIR HANDLING SYSTEM, EXHAUST SYSTEM, HEATING HOT WATER SYSTEM, CHILLED WATER COOLING SYSTEM, AND DOMESTIC HOT WATER RECIRCULATION SYSTEM.
3. CONTRACTOR SHALL PROVIDE A FINAL REPORT INCLUDING ALL SYSTEM RESULTS. REPORT SHALL NOTE ANY NON-TYPICAL SYSTEM CHARACTERISTICS ENCOUNTERED DURING THE TESTING PERIOD AND ANY MEASURED VALUES EXCEEDING +/- 10% FROM SCHEDULED DESIGN PARAMETERS UNLESS OTHERWISE NOTED BELOW.
 - A. -0% TO +10% FOR EXHAUST TERMINALS SERVING NEGATIVE PRESSURE AREAS
 - B. -10% TO +0% FOR SUPPLY TERMINALS SERVING POSITIVE PRESSURE AREAS
 - C. -5% TO +10% FOR TOTAL AIR HANDLING UNIT SUPPLY, RETURN, OR RELIEF FLOW
 - D. -0% TO +10% FOR AIR HANDLING UNIT OUTDOOR AIR FLOW.
 - E. -5% TO +5% FOR TERMINAL VAV UNIT SUPPLY FLOW.
4. SEE THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

PROJECT SEISMIC RESTRAINT NOTES

1. MECHANICAL/PLUMBING SYSTEMS AND EQUIPMENT ON THIS PROJECT SHALL BE INSTALLED WITH SEISMIC RESTRAINTS IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE (SEISMIC USE GROUP 'III', SEISMIC DESIGN CATEGORY 'D', COMPONENT IMPORTANCE FACTOR 1.0) AND THE LATEST EDITION OF SMACNA'S SEISMIC RESTRAINT MANUAL. SPRINKLER SYSTEMS AND EQUIPMENT SHALL BE INSTALLED WITH SEISMIC RESTRAINTS IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE SHOP DRAWINGS AND PROFESSIONAL STRUCTURAL ENGINEER SEISMIC RESTRAINT DRAWINGS FOR REVIEW AND APPROVAL. SUBMIT SHOP DRAWING INFORMATION ON EACH MAJOR PIECE OF EQUIPMENT AND FOR EACH MAJOR CATEGORY OF COMMONLY INSTALLED EQUIPMENT.
3. SEE SPECIFICATION SECTION 220548 AND 230548.

MECHANICAL SYMBOLS LEGEND

AIR TERMINALS, EQUIPMENT & SPECIALTIES

	NEW EQUIPMENT		EQUIPMENT TAG
	EXISTING TO REMAIN		TYPE OF EQUIPMENT
	EXISTING EQUIP TO BE REMOVED OR RELOCATED		EQUIPMENT NUMBER (REFER TO SCHEDULE)
	SUPPLY AIR TERMINAL (NEW, EXIST., DEMO.)		DIFFUSER/GRILLE TAG
	RETURN AIR TERMINAL (NEW, EXIST., DEMO.)		AIR TERMINAL NUMBER
	EXHAUST AIR TERMINAL (NEW, EXIST., DEMO.)		AIR TERMINAL CFM (REFER TO SCHEDULE)
	LINEAR SLOT AIR TERMINAL		WALL LOUVER
	PUMP		SIDEWALL AIR TERMINAL
	P.O.D.C. - POINT OF DISCONNECTION		THERMOSTAT
	P.O.C. - POINT OF CONNECTION		SWITCH

DUCTWORK & ACCESSORIES

	NEW DUCTWORK		18x12	INSIDE CLEAR DUCT SIZE: FIRST FIGURE INDICATED IS SIDE OF DUCT SHOWN
	EXISTING DUCTWORK TO REMAIN			DUCTWORK END CAP
	EXISTING DUCTWORK TO BE REMOVED			FLEXIBLE DUCTWORK
	DUCT BREAK			SQUARE ELBOW UP SUPPLY/RETURN/EXH.
	RISE IN DUCTWORK			SQUARE ELBOW DN SUPPLY/RETURN/EXH.
	FALL IN DUCTWORK			ROUND ELBOW UP SUPPLY/RETURN/EXH.
	FIRE DAMPER			ROUND ELBOW DN SUPPLY/RETURN/EXH.
	SMOKE DAMPER			SQUARE DIFFUSERS SUPPLY/RETURN/EXH.
	FIRE/SMOKE DAMPER			ROUND DIFFUSERS FULL / HALF
	BACKDRAFT DAMPER			INDICATED AIR FLOW SUPPLY / RETURN
	MANUAL VOLUME DAMPER			DUCT REDUCER
	MOTORIZED DAMPER			

DUCTWORK SHADING

	SUPPLY AIR		EXISTING
	RETURN AIR		DEMOLITION
	EXHAUST AIR		NEW
	OUTSIDE AIR		

HVAC/HYDRONIC PIPING

	-CWS-	CHILLED WATER SUPPLY		STM	STEAM
	-CWR-	CHILLED WATER RETURN		LPS	LOW PRESSURE STEAM
	-HWS-	HOT WATER SUPPLY		MPS	MEDIUM PRESSURE STEAM
	-HWR-	HOT WATER RETURN		HPS	HIGH PRESSURE STEAM
				CD	CONDENSATE DRAIN
				LPC	LOW PRESSURE CONDENSATE
				MPC	MEDIUM PRESSURE CONDENSATE
				HPC	HIGH PRESSURE CONDENSATE

THIS IS A STANDARDIZED SYMBOLS LEGEND, ALL SYMBOLS SHOWN MAY NOT APPEAR ON OR WITHIN THIS SET OF CONTRACT DOCUMENTS.

MECHANICAL SHEET LIST

M0.0	MECHANICAL COVER SHEET
M0.1	MECHANICAL SCHEDULES
M1.1	LEVEL 1 MECHANICAL DEMO PLANS
M2.1	LEVEL 1 MECHANICAL REMODEL PLANS
M4.0	MECHANICAL DETAILS



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

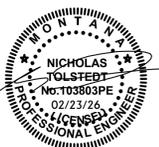
CENTER FOR RESEARCH ON
RURAL EDUCATION SPACE
TRANSFORMATION

CONSTRUCTION DOCUMENTS



DRAWN BY: NT
REVIEWED BY: NT

REV.	DESCRIPTION	DATE



PPA#25-1217

A/E#25032

SHEET TITLE
MECHANICAL
COVER SHEET

SHEET
M0.0

DATE
02.02.23

SPLIT SYSTEM HEAT PUMP SCHEDULE

MANUF.	OUTDOOR UNIT DATA										INDOOR UNIT DATA										REMARKS	
	PLAN CODE	MODEL NUMBER	NOM. CAP (MBH)	AMB. TEMP (F)	SEER 2	ELECTRICAL DATA				PLAN CODE	MODEL NUMBER	TYPE	CFM	ESP	COOLING DATA			ELECTRICAL DATA				
						VOLT	PH	MCA	MOP						TOTAL MBH	SENS. MBH	TOTAL MBH	VOLT	PH	MCA		MOP
DAIKIN	HP-1	RXTQ36TBVJU	36	25	--	208	1	19.8	20	FC-1A	FXZQ07TB	CEILING CASSETTE	441	--	7.2	7.2	8.5	208	1	0.3	15	SEE NOTES
										FC-1B	FXZQ07TB	CEILING CASSETTE	441	--	7.2	7.2	8.5	208	1	0.3	15	SEE NOTES
										FC-1C	FXZQ07TB	CEILING CASSETTE	441	--	7.2	7.2	8.5	208	1	0.3	15	SEE NOTES
DAIKIN	HP-2	RXTQ36TBVJU	36	25	--	208	1	19.8	20	FC-4A	FXAQ12P	WALL HEAD	717	--	12	12	14	208	1	0.5	15	SEE NOTES
										FC-4B	FXAQ12P	WALL HEAD	717	--	12	12	14	208	1	0.5	15	SEE NOTES

- NOTES:
 1. PROVIDE INDOOR UNIT WITH FACTORY DISCONNECT, PRECHARGED LINE KITS, WIRED THERMOSTAT, AND CONDENSATE PUMP. PROVIDE OUTDOOR UNIT WITH CONDENSER COIL HAIL GUARDS, DRAIN PAN HEATER, AIR ADJUSTMENT GRILL.
 2. PROVIDE INDOOR UNIT WITH HANGING BRACKETS AND VIBRATION ISOLATION AS REQUIRED BY THE MANUFACTURER AND SEISMIC REQUIREMENTS. PROVIDE OUTDOOR UNITS WITH WALL BRACKET. SEE MECHANICAL DETAILS FOR ADDITIONAL REQUIREMENTS.
 3. PROVIDE CONNECTION TO EXISTING ZONE THERMOSTATS. UPON CALL FOR ZONE HEATING BY THE EXISTING THERMOSTAT, UNIT COOLING SHALL BE LOCKED OUT.

DUAL DUCT VARIABLE AIR VOLUME UNIT SCHEDULE

PLAN CODE	MANUFACTURER	MODEL NUMBER	INLET AIR SIZE		PRIMARY AIR MINIMUM		DESIGN QUANTITIES		MIN OUTLET P.D. AT DESGIN P5		LINER	SOUND POWER LEVEL RAD NC-dB	SOUND POWER LEVEL DIS NC-dB	REMARKS
			COLD INLET	HOT INLET	COLD	HOT	COLD	HOT	COLD MIN INLET SP	HOT MIN INLET SP				
VAV-1	PRICE	DDS	6"	6"	70	30	200	130	0.5"	0.5"	FIBER FREE	< 35 N.C.	< 35 N.C.	SEE NOTES
VAV-2	PRICE	DDS	6"	6"	190	80	540	315	0.5"	0.5"	FIBER FREE	< 35 N.C.	< 35 N.C.	SEE NOTES
VAV-3	PRICE	DDS	12"	12"	600	260	1720	1120	0.5"	0.5"	FIBER FREE	< 35 N.C.	< 35 N.C.	SEE NOTES
VAV-4	PRICE	DDS	10"	10"	105	45	300	195	0.5"	0.5"	FIBER FREE	< 35 N.C.	< 35 N.C.	SEE NOTES

- NOTES:
 1. SITE ELEVATION IS APPROXIMATELY 5,000 FEET A.S.L. VAV MINIMUM INLET PRESSURE SHALL BE 0.5" W.C. PROVIDE VAV BOX WITH ACCESS DOOR.
 2. ALL VAV BOXES SHALL HAVE 3/8" CLOSE CELL INSULATION WITH EDGES OF INSULATION COMPLETELY ENCAPSULATED IN METAL TO PREVENT EROSION.
 3. VAV BOX SUPPLIER TO PROVIDE FACTORY INSTALLED MULTI-POINT AVERAGING SENSORS. PROVIDE WITH HANGING BRACKETS, AND PROVIDE INLET AND OUTLET DUCT TRANSITIONS AS REQUIRED.

GRILLE - REGISTER - DIFFUSER SCHEDULE

PLAN CODE	MANUFACTURER	MODEL NUMBER	FUNCTION	FACE SIZE	NECK SIZE	MATERIAL	FINISH	CFM	VOLUME DAMPER	REMARKS
CD-8	PRICE	SCD	CEILING SUPPLY	24" X 24"	8"	STEEL	BAKED ENAMEL	SEE PLANS	IN DUCT	STAMPED STEEL SUPPLY DIFFUSER
TG-1	PRICE	535	TRANSFER	24" X 12"	24" X 12"	STEEL	BAKED ENAMEL	SEE PLANS	N/A	LOUVERED STEEL TRANSFER GRILLE

- NOTES:
 1. PROVIDE ALL DUCT TRANSITIONS TO AND FROM GRILLES/REGISTERS/DIFFUSERS (GRD'S) AS REQUIRED.
 2. CONTRACTOR TO VERIFY CEILING TYPE AND PROVIDE CORRECT FRAMES, CONNECTORS, AND FINISH TYPE AND COLOR FOR ALL AIR DIFFUSION PRODUCTS PRIOR TO PROCUREMENT. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ALL TYPE AND LOCATIONS OF CEILINGS.
 3. PROVIDE LOCKING QUADRANT STYLE MANUAL VOLUME DAMPERS INDEPENDENT OF THE TAKEOFF FOR ALL BRANCH LINE CONNECTIONS TO GRD'S. DAMPERS SHALL HAVE A 2" STANDOFF WHERE INSULATED. WHERE LOCATED ABOVE HARD CEILING LOCATIONS (HARD INACCESSIBLE CEILINGS), PROVIDE EXTENDED LINKAGE FROM HAND DAMPER TO REMOTE DAMPER REGULATOR (LOCATED ABOVE ACCESSIBLE CEILINGS).
 4. PROVIDE MANUFACTURE STANDARD COLOR CHART WITH SHOP DRAWINGS. COLOR / FINISH SELECTION BY ARCHITECT
 5. REFER TO THE MECHANICAL DRAWINGS AND DETAILS FOR FURTHER REQUIREMENTS.

FINNED PIPE RADIATION SCHEDULE

PLAN CODE	MANUFACTURER	MODEL NUMBER	SIZE			ENCLOSURE		PERFORMANCE				REMARKS
			DEPTH	HEIGHT	LENGTH	TYPE	MOUNT HEIGHT	MBH	GPM	EWT	LWT	
FT-1	JAGA	MINI FREESTANDING	3.1"	9"	118"	FREESTANDING	4"	6.7	0.75	180	160	SEE NOTES
FT-2	JAGA	MINI FREESTANDING	3.1"	9"	118"	FREESTANDING	4"	6.7	0.75	180	160	SEE NOTES
FT-3	JAGA	MINI FREESTANDING	3.1"	9"	118"	FREESTANDING	4"	6.7	0.75	180	160	SEE NOTES
FT-4	JAGA	MINI FREESTANDING	3.1"	9"	118"	FREESTANDING	4"	6.7	0.75	180	160	SEE NOTES

- NOTES:
 1. FLOOR-MOUNTED, FREE-STANDING FINNED PIPE RADIATION WITH ENCLOSURE.
 2. PROVIDE EACH UNIT WITH 0-24VDC MODULATING, TWO WAY CONTROL VALVE FURNISHED BY CONTROLS CONTRACTOR. SEE MECHANICAL DETAILS FOR ADDITIONAL PIPING REQUIREMENTS.

CABINET UNIT HEATER SCHEDULE

PLAN CODE	MANUFACTURER	MODEL NUMBER	STYLE	LOCATION	PERFORMANCE								ELECTRICAL DATA		
					AIR SIDE				LIQUID SIDE (FRESH WATER)				VOLT	WATT	
					CFM/HIGH SPEED	EAT °F	LAT °F	ROWS	MBH	GPM	EAT °F	LWT °F			P.D.
CUH-1	JAGA	ASTRA BEAM	CEILING CONCEALED	VESTIBULE	207	180	160	--	15.7	1.5	55	130	<5' W.C.	24 VDC	15
CUH-2	JAGA	ASTRA BEAM	CEILING CONCEALED	VESTIBULE	207	180	160	--	15.7	1.5	55	130	<5' W.C.	24 VDC	15

- NOTES:
 1. 24V CEILING MOUNTED CABINET UNIT HEATER. PROVIDE WITH FRAME AND GRILLE IN COLOR PER ARCHITECTURAL.
 2. PROVIDE EACH UNIT WITH 0-24VDC MODULATING, TWO WAY CONTROL VALVE FURNISHED BY CONTROLS CONTRACTOR. SEE MECHANICAL DETAILS FOR ADDITIONAL PIPING REQUIREMENTS.
 3. PROVIDE UNIT WITH 24V POWER SUPPLY. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.

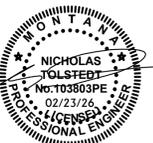


MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

CENTER FOR RESEARCH ON
 RURAL EDUCATION SPACE
 TRANSFORMATION



DRAWN BY: NT		
REVIEWED BY: NT		
REV.	DESCRIPTION	DATE



PPA#25-1217

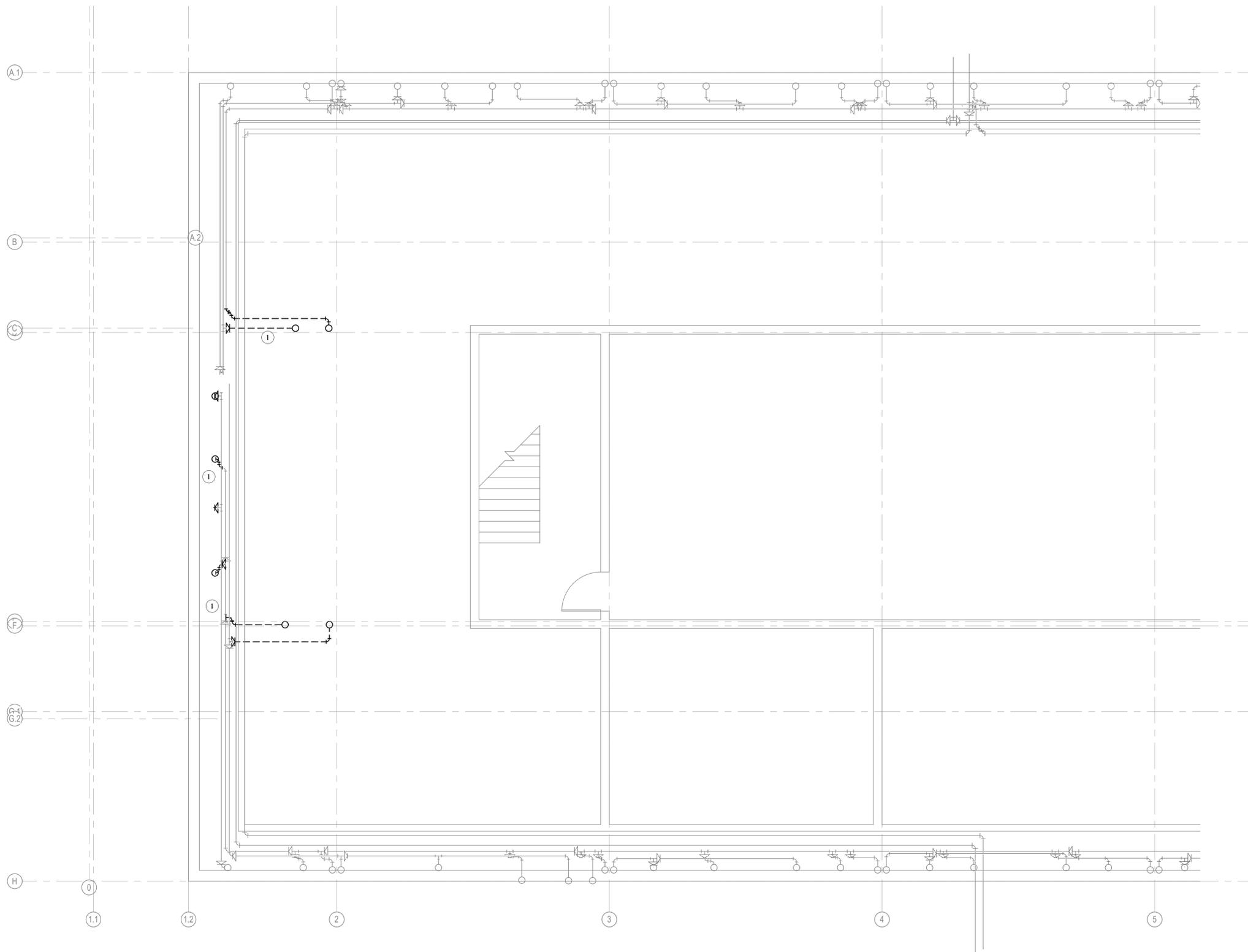
A/E#25032

SHEET TITLE
 MECHANICAL
 SCHEDULES

SHEET
M0.1

DATE
02.02.23

CONSTRUCTION DOCUMENTS



MECHANICAL GENERAL DEMOLITION NOTES	
A	MECHANICAL CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO PERFORM THE WORK DEPICTED IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
B	COORDINATE HVAC AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AS REQUIRED.
C	THE INFORMATION SHOWN ON THIS DRAWING WAS OBTAINED FROM EXISTING DRAWINGS AND FIELD OBSERVATIONS. FIELD VERIFY ALL EXISTING CONDITIONS AND PROVIDE DEMOLITION AS REQUIRED TO ACCOMMODATE EXISTING CONSTRUCTION.
D	NOTIFY THE OWNER OF ANY SYSTEM SHUT-DOWNS AND APPROXIMATE SHUT-DOWN TIME PRIOR TO COMMENCING WITH WORK.
E	CONTRACTOR SHALL REMOVE ALL DEMOLISHED MATERIALS FROM BUILDING, UNLESS SPECIFICALLY NOTED TO BE ABANDONED IN PLACE.
F	DRAWINGS SHOW GENERAL LOCATIONS OF MATERIALS TO BE REMOVED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXTENT OF WORK REQUIRED FOR A COMPLETE SYSTEM REMOVAL.
G	OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT/MATERIAL CALLED OUT TO BE REMOVED. CONTRACTOR SHALL PRESENT ALL DEMO'D EQUIPMENT/MATERIAL TO OWNER PRIOR TO REMOVING FROM SITE.
H	DEMO ALL T-STATS AND CONTROLS ASSOCIATED WITH DEMO'D MECHANICAL EQUIPMENT.

