

# PROJECT DIRECTORY

# **Owner** Montana State University, University **Facilities** Management -PDC

PO BOX 172760 BOZEMAN, MT 59717-2750 TEL: 845.430.2904 CONTACT NAME: Ashna Peters EMAIL: ashna.peters@montana.edu

# **Architect** 45 Arch

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# **Structural** Morrison-Maierle

EMAIL: jhughes@m-m.net

2880 Technology Blvd W, Bozeman, MT 59718 TEL: (406) 587-0721 CONTACT NAME: Joe Hugh

# **MEP**

# Morrison-

Maierle 2880 Technology Blvd W, Bozeman, MT 59718 TEL: (406) 587-0721
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# **ELECTRICAL** Morrison-Maierle

2880 Technology Blvd W, Bozeman, MT 59718 TEL: (406) 587-0721 CONTACT NAME: Ryan Maroney EMAIL: rmaroney@m-m.net

### -PROJECT INFORMATION

PROJECT DESCRIPTION:

Partial Interior Remodeling Montana State University- Haynes Hall, School of Art Building

PROJECT ADDRESS:

South 11th Ave. & W. Garfield St.,



### PUBLIC LAND INSTITUTE, EXEMPT PROPERTY

PROJECT SCOPE SUMMARY:

TOTAL RENOVATION AREA:

**CURRENT APPLICABLE CODES:** 2021 INTERNATIONAL BUILDING CODE (IBC) 2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2021 INTERNATIONAL MECHANICAL CODE (IMC) 2021 INTERNATIONAL PLUMBING CODE (IPC) 2021 INTERNATIONAL FUEL GAS CODE (ÌFGĆ)

2021 UNIFORM PLUMBING CODE (UPC) 2021 INTERNATIONAL ENERGY CONSÉRVATION CODE (IECC) 2020 NATIONAL ELECTRIC CODE (NEC) 2017 ICC/ANSI A117.1 ACCESSIBILITY STANDARD

BOZEMAN ARM MODIFICATIONS TO THE ADOPTED 2021 BUILDING CODES (IBC) 2012 INTERNATIONAL FIRE CODE (IFC)

INTERIOR RENOVATION OF PARTIAL AREA OF THE EXISTING 2ND FLOOR OF THE SCHOOL OF ART BUILDING, ON CAMPUS OF MONTANA STATE UNIVERSITY.

APPROXIMATELY 6225 S.F

DA	TE OF ISSUE			Drawing issued for Owner Review/Pricing
~	<u></u>			Drawing issued for Permit Drawing issued for Construction
23	1/23			Drawing issued for Reference Only
$\frac{2}{2}$	$\overline{\Sigma}$			Drawing Revisions
3/31/2	4/1			Revion Number
•	•	G0	01	GENERAL PROJECT INFORMATION
-	•	G1	01	CODE SUMMARY
-	•	G1	02	FIRE & SAFETY PLAN
•	•	A0		GENERAL NOTES AND DIAGRAMS
•	•	A0		EXISTING FLOOR PLAN
•	•	A0		DEMOLITION FLOOR PLAN
•	•	A0		DEMOLITION REFLECTED CEILING PLAN
•	•	A10		FLOOR PLAN
•	•	A10		FLOOR PLAN- FURNITURE PLAN
•	•	A1		REFLECTED CEILING PLAN
•	•	A2		INTERIOR ELEVATIONS
•	•	A2		INTERIOR ELEVATIONS
•	•	A2:	20	SECTIONS
	•	A6	01	DOOR & FINISH SCHEDULES, DOOR DETAILS
	•	A6	03	INTERIOR DETAILS
			<u> </u>	GENERAL STRUCTURAL NOTES
-	•	S0 S0		
-	•			UPPER FLR STRCUT PLAN
	•	S5	JU	TYPICAL CFS DETAILS
•	•	MO	01	MECHANICAL LEGEND & NOTES
•	•	MO	02	MECH. SCHEDULES
•	•	MO	03	MECHANICAL DETAILS
•	•	M1	01	MECHANICAL HVAC PLAN
•	•	M1	02	MECHANICAL HYDRONIC PLAN
•	•	ME	101	MECHANICAL DEMOLITION PLAN
				I
•	•	P0		PLUMBING LEGEND & NOTES
	•	PD	101	PLUMBING DEMOLITION PLAN
	•	E0	າ1	ELECTRICAL LEGENDS AND ABBREVIATIONS
-	•	E0		ELECTRICAL DETAILS
-	•	E0		ELECTRICAL SCHEDULES
-	•	E10		ELECTRICAL POWER AND SIGNAL RENOVATION
-	•	E2		ELECTRICAL LIGHTING RENOVATION PLAN
-	•		101	ELECTRICAL POWER & SIGNAL DEM. PLAN
_	•		201	ELECTRICAL FOWER & SIGNAL DEWI. FLAN
-	-	ED	∠U I	LLLO MICAL LIGHTING DEWICLITION PLAN

### **GENERAL PROJECT NOTES**

REFER TO OWNER-CONTRACTOR AGREEMENT FOR GENERAL CONDITIONS. WHERE THERE IS A CONFLICT BETWEEN THE CONTRACT AND NOTES HEREIN, THE CONTRACT TAKES PRECEDENCE.

1. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE FULL SET OF CONSTRUCTION

2. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO THOSE FURNISHED BY SUBCONTRACTORS.

3. DIMENSIONS TAKE PRECEDENCE OVER DRAWINGS: DO NOT SCALE DRAWINGS TO DETERMINE ANY LOCATIONS. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO CONTINUING WITH WORK.

4. GENERAL CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE IN A BROOM CLEAN

ATTENTION OF ARCHITECT UPON DISCOVERY AT ANY POINT. THE MEANS OF

6. ALL REQUIRED CITY AND/OR COUNTY LICENSE SHALL BE ACQUIRED AND PAID FOR BY

7. THE ARCHITECT WILL REVIEW SHOP DRAWINGS AND SAMPLES FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT. THE ARCHITECT'S REVIEW OF A SEPARATE ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEM

8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR

REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THE WORK.

9. CITY APPROVED PLANS SHALL BE KEPT IN A SECURE PLACE AND SHALL NOT BE USED BY WORKERS. THE CONTRACTOR SHALL BE RESPONSIBLE THAT ALL SUBCONTRACTORS' CONSTRUCTION SETS REFLECT THE SAME INFORMATION. THE STAMPED CITY APPROVED PLANS WITH ALL REVISIONS, ADDENDUMS, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT AND MUST BE MADE AVAILABLE TO BUILDING AND FIRE

INSPECTIONS FOR REFERENCE DURING CONSTRUCTION. 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE

SITE WHILE THE JOB IS IN PROGRESS AND UNTIL JOB COMPLETION. 11. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE

SAFETY OF THE OCCUPANTS AND WORKERS AT ALL TIMES.

12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS AND SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF ANY CONSTRUCTION. FAULTY, IMPROPER, OR INFERIOR MATERIALS OR WORKMANSHIP WHICH SHALL APPEAR WITHIN ONE (1) YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.

14. CONTRACTOR TO PROVIDE BACKING OR BLOCKING AS REQUIRED FOR MOUNTING ALL

WALL MOUNTED SHELVES, EQUIPMENT, ACCESSORIES, CABINETS, ETC.

15. CONTRACTOR TO PROTECT ALL TREES AND ROOTS NOT SLATED FOR REMOVAL

DURING CONSTRUCTION. 16. GENERAL CONTRACTOR RESPONSIBLE FOR MAINTENANCE OF STAGING AREA AND TO

ENSURE THAT MATERIALS DELIVERY AND STORAGE DOES NOT INTERFERE WITH DAILY

OPERATION OF ADJACENT PROPERTIES OR PUBLIC RIGHT OF WAY. 17. GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION STAKING.

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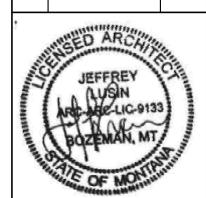




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SHEET TITLE **GENERAL PROJECT INFORMATION** 

SHEET G001

### CODE SUMMARY

- THIS CODE SUMMARY IS INTENDED TO ASSIST THE PERMIT REVIEWER(S) IN ASCERTAINING THE COMPLIANCE OF THE PROJECT AS
  DESCRIBED IN THESE DRAWINGS WITH APPLICABLE CODES AND REQUIREMENTS. IT IS NOT INTENDED AS A COMPREHENSIVE INVENTOR'
  OF ALL APPLICABLE PROVISIONS. ADDITIONAL INFORMATION RELATING TO CODE-COMPLIANCE QUESTIONS MAY BE ELSEWHERE IN THIS
  SET OF DRAWINGS.
- ALL CONSTRUCTION SHALL COMPLY WITH ALL CURRENT AND APPLICABLE MUNICIPAL, STATE AND FEDERAL BUILDING CODE REGULATIONS HAVING JURISDICTION, INCLUDING ACCESSIBILITY CODE AND ADA REQUIREMENTS.
- 3. WORK INCLUDES PARTIAL 2ND FLOOR, INTERIOR RENOVATION OF THE EXISTING BUILDING SPACES AS FOLLOWS:
- CONVERT AND RECONFIGURE THE CURRENT GRAPHIC DESIGN STUDIO 216 AND ADJACENT GRADUATE STUDENT STUDIO INTO TWO
  MEDIUM SIZED CLASSROOMS.
- RELOCATE THE GRADUATE STUDENT STUDIO TO THE EXTERIOR WINDOW WALL.
- RECONFIGURE AND EXPAND THE COLLECTION STORAGES SPACES AND OFFICE.
- RECONFIGURE THE PHOTO STUDIO ALCOVE INSIDE GRAPHIC DESIGN STUDIO 219 INTO A SEPARATE PHOTO STUDIO ACCESSIBLE FROM THE CORRIDOR.

### 2021 IBC

CHAPTER 3 - OCCUPANCY CLASSIFICATION & USE: GROUP B (HIGHER EDUCATION FACILITY) SECTION 304 BUSINESS GROUP B INCLUDES EDICATIONAL OCCUPANIES FOR STUDENTS ABOVE THE 12TH GRADE. NO CHANGE IN CLASSIFICATION AND USE

### CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS:

EXISTING BUILDING AREA: BASEMENT: 4,854 GSF

LEVEL 1: 18,900 GSF NO CHANGE IN BUILDING AREA

LEVEL 2: 18,900 GSF TOTAL: 42,654 GSF

### CHAPTER 6 - TYPES OF CONSTRUCTION: EXISTING CONSTRUCTION TYPE: CONST. TYPE 2B NO CHANGE IN CONST. TYPE

ALL NEW BUILDING CONSTRUCTION MATERIAL AND ELEMENTS REQUIRED TO BE NON-COMBUSTIBLE PER TYPE 2B CONST.

### CHAPTER 8 - INTERIOR FINISHES:

- B NON-SPRINKLERED: EXIT ENCLOSURES AND PASSAGEWAYS = A: CORRIDORS = B: ROOMS AND ENCLOSED SPACES = C
- INTERIOR FLOOR FINISH AND FLOOR COVERING MATERIALS TO BE OF CLASS LOR II AS CLASSIFIED IN ACCORDANCE WITH NFPA 253

### CHAPTER 9 - FIRE PROTECTION SYSTEMS:

THE EXISTING BUILDING IS NON-SPRINKLERED & IS GRANDFATHERED TO REMAIN AS SUCH, UNTIL A FUTURE CHANGE IN OCCUPANCY OR THE BUILDING SIZE IS INCREASED. NO CHANGE IN FIRE PROTECTION

### CHAPTER 10 - MEANS OF EGRESS:

OCCUPANT LOAD: THE RECONFIGURATION OF SPACES RESULTS IN A REDUCTION OF OCCUPANT LOAD AT THE RENOVATED 2ND FLOOR AREA FROM 100 TO 90 OCCUPANTS (97 INCLUDING ALTERNATE OF PHOTO STUDIO). NO CHANGE TO OCCUPANT LOAD EXITING

MAXIMUM EXIT ACCESS TRAVEL DISTANCE: 200 FT MAX., WHEN NON-SPRINKLED

COMMON PATH OF EGRESS TRAVEL: 75 FEET MAX., WHEN NON-SPRINKLED

CORRIDOR FIRE RESISTANCE RATING: 1 HR, WHEN NON-SPRINKLED THE EXISITING CORRIDORS ARE NOT RATED AND ARE
GRANDFATHERED TO REMAIN AS SUCH, UNTIL A FUTURE CHANGE IS OCCUPANCY, BUILDING SIZE INCREASES, OR MAJOR RENOVATION OF
50% OR MORE OF THE BUILDING AREA.

LENGTH OF DEAD-END CORRIDOR: SHALL NOT EXCEED 20 FEET, WHEN NON-SPRINKLED

CHAPTER 11 – ACCESSIBILITY: ALL NEWLY RENOVATED BUILDING SPACES AND ELEMENTS TO COMPLY WITH ADA ACCESSIBILITY REQUIREMENTS.

### 2021 IEBC

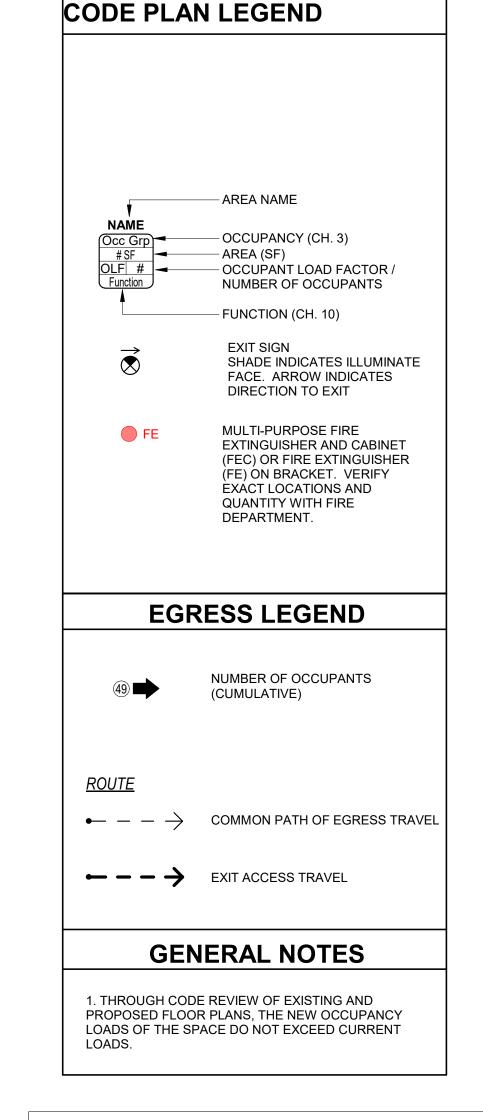
### CHAPTER 6 - CLASSFICIATION OF WORK:

SECTION 603 ALTERATION LEVEL 2: INCLUDE THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW, THE RECONFIGURATION OR EXTENSION OF ANY SYSTSEM, OR THE INSTALLATION OF ANY ADDITIONAL EQIPMENT, AND SHALL APPLY WHERE THE WORK AREA IS EQUAL TO OR LESS THAN 50 PERCEBT OF THE BUILDING AREA. LEVEL 2 ALTERATION SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 7 AND CHAPTER 8.