MECHANICAL KEYNOTES	
I	REMOVE EXISTING PIPING IN TUNNEL AREA AS REQUIRED TO ACCOMMODATE NEW PIPING CONNECTIONS. PIPING INSULATION IN TUNNEL IS A KNOWN ASBESTOS CONTAINING MATERIAL. COORDINATE EXTENTS OF ABATEMENT AS REQUIRED.

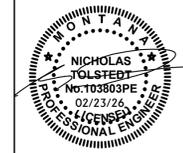


MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

CONSTRUCTION DOCUMENTS
 CENTER FOR RESEARCH ON
 RURAL EDUCATION SPACE
 TRANSFORMATION



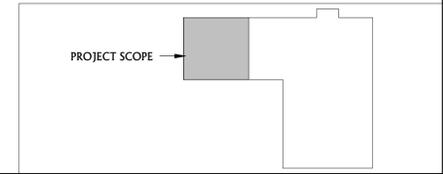
DRAWN BY: NT		
REVIEWED BY: NT		
REV.	DESCRIPTION	DATE

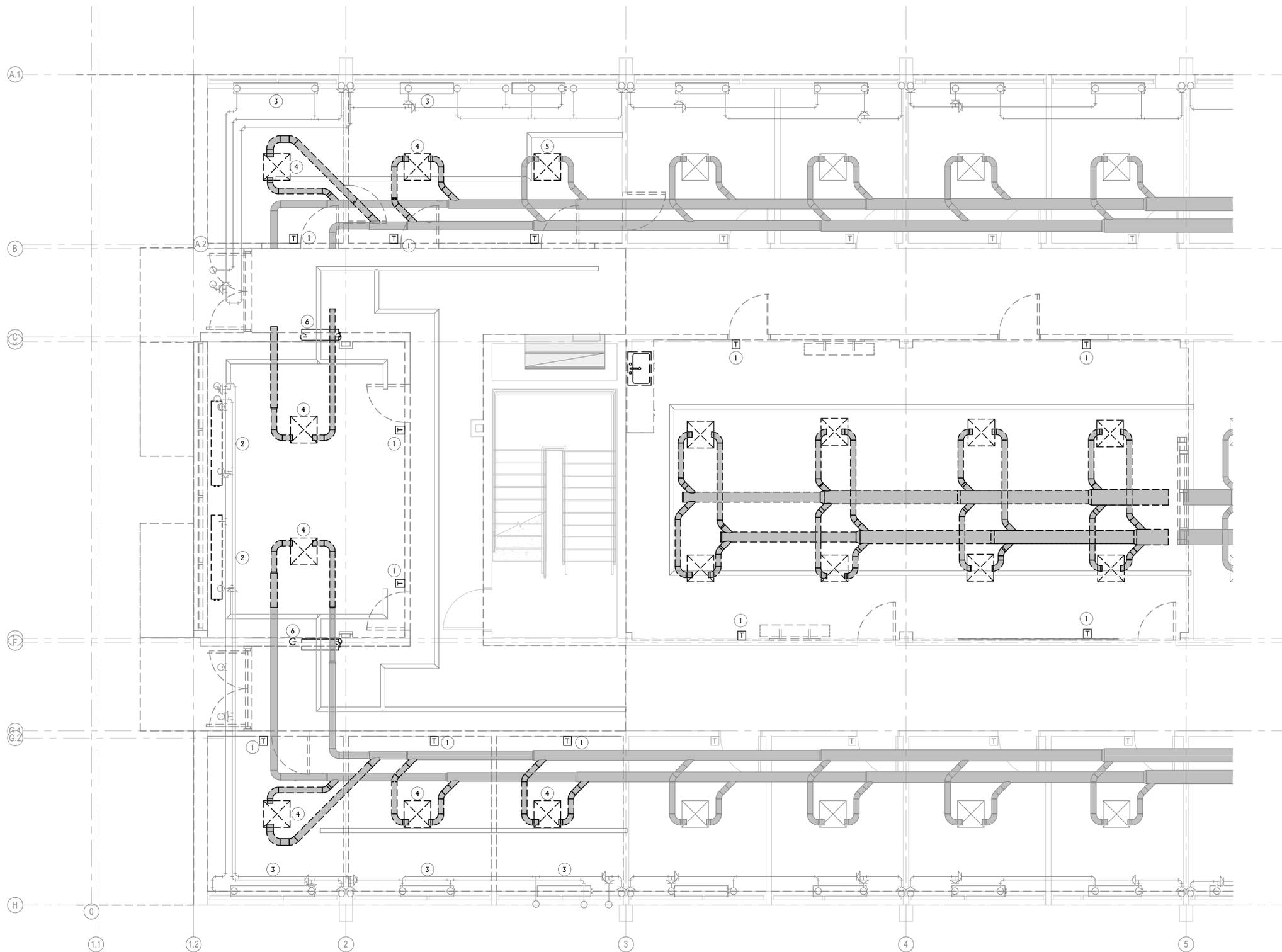


PPA#25-1217
 A/E#25032
 SHEET TITLE
 BASEMENT
 MECHANICAL
 DEMO PLANS
 SHEET
M1.0
 DATE
02.02.23



BASEMENT MECHANICAL DEMOLITION PLAN
 1/4" = 1'-0"





MECHANICAL GENERAL DEMOLITION NOTES

A	MECHANICAL CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO PERFORM THE WORK DEPICTED IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
B	COORDINATE HVAC AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AS REQUIRED.
C	THE INFORMATION SHOWN ON THIS DRAWING WAS OBTAINED FROM EXISTING DRAWINGS AND FIELD OBSERVATIONS. FIELD VERIFY ALL EXISTING CONDITIONS AND PROVIDE DEMOLITION AS REQUIRED TO ACCOMMODATE EXISTING CONSTRUCTION.
D	NOTIFY THE OWNER OF ANY SYSTEM SHUT-DOWNS AND APPROXIMATE SHUT-DOWN TIME PRIOR TO COMMENCING WITH WORK.
E	CONTRACTOR SHALL REMOVE ALL DEMOLISHED MATERIALS FROM BUILDING, UNLESS SPECIFICALLY NOTED TO BE ABANDONED IN PLACE.
F	DRAWINGS SHOW GENERAL LOCATIONS OF MATERIALS TO BE REMOVED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXTENT OF WORK REQUIRED FOR A COMPLETE SYSTEM REMOVAL.
G	OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT/MATERIAL CALLED OUT TO BE REMOVED. CONTRACTOR SHALL PRESENT ALL DEMO'D EQUIPMENT/MATERIAL TO OWNER PRIOR TO REMOVING FROM SITE.
H	DEMO ALL T-STATS AND CONTROLS ASSOCIATED WITH DEMO'D MECHANICAL EQUIPMENT.

MECHANICAL KEYNOTES

1	REMOVE EXISTING PNEUMATIC THERMOSTAT AT APPROXIMATE LOCATION. REMOVE AND CAP ASSOCIATED PNEUMATIC PIPING AS REQUIRED.
2	REMOVE EXISTING HOT WATER CONVECTOR AT APPROXIMATE LOCATION. REMOVE ASSOCIATED CONTROLS AND PIPING DOWN TO TUNNEL. PREPARE FOR CONNECTION TO NEW HEATING WATER PIPING.
3	EXISTING HOT WATER CONVECTOR AT APPROXIMATE LOCATION TO REMAIN. REMOVE EXISTING CONTROL VALVE AND PREPARE FOR NEW.
4	REMOVE EXISTING PNEUMATIC MIX BOX AT APPROXIMATE LOCATION. REMOVE ASSOCIATED CONTROLS AND DUCTWORK AS INDICATED.
5	CAREFULLY REMOVE EXISTING MIX BOX AT APPROXIMATE LOCATION AND SALVAGE FOR RELOCATION IN NEW CEILING.
6	REMOVE EXISTING HOT WATER CABINET UNIT HEATER AT APPROXIMATE LOCATION. REMOVE ASSOCIATED CONTROLS AND PIPING DOWN TO TUNNEL. PREPARE FOR CONNECTION TO NEW HEATING WATER PIPING.



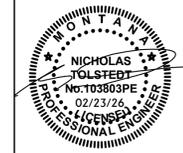
MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

CONSTRUCTION DOCUMENTS

**CENTER FOR RESEARCH ON
 RURAL EDUCATION SPACE
 TRANSFORMATION**



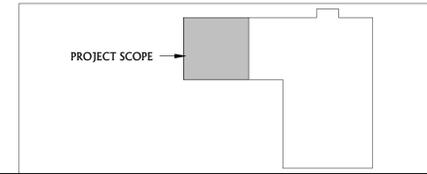
DRAWN BY:	NT	
REVIEWED BY:	NT	
REV.	DESCRIPTION	DATE

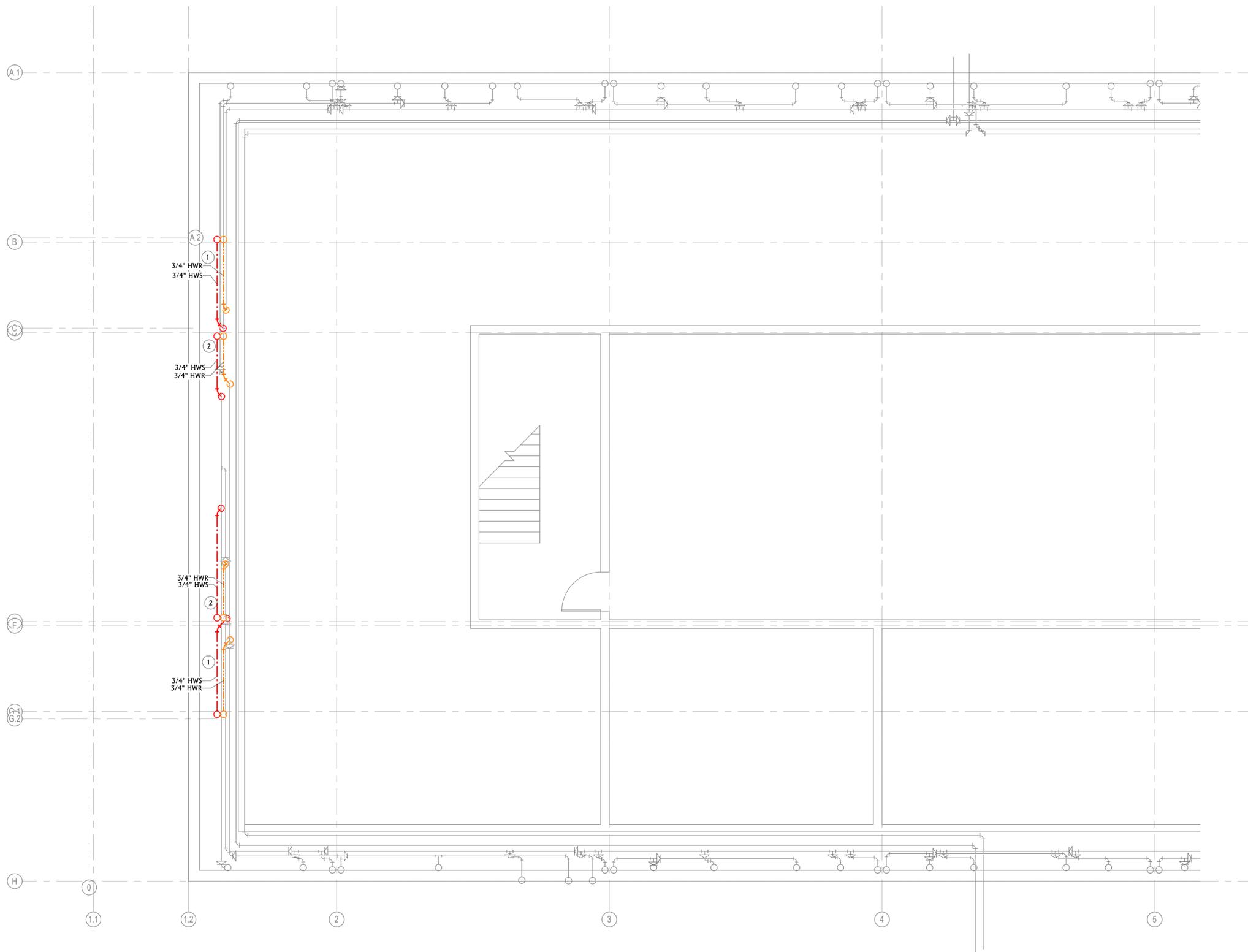


PPA#25-1217
A/E#25032
SHEET TITLE
LEVEL 1
MECHANICAL
DEMO PLANS
SHEET
M1.1
DATE
02.02.23



FIRST FLOOR MECHANICAL DEMOLITION PLAN
 1/4" = 1'-0"





MECHANICAL GENERAL NOTES	
A	MECHANICAL CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILING, AND ROOF AS REQUIRED TO PERFORM THE WORK DEPICTED IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILING, AND ROOF AS REQUIRED TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
B	COORDINATE EXACT LOCATION OF DIFFUSERS AND GRILLES WITH REFLECTED CEILING PLAN AND LIGHTING LAYOUT.
C	FLEX DUCT RUN OUTS SHALL BE LIMITED TO 5'-0".
D	COORDINATE HVAC AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AS REQUIRED.
E	ALL CEILING DIFFUSERS TO BE 4-WAY UNLESS OTHERWISE NOTED.
F	DUCT PENETRATIONS THROUGH ROOF TO BE COORDINATED WITH JOIST LAYOUT.
G	ALL DUCTS ABOVE CORRIDOR AREAS TO BE MINIMUM 24 GAUGE SHEET METAL.
H	PROVIDE FLUSH CUP CONCEALED OPERATORS ON ALL HAND DAMPERS LOCATED ABOVE HARD CEILING.
I	LINE ALL SUPPLY AND RETURN DUCTS WITH 1" A.L. WITHIN 15' OF FANS.
J	ALL DUCT DIMENSIONS SHOWN ON PLANS ARE CLEAR INTERIOR DIMENSIONS.
K	PROVIDE ACCESS PANELS FOR EACH FIRE DAMPER PER IMC STANDARDS/REQUIREMENTS.
L	SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES WITH UL-APPROVED FIRE RATED SYSTEM.
M	ALL EXPOSED SHEET METAL DUCTWORK TO HAVE PAINTLOCK FINISH. PAINTING BY G.C.
N	ALL NON-DUCTED RETURN GRILLES TO HAVE RETURN BOOT. SEE DETAILS.
O	PROVIDE 5' OF STRAIGHT DUCT ON THE MEDIUM VELOCITY SIDE OF EVERY VAV BOX. MAINTAIN ADEQUATE VAV CLEARANCES IN CEILING SPACE FOR SERVICE. COORDINATE DUCT AND PIPING INSTALLATION TO ACCOMMODATE THIS. PROVIDE ACCESS PANELS FOR HARD LID CEILING WHERE NEEDED TO ACCESS VAV BOXES.
P	MAINTAIN CODE REQUIRED CLEARANCES FROM ELECTRICAL PANELS.
Q	HVAC SYSTEM IS USING A RETURN AIR PLENUM SYSTEM. ALL MATERIALS INSTALLED ABOVE CEILING SHALL BE PLENUM RATED. FLAME AND SMOKE SPREAD RATING SHALL BE 25/50 FOR ALL MATERIALS IN THE RETURN AIR PLENUM.
R	CONTRACTOR SHALL COORDINATE PIPE ROUTING WITH THE DUCT, STRUCTURAL, PLUMBING AND FIRE PROTECTION SYSTEMS PRIOR TO INSTALLING. DUCTWORK SHALL HAVE THE ROUTING PRIORITY. PROVIDE OFFSETS IN PIPING AS REQUIRED.
S	CONTRACTOR SHALL APPLY AN IDENTIFICATION LABEL ON THE ACOUSTICAL TILE CEILING GRID IDENTIFYING THE OVERHEAD LOCATION OF MECHANICAL EQUIPMENT REQUIRING SERVICING.
T	ALL BRANCH RUNOUTS TO INDIVIDUAL SUPPLY AND EXHAUST GRILLES/REGISTER/DIFFUSERS SHALL HAVE MANUAL VOLUME DAMPERS WITH LOCKING QUADRANTS HANDLES INSTALLED. DAMPERS ON INSULATED DUCT SHALL HAVE 2" STAND-OFF BRACKET.
U	PROVIDE A 45° TRANSITION OR HIGH EFFICIENCY TAKEOFF ON ALL BRANCH TAKEOFFS FROM THE DUCT MAIN OR BRANCH MAIN.
V	INSTALL TURNING VANES IN SUPPLY, RETURN, AND EXHAUST DUCT TRANSITION FITTINGS WITH TRANSITIONS GREATER THAN 30°. TRANSFER AIR DUCT DOES NOT REQUIRE TURNING VANES.
W	CONTRACTOR SHALL REFER TO MECHANICAL DETAILS FOR ADDITIONAL WORK REQUIREMENTS.

MECHANICAL KEYNOTES	
1	CONNECT NEW PIPING TO EXISTING AS REQUIRED. FIELD VERIFY AND COORDINATE EXACT POINTS OF CONNECTION. EXTEND NEW PIPING UP IN WALL TO LEVEL ABOVE.
2	CONNECT NEW PIPING TO EXISTING AS REQUIRED. FIELD VERIFY AND COORDINATE EXACT POINTS OF CONNECTION. EXTEND NEW PIPING UP TO FREE-STANDING UNIT ABOVE.

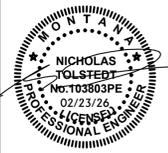


MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

CONSTRUCTION DOCUMENTS
 CENTER FOR RESEARCH ON
 RURAL EDUCATION SPACE
 TRANSFORMATION

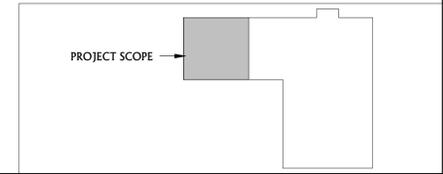


DRAWN BY:	NT	
REVIEWED BY:	NT	
REV.	DESCRIPTION	DATE

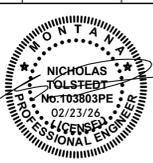


PPA#25-1217
A/E#25032
SHEET TITLE
BASEMENT
MECHANICAL
REMODEL PLANS
SHEET
M2.0
DATE
02.02.23

1
 M2.0
 1/4" = 1'-0"
BASEMENT MECHANICAL REMODEL PLAN



REV.	DESCRIPTION	DATE

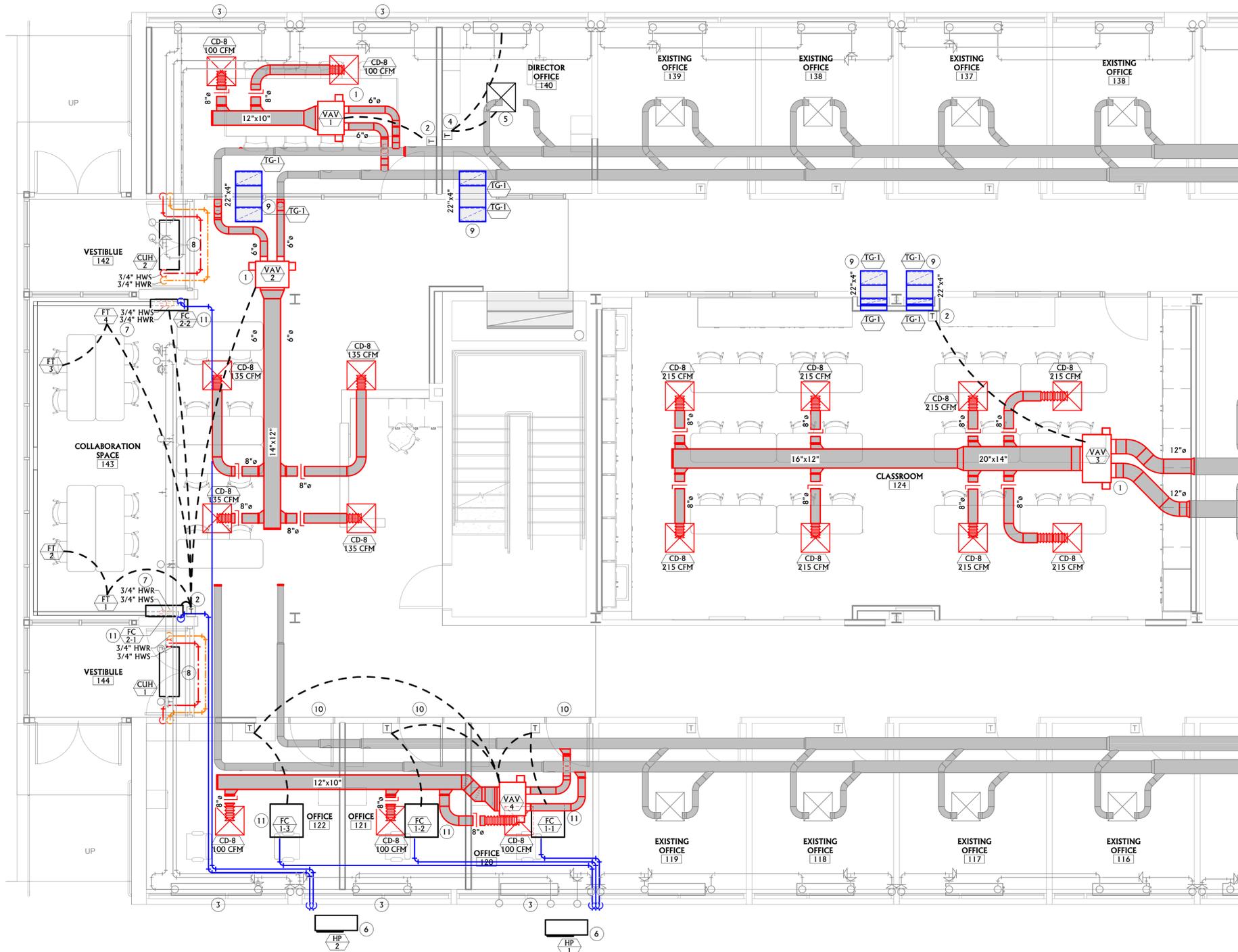


MECHANICAL GENERAL NOTES

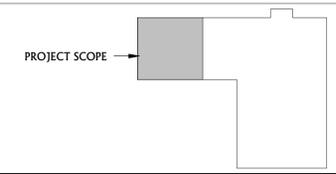
- A MECHANICAL CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO PERFORM THE WORK DEPICTED IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
- B COORDINATE EXACT LOCATION OF DIFFUSERS AND GRILLES WITH REFLECTED CEILING PLAN AND LIGHTING LAYOUT.
- C FLEX DUCT RUN OUTS SHALL BE LIMITED TO 5'-0".
- D COORDINATE HVAC AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AS REQUIRED.
- E ALL CEILING DIFFUSERS TO BE 4-WAY UNLESS OTHERWISE NOTED.
- F DUCT PENETRATIONS THROUGH ROOF TO BE COORDINATED WITH JOIST LAYOUT.
- G ALL DUCTS ABOVE CORRIDOR AREAS TO BE MINIMUM 24 GAUGE SHEET METAL.
- H PROVIDE FLUSH CUP CONCEALED OPERATORS ON ALL HAND DAMPERS LOCATED ABOVE HARD CEILINGS.
- I LINE ALL SUPPLY AND RETURN DUCTS WITH 1" A.L. WITHIN 15' OF FANS.
- J ALL DUCT DIMENSIONS SHOWN ON PLANS ARE CLEAR INTERIOR DIMENSIONS.
- K PROVIDE ACCESS PANELS FOR EACH FIRE DAMPER PER IMC STANDARDS/REQUIREMENTS.
- L SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES WITH UL-APPROVED FIRE RATED SYSTEM.
- M ALL EXPOSED SHEET METAL DUCTWORK TO HAVE PAINTLOCK FINISH. PAINTING BY G.C.
- N ALL NON-DUCTED RETURN GRILLES TO HAVE RETURN BOOT. SEE DETAILS.
- O PROVIDE 5' OF STRAIGHT DUCT ON THE MEDIUM VELOCITY SIDE OF EVERY VAV BOX. MAINTAIN ADEQUATE VAV CLEARANCES IN CEILING SPACE FOR SERVICE. COORDINATE DUCT AND PIPING INSTALLATION TO ACCOMMODATE THIS. PROVIDE ACCESS PANELS FOR HARD LID CEILINGS WHERE NEEDED TO ACCESS VAV BOXES.
- P MAINTAIN CODE REQUIRED CLEARANCES FROM ELECTRICAL PANELS.
- Q HVAC SYSTEM IS USING A RETURN AIR PLENUM SYSTEM. ALL MATERIALS INSTALLED ABOVE CEILINGS SHALL BE PLENUM RATED. FLAME AND SMOKE SPREAD RATING SHALL BE 25/50 FOR ALL MATERIALS IN THE RETURN AIR PLENUM.
- R CONTRACTOR SHALL COORDINATE PIPE ROUTING WITH THE DUCT, STRUCTURAL, PLUMBING AND FIRE PROTECTION SYSTEMS PRIOR TO INSTALLING. DUCTWORK SHALL HAVE THE ROUTING PRIORITY. PROVIDE OFFSETS IN PIPING AS REQUIRED.
- S CONTRACTOR SHALL APPLY AN IDENTIFICATION LABEL ON THE ACOUSTICAL TILE CEILING GRID IDENTIFYING THE OVERHEAD LOCATION OF MECHANICAL EQUIPMENT REQUIRING SERVICING.
- T ALL BRANCH RUNOUTS TO INDIVIDUAL SUPPLY AND EXHAUST GRILLES/REGISTER/DIFFUSERS SHALL HAVE MANUAL VOLUME DAMPERS WITH LOCKING QUADRANTS HANDLES INSTALLED. DAMPERS ON INSULATED DUCT SHALL HAVE 2" STAND-OFF BRACKET.
- U PROVIDE A 45° TRANSITION OR HIGH EFFICIENCY TAKEOFF ON ALL BRANCH TAKEOFFS FROM THE DUCT MAIN OR BRANCH MAIN.
- V INSTALL TURNING VANES IN SUPPLY, RETURN, AND EXHAUST DUCT TRANSITION FITTINGS WITH TRANSITIONS GREATER THAN 30°. TRANSFER AIR DUCT DOES NOT REQUIRE TURNING VANES.
- W CONTRACTOR SHALL REFER TO MECHANICAL DETAILS FOR ADDITIONAL WORK REQUIREMENTS.

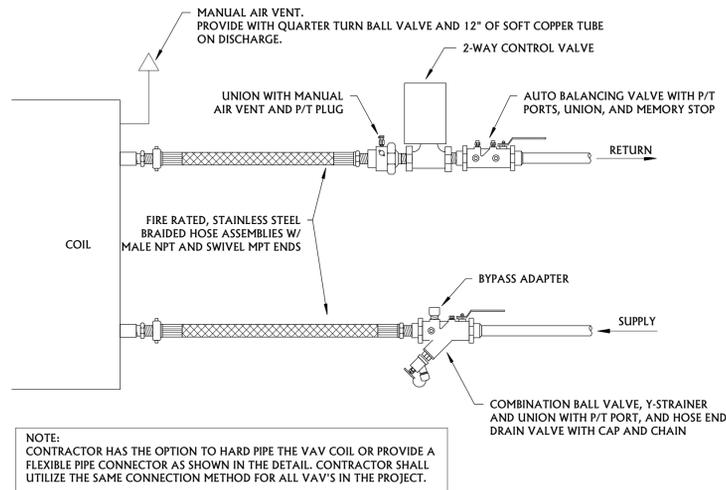
MECHANICAL KEYNOTES

- 1 INSTALL NEW VAV AT LOCATION INDICATED AND CONNECT INTO EXISTING DUCTWORK.
- 2 INSTALL NEW THERMOSTATS AT LOCATION INDICATED.
- 3 PROVIDE NEW CONTROL VALVE AT EXISTING CABINET CONVECTOR AT APPROXIMATE LOCATION. VALVE SHALL FIT WITHIN THE EXISTING UNIT ENCLOSURE.
- 4 INSTALL SALVAGED PNEUMATIC THERMOSTAT AT APPROXIMATE LOCATION AND EXTEND TUBING AS REQUIRED TO EXISTING CONTROL EQUIPMENT INDICATED.
- 5 INSTALL SALVAGED MIX BOX AT APPROXIMATE LOCATION IN NEW CEILING AND CONNECT TO EXISTING PNEUMATIC CONTROL DEVICE INDICATED.
- 6 NEW HEAT PUMP ON WALL BRACKET. EXTEND REFRIGERANT PIPING UP AND INTO BUILDING CEILING SPACE AND OVER TO NEW COOLING UNITS INDICATED.
- 7 ROUTE PIPING UP TO FREE STANDING FINNED TUBE HEATERS AT APPROXIMATE LOCATION AND PIPE IN SERIES.
- 8 LOCATE VALVES FOR UNIT HEATERS IN ACCESSIBLE CORRIDOR CEILING SPACE.
- 9 PROVIDE TRANSFER DUCT AND GRILLES. LINE DUCTWORK WITH 1" ACOUSTICAL LINER. DIMENSIONS SHOWN ARE CLEAR INTERIOR DUCTWORK.
- 10 EXISTING DOOR WITH TRANSFER GRILLE TO BE RELOCATED PER ARCH.
- 11 ROUTE CONDENSATE FROM FAN COIL UNIT TO SINK IN CLASSROOM AND DISCHARGE TO TAILPIECE.

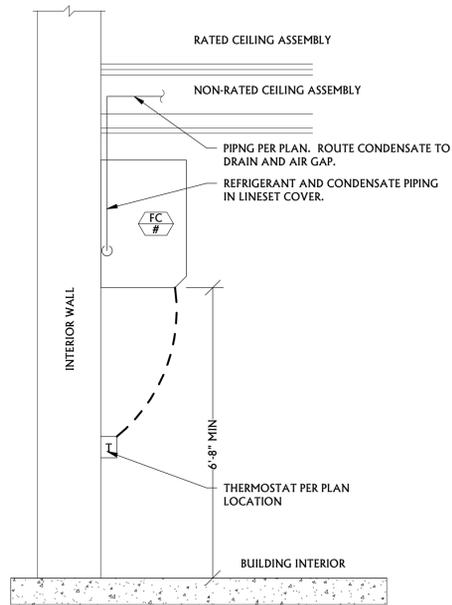


1 FIRST FLOOR MECHANICAL REMODEL PLAN
1/4" = 1'-0"

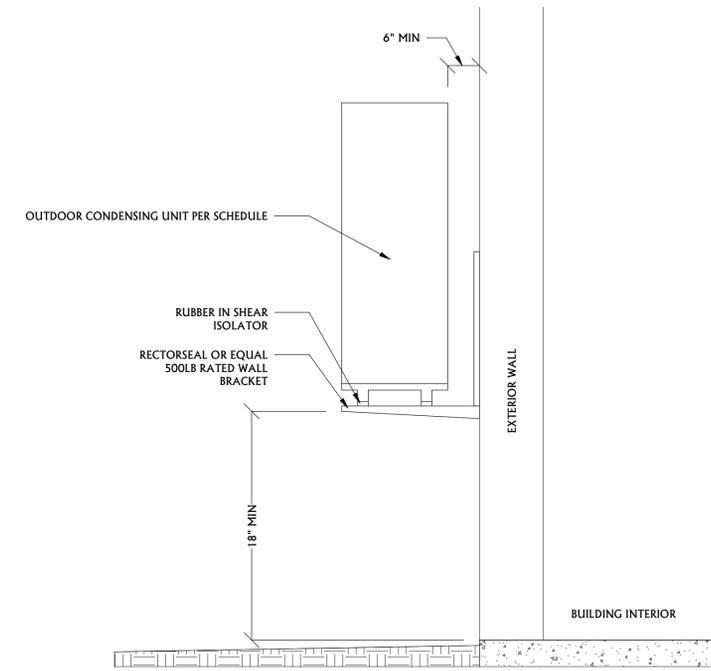




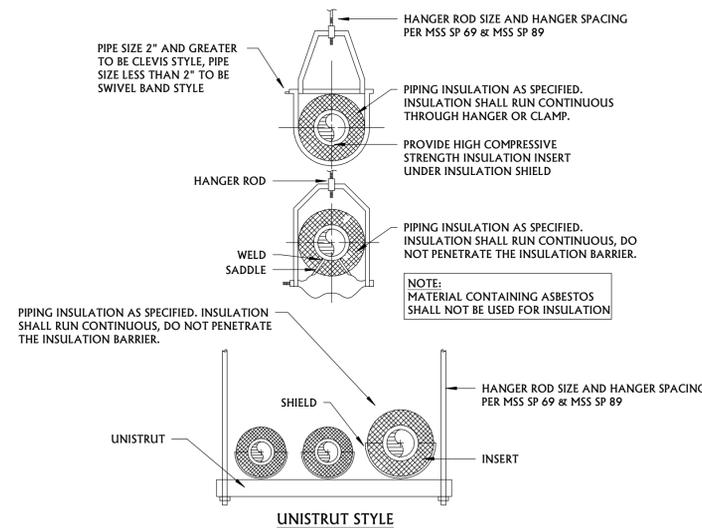
1 2-WAY COIL DETAIL
NOT TO SCALE



2 WALL MOUNTED HEAT PUMP INDOOR UNIT DETAIL
NOT TO SCALE

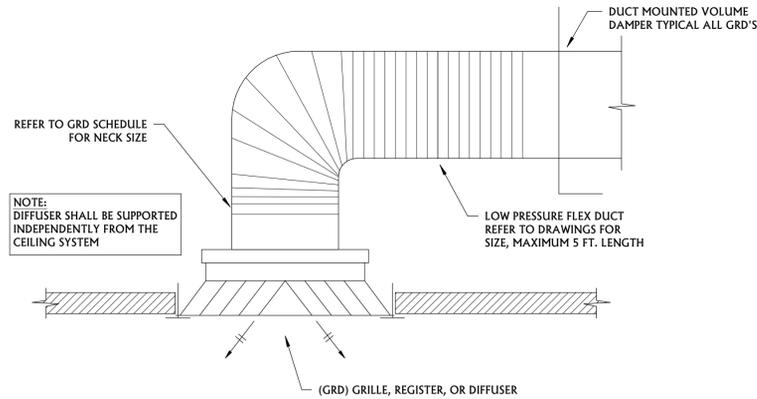


3 WALL MOUNTED HEAT PUMP OUTDOOR UNIT DETAIL
NOT TO SCALE

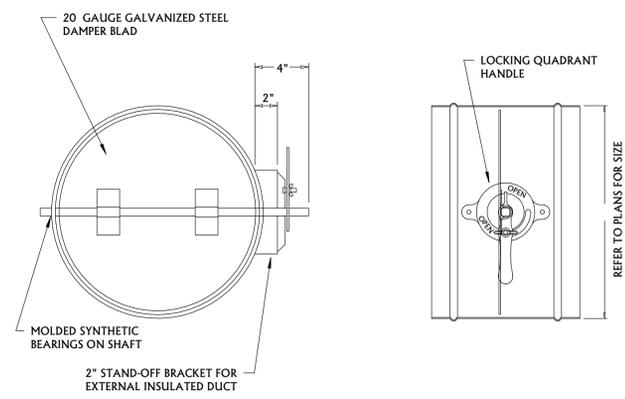


TRAPEZE SUPPORTED PIPING NOTES:
1. FOR TRAPEZE SUPPORTED PIPING; 1-1/2" AND LESS PIPING INSTALL PROTECTION SHIELD AND PIPE CLAMP, INSULATION SHALL BE CONTINUOUS. 2" AND GREATER PIPING INSTALL THERMAL-HANGER SHIELD INSERT AND PIPE CLAMP, INSULATION SHALL BE CONTINUOUS.
2. REFER TO THE PROJECT GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

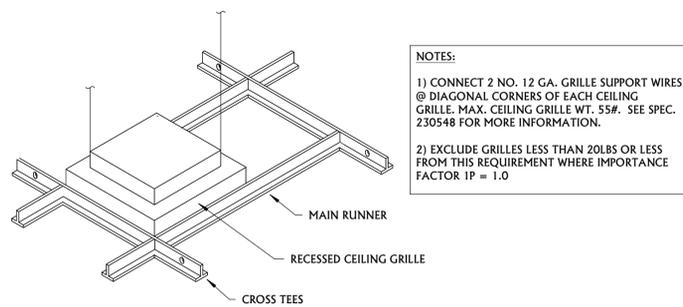
4 PIPE HANGER DETAILS
NOT TO SCALE



5 TYPICAL CEILING DIFFUSER DETAIL
NOT TO SCALE



6 MANUAL DAMPER DETAIL
NOT TO SCALE



7 CEILING GRILLE SUPPORT DETAIL
NOT TO SCALE

REV.	DESCRIPTION	DATE

PIPING MATERIALS SCHEDULE

DOMESTIC WATER PIPING (DOMESTIC COLD WATER, HOT WATER, HOT WATER RECIRCULATION):
FOR ABOVE GROUND DOMESTIC WATER PIPING CONTRACTOR SHALL PROVIDE ANY OF THE FOLLOWING:

- HARD COPPER TUBE, TYPE L; CAST-OR WROUGHT-COPPER, SOLDER-JOINT FITTINGS; AND SOLDERED JOINTS.
- HARD COPPER TUBE, TYPE L; COPPER PRESSURE-SEALED-JOINT FITTINGS, AND PRESSURE SEALED JOINTS.

INDOOR DOMESTIC COLD WATER PIPING 2" AND SMALLER SHALL BE PROVIDED WITH 1" FIBERGLASS INSULATION WITH ASJ VAPOR BARRIER.
INDOOR DOMESTIC HOT WATER PIPING 1 1/2" AND SMALLER SHALL BE PROVIDED WITH 1" FIBERGLASS INSULATION WITH ASJ VAPOR BARRIER.

ALL PIPING INSULATION SHALL HAVE A FLAME SPREAD NOT EXCEEDING 25, A SMOKE DEVELOPMENT RATING NOT EXCEEDING 50, AND CONDUCTIVITY (K) NOT EXCEEDING 0.27 BTU PER INCH/H-SQ FT-°F.

SANITARY WASTE AND VENT PIPING:

CONTRACTOR SHALL PROVIDE ANY OF THE FOLLOWING FOR ABOVE GROUND WASTE PIPING:

- HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS; HEAVY DUTY HUBLESS-PIPING COUPLINGS; AND COUPLED JOINTS.
- SOLID-WALL PVC PIPE, DWV PATTERN PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.

CONTRACTOR SHALL PROVIDE ANY OF THE FOLLOWING FOR ABOVE GROUND VENT PIPING:

- HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS; HEAVY DUTY HUBLESS-PIPING COUPLINGS; AND COUPLED JOINTS.
- SOLID-WALL PVC PIPE, DWV PATTERN PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.