CHAPTER 7 - THE EXISTING BUILDING OR PORTION THEREOF SHALL NOT BE ALTERED SUCH THAT THE BUILDING BECOMES LESS SAFE TAN ITS EXISTING CONDITION.

CHAPTER 8 - NEW CONSTRUCTION ELEMENTS, COMPONENTS, SYSTEMS AND SPACES SHALL COMPLY WTH THE REQUIREMENTS OF THE IBC.

	LIFE SAFETY O	CCUPANT LOAD SCH	IEDULE	
		TABLE 1	004.1.2	
AREA NAME	AREA (SF)	FUNCTION OF SPACE	OCCUPANT LOAD FACTOR	OCCUPANT LOAD
SECOND FLOOR	'			
CLASSROOM 217	697 SF	Business	20	35
COLLECTION STORAGE 208	360 SF	Storage	300	2
FLEX CLASSROOM 216	686 SF	Business	20	35
GRAD STUDIO 218	296 SF	Business	20	15
OFFICE 2008B	107 SF	Business	150	1
PHOTO STUDIO 220	137 SF	Business	20	7
SECURE STORAGE 208A	69 SF	Storage	300	1
			•	96



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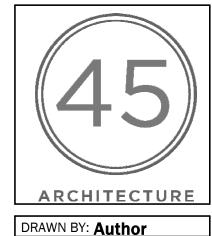
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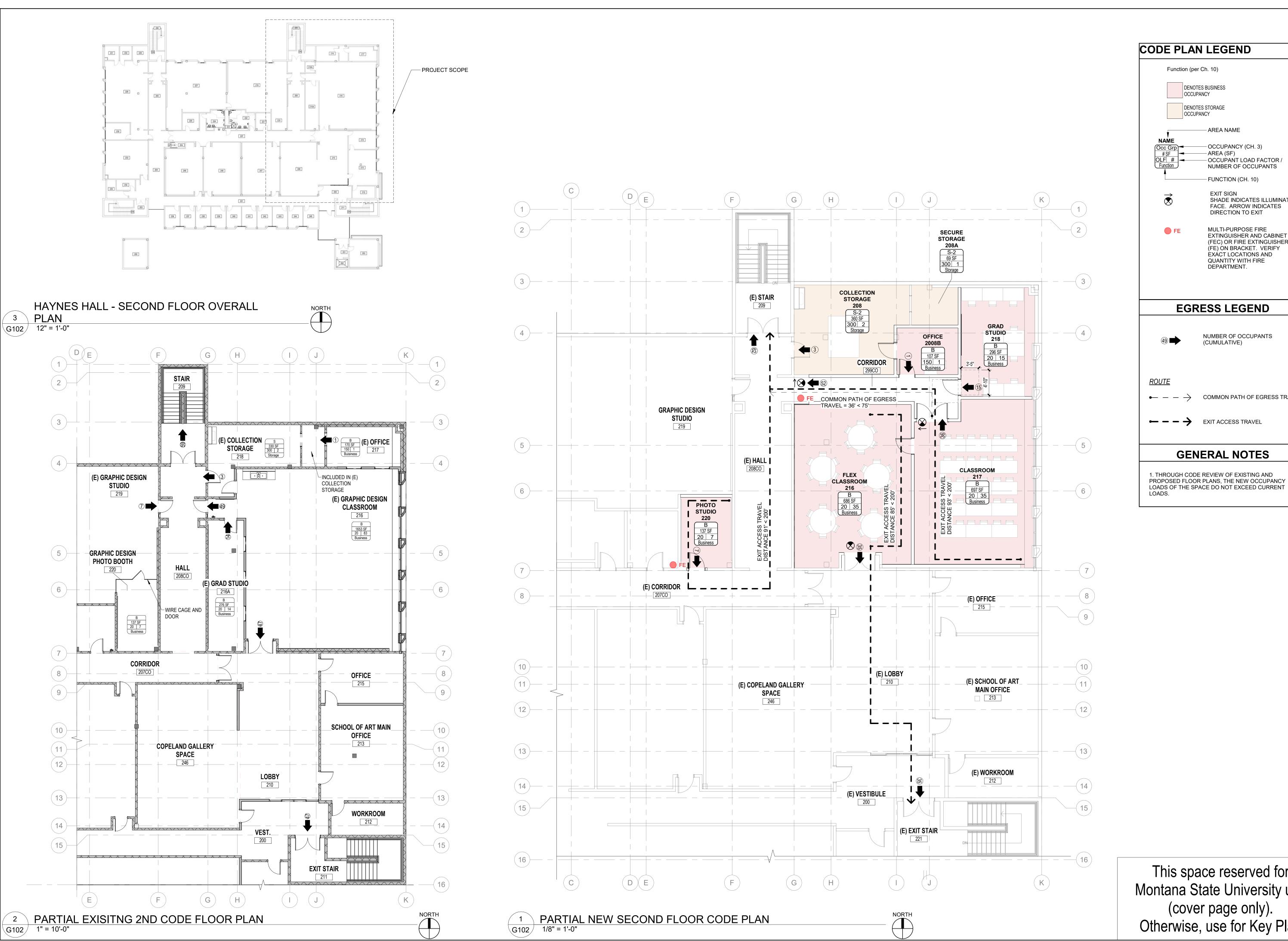
JEFFREY
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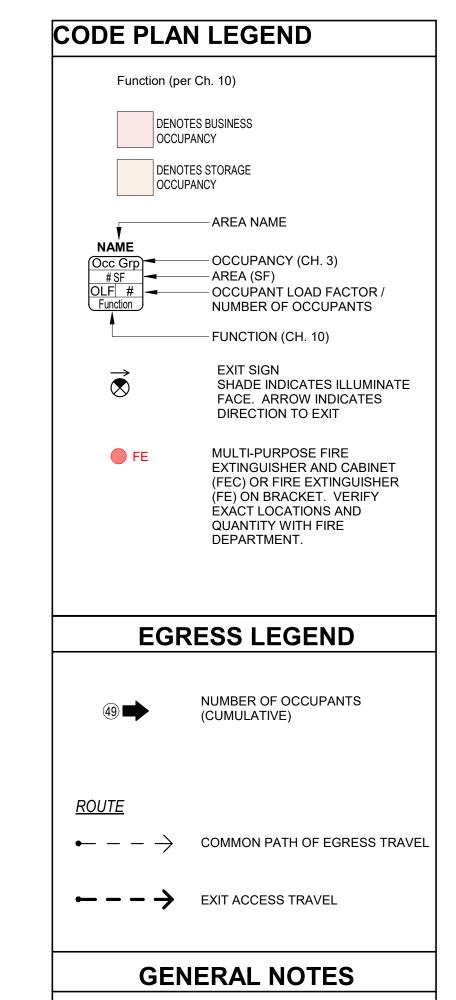
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CODE SUMMARY
SHEET

G101





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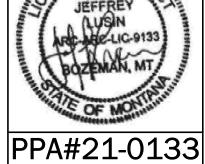


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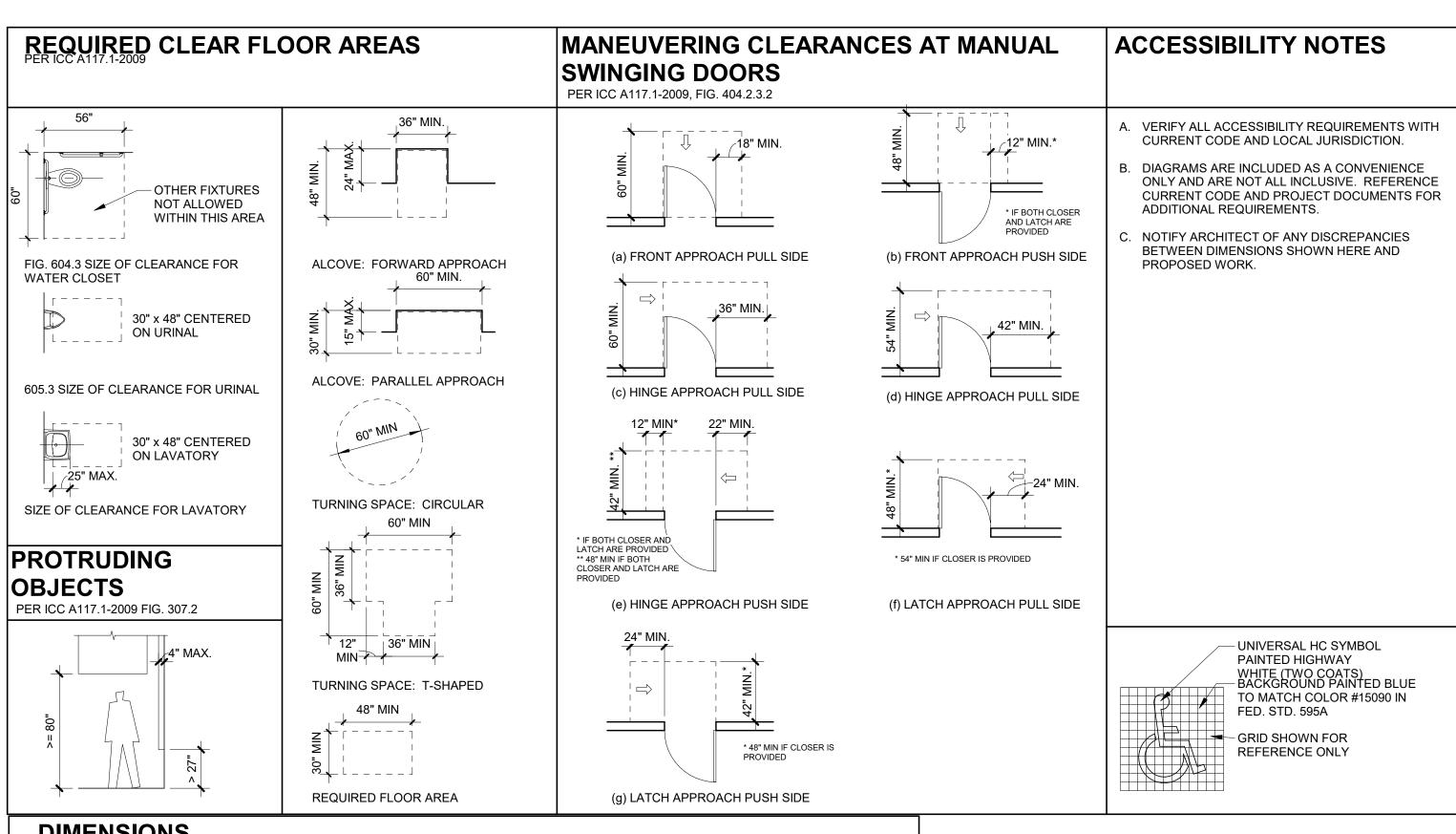
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SHEET TITLE FIRE & SAFETY

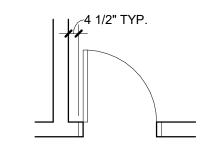
**PLAN** SHEET

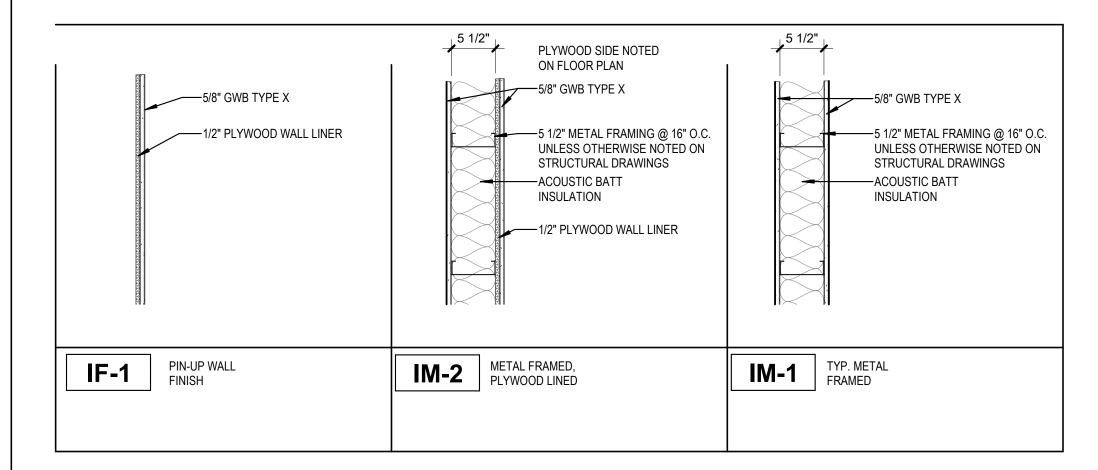
G102



### **DIMENSIONS**

- A. DIMENSIONS ARE INDICATED IN THE DOCUMENTS. THE DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. NOTIFY ARCHITECT IF ADDITIONAL DIMENSIONS ARE NECESSARY
- B. IN MANY INSTANCES THE ACTUAL DIMENSIONS MAY BE LESS IMPORTANT THAN IF ELEMENTS ARE TO BE EQUALLY SPACED OR ALIGNED. IN THESE CASES, THE NOTATION "EQ" OR "ALIGN" IS USED IN LIEU OF A
- C. DETAILS WILL GOVERN ALL DIMENSIONS NOT SHOWN ON PLANS. REFERENCE INDICATED DIMENSION
- D. DIMENSIONS SHOWN ARE TO GRIDLINE, CENTERLINE OF COLUMN, OR FACE OF STUD / MASONRY, UNLESS
- E. INTERIOR WALLS WHICH ARE EQUALLY SPACED ARE DIMENSIONED TO CENTERLINE OF WALL
- F. DOORS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALLS AS SHOWN ON PLANS OR LOCATED 4 1/2" FROM FACE OF FINISH TO OUTSIDE FACE OF FRAME.