PLUMBING FIXTURE SCHEDULE

PLAN CODE	ITEM	MANUF	MODEL NUMBER	MATERIAL & FINISH	TRIM	ROUGH-IN SIZE				REMARKS
						CW	HW	SAN	VENT	
S-1	DROP-IN SINK	FRANKE	ALBS2706P-1 ADA	STAINLESS STEEL	BASKET STRAINER	--	--	2"	1 1/2"	DROP-IN, ADA, SINGLE BASIN SINK WITH 1.5 GPM MANUAL PULL-DOWN FAUCET. PROVIDE WITH ASSE 1070 MIX VALVE. MOUNT TO CONFORM WITH ALL A.D.A AND A.N.S.I. REQUIREMENTS.
	FAUCET	CHICAGO FAUCET	434-ABCP	CHROME PLATED BRASS	ASSE 1070 MIX VALVE	1/2"	1/2"	--	--	

NOTES:

1. FIXTURE ROUGH-IN SIZES LISTED ABOVE FOR CW, HW, SAN, AND VENT ARE THE BRANCH RUN-OUT LINE SIZES TO THE FIXTURE. THE POINT-OF-CONNECTION AT THE FIXTURE MAY BE SMALLER OR LARGER PENDING ON THE SPECIFIC FIXTURE'S CONNECTION SIZES. CONTRACTOR TO MAKE THE APPROPRIATE CONNECTION SIZE TRANSITION AT THE FIXTURE.
2. PROVIDE ALL FIXTURES WITH THE APPROPRIATE COMMERCIAL CARRIERS, CAST P-TRAPS, GRID STRAINERS, QUARTER-TURN BALL STOPS AND MIXING VALVES FOR A COMPLETE INSTALLATION. REFER TO THE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
3. VERIFY FLOOR FINISH AND FINISH THICKNESS BEFORE SETTING ANY FIXTURES.
4. CONTRACTOR SHALL SET SENSITIVITY AND DURATION OF ELECTRONIC METERED DEVICES AS INSTRUCTED BY THE OWNER.
5. ALL LAVATORIES AND SINKS TO BE PROVIDED WITH THERMOSTATIC MIXING VALVE TO TEMPER HOT WATER TO 110F, MIXING VALVE SHALL CONFORM TO ASSE 1070.
6. PROVIDE FLUSH MOUNTED LOCKABLE ACCESS PANELS AS NEEDED FOR PLUMBING ACCESSORY ACCESS. COORDINATE LOCATION WITH ARCHITECT AND G.C. PRIOR TO ACCESSORY AND DOOR INSTALLATION. REFER TO ARCHITECTURAL SPECIFICATIONS FOR ACCESS DOOR REQUIREMENTS.

PLUMBING SYMBOLS LEGEND

GENERAL PIPING

PIPING PHASE

GENERAL PIPING (Cont.)

MISCELLANEOUS/MECHANICAL PIPING TYPES

-CWS- CHILLED WATER SUPPLY	-LPS- LOW PRESSURE STEAM
-CWR- CHILLED WATER RETURN	-MPS- MEDIUM PRESSURE STEAM
-HWS- HOT WATER SUPPLY	-MA- MEDICAL AIR
-HWR- HOT WATER RETURN	-N2- NITROGEN
-CA- COMPRESSED AIR	-N2O- NITROUS OXIDE
-CD- CONDENSATE DRAIN	-NO2- NITROUS DIOXIDE
-LPC- LOW PRESSURE CONDENSATE	-O2- OXYGEN
-MPC- MEDIUM PRESSURE CONDENSATE	-RL- REFRIGERANT LIQUID
-FOR- FUEL OIL RETURN	-RS- REFRIGERANT SUCTION
-FOS- FUEL OIL SUPPLY	-VAC- VACUUM
-HGB- HOT GAS BYPASS	-WAGD- WASTE ANESTHETIC GAS DISPOSAL
-G- NATURAL GAS	-CO2- CARBON DIOXIDE
-LPG- LIQUID PETROLEUM GAS	-F-WET- FIRE PROTECTION WET
	-F-DRY- FIRE PROTECTION DRY

PIPING FITTINGS, VALVES & SPECIALTIES

<p>EXIST. FIXTURE TO REMAIN</p>	<p>NEW PLUMBING FIXTURE</p>	<p>EXIST. FIXT. TO BE REMOVED</p>
<p>P-1 or P1</p> <p>FIXT. NUMBER - SEE SCHED.</p> <p>BALL VALVE</p> <p>GATE VALVE</p> <p>GLOBE VALVE</p> <p>PLUG VALVE</p> <p>CHECK VALVE</p> <p>SOLENOID GATE VALVE</p> <p>BALANCING VALVE</p> <p>FLOAT VALVE</p> <p>DRAIN</p> <p>WALL HYDRANT OR HOSE BIBB</p> <p>FLEX. CONNECTION</p> <p>SENSOR (TEMP./FLOW)</p> <p>TEMP. GAUGE</p> <p>PRESSURE GAUGE</p>	<p>ANGLE VALVE</p> <p>BUTTERFLY VALVE</p> <p>PRESS. REDUCING</p> <p>2-WAY (ELECTRIC)</p> <p>2-WAY (PNEU. MTR.)</p> <p>2-WAY (SOLENOID)</p> <p>PNEUMATIC MOTOR</p> <p>3-WAY (ELECTRIC)</p> <p>3-WAY (PNEUMATIC)</p> <p>3-WAY (PNEU. MTR.)</p> <p>STRAINER</p> <p>STRAINER W/ BLOW-OFF</p> <p>VENT THRU ROOF</p> <p>PUMP</p> <p>P.O.D.C. - POINT OF DISCONNECTION</p> <p>P.O.C. - POINT OF CONNECTION</p>	

THIS IS A STANDARDIZED SYMBOLS LEGEND, ALL SYMBOLS SHOWN MAY NOT APPEAR ON OR WITHIN THIS SET OF CONTRACT DOCUMENTS.

PLUMBING SHEET LIST

P0.0	PLUMBING COVER SHEET
P2.0	BASEMENT PLUMBING REMODEL PLAN
P2.1	LEVEL 1 PLUMBING REMODEL PLAN



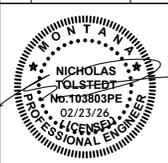
MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

**CENTER FOR RESEARCH ON
RURAL EDUCATION SPACE
TRANSFORMATION**

CONSTRUCTION DOCUMENTS



DRAWN BY: Author		
REVIEWED BY: Checker		
REV.	DESCRIPTION	DATE



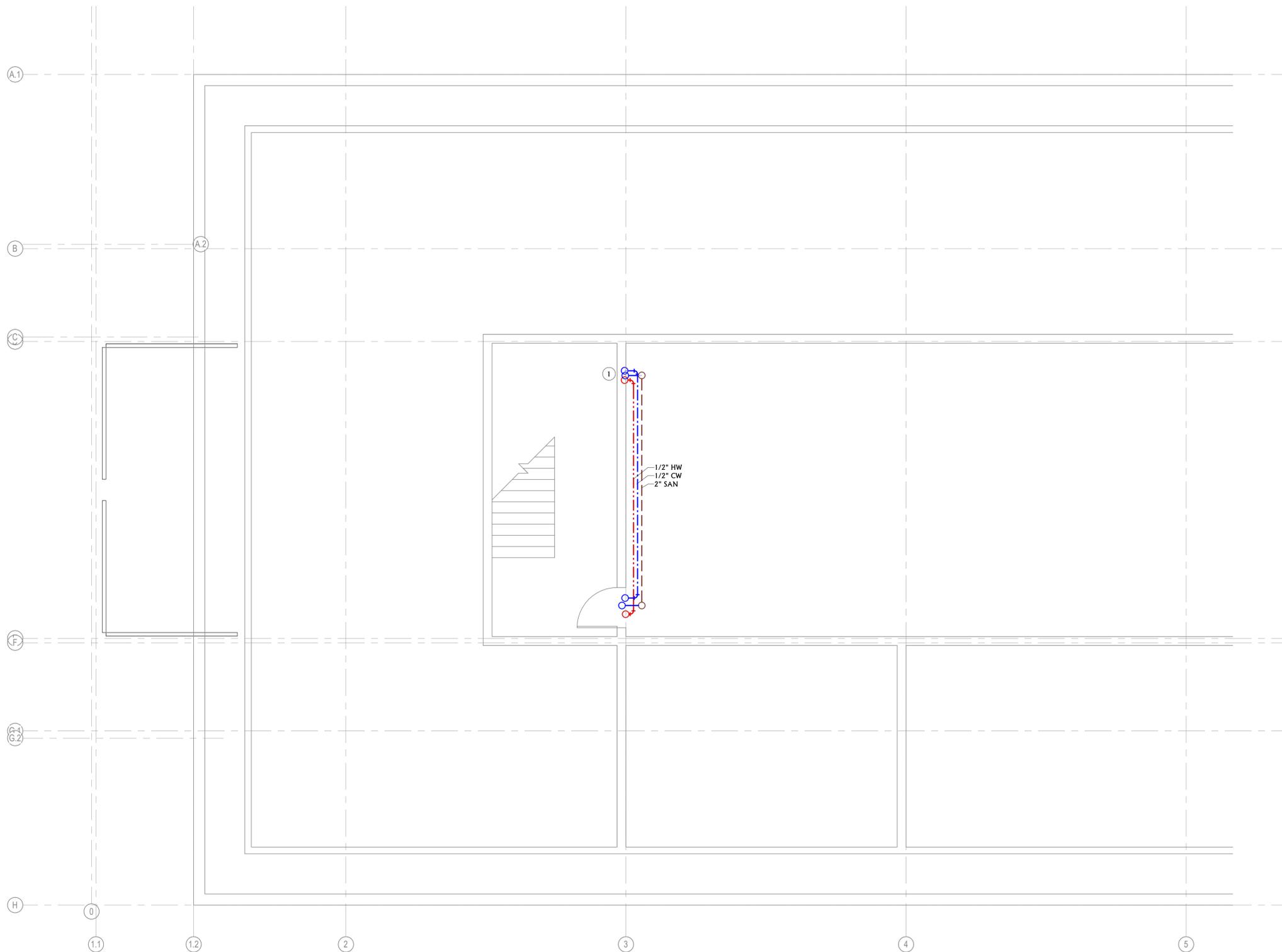
PPA#25-1217

A/E#25032

**SHEET TITLE
PLUMBING
COVER SHEET**

SHEET
P0.0

DATE
02.02.23



PLUMBING GENERAL NOTES	
A	MECHANICAL CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO PERFORM THE WORK DEPICTED IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
B	COORDINATE HVAC AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AS REQUIRED.
C	REFERENCE ARCHITECTURAL PLANS FOR EXACT FIXTURE LOCATIONS.
D	ALL VALVES LESS THAN 2" SHALL BE BALL VALVES UNLESS OTHERWISE NOTED.
E	COORDINATE UNDERSLAB PIPING WITH FOOTINGS AND STEM WALLS.
F	INSULATION ON ALL DOMESTIC COLD WATER PIPING SHALL BE PROVIDED WITH A CONTINUOUS VAPOR BARRIER. OVERSIZE HANGERS FOR INSULATION SO NO PENETRATION OF THE VAPOR BARRIER OCCURS. PROVIDE INSERTS AND SADDLES AS REQUIRED TO PREVENT INSULATION DAMAGE FROM SUPPORTS.
G	NO DOMESTIC WATER PIPING SHALL BE ROUTED IN ANY EXTERIOR WALLS.
H	PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS. PROVIDE WALL ACCESS PANEL FOR TRAP PRIMER ACCESS AS REQUIRED. ACCESS PANELS SHALL BE RATED WHERE REQUIRED.
I	ALL UNDERFLOOR VENT SHALL BE MINIMUM 2".
J	ALL UNDERFLOOR COPPER SHALL BE TYPE "K" SEAMLESS.
K	PROVIDE CLEANOUTS ON ALL LINES SERVING SINKS AND URINALS.

PLUMBING KEYNOTES	
I	CONNECT TO EXISTING WASTE AND WATER PIPING AT APPROXIMATE LOCATION.

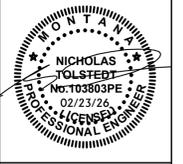


MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

CONSTRUCTION DOCUMENTS
 CENTER FOR RESEARCH ON
 RURAL EDUCATION SPACE
 TRANSFORMATION

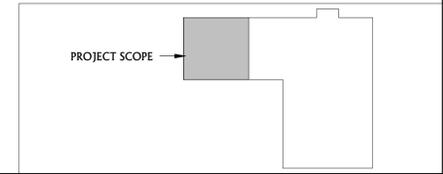


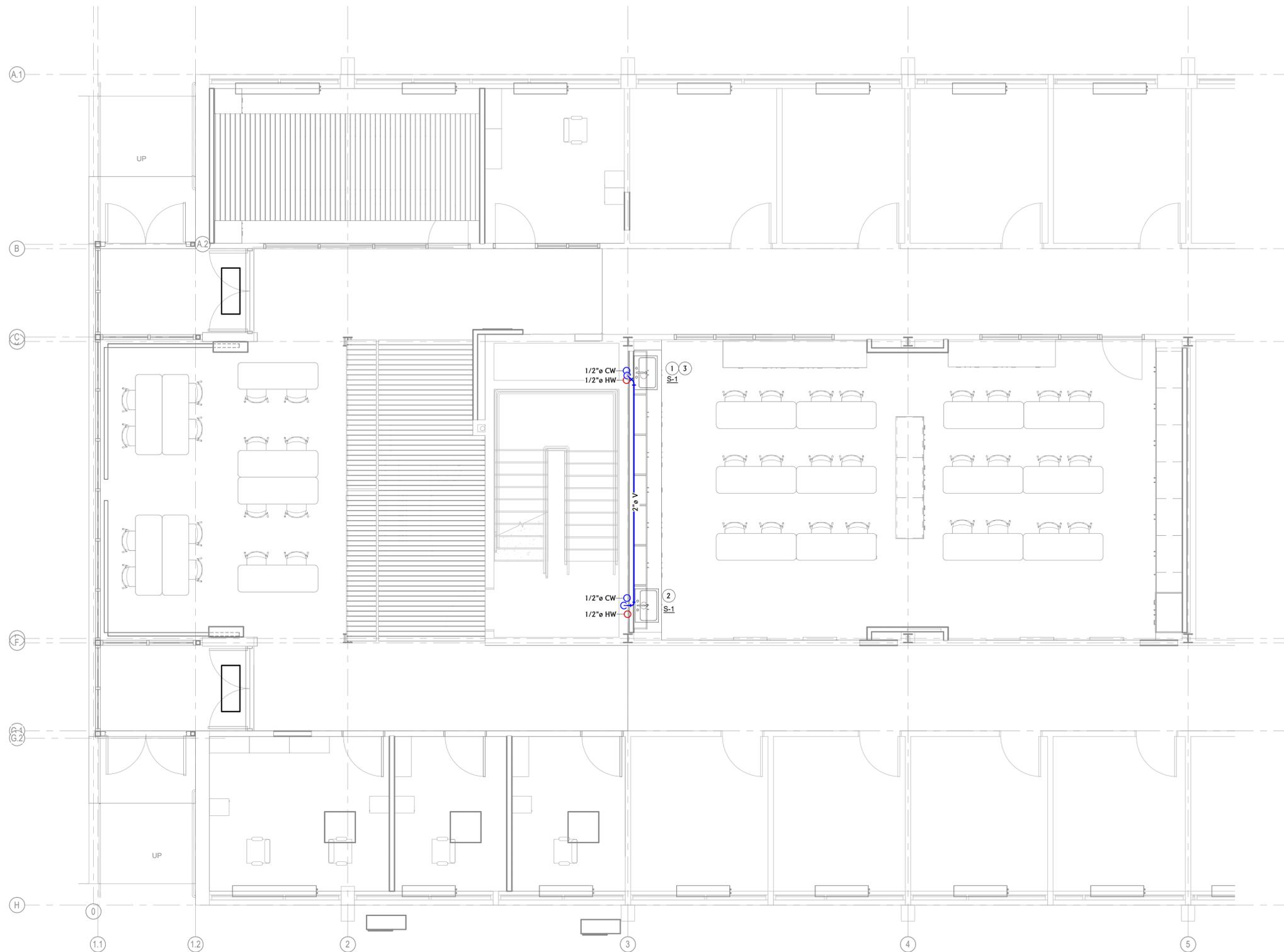
DRAWN BY:	DR	
REVIEWED BY:	NT	
REV.	DESCRIPTION	DATE



PPA#25-1217
 A/E#25032
 SHEET TITLE
 BASEMENT
 PLUMBING
 REMODEL PLAN
 SHEET
P2.0
 DATE
02.02.23

N
 1
 P2.0
 1/4" = 1'-0"
BASEMENT PLUMBING REMODEL PLAN





PLUMBING GENERAL NOTES	
A	MECHANICAL CONTRACTOR SHALL CUT ALL FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO PERFORM THE WORK DEPICTED IN THESE CONTRACT DOCUMENTS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL PATCH ALL ASSOCIATED FLOORS, WALLS, CEILINGS, AND ROOF AS REQUIRED TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
B	COORDINATE HVAC AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AS REQUIRED.
C	REFERENCE ARCHITECTURAL PLANS FOR EXACT FIXTURE LOCATIONS.
D	ALL VALVES LESS THAN 2" SHALL BE BALL VALVES UNLESS OTHERWISE NOTED.
E	COORDINATE UNDERSLAB PIPING WITH FOOTINGS AND STEM WALLS.
F	INSULATION ON ALL DOMESTIC COLD WATER PIPING SHALL BE PROVIDED WITH A CONTINUOUS VAPOR BARRIER. OVERSIZE HANGERS FOR INSULATION SO NO PENETRATION OF THE VAPOR BARRIER OCCURS. PROVIDE INSERTS AND SADDLES AS REQUIRED TO PREVENT INSULATION DAMAGE FROM SUPPORTS.
G	NO DOMESTIC WATER PIPING SHALL BE ROUTED IN ANY EXTERIOR WALLS.
H	PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS. PROVIDE WALL ACCESS PANEL FOR TRAP PRIMER ACCESS AS REQUIRED. ACCESS PANELS SHALL BE RATED WHERE REQUIRED.
I	ALL UNDERFLOOR VENT SHALL BE MINIMUM 2".
J	ALL UNDERFLOOR COPPER SHALL BE TYPE "K" SEAMLESS.
K	PROVIDE CLEANOUTS ON ALL LINES SERVING SINKS AND URINALS.

PLUMBING KEYNOTES	
1	REMOVE AND REPLACE EXISTING SINK AT APPROXIMATE LOCATION. UTILIZE EXISTING ROUGH-IN.
2	NEW SINK AT APPROXIMATE LOCATION. ROUTE WASTE AND WATER PIPING UP THROUGH FLOOR AND CASEWORK.
3	CONNECT NEW VENTING TO EXISTING WASTE VENT PIPE SERVING SINK.

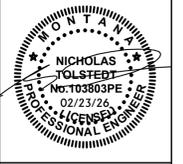


MSU-CPDC
 MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
 FAX: 406.994.5665

CONSTRUCTION DOCUMENTS
 CENTER FOR RESEARCH ON
 RURAL EDUCATION SPACE
 TRANSFORMATION

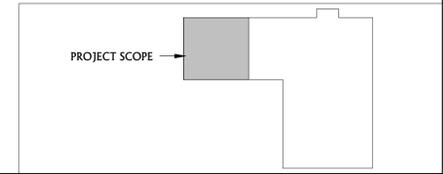


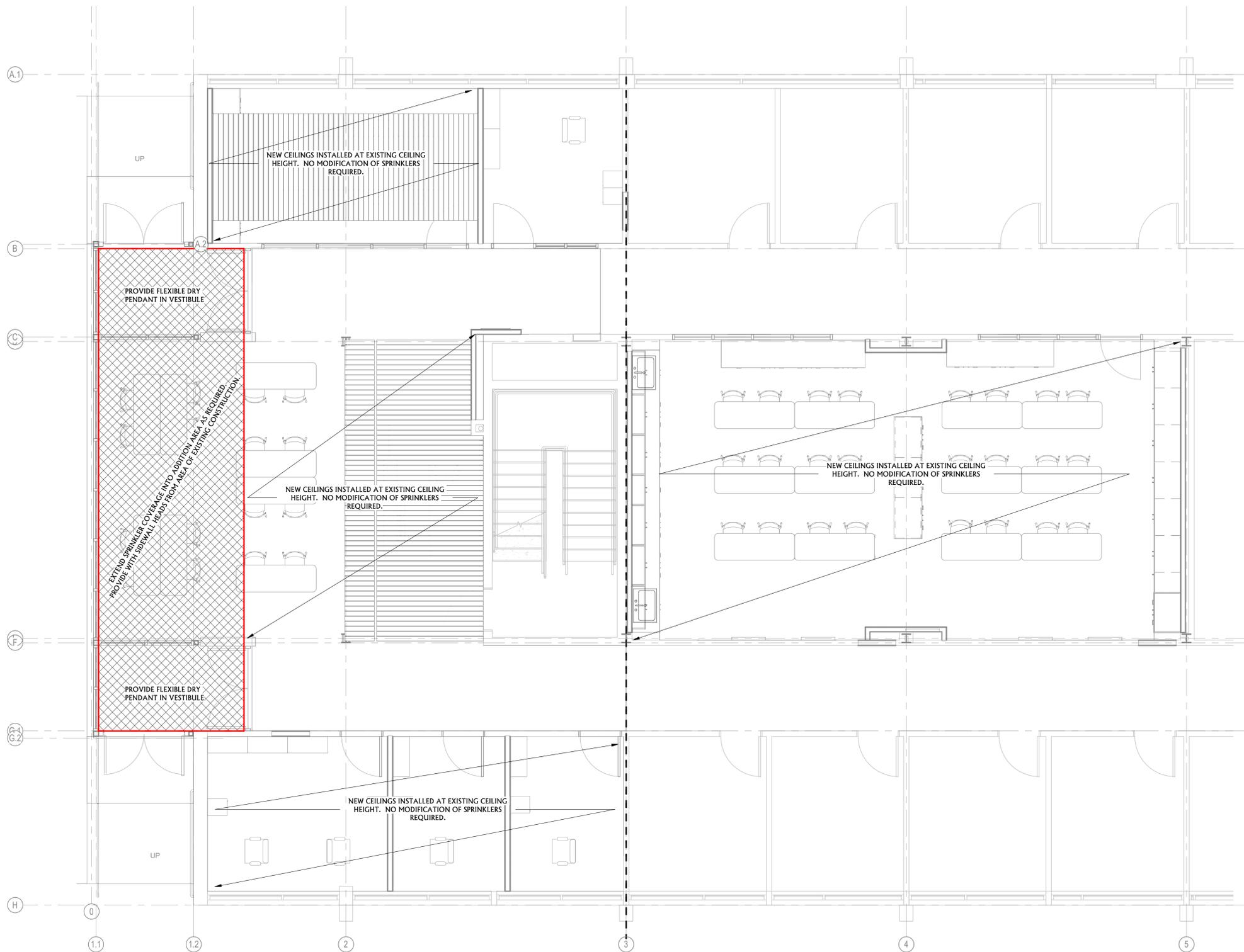
DRAWN BY:	DR	
REVIEWED BY:	NT	
REV.	DESCRIPTION	DATE



PPA#25-1217
 A/E#25032
 SHEET TITLE
 LEVEL 1
 PLUMBING
 REMODEL PLAN
 SHEET
P2.1
 DATE
 02.02.23

1 LEVEL 1 PLUMBING REMODEL PLAN
 P2.1 1/4" = 1'-0"





FIRE SPRINKLER NOTES & LEGEND

FIRE SPRINKLER PERFORMANCE SPECIFICATION NOTES:

- THE INTENT OF THESE DRAWINGS ARE TO PROVIDE PERFORMANCE BASED GUIDELINES FOR FIRE SPRINKLER HEAD PLACEMENT AND PIPE ROUTING IN CRITICAL AREAS. THE FIRE SPRINKLER CONTRACTOR IS RESPONSIBLE DESIGN OF THE NEW FIRE SPRINKLER SYSTEMS, PREPARATION OF FINAL SHOP DRAWINGS BASED ON THE PROCEEDING NOTES, DRAWINGS, AND THE PROJECT SPECIFICATIONS, AND THE COMPLETE INSTALLATION OF THE FIRE SPRINKLER SYSTEM WHICH MEETS ALL OF THE REQUIREMENTS OUTLINED WITHIN THESE DRAWINGS, SPECIFICATIONS, AND CODE(S). THE FIRE SPRINKLER CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS UPON COMPLETION OF WORK WHICH REFLECT ACTUAL INSTALLATION CONDITIONS.
- FIRE SPRINKLER CONTRACTOR SHALL DEVELOP, PRODUCE, AND SUBMIT ENGINEERED FIRE SPRINKLER DESIGN CALCULATIONS AND DRAWINGS (SHOP DRAWINGS) TO THE AUTHORITY HAVING JURISDICTION (AHJ) FOR REVIEW AND APPROVAL. AFTER AHJ HAS REVIEWED AND APPROVED THE CALCULATIONS AND DRAWINGS, FIRE SPRINKLER CONTRACTOR SHALL SUBMIT THE DRAWINGS AND CALCULATIONS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY FIRE SPRINKLER INSTALLATION.
- REFER TO ARCHITECTURAL PLANS AND FIRE SPRINKLER PLANS FOR COMPLETE SECTIONS, ELEVATIONS, AND FLOOR PLAN DETAILS/NOTES. COORDINATE WITH FULL DRAWING PACKAGE FOR SCOPE OF WORK REQUIRED BY THIS CONTRACT.
- UPON THE CONTRACTORS REQUEST, ELECTRONIC DRAWING FILES OF THE PROJECTS FLOOR PLANS / REFLECTIVE CEILING PLANS CAN BE PROVIDED FOR CONVENIENCE AND USE IN THE PREPARATION OF SHOP DRAWINGS RELATED TO THE PROJECT SUBJECT TO AGREED UPON TERMS AND CONDITIONS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT AN ACCEPTANCE LETTER OF THE TERMS AND CONDITIONS PRIOR TO RELEASE OF THE ELECTRONIC DRAWINGS. COORDINATE WITH THE PROJECT ENGINEER FOR ADDITIONAL REQUIREMENTS.
- THE PREPARATION OF ALL SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE ACCOMPLISHED BY A REGISTERED ENGINEER, LICENSED IN THE STATE OF MONTANA, IF REQUIRED BY LOCAL AUTHORITIES. AT A MINIMUM, WORK MUST BE DONE BY A NICET LEVEL 3 TECHNICIAN.

FIRE SPRINKLER PROJECT NOTES:

- FIRE SPRINKLER SYSTEM SHALL COMPLY WITH THE INSURANCE SERVICES OFFICE REQUIREMENTS, NFPA 13, ALL OTHER APPLICABLE STATE AND LOCAL CODES. REFER TO ALL NEW ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING PLANS AND SPECIFICATIONS FOR COMPLETE SECTIONS, ROOM NAMES, DETAILS, AND BUILDING PLANS.
- FIRE SPRINKLER SYSTEM SHALL BE DESIGNED TO PROVIDE A HYDRAULIC DENSITY AS REQUIRED BY CODE.
- 1" THRU 2" PIPES SHALL BE SCHEDULE 40 WITH SCREWED FITTINGS. 2-1/2" THRU 4" PIPES SHALL BE SCHEDULE 10 WITH GROOVED FITTINGS. UTILIZE HOT-DIP SCHEDULE 40 GALVANIZED PIPING AND FITTINGS TO SERVE THE DRY TYPE FIRE SPRINKLER SYSTEM(S).
- FIRE SPRINKLER SYSTEM TEST SHALL BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION PRIOR TO ANY PORTION BEING CONCEALED. GIVE 48 HOURS NOTICE PRIOR TO SYSTEM TEST.
- NO INSTALLATION OF ANY PIPING OR EQUIPMENT IS TO BEGIN PRIOR TO APPROVAL OF THE PLANS AND ISSUANCE OF A PERMIT BY THE AUTHORITY HAVING JURISDICTION.
- COORDINATE ROUTING AND LOCATION OF FIRE SPRINKLER SYSTEM WITH ALL OTHER TRADES PRIOR TO SHOP DRAWING PREPARATION. DUCTWORK INSTALLATION SHALL HAVE ROUTING PRIORITY.
- PROVIDE AND INSTALL A STATE APPROVED DOUBLE CHECK BACKFLOW PREVENTER ON THE FIRE SPRINKLER SERVICE LINE AS IDENTIFIED ON DETAIL 1/FP.0.0 ON THIS SHEET.
- PROTECT BUILDING OVERHANGS AND COMBUSTIBLE CONCEALED SPACES AS REQUIRED BY APPLICABLE CODES. REVIEW ALL ARCHITECTURAL SECTIONS AND PROVIDE PROTECTION AS REQUIRED AS PART OF THIS PROJECT. PROVIDE DRY PENDENT OR SIDEWALL HEADS IN AREAS SUBJECT TO FREEZING AS REQUIRED.
- FIRE SPRINKLER HEADS SHALL BE CENTERED IN THE LENGTH AND WIDTH OF 2'X2' AND 2'X4' OR OTHER SIZES OF CEILING TILES. THE USE OF NFPA APPROVED STAINLESS STEEL BRAIDED FLEXIBLE SPRINKLER HOSE ASSEMBLIES WITH CEILING MOUNTING BRACKET IS PERMISSIBLE.
- PROVIDE AND INSTALL A FINISHED, WALL-MOUNTED, STEEL CABINET WITH HINGED COVER, AND WITH SPACE FOR MINIMUM OF SIX (6) SPARE SPRINKLERS PLUS SPRINKLER WRENCH. INCLUDE NUMBER OF SPRINKLERS REQUIRED BY NFPA 13 AND SPRINKLER WRENCH. INCLUDE SEPARATE CABINET WITH SPRINKLERS AND WRENCH FOR EACH TYPE OF SPRINKLER USED ON PROJECT. LOCATE IN WALL-MOUNTED CABINET IN THE FIRST FLOOR MECHANICAL/STORAGE 119 NEAR THE FIRE SPRINKLER RISER ASSEMBLY.
- DO NOT INSTALL FIRE PROTECTION MAIN OR BRANCH LINES THROUGH ELECTRICAL, IT, OR DATA ROOMS. USE SIDEWALL HEADS IN THESE ROOMS.
- FIRE SPRINKLER HEADS SHALL BE FULLY-RECESSED WITH WHITE ESCUTCHEON IN ALL NEW LAY-IN AND HARD LID CEILING CONFIGURATIONS. FIRE SPRINKLER HEADS SHALL BE BRASS, UPRIGHT STYLE HEADS IN ALL AREAS OPEN TO STRUCTURE. REFER TO DETAILS 2/FP.0.0 AND 3/FP.0.0 ON THIS SHEET AND THE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.
- ROUTE FIRE SPRINKLER PIPING AS HIGH AS FEASIBLE IN ALL EXPOSED AREAS. COORDINATE ALL EXPOSED PIPING IN FINISHED AREAS WITH THE ARCHITECT AS REQUIRED. PIPING SHALL BE LEFT CLEAN FOR PAINTING BY OTHERS.
- UPON THE CONTRACTORS REQUEST, ELECTRONIC DRAWING FILES OF THE PROJECTS FLOOR PLANS / REFLECTIVE CEILING PLANS CAN BE PROVIDED FOR CONVENIENCE AND USE IN THE PREPARATION OF SHOP DRAWINGS RELATED TO THE PROJECT SUBJECT TO AGREED UPON TERMS AND CONDITIONS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT AN ACCEPTANCE LETTER OF THE TERMS AND CONDITIONS PRIOR TO RELEASE OF THE ELECTRONIC DRAWINGS. COORDINATE WITH THE PROJECT ENGINEER FOR ADDITIONAL REQUIREMENTS.

FIRE SPRINKLER HAZARD CLASSIFICATIONS:

LIGHT: OFFICES, COMMON SPACES, RESTROOMS, CONFERENCE ROOMS, ETC.

ORDINARY GROUP I: MECHANICAL ROOMS, STORAGE ROOMS, JANITOR'S CLOSETS

FIRE PROTECTION CONTRACTOR SHALL TEST / VERIFY FLOW DATA PRIOR TO START OF FIRE PROTECTION SHOP DRAWINGS.



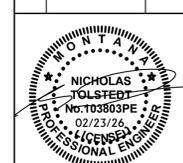
MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

CENTER FOR RESEARCH ON
RURAL EDUCATION SPACE
TRANSFORMATION

CONSTRUCTION DOCUMENTS

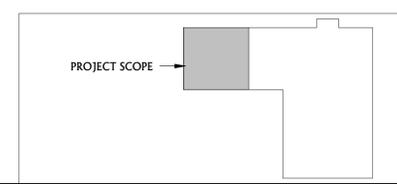


DRAWN BY:	DR	
REVIEWED BY:	NT	
REV.	DESCRIPTION	DATE



PPA#25-1217
A/E#25032
SHEET TITLE
FIRE
SUPPRESSION
PLAN
SHEET
FX1.0
DATE
02.02.23

N
1
FX1.0
1/4" = 1'-0"



FIRE ALARM SYSTEM NOTES

1. THE EXISTING EDWARDS FIRE ALARM SYSTEM SHALL BE MODIFIED AND EXPANDED AS REQUIRED FOR THE RENOVATION.
2. FIRE ALARM SYSTEM AND ASSOCIATED COMPONENTS AND WIRING SHALL BE PROVIDED COMPLETE BY THE CONTRACTOR.
3. THE CONTRACTOR IS RESPONSIBLE FOR SHOP DRAWINGS AS OUTLINED IN THE SPECIFICATIONS.

DEVICE COORDINATION NOTES

1. THE CONTRACTOR SHALL COORDINATE THE LOCATION, HEIGHT AND ALL OTHER INSTALLATION REQUIREMENTS OF ALL DEVICES PRIOR TO ROUGH IN.
2. THE CONTRACTOR SHALL PARTICIPATE IN COORDINATION MEETINGS WITH REPRESENTATIVES FROM THE OWNER AND ARCHITECT ONCE FRAMING IS COMPLETE BUT BEFORE ROUGH IN STARTS IN ALL SPACES.
3. CONTRACTOR SHALL PROVIDE MOCK-UPS OF DEVICES IN STAFF WORK AREAS FOR REVIEW AND COMMENT BY THE OWNER, ARCHITECT AND/OR THEIR REPRESENTATIVES PRIOR TO ROUGH IN. THE CONTRACTOR SHALL MAKE CHANGES TO DEVICE LOCATIONS, HEIGHTS AND OTHER REQUIREMENTS BASED ON THE RESULTING COMMENTS AT NO ADDITIONAL CHARGE TO THE OWNER. THESE SPACES INCLUDE BUT ARE NOT LIMITED TO: OFFICES, CONFERENCE ROOM, RECEPTION, ETC.
4. COORDINATE FINAL DEVICE REQUIREMENTS WITH EQUIPMENT PROVIDERS PRIOR TO ROUGH IN.

LOW VOLTAGE ROUGH IN NOTES

1. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL JUNCTION BOXES AND CONDUITS ASSOCIATED WITH LOW VOLTAGE SYSTEMS INSTALLED IN PROJECT.
2. OWNER SHALL PROVIDE AND INSTALL ALL CABLING TO ALL LOW VOLTAGE SYSTEMS EXCEPT FIRE ALARM.
3. LOW VOLTAGE SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO, VOICE/DATA JACKS, FIRE ALARM, SPEAKERS, CLOCKS, CAMERAS, DOOR ACCESS CONTROL.
4. OWNER SHALL PROVIDE AND INSTALL ALL CAMERAS, CLOCKS, SPEAKERS, OVERHEAD PROJECTORS, WIRELESS ACCESS POINTS, RACKS, AND ACTIVE EQUIPMENT.
5. EC SHALL COORDINATE ALL REQUIREMENTS, BOX SIZES, CONDUIT SIZES, LOCATIONS AND MOUNTING HEIGHTS WITH OWNER AND OWNER SELECTED CONTRACTOR PRIOR TO ROUGH IN.

ADDITIONAL ALLOWANCE NOTES

1. TEMPERATURE CONTROL PANEL: CONTRACTOR SHALL PROVIDE AN ALLOWANCE FOR ALL POWER, DATA, PATHWAYS, WIRING, TERMINATIONS, AND ASSOCIATED LABOR TO SERVE ONE TEMPERATURE CONTROL PANEL NOT SHOWN ON DRAWINGS. FINAL LOCATION OF TEMPERATURE CONTROL PANEL SHALL BE COORDINATED WITH TEMPERATURE CONTROLS CONTRACTOR.
2. TRENCH HEATERS: CONTRACTOR SHALL PROVIDE AN ALLOWANCE FOR ALL POWER, PATHWAYS, WIRING, TERMINATIONS, AND ASSOCIATED LABOR TO SERVE TRENCH HEATERS NOT SHOWN ON DRAWINGS. COORDINATE FINAL REQUIREMENTS AND LOCATION WITH MECHANICAL CONTRACTOR.
3. PANEL CAPACITY: VERIFY CAPACITY OF PANEL H1N1 USING RECENT 30-DAY PEAK DEMAND STUDY. NOTIFY AND PROVIDE ENGINEERS WITH METER DATA AND RESULTS IF STUDY SHOWS INADEQUATE CAPACITY FOR ADDED LOAD.

FIRE ALARM DEVICES

	MANUAL PULL STATION
	AUDIO/VISUAL HORN/STROBE DEVICE
	VISUAL STROBE DEVICE
	AUDIO SPEAKER DEVICE
	CEILING MOUNTED AUDIO/VISUAL HORN/STROBE DEVICE
	CEILING MOUNTED AUDIO SPEAKER DEVICE
	MAGNETIC DOOR HOLDER
	SMOKE DETECTOR
	HEAT DETECTOR
	CARBON MONOXIDE DETECTOR
	DUCT SMOKE DETECTOR
	FIRE SMOKE DAMPER
	FIRE ALARM CONTROL PANEL
	FIRE ALARM REMOTE ANNUNCIATOR
	ADDRESSABLE INTERFACE DEVICE BY EC FOR FIRE/SMOKE DAMPERS
	ELEVATOR SHAFT VENT, CONNECT TO FIRE ALARM SYSTEM
	SPRINKLER CONNECTION, PRESSURE SWITCH
	SPRINKLER CONNECTION, TAMPER SWITCH
	SPRINKLER CONNECTION, FLOW SWITCH
	ADDRESSABLE CONTROL MODULE
	ADDRESSABLE MONITORING MODULE
	SPRINKLER CONNECTION, LOW AIR ALARM

COMMUNICATION DEVICES

	COMBINATION VOICE/ DATA DEVICE JACKS, BOX INDICATES FLOOR MOUNTED
	CEILING MOUNTED COMBINATION VOICE/ DATA DEVICE JACKS
	CEILING MOUNTED SPEAKER
	WALL MOUNTED SPEAKER
	CEILING MOUNTED WIRELESS ACCESS POINT
	WALL CLOCK
	CEILING MOUNTED CLASSROOM CAMERA

SECURITY SYSTEM DEVICES

	CLOSED CIRCUIT CAMERA
	CARD READER
	HANDICAP PUSH BUTTON

MISCELLANEOUS LEGEND

	WITH ABOVE COUNTER		ABOVE FINISHED FLOOR
	ELECTRICAL CONTRACTOR		ABOVE FINISHED GRADE
	EXISTING		WIRE MOLD
	RELOCATED		GENERAL CONTRACTOR
	NEW DEVICE		GROUND
	CONDUIT		UNDER GROUND
	BELOW FINISHED GRADE		BOTTOM OF DEVICE
	UNDER COUNTER		TOP OF DEVICE
	WEATHER PROOF		CENTER OF DEVICE
	MECHANICAL CONTRACTOR		BOTTOM OF FIXTURE
			PLUMBING CONTRACTOR

	REFER TO ELECTRICAL NOTES
	HOMERUN TO ELECTRICAL PANEL
	NUMBER OF HASH MARKS INDICATES NUMBER OF CURRENT CARRYING CONDUCTORS. NO MARKS INDICATES TWO. GROUNDING CONDUCTOR NOT SHOWN BUT SHALL BE INCLUDED IN ALL CONDUITS.
	NORMAL CIRCUIT CONCEALED IN WALL OR EXPOSED
	UNDERGROUND OR BURIED CIRCUIT