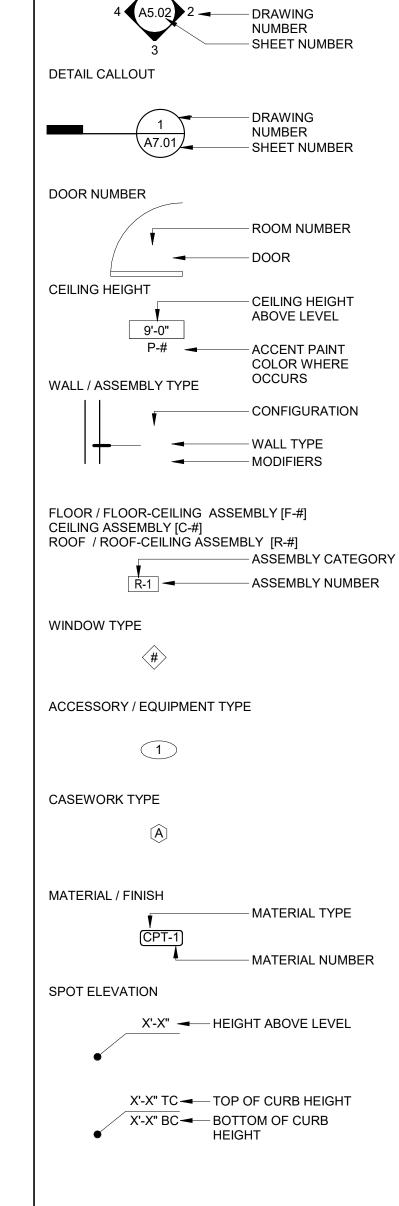




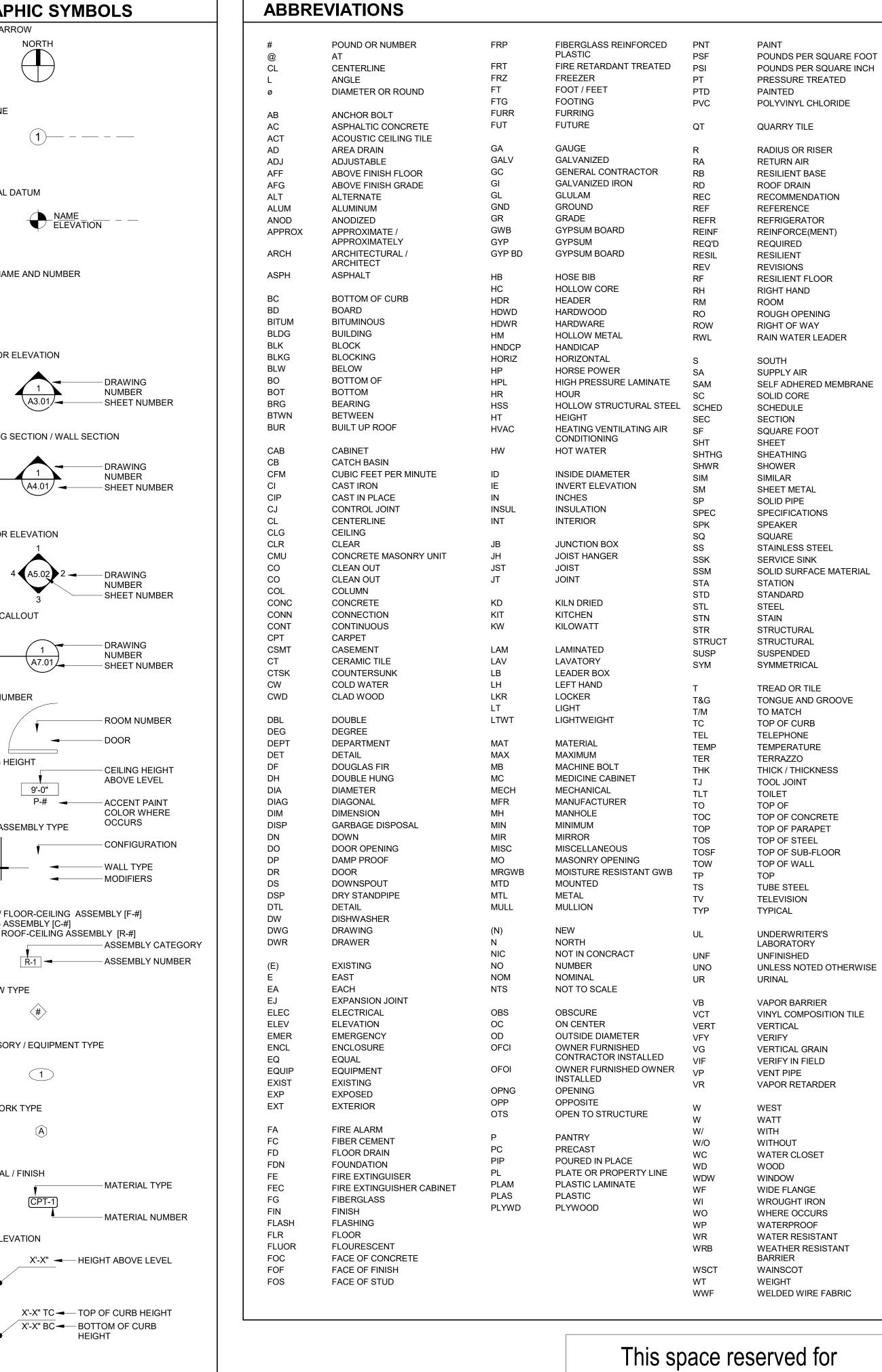
### **GENERAL SHEET NOTES**

- A. REFERENCE DETAILS FOR ASSEMBLIES NOT SHOWN HERE.
- B. SEE FINISH SCHEDULE, INTERIOR ELEVATIONS, AND DETAILS FOR SPECIAL CONDITIONS AND
- APPLIED WALL FINISHES. MAINTAIN FIRE RATING OF WALLS AROUND FIRE EXTINGUISHERS, CABINETS, AND OTHER
- RECESSED ITEMS. PROVIDE ACOUSTICAL SEALANT AT FLOOR A CEILING/ WALL TRANSITIONS, RECESSED BOXES.
- AND PENETRATIONS OF SOUND RATED ASSEMBLIES AND OTHER CONSTRUCTION AS
- REQUIRED TO ACHIEVE NOTED STC RATINGS. ALL FRAMING AND FINISHES OF INTERIOR WALLS TO EXTEND TO THE UNDERSIDE OF STRUCTURE ABOVE UNLESS NOTED OTHERWISE.
- WHERE PARTITIONS ARE SOUND RATED OR FIRE RATED AND INCLUDE PROPRIETARY MANUFACTURERS, NO SUBSTITUTIONS ARE ALLOWED
- ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY TO BE PRESSURE TREATED.
- PROVIDE DEFLECTION HEADS OR CLIPS AT ALL NON-LOAD BEARING CONDITIONS.

Wall Assemblies
1" = 1'-0"



### **GRAPHIC SYMBOLS** NORTH ARROW ANGLE **GRID LINE** (1)———— ACT ADJ AFG **VERTICAL DATUM** ALUM ANOD **APPROX** ARCH ROOM NAME AND NUMBER ASPH BD BITUM BLDG BLK BLOCK **EXTERIOR ELEVATION** BLKG BLW во - DRAWING NUMBER BOT SHEET NUMBER BRG BTWN BUR **BUILDING SECTION / WALL SECTION** CAB CB - DRAWING CFM NUMBER - SHEET NUMBER CIP CJ CLG INTERIOR ELEVATION CLR CLEAR CMU CO CO COL CONC CONN CONT CPT CSMT CT CTSK CWD DBL DEG DEPT DET DETAIL DH DIAG DIM DISP DOWN DO DP DR DOOR DS DSP DTL DETAIL DW DWG DWR (E) EAST EACH ELEC ELEV **EMER** ENCL EQ EQUAL EQUIP **EXIST** EXP EXT FD FDN FEC FG FIN FINISH FLASH FLR **FLOOR** FLUOR FOC FOF FOS



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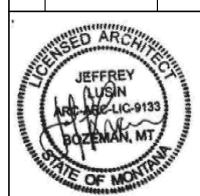


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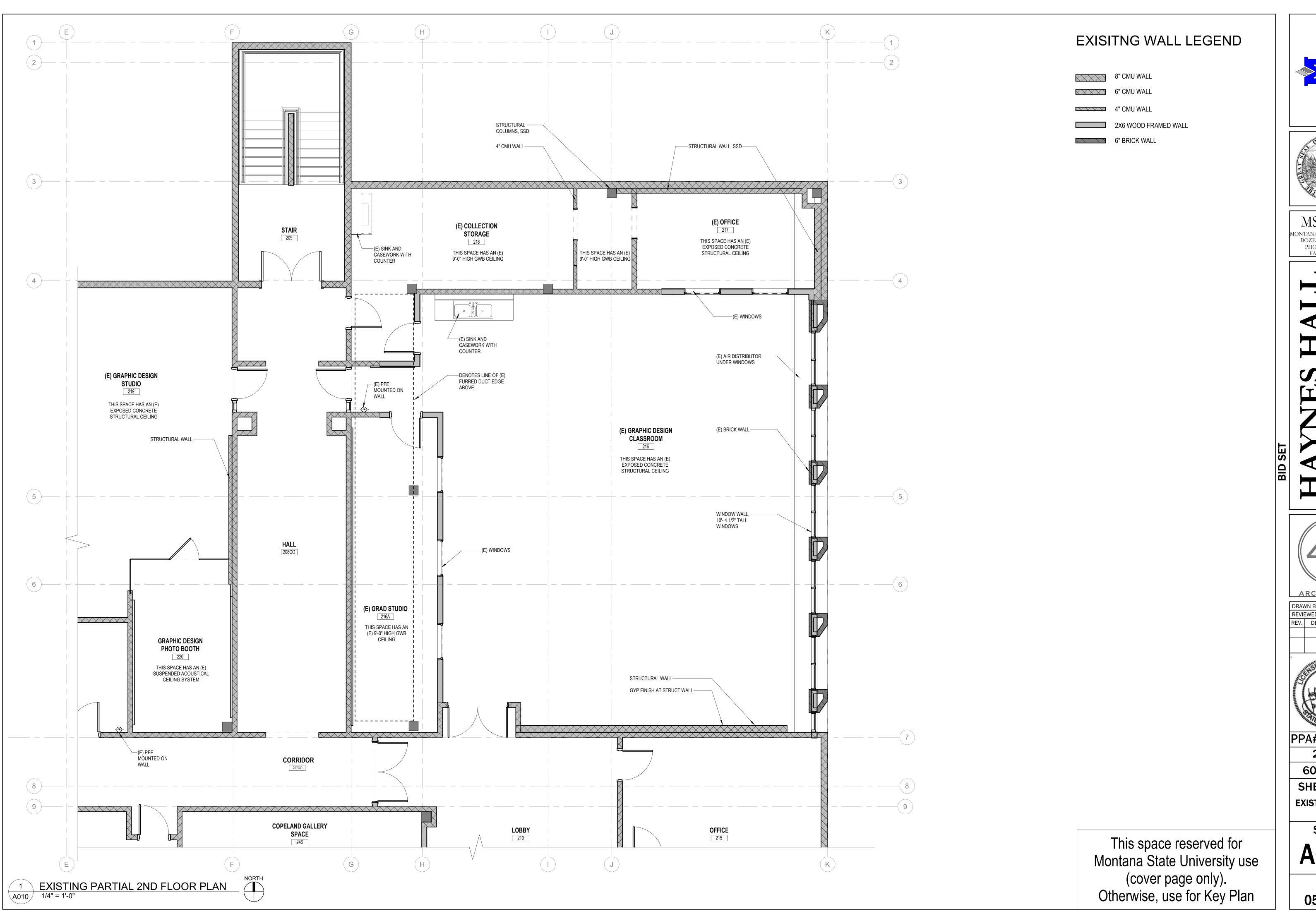
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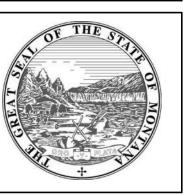
**SHEET TITLE GENERAL NOTES** 

**AND DIAGRAMS** SHEET

A001



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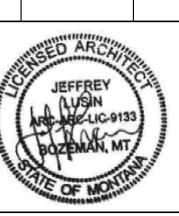
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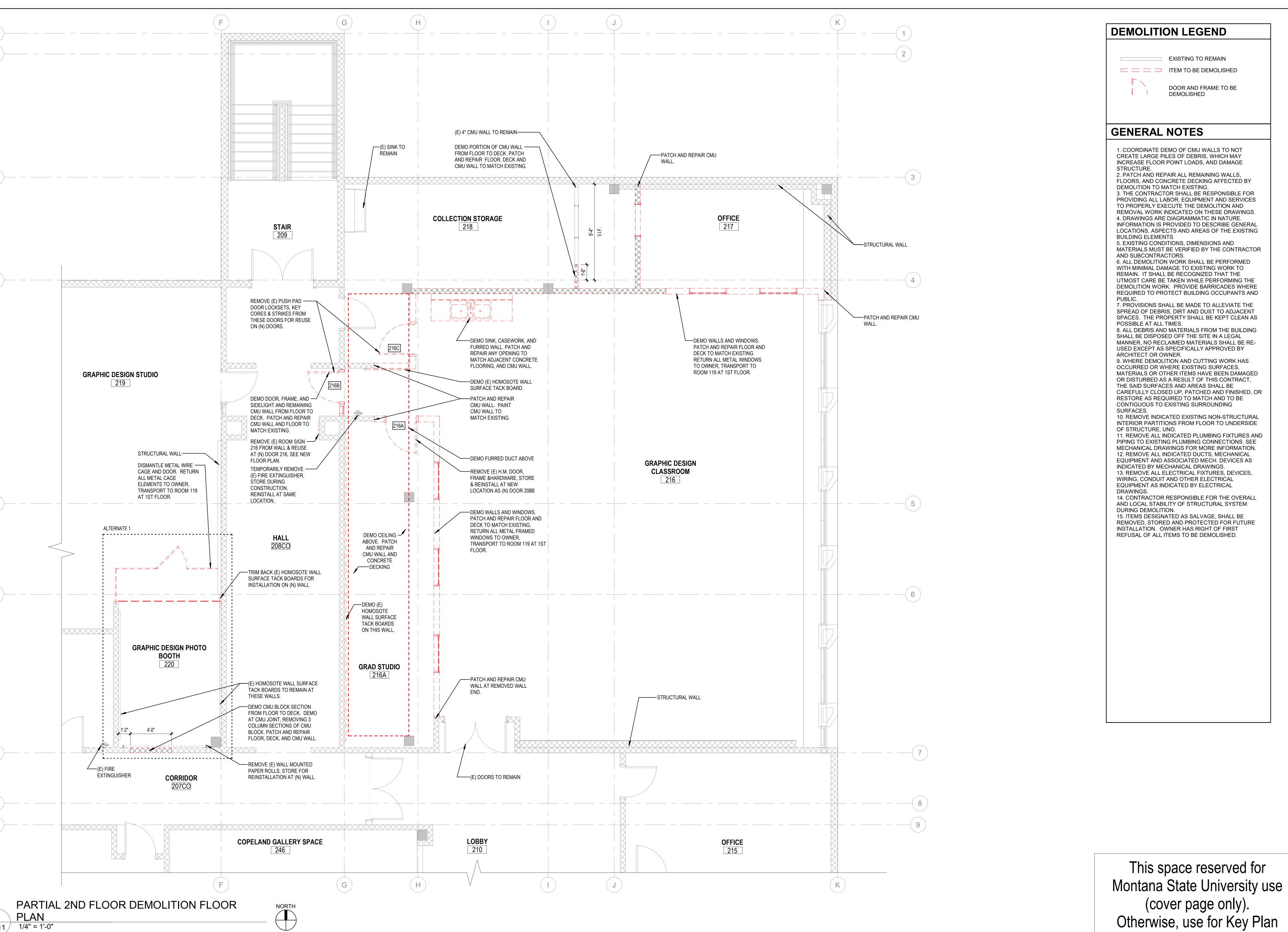
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SHEET TITLE
EXISTING FLOOR

PLAN SHEET

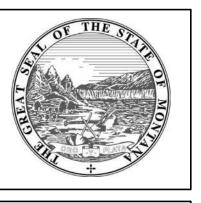
A010



A011 1/4" = 1'-0"







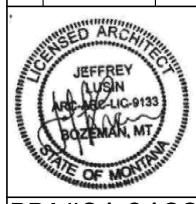
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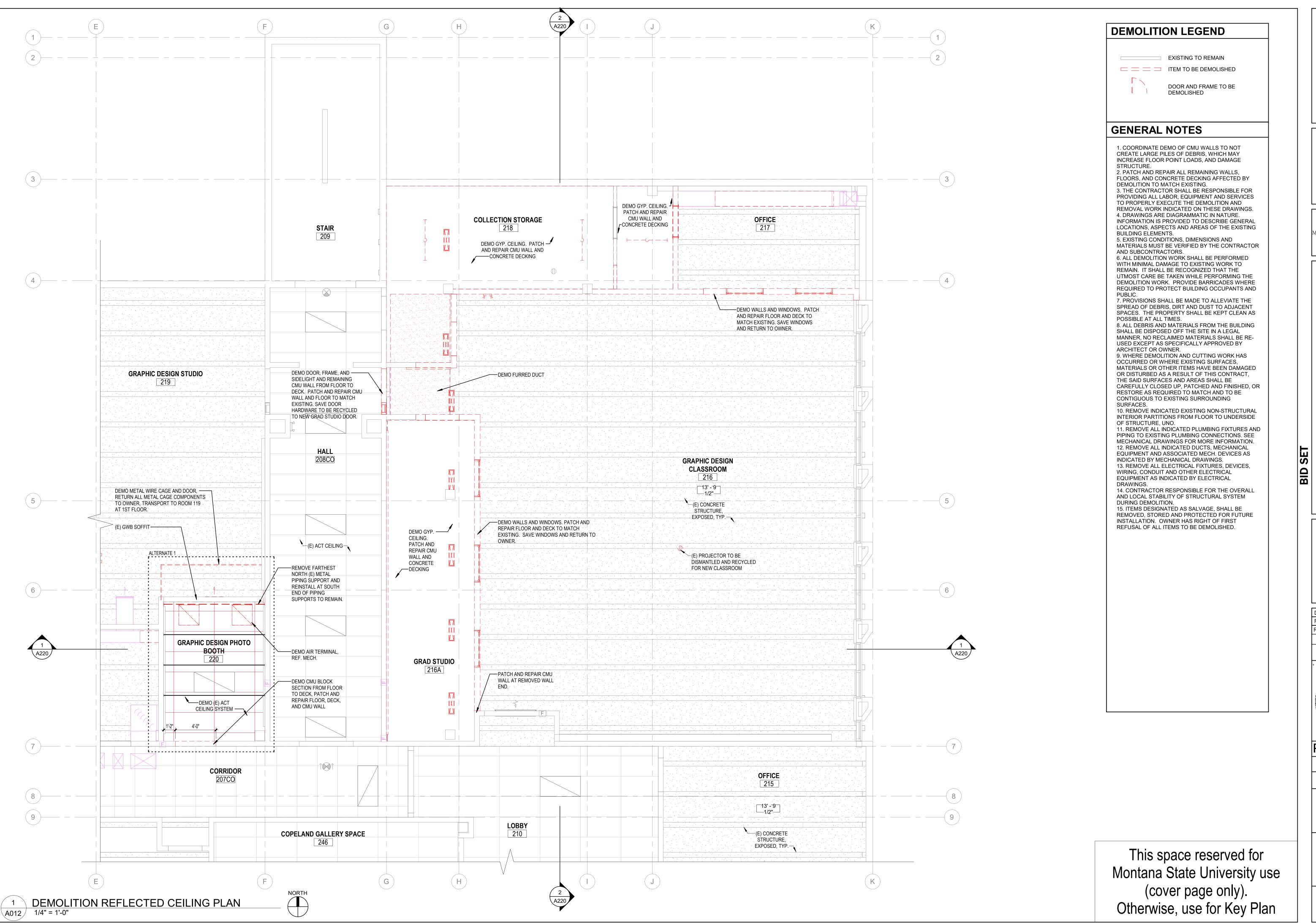


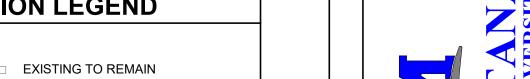
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**SHEET TITLE DEMOLITION FLOOR PLAN** 

SHEET A011







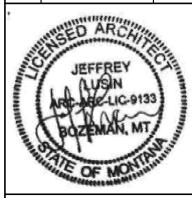


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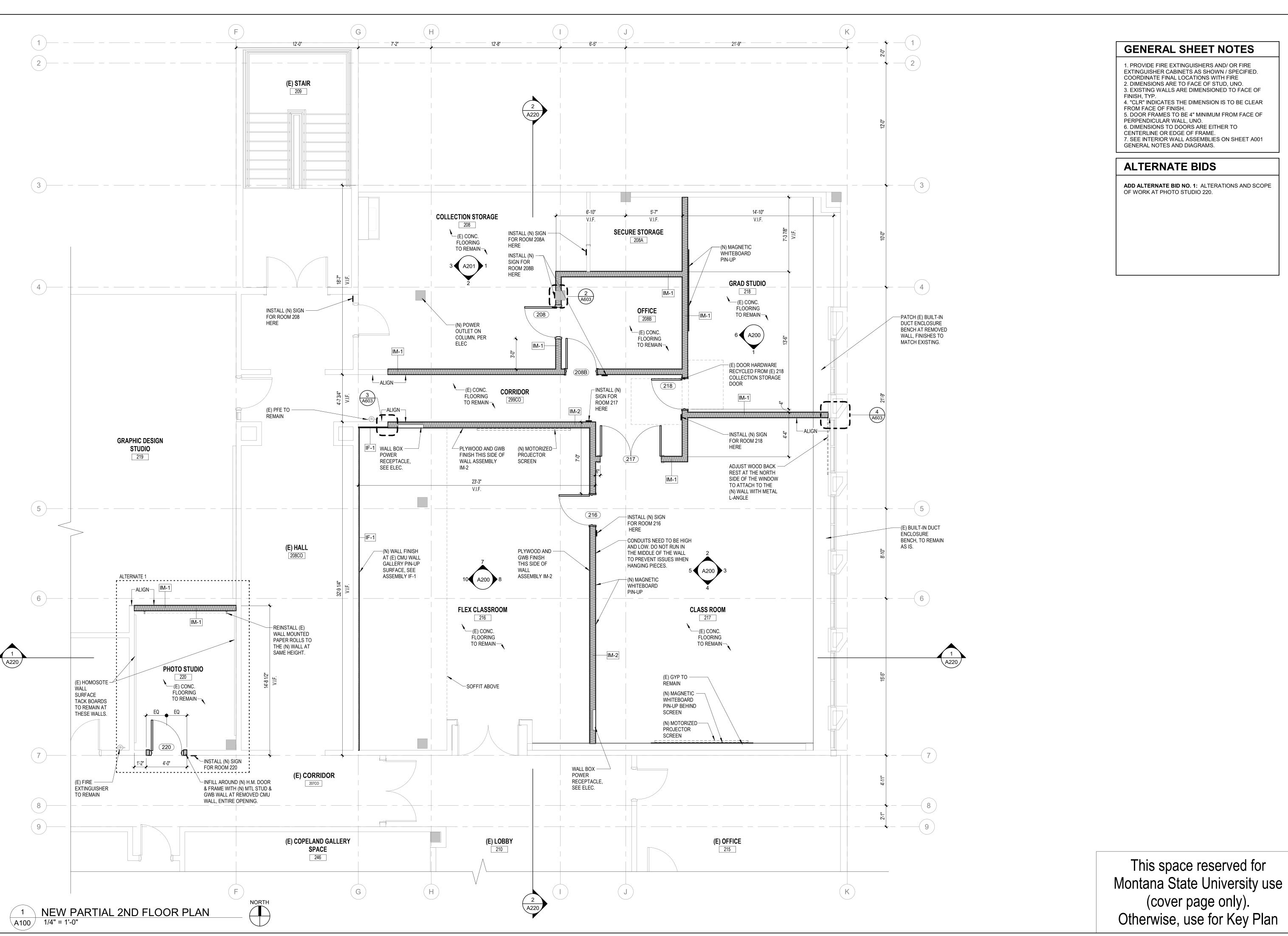
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SHEET TITLE

**DEMOLITION** REFLECTED CEILING PLAN

A012



### **GENERAL SHEET NOTES**

1. PROVIDE FIRE EXTINGUISHERS AND/ OR FIRE EXTINGUISHER CABINETS AS SHOWN / SPECIFIED. COORDINATE FINAL LOCATIONS WITH FIRE 2. DIMENSIONS ARE TO FACE OF STUD, UNO. 3. EXISTING WALLS ARE DIMENSIONED TO FACE OF

4. "CLR" INDICATES THE DIMENSION IS TO BE CLEAR FROM FACE OF FINISH. 5. DOOR FRAMES TO BE 4" MINIMUM FROM FACE OF PERPENDICULAR WALL, UNO. 6. DIMENSIONS TO DOORS ARE EITHER TO CENTERLINE OR EDGE OF FRAME. 7. SEE INTERIOR WALL ASSEMBLIES ON SHEET A001

### **ALTERNATE BIDS**

ADD ALTERNATE BID NO. 1: ALTERATIONS AND SCOPE OF WORK AT PHOTO STUDIO 220.

BID

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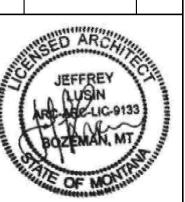
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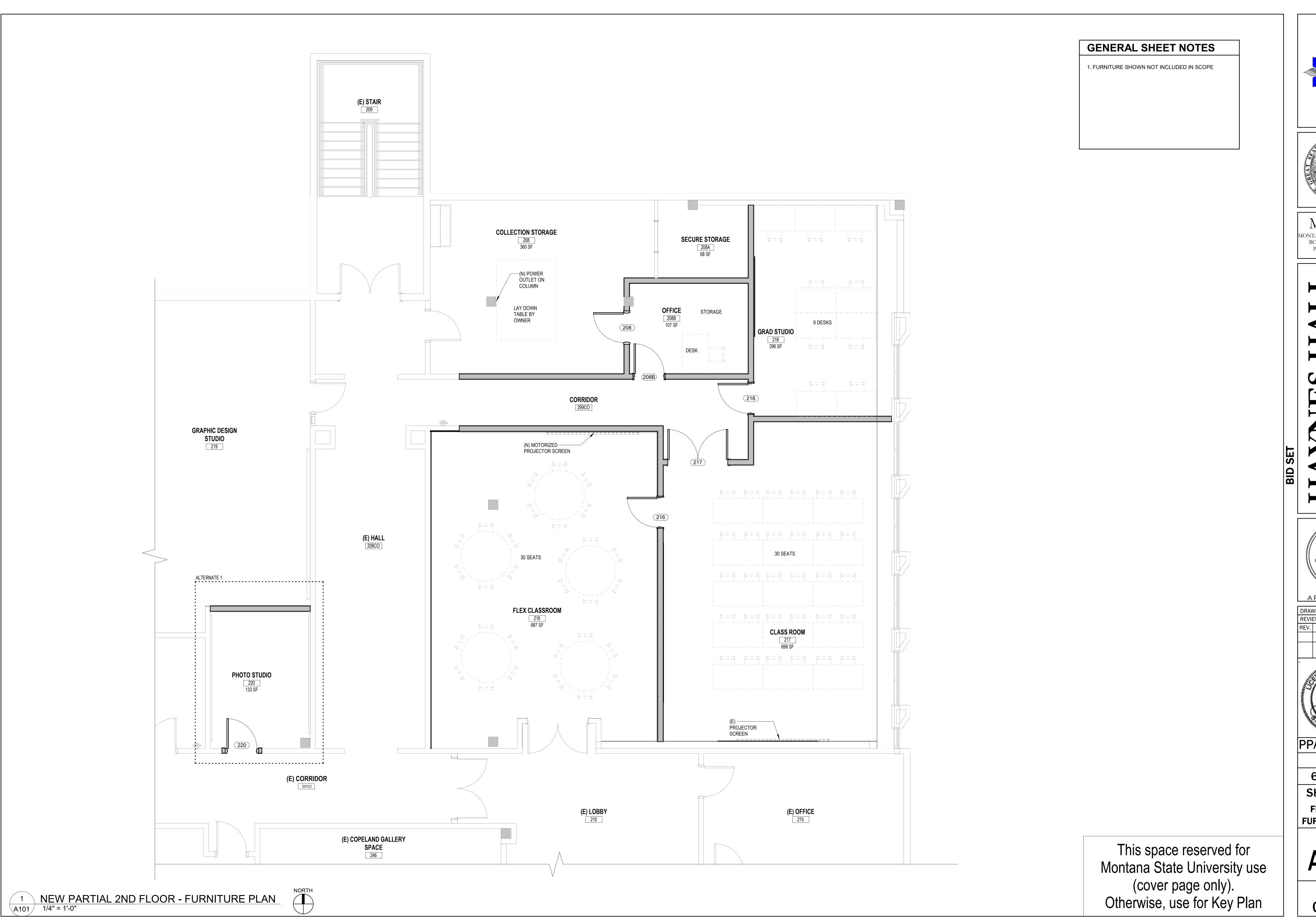
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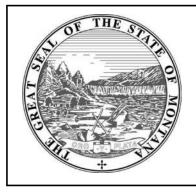
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**FLOOR PLAN** 