WORK BY EC, SHOWN ON OTHERS PLANS

1. THE EC SHALL BE RESPONSIBLE FOR ALL THERMOSTAT ROUGH-IN FOR MECHANICAL SYSTEMS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

ELECTRICAL LEGEND

POWER DEVICES

	SINGLE POLE SWITCH, SUBSCRIPT INDICATES TYPE:
	2-POLE
	3-WAY
	4-WAY
	DIMMER
	KEYED
	LOW VOLTAGE
	MOMENTARY CONTACT
	OCCUPANCY SENSOR
	PILOT LIGHT
	TIMER - 1 HOUR TIMER, MOTOR RATED FOR EXHAUST FANS
	DUPLICATE RECEPTACLE SUBSCRIPT INDICATES TYPE:
	ABOVE COUNTER
	GROUND FAULT CIRCUIT INTERRUPTER
	ISOLATED GROUND
	TAMPER RESISTANT
	USB
	WEATHERPROOF
	WEATHER-RESISTANT
	FILLED CENTER INDICATES GFCI DEVICE
	DOUBLE DUPLICATE RECEPTACLE, SUBSCRIPT ABOVE INDICATE TYPE
	DUPLICATE RECEPTACLE IN FLOOR BOX
	DOUBLE DUPLICATE RECEPTACLE IN FLOOR BOX
	SIMPLEX RECEPTACLE
	DUPLICATE RECEPTACLE, CEILING MOUNTED. DEVICE AND COVER SHALL MATCH CEILING FINISH
	SWITCHED DUPLICATE RECEPTACLE, BOX INDICATES DEVICE LOCATED IN FLOOR BOX
	208V SINGLE PHASE RECEPTACLE, CONFIGURATION NOTED ON PLANS
	208V THREE PHASE RECEPTACLE, CONFIGURATION NOTED ON PLANS
	SIMPLEX RECEPTACLE IN FLOOR BOX
	MUSHROOM HEAD PUSH BUTTON
	PHOTO CELL
	WALL MOUNTED CLOCK HANGER/ POWER RECEPTACLE
	CORNER WALL MOUNTED OCCUPANCY SENSOR
	CEILING MOUNTED OCCUPANCY SENSOR, STYLE 1
	CEILING MOUNTED OCCUPANCY SENSOR, STYLE 2
	CEILING MOUNTED OCCUPANCY SENSOR, STYLE 3
	OCCUPANCY SENSOR POWER PACK, BOX INDICATES WALL MOUNTING
	SPECIAL PURPOSE CONNECTION, BRACKET INDICATES WALL MOUNTING, BOX INDICATES FLOOR MOUNTING
	JUNCTION BOX, BRACKET INDICATES WALL MOUNTING, BOX INDICATES FLOOR MOUNTING
	MOTOR CONNECTION
	RELAY
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION STARTER/DISCONNECT SWITCH
	CONTACTOR
	MANUAL MOTOR STARTER
	AQUASTAT BY PLUMBING CONTRACTOR, WIRED BY EC.
	VARIABLE FREQUENCY DRIVE
	CO2 DETECTOR BY MC, ROUGH-IN BY EC
	THERMOSTAT BY MC, ROUGH-IN BY EC
	PAD MOUNTED UTILITY TRANSFORMER
	ELECTRICAL PANEL - SEE PANEL SCHEDULES FOR MOUNTING CONFIGURATION

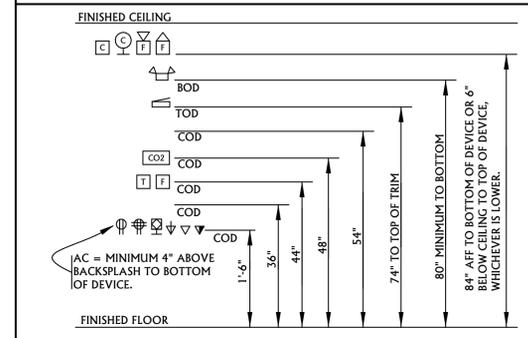
LIGHTING DEVICES

	LAY-IN OR RECESSED LIGHTING FIXTURE
	SURFACE MOUNTED LIGHTING FIXTURE
	DIRECT/ INDIRECT LIGHTING PENDANT MOUNTED FIXTURE.
	SURFACE MOUNTED OR CHAIN HUNG STRIP FIXTURE
	WALL BRACKET LIGHTING FIXTURE
	RECESSED DOWN LIGHT, HALF MOON INDICATES WALL WASH TRIM AND DIRECTION.
	SURFACE MOUNTED CYLINDER FIXTURE
	WALL MOUNTED FIXTURE
	WALL SCONCE FIXTURE
	FILLED CENTER OR SLASH INDICATES FIXTURE IS AN EMERGENCY DEVICE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY POWER.
	EXIT SIGN, BRACKET INDICATES WALL MOUNTING. NUMBER OF FACES AND DIRECTION INDICATED BY FILLED AREAS.
	REMOTE DOUBLE HEAD EGRESS FIXTURE
	SITE GROUND MOUNTED FLOOD FIXTURE
	DOUBLE HEAD WALL MOUNTED BATTERY PACK POWERED EGRESS FIXTURE.
	SQUARE HEAD POLE MOUNTED SITE LIGHT FIXTURE.
	ROUND HEAD POLE MOUNTED SITE LIGHT FIXTURE.

ELECTRICAL ABBREVIATIONS

A	AMP(S)	LTS	LIGHTS
ACCU	AIR CONDITIONING CONDENSING UNIT	LW	LIGHT WHITE
ACU	AIR CONDITIONING UNIT	MC	MECHANICAL CONTRACTOR
ADJ	ADJUSTABLE	MCA	MINIMUM CIRCUIT AMPS
ADMIN	ADMINISTRATION	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISH FLOOR	MDP	MAIN DISTRIBUTION PANEL
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
AL	ALUMINUM	MFA	MINIMUM FEEDER AMPACITY
AMP	AMPERE(S)	MFG	MANUFACTURER
APPL	APPLIANCE	MIN	MINIMUM
APPROX	APPROXIMATE	MLO	MAIN LUGS ONLY
ATS	AUTOMATIC TRANSFER SWITCH	MOC	MOMENTARY CONTACT
BLDG	BUILDING	MOC	MAXIMUM OVERCURRENT
BRK	BREAKER	MOC	PROTECTION
BTU/HR	BRITISH THERMAL UNIT/HOUR	MP	MAIN PANEL MOUNTED
C	CONDUIT	MTD	
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CCT	CIRCUIT	NO	NUMBER
CCTV	CLOSED CIRCUIT TELEVISION	OC	OVERCURRENT PROTECTION
CUH	CABINET UNIT HEATER	OFF	OFF
CFM	CUBIC FEET PER MINUTE	OH	OVERHEAD
COM	COMMUNICATION	P	PHASE
COMM	COMMISSARY	PNL	PANEL
COMP	COMPRESSOR	P & SS	POWER & SPECIAL SYSTEMS
COND	CONDENSER	PROD	PRODUCE
CONTR	CONTRACTOR	P/I	PROVIDE & INSTALL
CU	COPPER	RA	REMOTE ANNUNCIATOR
CTV	CABLE TELEVISION	RAF	RETURN AIR FAN
CW	COOL WHITE	RECP	RECEPTACLE
CWP	COLD WATER PUMP	RECPTS	RECEPTACLES
DIA	DIAMETER	REF	REFRIGERATOR
DISC	DISCONNECT	REFR	REFRIGERANT
DISC	DISCONNECT	REQD	REQUIRED
DWG	DRAWING	RM	ROOM
EC	ELECTRICAL CONTRACTOR	RMS	ROOM(S)
EF	EXHAUST FAN	RS	RESTROOMS
ELEC	ELECTRIC	RS	RAPID START
EMD	ESTIMATED MAXIMUM DEMAND	SDP	SUB DISTRIBUTION PANEL
EMER	EMERGENCY	SER	SERVICE
ENGR	ENGINEER	SF	SUPPLY FAN
ETC	ETCETERA	SHT	SHEET
EWC	ELECTRIC WATER COOLER	SP	SOLID NEUTRAL SWITCH, PILOT
EXT	EXTERIOR	SP	SPECIFICATIONS
FA	FIRE ALARM	SPST	SINGLE THROW SWITCH, SINGLE POLE-
FAC	FACILITY	STD	STANDARD
FACP	FIRE ALARM CONTROL PANEL	STL	STEEL
FIX	FIXTURE	STOR	STORAGE
FLA	FULL LOAD AMPS	SW	SWITCH
FT	FOOT	TBD	TELEPHONE BACK BOARD
GC	GENERAL CONTRACTOR	TV	TELEVISION
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TYP	TYPICAL
GFI	GROUND FAULT INTERRUPTER	UG	UNDERGROUND
HP	HORSEPOWER	UGE	UNDERGROUND ELECTRICAL
HPS	HIGH PRESSURE SODIUM	UGT	UNDERGROUND TELEPHONE
HID	HIGH INTENSITY DISCHARGE	UH	UNIT HEATER
HT	HEIGHT	V	VOLT(S)
HTRS	HEATERS	VA	VOLT AMPERES
HW	HOT WATER	VEST	VESTIBULE
HWH	HOT WATER HEATER	W	WIRE
HWP	HOT WATER PUMP	W	WATT(S)
HZ	HERTZ	W	WITH
INC	INCORPORATED	WM	WATT MISER
J-BOX	JUNCTION BOX	XFMR	TRANSFORMER
KHZ	KILOHERTZ		
KIT	KITCHEN		
KVA	KILOVOLT AMPERE(S)		
KW	KILOWATT(S)		

INTERIOR MOUNTING HEIGHTS



ELECTRICAL SHEET LIST

E0.0	ELECTRICAL COVER SHEET
E1.0	ELECTRICAL DEMOLITION PLAN
E2.0	POWER & SPECIAL SYSTEMS REMODEL PLAN
E3.0	LIGHTING REMODEL PLAN
E4.0	ELECTRICAL DETAILS
E5.0	ELECTRICAL SCHEDULES

This space reserved for
Montana State University use
(cover page only).
Otherwise, use for Key Plan



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

CENTER FOR RESEARCH ON
RURAL EDUCATION SPACE
TRANSFORMATION

100% CONSTRUCTION DOCUMENTS



DRAWN BY: **DB, JB, ST, OM**

REVIEWED BY: **DV**

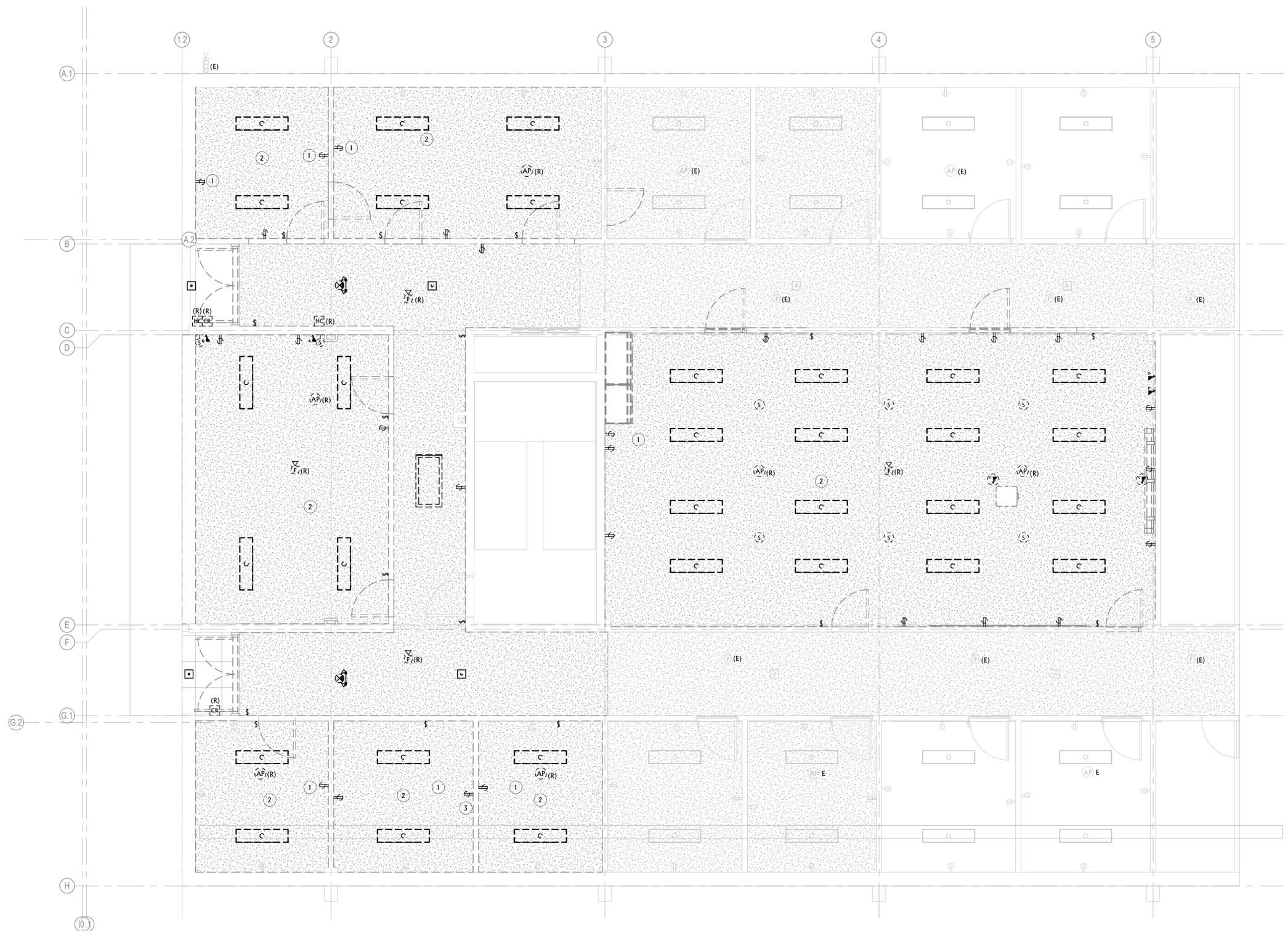
REV. DESCRIPTION DATE

REV.	DESCRIPTION	DATE

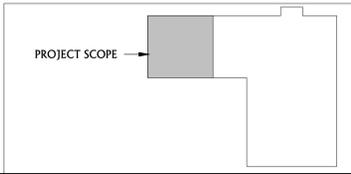


ELECTRICAL GENERAL DEMOLITION NOTES	
A	ALL DASHED ITEMS ON DEMOLITION PLANS ARE TO BE REMOVED UNLESS NOTED OTHERWISE. DEVICES SHOWN ARE BASED ON EXISTING PLANS AND LIMITED VISUAL FIELD OBSERVATIONS AND ARE ONLY INTENDED TO CONVEY SCOPE. DEMO OR MODIFY ALL EXISTING ELECTRICAL INSTALLATIONS ARE REQUIRED TO SUPPORT PROJECT. FIELD VERIFY ALL CONDITIONS PRIOR TO BIDDING.
B	ALL ITEMS DENOTED WITH AN (R) ARE TO BE RELOCATED OR REMOVED AND REINSTALLED. ALL SHADED ITEMS ARE EXISTING TO REMAIN. ALL ITEMS DENOTED WITH AN (E) ARE EXISTING TO REMAIN.
C	EXISTING CONDUITS STUBBED THROUGH THE FLOOR THAT ARE NOT REUSED OR ARE ABANDONED SHALL BE CUT AT THE FLOOR SURFACE, GROUND FLUSH AND FILLED WITH GROUT. FLOOR FINISH SHALL MATCH THAT OF EXISTING.
D	REMOVE ALL CONDUCTORS, CABLING AND RACEWAYS BACK TO SOURCE OR TO NEAREST JUNCTION UNNEFFECTED BY DEMOLITION AND REMODEL WORK, UNLESS OTHERWISE NOTED. NO EXISTING WIRING MAY BE REUSED IN THE NEW ELECTRICAL WORK. PROVIDE NEW CONDUCTORS IN EXISTING RACEWAYS THAT ARE FEASIBLE TO RE-USE. USE EXISTING BACK BOXES WITH NEW DEVICES IN APPROPRIATE AREAS.
E	SOME DEVICES AND SYSTEMS THAT ARE NOT REMOVED MAY BE AFFECTED BY DEMOLITION AND CONSTRUCTION. PROVIDE ALL LABOR AND MATERIALS REQUIRED TO MAINTAIN OR RESTORE CONTINUITY AND FUNCTION OF ALL EXISTING DEVICES AND SYSTEMS THAT ARE NOT REMOVED BUT ARE AFFECTED BY DEMOLITION OR CONSTRUCTION WORK.
F	DISCONNECT AND REMOVE ALL ELECTRICAL FROM MECHANICAL EQUIPMENT SHOWN TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
G	ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH NEC, STATE AND LOCAL BUILDING CODE.
H	ANY WORK THAT REQUIRES POWER DISRUPTIONS SHALL BE SCHEDULED AND APPROVED BY THE OWNER 72 HOURS IN ADVANCE. ALL WORK SHALL BE PERFORMED WITH NO DISRUPTION OF THE OWNER'S BUSINESS.
I	OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL REMOVED EQUIPMENT AND MATERIALS. PRESENT ALL REMOVED EQUIPMENT AND MATERIALS TO OWNER, REMOVE ALL UNCLAIMED MATERIALS FROM PROJECT SITE AND DISPOSE OF IT IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
J	PROVIDE UPDATED, TYPEWRITTEN DIRECTORIES FOR ALL EXISTING PANELS AFFECTED BY DEMOLITION WORK. LABEL ALL CIRCUIT BREAKERS THAT HAVE THEIR ENTIRE LOAD REMOVED AS 'SPARE'.

ELECTRICAL KEYNOTES	
1	RETAIN CONDUIT AND WIRING FROM DEMOED WALL RECEPTACLES FOR REUSE IN REMODEL. TYPICAL OF RECEPTACLES IN SPACE TO BE DEMOED. SEE REMODEL PLANS FOR ADDITIONAL INFORMATION.
2	RETAIN CONDUIT AND WIRING FROM DEMOED LIGHT FIXTURES FOR REUSE IN REMODEL. TYPICAL OF LIGHT FIXTURES IN SPACE TO BE DEMOED. SEE REMODEL PLANS FOR ADDITIONAL INFORMATION.
3	EXISTING DATA LOCATIONS NOT SHOWN. FIELD VERIFY LOCATIONS AND REMOVE BOX AND CONDUIT. RETAIN CABLES, COIL, AND PLACE IN EXISTING CABLE TRAY.