SHEET A100





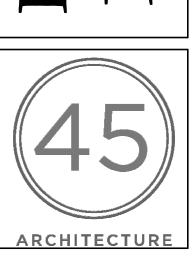


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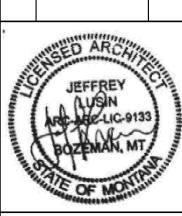
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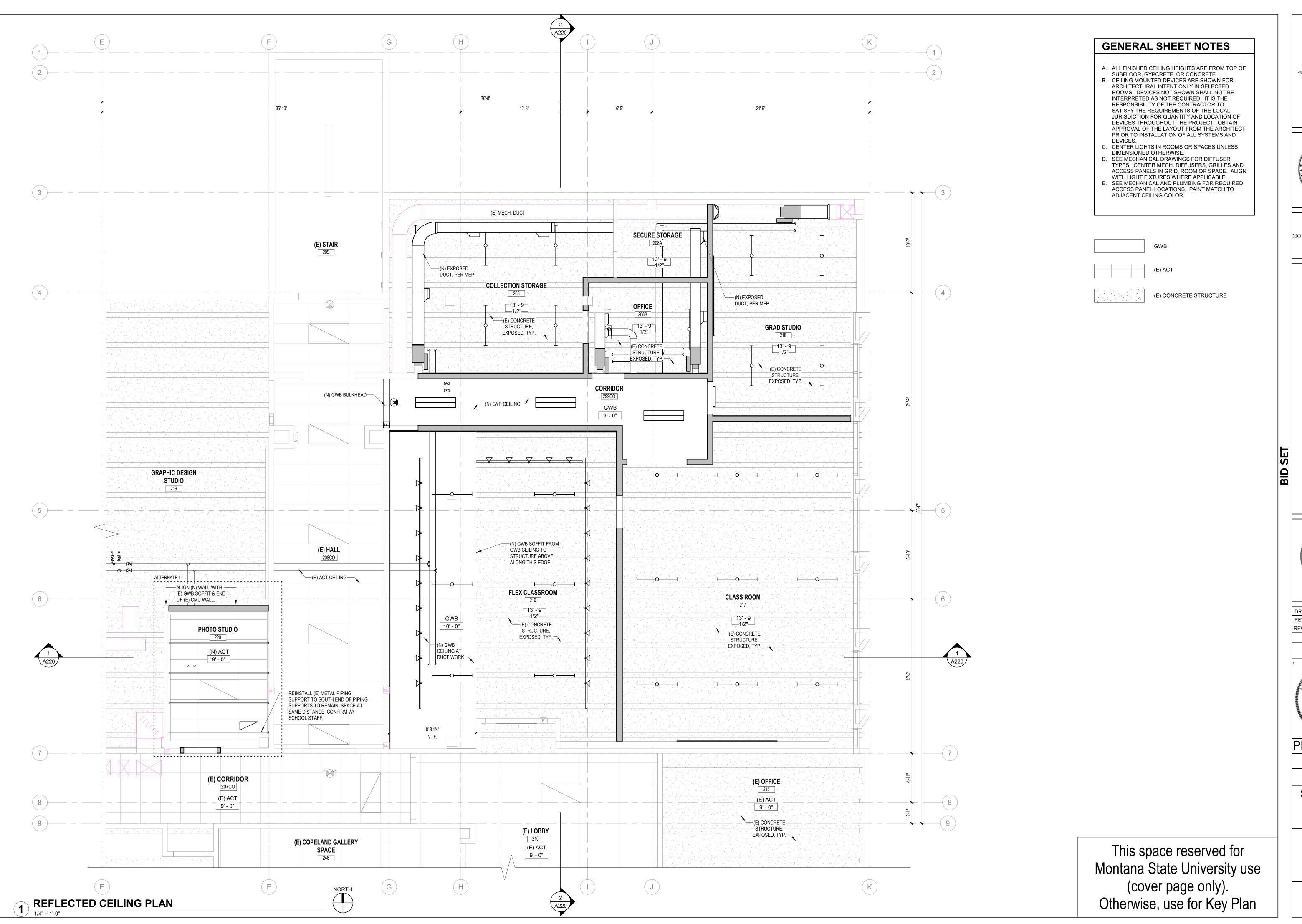


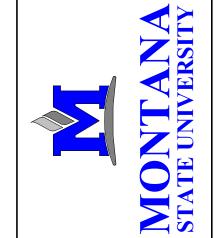
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SHEET TITLE
FLOOR PLANFURNITURE PLAN

SHEET **A101** 





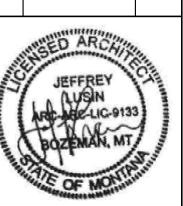


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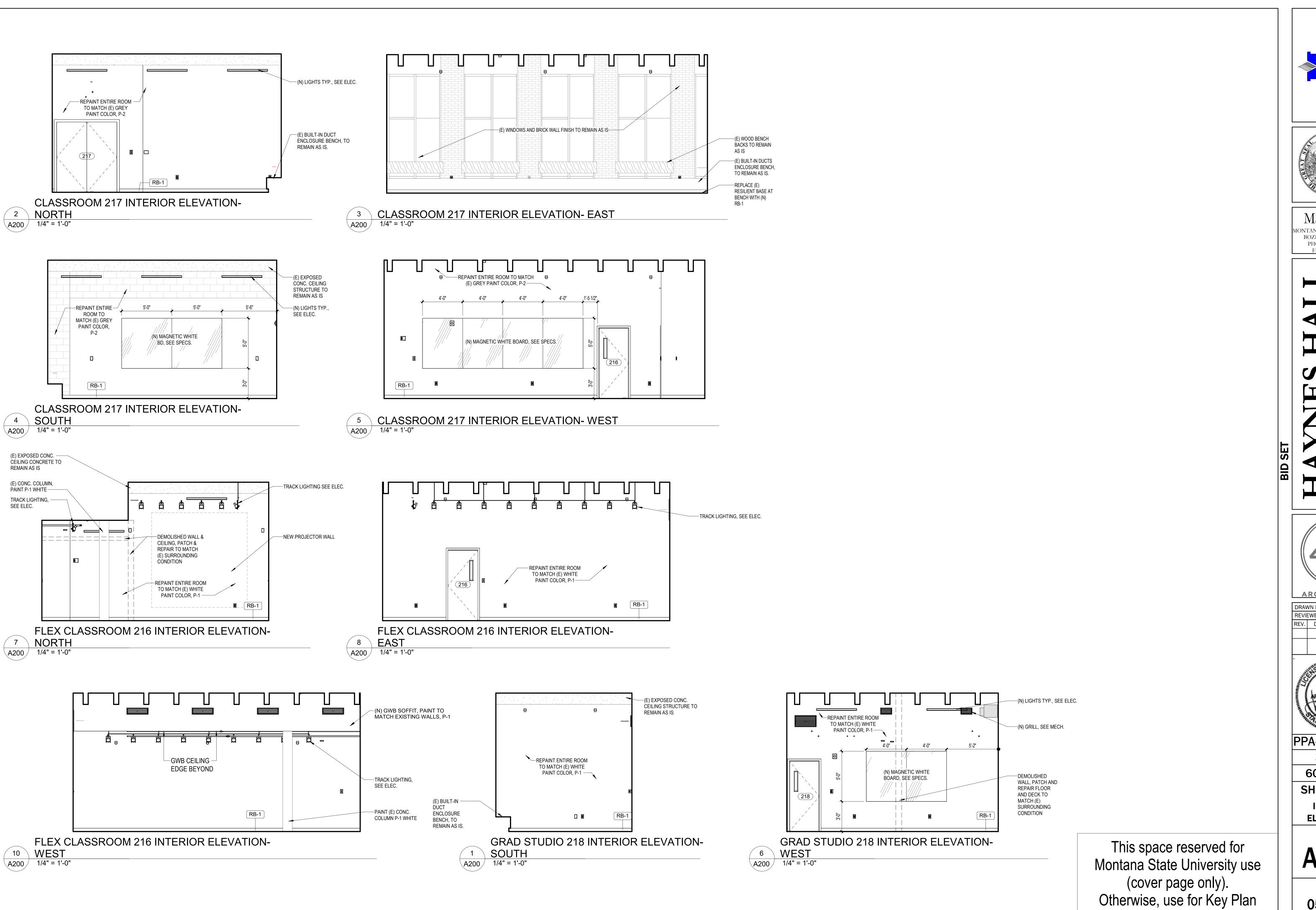
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SHEET TITLE REFLECTED

**CEILING PLAN** SHEET

**A110** 

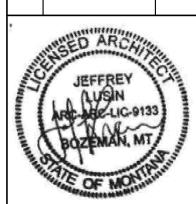




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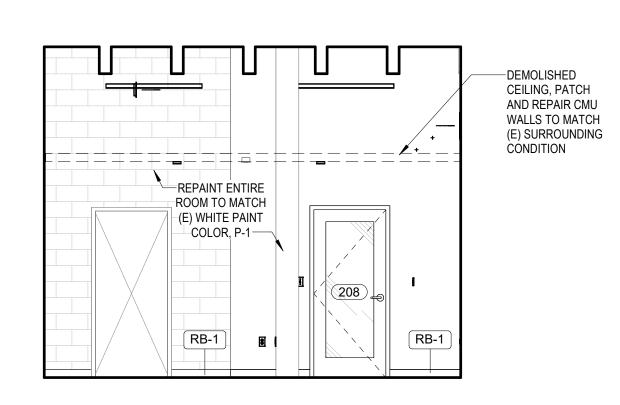
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SHEET TITLE

INTERIOR **ELEVATIONS** 

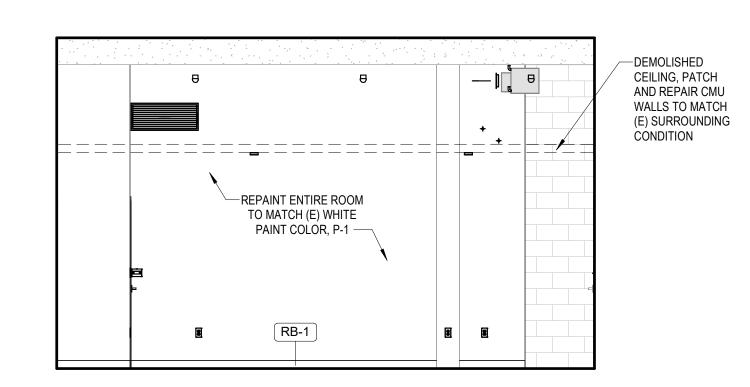
SHEET

**A200** 

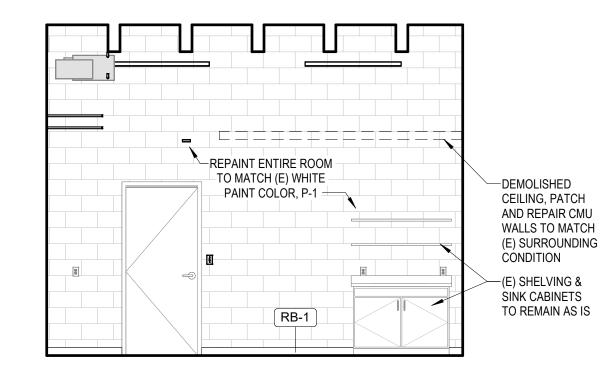


COLLECTION STORAGE 208 INTERIOR

1 ELEVATION- EAST
A201 1/4" = 1'-0"







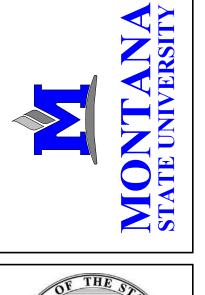
**COLLECTION STORAGE 208 INTERIOR** 3 ELEVATION- WEST 1/4" = 1'-0"

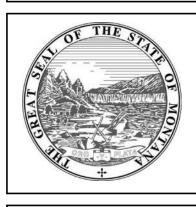
> PPA#21-0133 22037 6088.012. SHEET TITLE **INTERIOR ELEVATIONS** SHEET

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DATE 05-23-23

A201



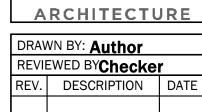


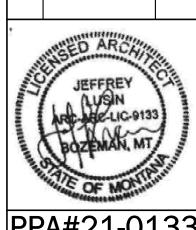


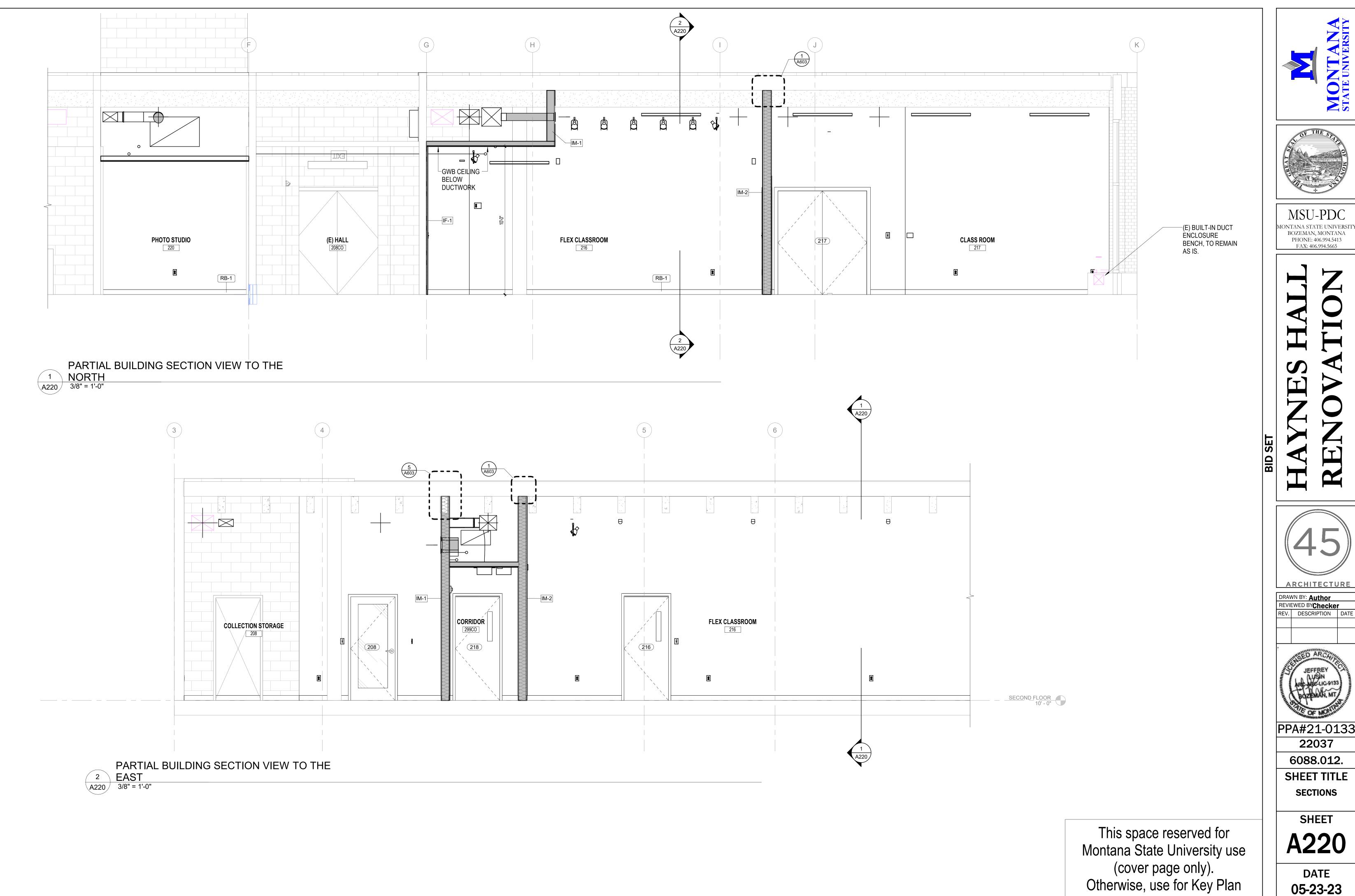


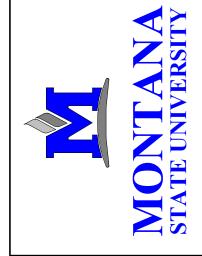
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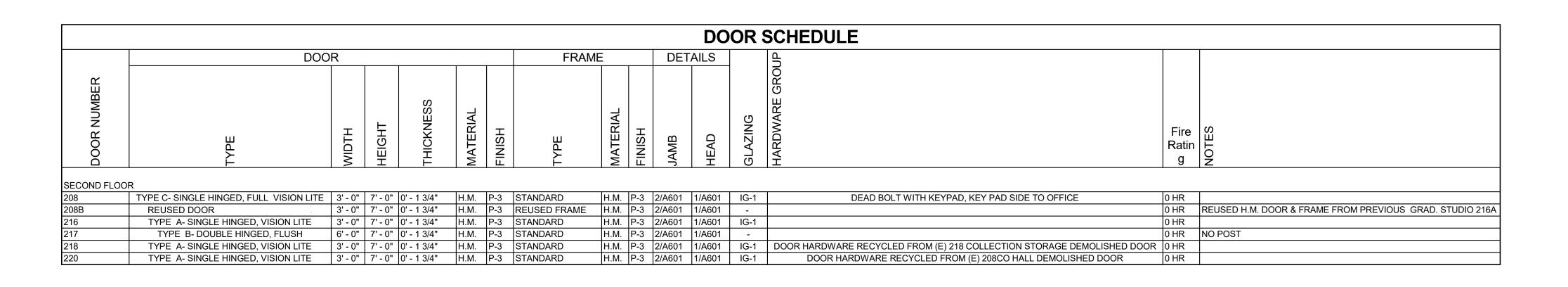
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SHEET TITLE **SECTIONS** 

SHEET

**A220** 



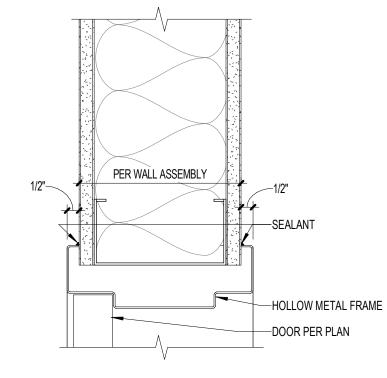
# DOOR TYPES BRIGHE TYPES PER SCHED. PER

		ROOM FINISH SCHEDULE														
	WALLS															
				N	ORTH		EAST	SOUTH		WEST				1		
No.	ROOM NAME	ROOM NAME FLOOR BASE MATERIAL FINISH		FINISH	MATERIAL	MATERIAL FINISH		MATERIAL FINISH		FINISH	MATERIAL	FINISH	COMMENTS			
SECON	ND FLOOR COLLECTION STORAGE	(E) CONCRETE	RB-1	(E) CMU	P-1	GWB	P-1	GWB	P-1	(E) CMU	P-1	(E) CONCRETE	Ι	PAINT TO MATCH (E) WHITE AT NORTH WA		
08A		(E) CONCRETE	RB-1	(E) CMU	P-1	GWB	P-1	GWB	P-1	(E) CMU	P-1	(E) CONCRETE		PAINT TO MATCH (E) WHITE AT NORTH WA		
)8B		(E) CONCRETE	RB-1	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	(E) CONCRETE		PAINT TO MATCH (E) WHITE IN ADJ. ROOM		
16	FLEX CLASSROOM	(E) CONCRETE	RB-1	PILYWOOD, GWB	P-1	PLYWOOD, GWB	P-1	(E) CMU	P-1	PLYWOOD, GWB	P-1	(E) CONCRETE, GWB SOFFIT	PAINT GWB P-1	PAINT TO MATCH (E) WHITE AT EAST WALL		
17	CLASS ROOM	(E) CONCRETE	RB-1	GWB	P-2	(E) Brick	-	(E) GWB	P-2	GWB	P-2	(E) CONCRETE	-	PAINT TO MATCH (E) GREY AT SOUTH WAL		
18	GRAD STUDIO	(E) CONCRETE	RB-1	(E) CMU	P-2	(E) CMU/ (E) BRICK	P-2 AT CMU	GWB	P-2	GWB	P-2	(E) CONCRETE	-	PAINT TO MATCH (E) GREY AT NORTH WAL		
19	GRAPHIC DESIGN STUDIO	(E) CONCRETE	RB-1	-	-	-	-	GWB	P-1	-	-	(E) CONCRETE	-	PAINT (N) WALL TO MATCH (E) WHITE IN RO		
20	PHOTO STUDIO	(E) CONCRETE	RB-1	GWB	P-1	(E) CMU	P-1	(E) CMU	P-1	(E) CMU	P-1	(E) ACT	-	PAINT TO MATCH (E) WHITE AT SOUTH WA		
99CO	CORRIDOR	(E) CONCRETE	RB-1	GWB	P-1	GWB	P-1	GWB	P-1	(E) CMU	P-1	GWB	P-1	PAINT TO MATCH (F) WHITE AT CORRIDOR		

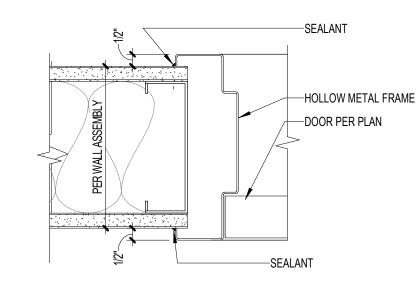
CEILING	NOTES
GWB DESC: 5/8" GYPSUM WALL BOARD ON METAL SUSPENSION SYSTEM, SEE SPEC. SECTION 09 21 16	A. SEE SPECIFICATIONS FOR MORE PRODUCT INFORMATION B. PAINT H.M. DOOR FRAMES P-3, TYPICAL UNO.
BASE	
RB-1 DESC: 4" RESILIENT COVE BASE, SEE SPEC. SECTION 09 65 00 COLOR: BLACK TO MATCH (E) IN SAME AREA OF 2ND FLOOR	
PAINT SEE SPEC SECTION 09 91 23	
P-1 DESC: WHITE PAINT TO MATCH (E) IN ROOM	
P-2 DESC: GREY PAINT TO MATCH (E) IN ROOM	
P-3 DESC: DARK GREY PAINT TO MATCH (E) DARK GREY PAINT ON DOOR FRAMES IN SAME AREA OF 2ND FLOOR	
PLASTIC LAMINATE	
PL-1 DESC: AT ADD ALTERNATE BID 2 SEE SPEC. SECTION 06 40 00	

### **GENERAL DOOR SCHEDULE NOTES**

- A. PROVIDE SAFETY GLAZING PER CODE.
   B. SWINGING DOOR DIMENSIONS ARE ACTUAL DOOR PANEL SIZE. CONTRACTOR TO COORDINATE FRAME AND ROUGH OPENING DIMENSIONS.
- C. SEE SPECIFICATION SECTION 08 71 00 FOR DOOR HARDWARE AND HARDWARE GROUPS.



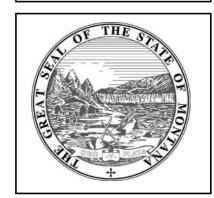
1 TYPICAL INT HM DOOR HEAD
3" = 1'-0"



2 TYPICAL INT HM DOOR JAMB
3" = 1'-0"

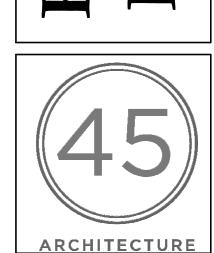
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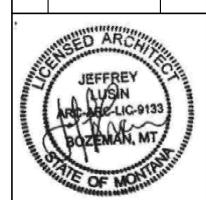


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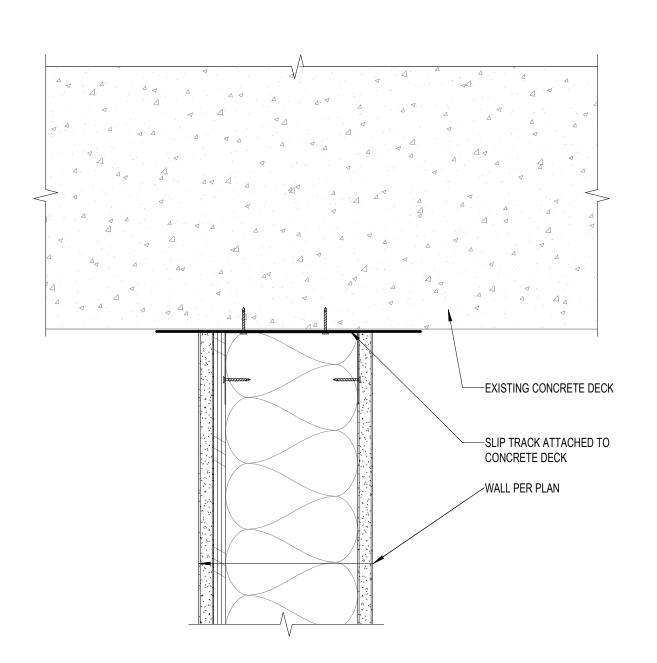


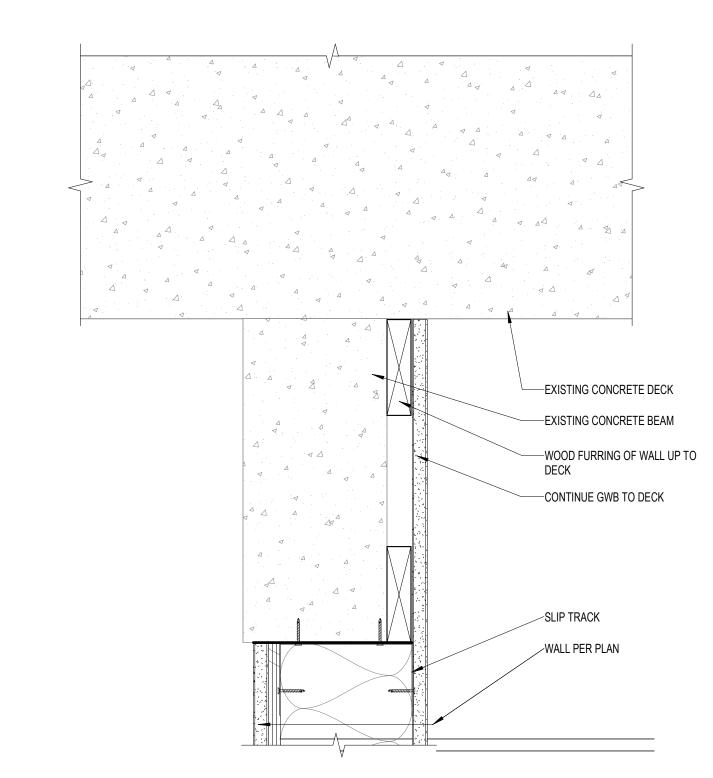
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SHEET TITLE
DOOR & FINISH
SCHEDULES, DOOR