1 ELECTRICAL DEMOLITION PLAN
 E1.0
 1/4" = 1'-0"

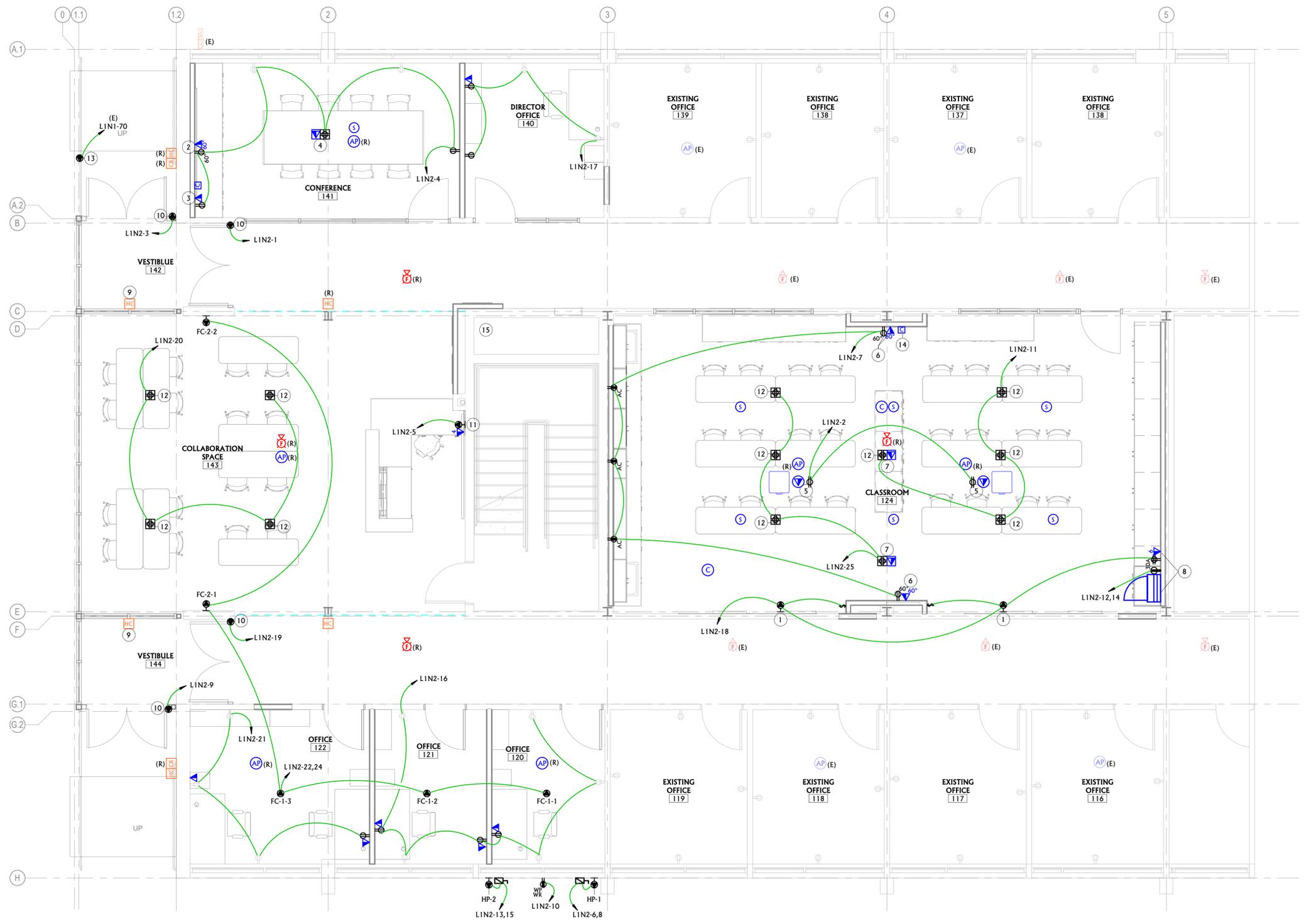


ELECTRICAL POWER GENERAL NOTES

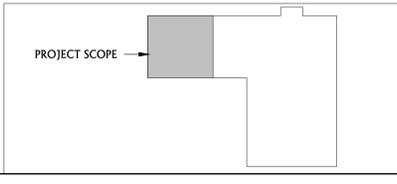
- REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION ON DEVICE LOCATIONS, DIMENSIONS, ETC. CAREFULLY EXAMINE ARCHITECTURAL FLOOR PLANS, CEILING PLANS, ELEVATIONS, ETC. FOR INFORMATION THAT AFFECTS ELECTRICAL WORK. NOTIFY ARCHITECT/ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ELECTRICAL PLANS.
- ALL DARK ITEMS ARE NEW, UNLESS NOTED OTHERWISE. ALL SHADED ITEMS ARE EXISTING TO REMAIN.
- ALL ITEMS DENOTED WITH AN (R) ARE RELOCATED OR REINSTALLED. ALL ITEMS DENOTED WITH AN (E) ARE EXISTING TO REMAIN.
- EC SHALL COORDINATE EXACT FLOOR BOX LOCATION WITH ARCHITECTURAL FURNITURE PACKAGE PRIOR TO SETTING OF ANY BOXES, UNLESS SPECIFICALLY DIMENSIONED IN THE PLAN. SEE ARCHITECTURAL FURNITURE PLAN FOR DETAILS.
- CONNECT ALL DEVICES TO EXISTING CIRCUITS SERVING THE AREA UNLESS NOTED OTHERWISE. VERIFY EXISTING LOAD PRIOR TO CONNECTING ADDITIONAL DEVICES.
- CONNECT ALL FIRE ALARM DEVICES TO EXISTING FIRE ALARM SYSTEM.
- CONNECT ALL SPEAKERS TO EXISTING OVERHEAD PAGING SYSTEM.
- FIRE SEAL ALL PENETRATIONS IN FIRE RATED WALLS. COORDINATE WITH ARCHITECTURAL FOR LOCATIONS.

ELECTRICAL KEYNOTES

- PROVIDE POWER CONNECTION FOR SWITCHED MOTORIZED PROJECTOR SCREEN. COORDINATE WITH ARCHITECT AND ARCHITECTURAL PLANS FOR MORE INFORMATION.
- ARLINGTON TVBU507 TV BOX. SEE 4/E4.0 FOR ADDITIONAL DETAILS.
- OWNER PROVIDED AV EQUIPMENT FOR CONFERENCE ROOM LOCATED IN CABINET HERE. PROVIDE 2" NMC AND BRUSH PLATE FROM DATA LOCATION TO TV BOX. SEE 4/E4.0 FOR ADDITIONAL DETAILS.
- PROVIDE LEGRAND MODEL #RFB4R25 FLOOR BOX. SEE 5/E4.0 FOR ADDITIONAL DETAILS.
- POWER AND DATA LOCATED ON CEILING FOR OWNER PROVIDED AND INSTALLED PROJECTORS.
- ARLINGTON TVBU507 TB BOX. SEE 5/E4.0 FOR ADDITIONAL DETAILS.
- PROVIDE LEGRAND MODEL #RFB4R25 FLOOR BOX OR APPROVED EQUAL FOR POWER AND DATA. SAW CUTTING OF CONCRETE SLAB REQUIRED FOR INSTALLATION OF FLOORBOX AND RACEWAYS. COORDINATE WORK REQUIRED WITH GC. COORDINATE LOCATION OF FLOOR BOX WITH ARCHITECT AND ARCHITECTURAL PLANS. SEE 5/E4.0 FOR ADDITIONAL AV CONNECTION DETAILS.
- OWNER PROVIDED AND INSTALLED AV RACK. PROVIDE POWER AND DATA BOX FOR AV RACK. COORDINATE FINAL HEIGHT OF POWER AND DATA WITH OWNER PRIOR TO ROUGH IN. PROVIDE 4 SQUARE BOX WITH TWO GANG FACEPLATE ONE SIDE FOR DATA AND ONE SIDE WITH BRUSH PLATE FOR AV CABLING. SEE DETAIL 5/E4.0.
- MULLION MOUNT HANDICAP DUAL PUSH BUTTON IN VESTIBULE. PROVIDE 1/2" NMC FROM PUSH BUTTON LOCATION IN MULLION TO ACCESSIBLE CEILING SPACE. COORDINATE CONDUIT INSTALLATION WITH WINDOW CONTRACTOR.
- PROVIDE POWER CONNECTION FOR ADA DOOR OPERATOR. COORDINATE WITH ACCESS CONTROL AND DOOR HARDWARE CONTRACTOR FOR MORE INFORMATION.
- PROVIDE POWER CONNECTION FOR MODULAR FURNITURE. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT PROVIDER. COORDINATE LOCATION OF POWER CONNECTION WITH ARCHITECT AND ARCHITECTURAL PLANS.
- PROVIDE LEGRAND MODEL #RFB4R25 FLOOR BOX OR APPROVED EQUAL FOR POWER AND DATA. SAW CUTTING OF CONCRETE SLAB REQUIRED FOR INSTALLATION OF FLOORBOX AND RACEWAYS. COORDINATE WORK REQUIRED WITH GC. COORDINATE LOCATION OF FLOOR BOX WITH ARCHITECT AND ARCHITECTURAL PLANS.
- PROVIDE POWER CONNECTION FOR RAYCHEM HEAT TAPE. PROVIDE -84" OF H612, 120V HEAT TAPE IN CLUTTER, DOWNSPILT AND DRAIN PIPE. PROVIDE WITH POWER KIT, END SEAL KIT AND HANGERS AS REQUIRED. COORDINATE WITH ARCHITECT AND ARCHITECTURAL PLANS FOR EXACT LOCATION.
- DATA CONNECTION FOR POE CLOCK. COORDINATE MOUNTING LOCATION WITH ARCHITECT AND OWNER.
- USE CHASE AS VERTICAL PATHWAY FOR DATA CABLING. RUN TO BASEMENT TELECOMMUNICATIONS ROOM.

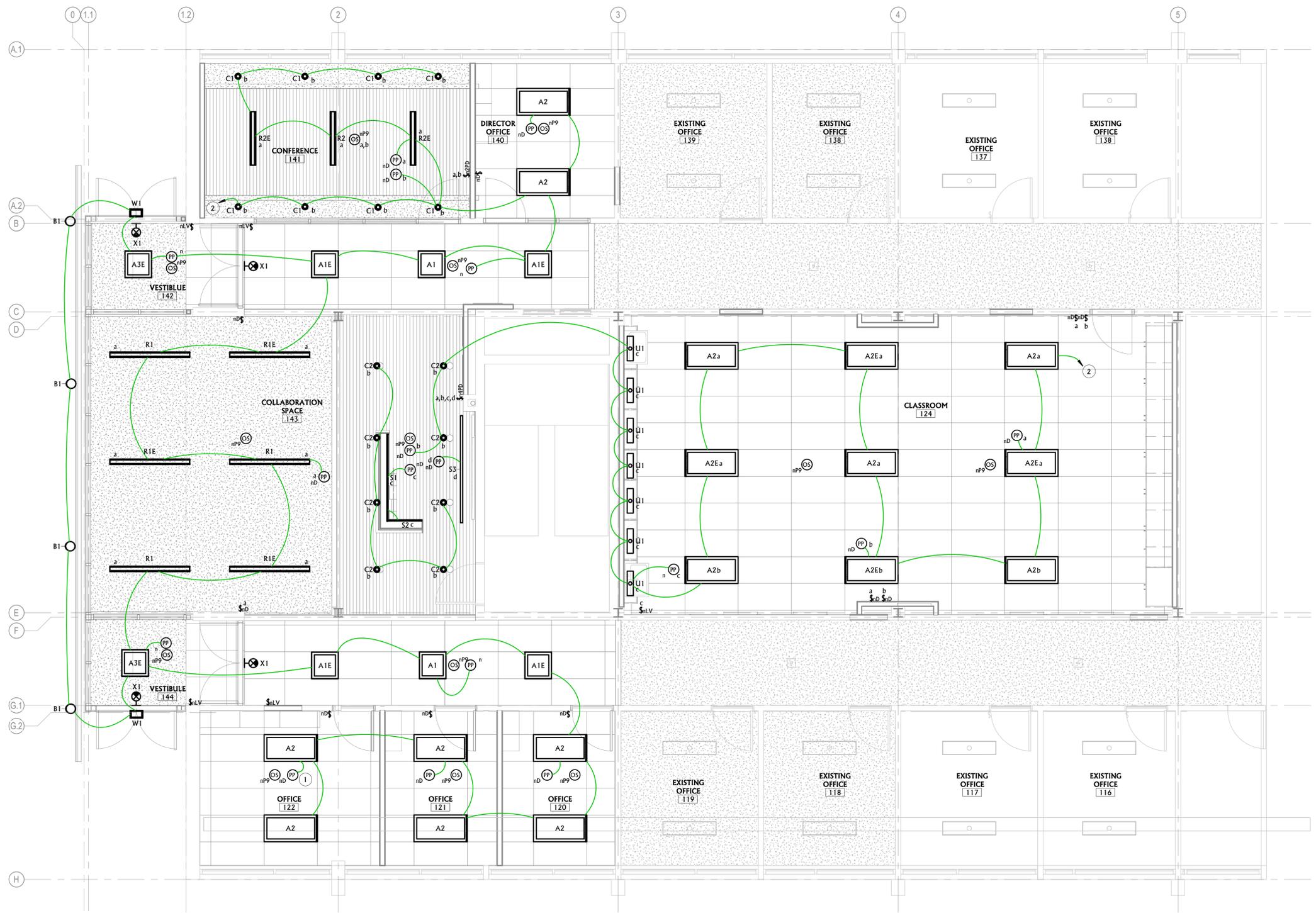


1 POWER & SPECIAL SYSTEMS REMODEL PLAN
E2.0
1/4" = 1'-0"

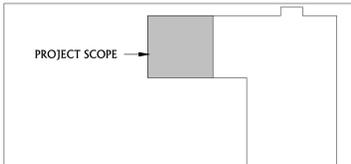


ELECTRICAL LIGHTING GENERAL NOTES	
A	REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION ON DEVICE LOCATIONS, DIMENSIONS, ETC. CAREFULLY EXAMINE ARCHITECTURAL FLOOR PLANS, CEILING PLANS, ELEVATIONS, ETC. FOR INFORMATION THAT AFFECTS ELECTRICAL WORK. NOTIFY ARCHITECT/ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ELECTRICAL PLANS.
B	ALL DARK ITEMS ARE NEW, UNLESS NOTED OTHERWISE. ALL SHADED ITEMS ARE EXISTING TO REMAIN.
C	ALL ITEMS DENOTED WITH AN (R) ARE RELOCATED OR REINSTALLED. ALL ITEMS DENOTED WITH AN (E) ARE EXISTING TO REMAIN.
D	MODIFY AND REUSE EXISTING CIRCUITS WHERE POSSIBLE. CIRCUITING SHALL BE AS SHOWN BUT CIRCUIT NUMBERS MAY BE CHANGED TO MAKE USE OF EXISTING AVAILABLE CIRCUITS. PROVIDE NEW BREAKERS AND WIRING AS NEED TO ACCOMMODATE NEW CIRCUITING.
E	CONNECT ALL LIGHTING FIXTURES TO EXISTING LIGHTING CIRCUITS UNLESS NOTED OTHERWISE. VERIFY EXISTING LOAD PRIOR TO CONNECTING ADDITIONAL LIGHTING FIXTURES.
F	CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO EXISTING EMERGENCY CIRCUITS SUPPLYING AREA UNLESS NOTED OTHERWISE. WIRING NOT SHOWN.
G	LOW VOLTAGE WIRING FOR OCCUPANCY SENSORS AND POWER PACKS NOT SHOWN. PROVIDE POWER PACKS AND WIRING AS REQUIRED FOR ALL OCCUPANCY SENSORS.
H	VERIFY VOLTAGE OF EXISTING LIGHTING CIRCUITS PRIOR TO SUBMITTALS. COORDINATE ANY MODIFICATIONS TO LIGHTING CIRCUITS OR FIXTURES WITH ENGINEER.
I	PROVIDE UNSWITCHED HOT CONDUCTOR FROM LOCAL LIGHTING CIRCUIT TO ALL EMERGENCY AND EXIT FIXTURES.
J	WHEN LIGHT SWITCHES ARE SHOWN LOCATED ON THE WALL THAT IS COMMON WITH THE END OF THE DOOR SWING INTO A SPACE, DO NOT LOCATE THE SWITCHES BEHIND THE DOOR BUT RATHER A MINIMUM OF 6" FROM THE END OF THE SWING. VERIFY EXACT DOOR SWING PRIOR TO ROUGH-IN.
K	FIRE SEAL ALL PENETRATIONS IN FIRE RATED WALLS. COORDINATE WITH ARCHITECTURAL FOR LOCATIONS.

ELECTRICAL KEYNOTES	
1	INSTALL POWER PACK IN ACCESSIBLE CEILING SPACE. TYPICAL OF ALL POWER PACKS SHOWN ON PLANS.
2	RE-USE EXISTING LIGHTING CIRCUIT FROM DEMOED LIGHT FIXTURES FOR NEW LIGHTING. EXTEND/MODIFY CONDUIT AND CONDUCTORS TO ACCOMMODATE NEW LAYOUT.



1 LIGHTING REMODEL PLAN
E3.0 1/4" = 1'-0"

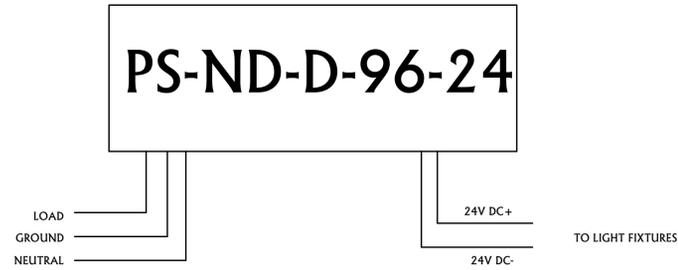


PPA#25-1217
A/E#25032

LIGHTING
REMODEL PLAN

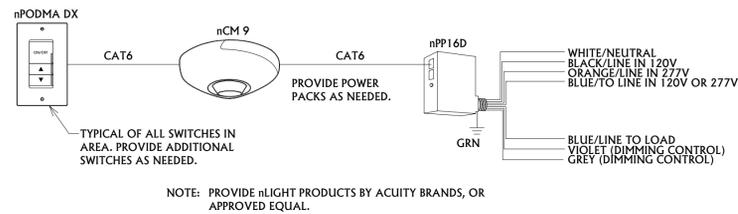
E3.0

DATE
02.23.2026



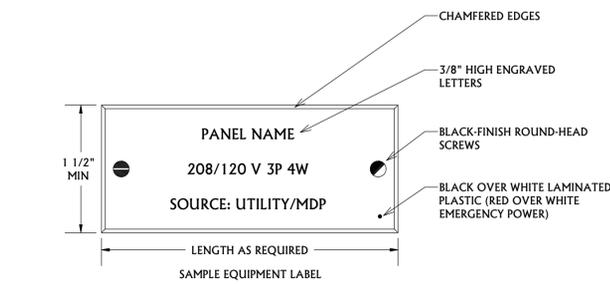
NOTES:
 1. VERIFY MAXIMUM CONDUCTOR LENGTH FROM POWER SUPPLY TO FIXTURE USING MANUFACTURER RECOMMENDATION
 2. PROVIDE POWER SUPPLIES AS NECESSARY TO SUPPORT LIGHTING LOAD.

6 LUMINII POWER SUPPLY DETAIL
 NOT TO SCALE



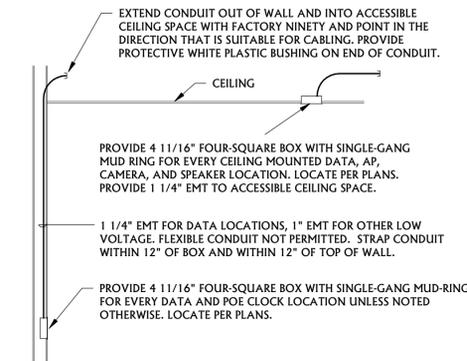
NOTE: PROVIDE nLIGHT PRODUCTS BY ACUIITY BRANDS, OR APPROVED EQUAL.

7 nLIGHT WIRING DETAILS
 NOT TO SCALE



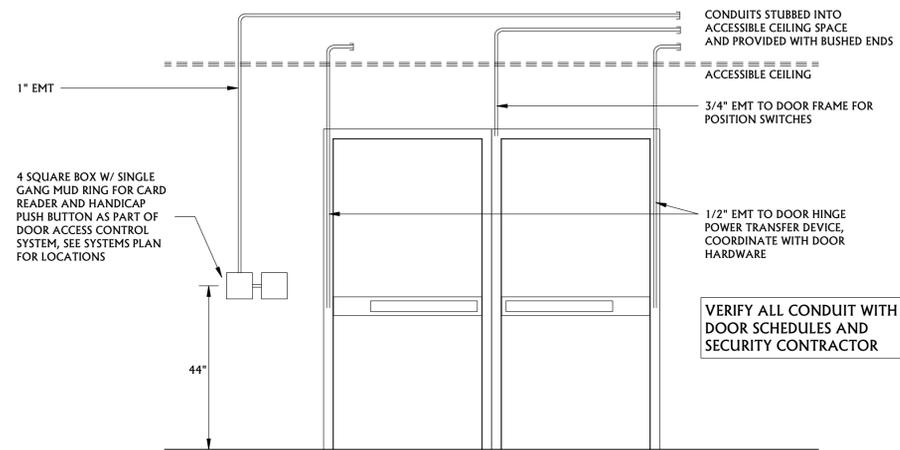
1 EQUIPMENT IDENTIFICATION LABEL DETAIL
 NOT TO SCALE

NOTE: FOR INACCESSIBLE CEILING SPACES (HARD CEILINGS), EXTEND CONDUIT HORIZONTALLY OUT OF SPACE TO NEAREST ACCESSIBLE CEILING AREA. IN UTILITY SPACES, PROVIDE SURFACE-MOUNTED CONDUIT FOR ALL DEVICES AND EXTEND TO NEAREST ACCESSIBLE CEILING SPACE.