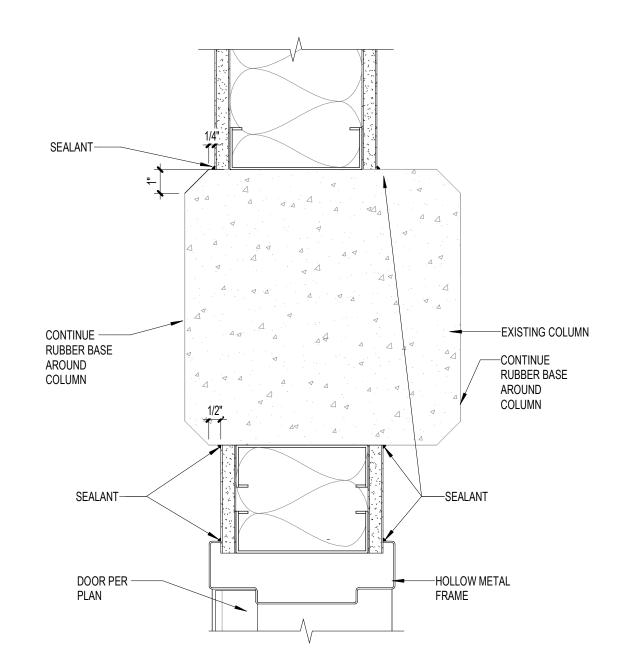
DETAILS A601

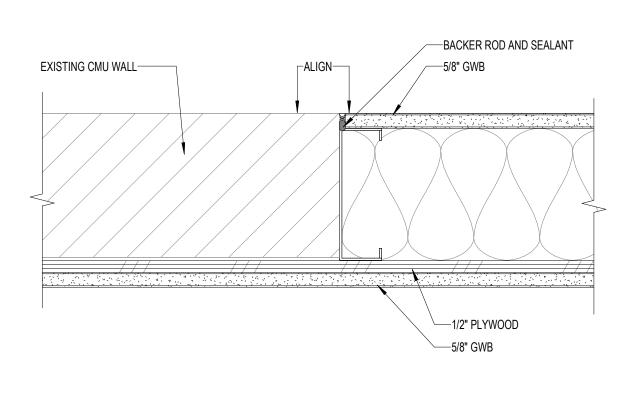


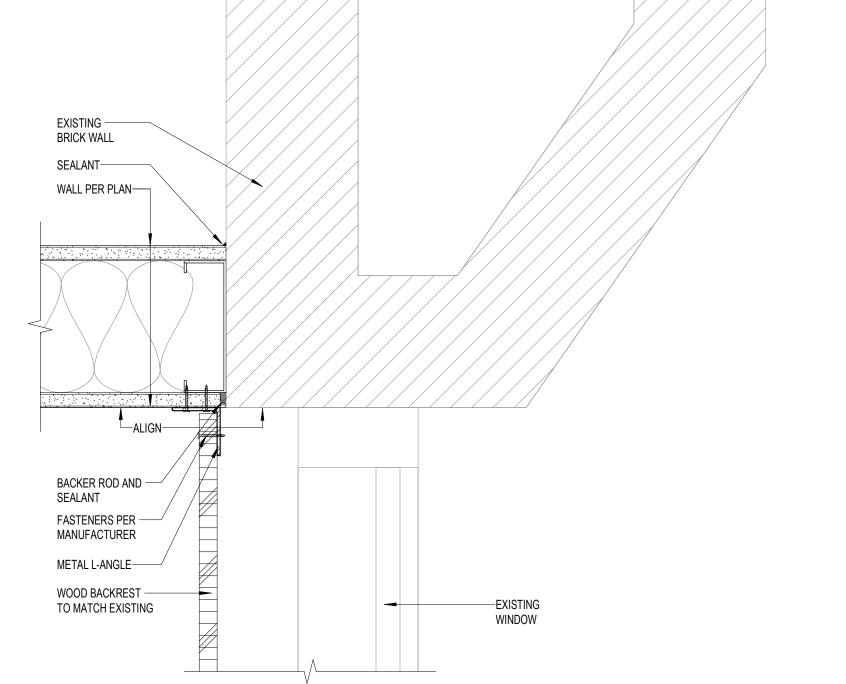


1 SECTION DETAIL- WALL @ CONCRETE CEILING
A603 3" = 1'-0"

5 SECTION DETAIL - WALL @ CONCRETE BEAM 3" = 1'-0"







PLAN DETAIL- NEW WALL @ COLUMN
3" = 1'-0"

3 PLAN DETAIL - CASED OPENING DETAIL
A603 3" = 1'-0"

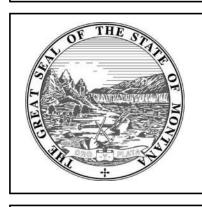
PLAN DETAIL - NEW WALL @ BRICK WINDOW

WALL

A603 3" = 1'-0"

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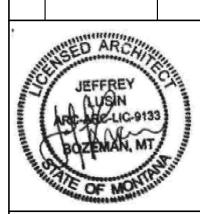


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SHEET TITLE INTERIOR DETAILS

SHEET

A603

### **GENERAL STRUCTURAL NOTES:**

THESE DRAWINGS HAVE BEEN PREPARED SOLELY FOR USE IN THE CONSTRUCTION OF THE INTERIOR, NON-STRUCTURAL RENOVATIONS OF HAYNES HALL ON THE CAMPUS OF MONTANA STATE UNIVERSITY IN BOZEMAN, MONTANA. POSSESSION OF THESE DRAWINGS DOES NOT GRANT A LICENSE TO CONSTRUCT OR FABRICATE THE WHOLE, OR PARTS OF THIS PROJECT IN OTHER

THE BUILDING ALTERATIONS INCLUDED IN THIS PROJECT ARE CONSIDERED LEVEL 2 ALTERATIONS AS DEFINED BY THE INTERNATIONAL EXISTING BUILDING CODE (IEBC). AS SUCH, A COMPETE STRUCTURAL ANALYSIS OF THE EXISTING BUILDING'S SYSTEMS WAS NOT PERFORMED. ONLY THOSE EXISTING ELEMENTS WHICH WERE AFFECTED BY THE ALTERATIONS WERE EVALUATED.

SELECTIVE DEMOLITION OF THE EXISTING BUILDING ELEMENTS ARE MINOR IN NATURE AND DETERMINED TO HAVE NO ADVERSE EFFECTS ON ANY EXISTING STRUCTURAL ELEMENTS. ALL EXISTING WALLS BEING DEMOLISHED AS PART OF THIS PROJECT ARE ASSUMED TO BE NON-STRUCTURAL AND NON-LOAD BEARING. AS A RESULT, THE PROPOSED ALTERATIONS DID NOT TRIGGER NOR NECESSITATE A STRUCTURAL EVALUATION OF THE EXISTING STRUCTURAL ELEMENTS OF THE BUILDING COMPLEX.

STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SITE CIVIL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS FROM THESE DRAWINGS INCLUDING BUT NOT LIMITED TO DIMENSIONS, BLOCKOUTS, OPENINGS, SLEEVES, EMBEDDED ITEMS, ETC. INTO THEIR SHOP DRAWINGS AND WORK. NOTIFY THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD OF ANY DISCREPANCIES OR IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN OR NOTED.

THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.

THE CONTRACTOR SHALL FURNISH THE PRODUCTS SPECIFIED ON THE DRAWINGS. SUBSTITUTIONS WILL BE CONSIDERED ONLY IF THE CONTRACTOR PROVIDES DOCUMENTAION TO PROVE THE ALTERNATIVE EQUALS OR EXCEEDS THE STRUCTURAL PERFORMANCE CHARACTERISTICS OF THE SPECIFIED PRODUCT.

### CODE REQUIREMENTS:

- ALL WORK SHALL BE IN STRICT COMPLIANCE WITH: A. 2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC) AS AMENDED BY THE STATE OF MONTANA (INTERNATIONAL
  - EXISTING BUILDING CODE, 2018 EDITION, EFFECTIVE DECEMBER 7, 2019) B. ALL OTHER STATE AND LOCAL BUILDING REQUIREMENTS THAT APPLY.

### **TEMPORARY CONDITIONS:**

CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY SUPPORT PRIOR TO COMPLETION OF VERTICAL AND LATERAL LOAD SYSTEMS. MORRISON-MAIERLE HAS NOT BEEN RETAINED TO PROVIDE ANY SERVICES RELATED TO JOB SITE SAFETY PRECAUTIONS, OR TO REVIEW THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES FOR THE CONTRACTOR TO PERFORM WORK. UNLESS WE ARE SPECIFICALLY RETAINED AND COMPENSATED TO DO OTHERWISE, OUR WORK IS LIMITED TO THE FINAL DESIGN OF THE WORK DESCRIBED ON OUR DRAWINGS FOR THIS PROJECT.

CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

EXISTING BUILDING/SITE DIMENSIONS AND ASSUMED CONDITIONS ARE TO BE VERIFIED IN THE FIELD AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD OF ALL DISCREPANCIES WHICH REQUIRE A SIGNIFICANT CHANGE IN THE DESIGN AND/OR CONSTRUCTION FROM THAT SHOWN ON THE DRAWINGS.

### **ASSUMED FUTURE CONSTRUCTION:** VERTICAL: NONE

HORIZONTAL: NONE

DESIGN IS BASED ON THE FOLLOWING LOADING FOR THE BASIS OF STRENGTH, PERFORMANCE, AND SERVICEABILITY OF THE STRUCTURE:

### DESIGN CRITERIA

IVE LO	DAD CRI	TERIA (IB	C 1603.1.1)

FLOOR LIVE LOADS:	UNIFORM LOAD	CONCENTRATED LOAD
ASSEMBLY AREAS: LOBBIES	100 PSF (NON-REDUCABLE)	N/A
CORRIDORS: FIRST FLOOR	100 PSF	N/A
SCHOOLS: CLASSROOMS	40 PSF	1000 LBS
STAIRS AND EXIT WAYS	100 PSF	300 LBS
ROOF LIVE LOAD CRITERIA (IBC 160	3.1.2)	
ORDINARY FLAT, PITCHED, CURVED	20 PSF (SEE SNOW LOAD)	N/A
	100 PSF	N/A

REFER TO EXISTING 'CREATIVE ARTS COMPLEX' STRUCTURAL DRAWINGS BY BEAUDETTE CONSULTING ENGINEERING, INC. DATED

### **STRUCTURAL OBSERVATIONS:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD A MINIMUM OF 24 HOURS IN ADVANCE OF REQUIRED OBSERVATION(S). CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE OBSERVER. APPROVAL BY THE MUNICIPAL INSPECTOR DOES NOT PRECLUDE OBSERVATIONS BY THE ENGINEER OF RECORD AND APPROVAL BY THE ENGINEER OF RECORD DOES NOT PRECLUDE THE INSPECTION PROCESS BY THE MUNICIPAL INSPECTOR AND ANY OTHER CODE REQUIREMENTS FOR INSPECTION.

UPON COMPLETION OF WORK THE STRUCTURAL OBSERVER SHALL SUBMIT A REPORT TO THE OWNER AND BUILDING OFFICIAL ATTESTING TO THE VISUAL OBSERVATION MADE. THE REPORT SHALL IDENTIFY ANY REPORTED DEFICIENCIES WHICH HAVE NOT

STRUCTURAL OBSERVATIONS SHALL BE PERFORMED TO DOCUMENT GENERAL CONFORMANCE OF THE STRUCTURAL DRAWINGS AND SPECIFICATIONS AT THE FOLLOWING STAGES:

 SUBSTANTIAL COMPLETION OF CFS CONSTRUCTION AS REQUIRED TO ADDRESS STRUCTURAL ISSUES

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL PRODUCTS, INCLUDING THE FOLLOWING:

SHOP DRAWINGS SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION FOR ALL STRUCTURAL PRODUCTS DELIVERED TO THE PROJECT. IF THE SHOP DRAWINGS DEVIATE FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF THE STRUCTURAL ENGINEER OF RECORD.

DEFERRED SUBMITTAL DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DEFERRED SUBMITTAL SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF THE STRUCTURAL ENGINEER FOR LOADS IMPOSED ON THE SUPPORTING STRUCTURE. CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. DESIGN SHALL BE BASED ON THE REQUIREMENTS OF THE CODES AND DESIGN CRITERIA NOTED IN THESE GENERAL STRUCTURAL NOTES.

THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT, MACHINERY AND ASSOCIATED PIPING WITH THE STRUCTURE. CONNECTIONS TO STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.

FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DEVIATE FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.

THE USE OF REPRODUCTIONS OR PHOTOCOPIES OF THE CONTRACT DOCUMENTS SHALL NOT BE PERMITTED. WHEN CAD OR REVIT FILES ARE PROVIDED TO THE CONTRACTOR OR SUBCONTRACTORS, IT IS THE RESPONSIBILITY OF THE DETAILERS TO REMOVE ALL INFORMATION NOT DIRECTLY RELEVANT TO THE CREATION OF THE PLACING DRAWINGS AS WELL AS ALL REFERENCES TO THE OUTSIDE SOURCE FILES.

SUBMITTAL DOCUMENTS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO BEING SUBMITTED TO THE ARCHITECT FOR REVIEW.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE REVIEWED SUBMITTAL TO THE BUILDING DEPARTMENT FOR DEFERRED PERMIT APPLICATION. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

### **METALS**:

### **COLD-FORMED METAL FRAMING:**

FRAMING MEMBERS SHALL BE CERTIFIED ACCORDING TO THE PRODUCT CERTIFICATION PROGRAM OF THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA), THE STEEL FRAMING INDUSTRY ASSOCIATION, OR THE STEEL STUD MANUFACTURERS ASSOCIATION. FRAMING SHALL COMPLY WITH ANSI S100, S200, S211, AND S212.

18 GAUGE (43 MIL) AND THINNER STEEL SHALL BE FORMED FROM ASTM A1003 ST33H (Fy = 33 KSI). 16 GAUGE (54MIL) AND THICKER STEEL SHALL BE FORMED FROM ASTM A1003 ST50H (Fy = 50 KSI).

ALL COLD-FORMED METAL FRAMING COMPONENTS SHALL BE GALVANIZED WITH A G-60 COATING PER ASTM A653.

ALL FIELD CUTTING OF FRAMING SHALL BE DONE BY SAWING, SHEARING, OR PLASMA CUTTING. SPLICES IN FRAMING MEMBERS NOT SPECIFICALLY DETAILED IN THE DRAWINGS ARE NOT ALLOWED. AXIAL LOADED BEARING MEMBERS, INCLUDING WALL STUDS AND BUILT-UP POSTS, SHALL HAVE SQUARE END CUTS AND BE SEATED TIGHT AGAINST TOP AND BOTTOM TRACKS WITH A MAXIMUM GAP TOLERANCE OF 1/16" BETWEEN STUD AND TRACK.

UNLESS OTHERWISE NOTED. TRACK FRAMING SHALL MATCH STUD/JOIST SIZE AND GAUGE. ATTACH TO STUD AND JOIST FRAMING

DO NOT NOTCH, OR COPE FRAMING MEMBERS. STUDS SHALL BE FURNISHED WITH FACTORY PUNCHOUTS THROUGH WEBS FOR ROUTING CONDUIT AND BRIDGING; DO NOT CUT ADDITIONAL HOLES OR ENLARGE THE PUNCHOUTS. PUNCHOUTS SHALL BE AT LEAST THE DEPTH OF THE MEMBER CLEAR FROM THE CLOSEST FASTENER, WELDED CONNECTION OR BEARING POINT.