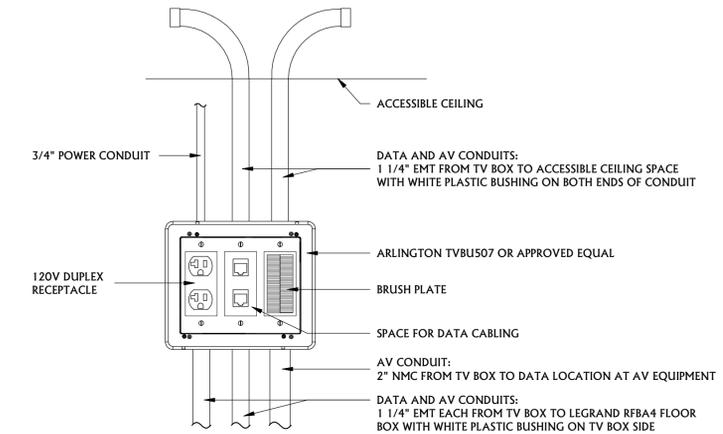


NOTE: CONDUIT SIZES SHALL BE AS DESCRIBED IN THE DETAIL UNLESS NOTED OTHERWISE ON THE DRAWINGS OR SPECIFICATIONS.

2 LOW VOLTAGE RACEWAY
 NOT TO SCALE

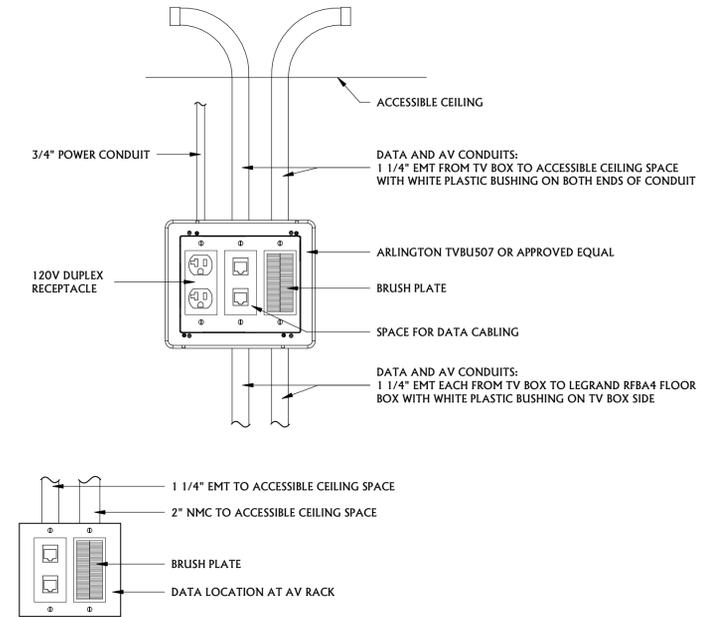


3 TYPICAL ACCESS CONTROL ROUGH-IN
 NOT TO SCALE



NOTES:
 PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE SYSTEM. COORDINATE MOUNTING LOCATION WITH TV MOUNTING BRACKET SO THAT THE BACKBOX IS LOCATED COMPLETELY BEHIND THE TV/MONITOR.

4 CONFERENCE 141 DATA ROUGH IN DETAIL
 NOT TO SCALE



NOTES:
 PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE SYSTEM. COORDINATE MOUNTING LOCATION WITH TV MOUNTING BRACKET SO THAT THE BACKBOX IS LOCATED COMPLETELY BEHIND THE TV/MONITOR.

5 CLASSROOM 124 DATA ROUGH IN DETAIL
 NOT TO SCALE



REV.	DESCRIPTION	DATE



100% CONSTRUCTION DOCUMENTS

Panel: L1N2

Location: (E) L1N1
Supply From: (E) L1N1
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Main Type: MLO
Bus Rating: 100 A

Notes:
NEW PANEL LOCATED IN JANITOR CLOSET RM# 130.

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	DOOR OPERATOR VEST. 142 E	15 A	1	180	360			1	20 A OVERHEAD PROJECTOR CLASSROOM 124	2	
3	DOOR OPERATOR VEST. 142 N	15 A	1		180	1260		1	20 A RECEPTACLE CONFERENCE 141	4	
5	MODULAR FURNITURE COLLAB 143	20 A	1			360	0	2	20 A HP-1	6	
7	RECEPTACLE CLASSROOM 124	20 A	1	900	0			--	--	8	
9	DOOR OPERATOR VEST. 144 S	15 A	1		180	180		1	20 A SERVICE RECEPTACLE	10	
11	FLOOR BOX CLASSROOM 124 E	20 A	1			1440	1000	2	20 A AV RACK	12	
13	HP-2	20 A	2	0	1000			--	--	14	
15	--	--	--	--	--	--	--	--	--	16	
17	RECEPTACLE OFFICE 140	20 A	1		0	1440		1	20 A RECEPTACLE OFFICE 120, 121	18	
19	DOOR OPERATOR VEST. 144 E	15 A	1	180	1440		720	720	1	20 A DATA CAB/ SCREEN MOTORS CLASSROOM...	20
21	RECEPTACLE OFFICE 122	20 A	1		720	94		2	20 A FLOOR BOX COLLAB 143	22	
23	SPARE	20 A	1			0	94	--	20 A FAN COILS	24	
25	FLOOR BOX CLASSROOM 124 W	20 A	1	1440	0			1	20 A SPARE	26	
27	SPARE	20 A	1		0	--	--	1	-- SPARE	28	
29	SPACE	--	1	--	--	--	--	1	-- SPARE	30	
31	SPACE	--	1	--	--	--	--	1	-- SPARE	32	
33	SPACE	--	1	--	--	--	--	1	-- SPARE	34	
35	SPACE	--	1	--	--	--	--	1	-- SPARE	36	
37	SPACE	--	1	--	--	--	--	1	-- SPARE	38	
39	SPACE	--	1	--	--	--	--	1	-- SPARE	40	
41	SPACE	--	1	--	--	--	--	1	-- SPARE	42	
				Total Load:	5500 VA	4054 VA	4334 VA				
				Total Amps:	46 A	34 A	36 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Receptacle	12260 VA	90.78%	11130 VA	Total Conn. Load: 13887 VA
Power	1627 VA	100.00%	1627 VA	Total Est. Demand: 12757 VA
				Total Conn.: 39 A
				Total Est. Demand: 35 A

Notes:
PROVIDE 20A 2P CIRCUIT BREAKER FOR FAN COILS 22, 24 CAPABLE OF BEING LOCKED IN THE OPEN POSITION.

Panel: (E) L1N1

Location: (E) L1N1
Supply From: (E) L1N1
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Main Type: MCB
Bus Rating: 225 A
Trip Rating: 225 A

Notes:
EXISTING PANEL LOCATED IN JANITOR CLOSET RM# 130. FIELD VERIFY MAKE AND MODEL OF PANELBOARD BEFORE PURCHASING CIRCUIT BREAKERS.

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	(E) LIGHTING CORRIDOR B	20 A	1	0	0			1	20 A (E) LIGHTING CORRIDOR A	2	
3	(E) LIGHTING WEST END CORRIDOR	20 A	1		0	0		1	20 A (E) SHOW CASE AND PIPE CHASE	4	
5	(E) LIGHTING LOBBY A & STAIRWELL	20 A	1			0	0	1	20 A (E) LIGHTING STAIRWAY C	6	
7	(E) LIGHTING CORRIDOR C	20 A	1	0	0			1	20 A (E) LIGHTING EXTERIOR E & S	8	
9	TRENCH HEATER	20 A	1		0	0		1	20 A (E) LIGHTING ROOM 108	10	
11	(E) LIGHTING ROOM 103, 104	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 131, 132	12	
13	(E) RECEPTACLE ROOM 133, 134, 135	20 A	1	0	0			1	20 A (E) RECEPTACLE ROOM 136, 137, 138, 138A	14	
15	(E) RECEPTACLE ROOM 138B, 139	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 140, 141, 142	16	
17	(E) RECEPTACLE ROOM 125, 126, 127 N	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 124 N	18	
19	(E) RECEPTACLE ROOM 125, 126, 127 S	20 A	1	0	0			1	20 A (E) RECEPTACLE ROOM 124 S	20	
21	(E) RECEPTACLE ROOM 112, 113	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 114, 115, 116	22	
23	(E) RECEPTACLE ROOM 117, 118, 119	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 120, 121, 122	24	
25	(E) RECEPTACLE ROOM 123, WEST...	20 A	1	0	0			1	20 A (E) RECEPTACLE ROOM 128, CORRIDOR B	26	
27	(E) RECEPTACLE ROOM 129, CORRIDOR A	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 108, 109, 110, 111	28	
29	(E) RECEPTACLE ROOM 102, 103	20 A	1	0	0			1	20 A (E) RECEPTACLE ROOM 101, 102	30	
31	(E) RECEPTACLE ROOM 105	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 103, 104 E	32	
33	(E) RECEPTACLE EXTERIOR E	20 A	1		0	0		1	20 A (E) RECEPTACLE EXTERIOR S	34	
35	(E) RECEPTACLE EXTERIOR W	20 A	1	0	0			1	20 A (E) RECEPTACLE EXTERIOR N	36	
37	(E) RECEPTACLE EXTERIOR W	20 A	1	0	0			1	20 A (E) WEST END HEATERS	38	
39	(E) RECEPTACLE ROOM 129	20 A	1		0	0		1	20 A (E) ILLEGIBLE	40	
41	(E) LIGHTING LOBBY A	20 A	1		0	0		1	20 A TEMPERATURE CONTROL PANEL	42	
43	(E) RECEPTACLE ROOM 101	20 A	1	0	0			1	20 A (E) RECEPTACLE ROOM 101	44	
45	(E) OVERHEAD PROJECTORS ROOM 101	20 A	1		0	0		1	20 A (E) RECEPTACLE ROOM 102	46	
47	L1N2	100 A	3			5500	0	1	20 A (E) RECEPTACLE ROOM 102	48	
49	--	--	--	4054	0			1	20 A (E) OVERHEAD PROJECTOR ROOM 102	50	
51	--	--	--		4334	0		2	20 A (E) DESK POWER ROOM 105	52	
53	(E) SPARE	20 A	1			0	0	--	--	54	
55	(E) RECEPTACLE ROOM 126	20 A	1	0	0			2	20 A (E) DESK POWER ROOM 105	56	
57	(E) OVERHEAD PROJECTOR ROOM 103	20 A	1		0	0		--	--	58	
59	(E) DESK POWER ROOM 103	20 A	2			0	0	2	20 A (E) DESK POWER ROOM 105	60	
61	--	--	--	0	0			--	--	62	
63	(E) DESK POWER ROOM 103	20 A	2		0	0		2	20 A (E) DESK POWER ROOM 105	64	
65	--	--	--			0	0	--	--	66	
67	(E) OVERHEAD PROJECTOR ROOM 126	20 A	1	0	0			1	20 A (E) OVERHEAD PROJECTOR ROOM 105	68	
69	(E) RECEPTACLE ROOM 126	20 A	1		0	504		1	20 A HEAT TAPE	70	
71	(E) SPARE	20 A	1			0	0	1	20 A (E) SPARE	72	
				Total Load:	4054 VA	4838 VA	5500 VA				
				Total Amps:	34 A	41 A	47 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Receptacle	12260 VA	90.78%	11130 VA	Total Conn. Load: 14391 VA
Power	2151 VA	100.00%	2151 VA	Total Est. Demand: 13261 VA
				Total Conn.: 40 A
				Total Est. Demand: 37 A

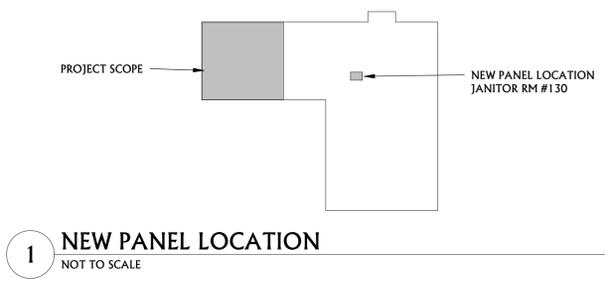
Notes:
VERIFY CAPACITY OF PANEL H1N1 USING RECENT 30-DAY PEAK DEMAND STUDY. NOTIFY AND PROVIDE ENGINEER WITH METER DATA AND RESULTS IF STUDY SHOWS INADEQUATE CAPACITY FOR ADDED LOAD.

EQUIPMENT CONNECTION SCHEDULE

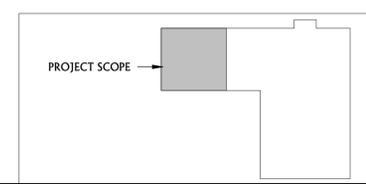
CALLOUT	ELECTRICAL DATA	HP	FLA	MCA	MOCF	WIRE SIZE (Cu)'	DISCONNECT PROVIDED BY	DISCONNECT INSTALLED BY
HP-1	208 V/1-4160 VA	--	--	19.80 A	20 A	#12	EC	EC
HP-2	208 V/1-4160 VA	--	--	19.80 A	20 A	#12	EC	EC
FC-1-3	208 V/2-62 VA	--	--	0.30 A	15 A	#12	EC	EC
FC-1-2	208 V/2-62 VA	--	--	0.30 A	15 A	#12	EC	EC
FC-1-1	208 V/2-62 VA	--	--	0.30 A	15 A	#12	EC	EC
FC-2-1	208 V/2-104 VA	--	--	0.50 A	15 A	#12	EC	EC
FC-2-2	208 V/2-104 VA	--	--	0.50 A	15 A	#12	EC	EC

LUMINAIRE SCHEDULE

CALLOUT	MANUFACTURER	MODEL	MOUNTING	LAMP	ELECTRICAL DATA	DESCRIPTION
A1	MARK ARCHITECTURAL	WHSPR 2X2 80CRI 35K 3000LM MIN10 MVOLT SWC ZT	RECESSED	LED	120 V/1-24 VA	2'X2' TROFFER. 3000LM 3500K. COORDINATE FINISH WITH ARCHITECT.
A1E	MARK ARCHITECTURAL	WHSPR 2X2 80CRI 35K 3000LM MIN10 MVOLT SWC ZT E10W	RECESSED	LED	120 V/1-24 VA	2'X2' TROFFER W/ BATTERY PACK. 3000LM 3500K. COORDINATE FINISH WITH ARCHITECT.
A2	MARK ARCHITECTURAL	WHSPR 2X4 80CRI 35K 4800LM MIN10 MVOLT SWC ZT	RECESSED	LED	120 V/1-37 VA	2'X4' TROFFER. 4800LM 3500K. COORDINATE FINISH WITH ARCHITECT.
A2E	MARK ARCHITECTURAL	WHSPR 2X4 80CRI 35K 4800LM MIN10 MVOLT SWC ZT E10W	RECESSED	LED	120 V/1-37 VA	2'X4' TROFFER W/ BATTERY PACK. 4800LM 3500K. COORDINATE FINISH WITH ARCHITECT.
A3E	MARK ARCHITECTURAL	WHSPR 2X2 80CRI 35K 3000LM MIN10 MVOLT SWC ZT E10W DGA22	RECESSED	LED	120 V/1-24 VA	2'X2' TROFFER W/ BATTERY PACK. 3000LM 3500K.DRYWALL GRID ADAPTER. COORDINATE FINISH WITH ARCHITECT.
B1	LITHONIA	RAD8 LED P3 30K SYM MVOLT PE E7WH	SURFACE	LED	120 V/1-13 VA	3' BOLLARD W/ PHOTOCELL & BATTERY PACK. 1000LM 3000K. COORDINATE FINISH WITH ARCHITECT.
C1	GOETHAM	IVO45 D 10LM 35K 90CRI MWD MIN1 MVOLT ZT NCH P AR LSS FLM	RECESSED	LED	120 V/1-11 VA	4" 1000 LUMEN 3500K SHALLOW CAN LIGHT. COORDINATE TRIM STYLE AND FINISH WITH ARCHITECT.
C2	GOETHAM	IVO45 D 20LM 35K 90CRI MWD MIN1 MVOLT ZT NCH P AR LSS FLM	RECESSED	LED	120 V/1-22 VA	4" 2000 LUMEN 3500K SHALLOW CAN LIGHT. COORDINATE TRIM STYLE AND FINISH WITH ARCHITECT.
R1	MARK ARCHITECTURAL	SL4L LOP 6FT RLP FLINB 90CRI 35K 800LMF MINI 120 ZT	RECESSED	LED	120 V/1-64 VA	6' 4800 LUMEN 3500K RECESSED LINEAR DOWNLIGHT. COORDINATE FINISH WITH ARCHITECT.
R1E	MARK ARCHITECTURAL	SL4L LOP 6FT RLP FLINB 90CRI 35K 800LMF MINI 120 ZT E10WLP	RECESSED	LED	120 V/1-64 VA	6' 4800 LUMEN 3500K RECESSED LINEAR DOWNLIGHT W/ BATTERY PACK. COORDINATE FINISH WITH ARCHITECT.
R2	BASO	PANO3 WWG BL PS OP 35K C90 UNV 010V 0875LF ST 04FT	RECESSED	LED	120 V/1-32 VA	4' 3500 LUMEN 3500K RECESSED WOOD SLAT CEILING COMPATIBLE LINEAR LIGHT FIXTURE. COORDINATE FINISH WITH ARCHITECT.
R2E	BASO	PANO3 WWG BL PS OP 35K C90 UNV 010V 0875LF ST 04FT EMB	RECESSED	LED	120 V/1-32 VA	4' 3500 LUMEN 3500K RECESSED WOOD SLAT CEILING COMPATIBLE LINEAR LIGHT FIXTURE W/ BATTERY PACK. COORDINATE FINISH WITH ARCHITECT.
S1	LUMINII	BAR 78" VC72MO 30K F FC SA	SURFACE	LED	120 V/1-32 VA	6' 6" LINEAR FIXTURE. 150LM/FT. PROVIDE WITH NON-DIMMING POWER SUPPLY. COORDINATE FINISH WITH ARCHITECT. MOUNTED TO UNDERSIDE OF TOE KICK.
S2	LUMINII	BAR 29" VC72MO 30K F FC SA	SURFACE	LED	120 V/1-3 VA	2' 5" LINEAR FIXTURE. 150LM/FT. PROVIDE WITH NON-DIMMING POWER SUPPLY. COORDINATE FINISH WITH ARCHITECT. MOUNTED TO UNDERSIDE OF TOE KICK.
S3	NEORAY	S122 DP C 485D 8 35 C4 TS B 8FO 1 U DD W 1 B	SUSPENDED	LED	120 V/1-38 VA	8' LINEAR WALL WASH FIXTURE. 485 LM/FT. COORDINATE FINISH WITH ARCHITECT.
U1	JUNO	UPLD 22IN SWW4 90CRI WH	SURFACE	LED	120 V/1-11 VA	22" UNDERCABINET LIGHT FIXTURE. COORDINATE FINISH WITH ARCHITECT.
W1	SIGNIFY	GWM-A06-830-T3M-UNV PCB EC	WALL	LED	120 V/1-16 VA	12" EXTERIOR WALL MOUNT W/ PHOTOCELL & EMERGENCY BATTERY. 3000 2500LM COORDINATE FINISH WITH ARCHITECT.
X1	COOPER	ES7 1 AC S R W	WALL	LED	120 V/1-4 VA	ALUMINUM/ACRILIC EXIT SIGN. RED. COORDINATE FINISH WITH ARCHITECT



1 NEW PANEL LOCATION
NOT TO SCALE



MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

CENTER FOR RESEARCH ON
RURAL EDUCATION SPACE
TRANSFORMATION



DRAWN BY: DB, JB, ST, OM
REVIEWED BY: DV

REV.	DESCRIPTION	DATE



PPA#25-1217
A/E#25032

ELECTRICAL
SCHEDULES

E5.0

DATE
02.23.2026

100% CONSTRUCTION DOCUMENTS