INSTALL DOUBLE-FLAT STRAP BRACING OR CHANNEL BRIDGING PRIOR TO LOADING STUDS. CONTRACTOR TO ENSURE PRE-PUNCHED HOLE ALIGNMENT IF CHANNEL BRIDGING IS TO BE USED.

BLOCK ALL EDGES OF SHEAR WALL SHEATHING WITH THE SAME GAGE MATERIAL AS WALL STUDS. 2"x18 GAGE STRAPPING MAY BE USED AS EDGE BLOCKING. FULL-DEPTH STUD SECTIONS CLIP ATTACHED TO STUDS MAY BE USED AS STABILITY BLOCKING IN ADDITION TO EDGE BLOCKING FOR SHEATHING. SEE WOOD AND WOOD PRODUCTS NOTES FOR ADDITIONAL SHEATHING

WELDING OF FRAMING SHALL BE IN ACCORDANCE AWS D1.3, STRUCTURAL WELDING CODE - STEEL SHEET. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT PER ASTM A780.

UNLESS NOTED OTHERWISE IN DRAWINGS, USE #12 SCREWS (16 GAUGE AND THICKER), #10 SCREWS (18 AND 20 GAUGE) AND #8 SCREWS (22 GAUGE) TO CONNECT COLD-FORMED STEEL FRAMING. SELF TAPPING AND DRILLING SCREWS TO BE HILTI KWIK-PRO (ICC ESR-2196) OR ITW BUILDEX TEKS (ICC ESR-1976). PLACE SCREWS WITH MINIMUM SPACING AND EDGE DISTANCE OF 3/4", UNLESS NOTED OTHERWISE ON DRAWINGS. PROVIDE MINIMUM LENGTH FOR SCREW TO PENETRATE BEYOND FASTENED MEMBERS BY AT LEAST TWO FULL DIAMETER THREADS.

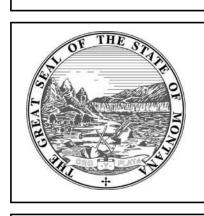
BOLTS TO BE PLACED IN PRE-DRILLED HOLES IN COMPLIANCE WITH AISI NORTH AMERICAN SPECIFICATION, SECTION E3A. STANDARD HOLE SIZES SHOULD NOT EXCEED THE BOLT DIAMETER + 1/32" FOR BOLTS LESS THAN 1/2" DIAMETER, OR BOLT DIAMETER + 1/16" FOR BOLTS 1/2" DIAMETER AND GREATER. OVERSIZED OR SLOTTED HOLES SHOULD NOT BE USED UNLESS NOTED OTHERWISE ON DRAWINGS.

POWER ACTUATED FASTENERS TO BE USED TO CONNECT COLD FORMED STEEL FRAMING TO CONCRETE OR STEEL TO BE 0.157" DIAMETER HILTI X-U (ICC ESR-2269). WHEN CONNECTING TO STEEL, FASTENERS SHALL HAVE A MINIMUM EDGE DISTANCE OF 1/2" AND A MINIMUM SPACING OF 1" ON CENTER. LENGTH OF FASTENER SHALL BE SUCH THAT THE POINT PENETRATES THROUGH THE STEEL BASE MATERIAL WHEN CONNECTING TO STEEL LESS THAN 3/4" THICK. LENGTH OF FASTENER SHALL PROVIDE 1/2" MINIMUM POINT PENETRATION WHEN CONNECTING TO STEEL 3/4" THICK OR GREATER. WHEN CONNECTING TO CONCRETE, FASTENRS SHALL HAVE A MINIMUM EDGE DISTANCE OF 3" AND A MINIMUM SPACING OF 4" ON CENTER. USE 1" EMBEDMENT UNLESS NOTED OTHERISE ON DRAWINGS. DO NOT INSTALL UNTIL THE CONCRETE HAS REACHED ITS DESIGNATED STRENGTH.

ABV ADDL	ABOVE ADDITIONAL	J	JOIST
AA	ADDITIONAL ADHESIVE ANCHOR	LAM	LAMINATED
AD ALT	ADHESIVE DOWEL ALTERNATE	LVL LF	LAMINATED VENEER LUMBI LINEAR FEET
ACI	AMERICAN CONCRETE	LL	LIVE LOAD
INSTITUTE AISC	AMERICAN INSTITUTE OF	LLH LLV	LONG LEG HORIZONTAL LONG LEG VERTICAL
STEEL		LLV	LONG LLG VLITTICAL
CONSTRI ANSI	UCTION AMERICAN NATIONAL	MFR M	MANUFACTURER MASONRY
STANDARDS	INSTITUTE	ML	MASONRY LINTEL
APA ASSOCIATION	AMERICAN PLYWOOD	MP MATL	MASONRY PIER MATERIAL
ASCE	AMERICAN SOCIETY OF CIVIL	MAX	MAXIMUM
ASTM	ENGINEERS AMERICAN SOCIETY OF	MECH MBR	MECHANICAL MEMBER
TESTING	AND	MTL	METAL
MATERIALS AB	ANCHOR BOLT	MD ME <i>ZZ</i>	METAL DECK MEZZANINE
AR	ANCHOR ROD	MIN	MINIMUM
L ARCH	ANGLE ARCHITECT	MISC	MISCELLANEOUS
		NLB	NONLOAD BEARING
B PL BSMT	BASE PLATE BASEMENT	N NA	NORTH NOT APPLICABLE
BM BRG	BEAM BEARING	NTS NO	NOT TO SCALE NUMBER
BLW	BELOW	NO	NUMBER
BTWN BLKG	BETWEEN BLOCKING	OC OPNG	ON CENTER OPENING
BOT	BOTTOM	OWJ	OPEN WEB JOIST
BC BLDG	BOTTOM CHORD BUILDING	OPP	OPPOSITE
BU	BUILT UP	PAR	PARALLEL
CANTII	CANTILEVED	PERP PREFAB	PERPENDICULAR
CANTIL CB	CANTILEVER CARRIAGE BOLT	PH	PREFABRICATE PHASE
CIP CTR	CAST IN PLACE CENTER	PC PILE	PIER CAP/CONCRETE
CTRD	CENTERED	PILE PL	PLATE
CL C	CENTERLINE CHANNEL	PLYWD LBS	PLYWOOD POUND
CLR	CLEAR	PLF	POUNDS PER LINEAR FOOT
CFMF FRAMING	COLD FORMED METAL	PSF PSI	POUNDS PER SQUARE FOO POUNDS PER SQUARE INCI
COL	COLUMN	PAF	POWER-ACTUATED
CONC CC	CONCRETE CONCRETE COLUMN	FASTENERS PT	PRESSURE TREATED
CMU	CONCRETE MASONRY UNIT		
CONN CD	CONNECTION CONSTRUCTION DOCUMENTS	QA	QUALITY ASSURANCE
CJ	CONSTRUCTION JOINT	R	RADIUS
CONT CF	CONTINUOUS/ CONTINUED CONTINUOUS	REF REINF	REFERENCE REINFORCE, REINFORCING
CONCRETE FO	OTING	REBAR	REINFORCING STEEL BARS
CONTR CJ	CONTRACTOR CONTROL JOINT	REQT REV	REQUIREMENT REVISION
COORD	COORDINATE	RT	RIGHT
X BRACE CR	OSS BRACE	RGD INS RD	RIGID INSULATION ROUND
D	PENNY (NAIL) OR DEPTH		
DL DEG	DEAD LOAD DEGREE	SCHED SA	SCHEDULE SCREW ANCHOR
DEMO DET	DEMOLITION DETAIL	SHTHG SIM	SHEATHING SIMILAR
DIM	DIMENSION	SCJ	SLAB CONTRACTION JOINT
DIST DOUG FIR DO	DISTANCE LIGLAS FIR	SQ SF	SQUARE SQUARE FEET
DWL	DOWEL	SI	SQUARE INCH
DWG	DRAWING	SPEC STD	SPECIFICATION STANDARD
EA	EACH	STL	STEEL
EW ELEV	EACH WAY ELEVATOR	SD STL JST	STEEL DECK STEEL JOIST
ENGR	ENGINEER	STIF	STIFFENER
EQ EQUIP	EQUAL/ EQUALLY EQUIPMENT	STRUCT SIP	STRUCTURAL STRUCTURAL INSULATED
EXST	EXISTING	PANEL	STRUCTURAL INSULATED
EXP EXP BT	EXPANSION EXPANSION BOLT	SUB FLR SUB	SUBFLOOR SUBSTITUTE
EXT	EXPANSION BOLT EXTERIOR		
FO	FACE OF	KIP TB	THOUSAND POUNDS THROUGH BOLT
FSTNR	FASTENER	TMBR	TIMBER
FT FLR	FEET FLOOR	T&G T&B	TONGUE AND GROOVE TOP AND BOTTOM
FDTN	FOUNDATION	TOB	TOP OF BEAM
FTG FS	FOOTING FOOTING STEP	TOC TOD	TOP OF CONCRETE TOP OF DECK/SHEATHING
		TOF	TOP OF FOOTING
GALV GA	GALVANIZED GAUGE	TOM TOS	TOP OF MASONRY TOP OF STEEL
GC	GENERAL CONTRACTOR	TOW	TOP OF WALL
GL GLB	GLUE LAMINATED GLUE LAMINATED BEAM	TJI TYP	TRUSS JOIST TYPICAL
GR	GRADE		
GR BM GT	GRADE BEAM GROUT	UNO	UNLESS NOTED OTHERWIS
GYP	GYPSUM	VIF	VERIFY IN FIELD
HGR	HANGER	VERT	VERTICAL
HSA	HEADED STUD ANCHOR	WLD	WELD/WELDED
HDR HT	HEADER HEIGHT	WWF W	WELDED WIRE FABRIC WIDE
Н	HIGH	WF	WIDE FLANGE
HD HSS	HOLD-DOWN HOLLOW STRUCTURAL	WL W/	WIND LOAD WITH
SECTION		W/O	WITHOUT
HK	HOOK HORIZONTAL	WD HG	WOOD WOOD BEAM HANGER
HORI7	HUNLUNIAL		WOOD BEAM HANGER WORKING POINT
		WP	WORKING POINT
INFO	INFORMATION INTERIOR	WP	WORKING POINT
HORIZ INFO INT IBC	INFORMATION INTERIOR INTERNATIONAL BUILDING	WP	WORKING FOINT

### STRUCTURAL ABBREVIATIONS

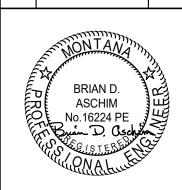




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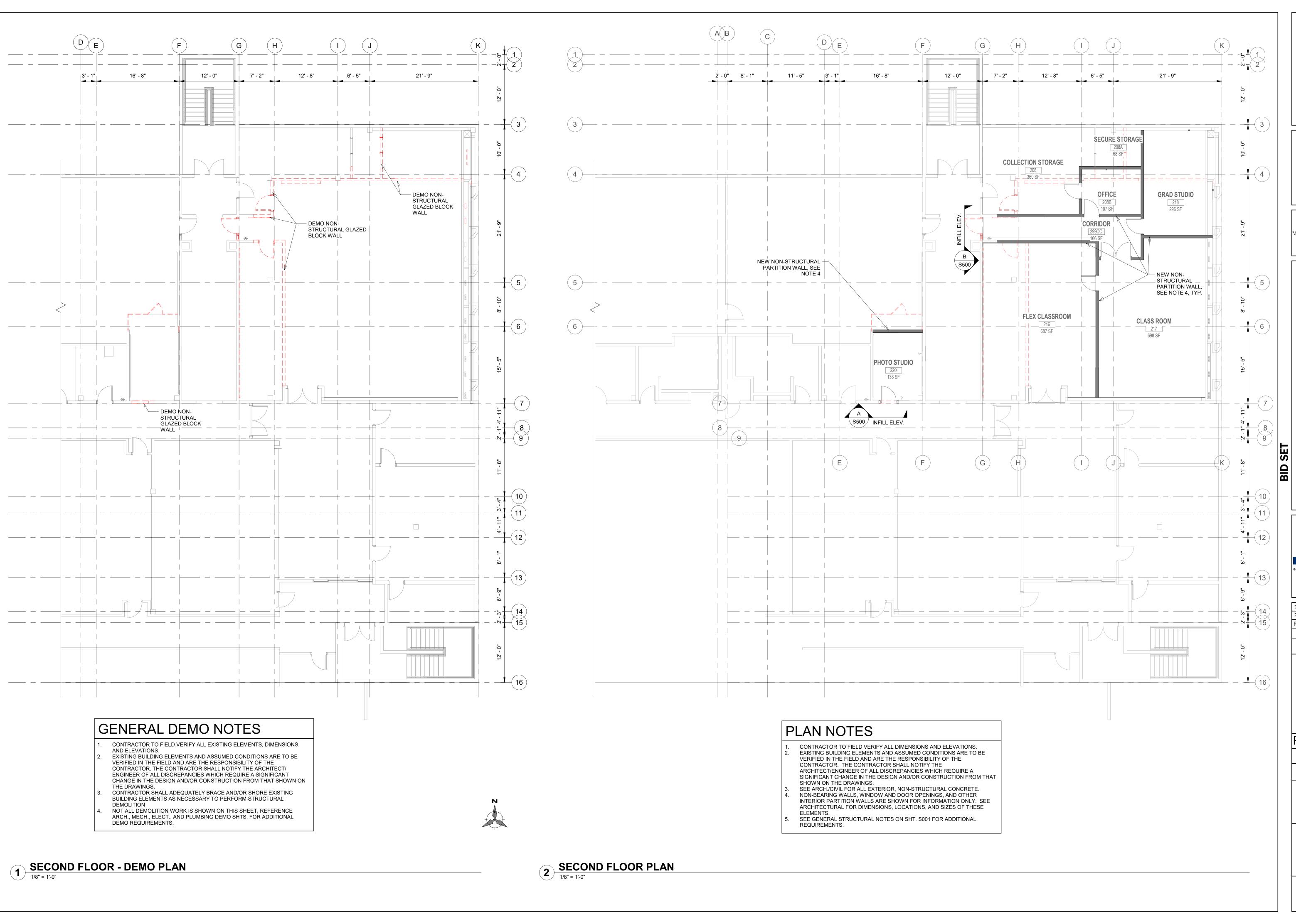
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MMI #: 6088.012

SHEET TITLE **GENERAL STRUCT** 

SHEET

05-23-23







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ngineers - surveyors - planners - scientist

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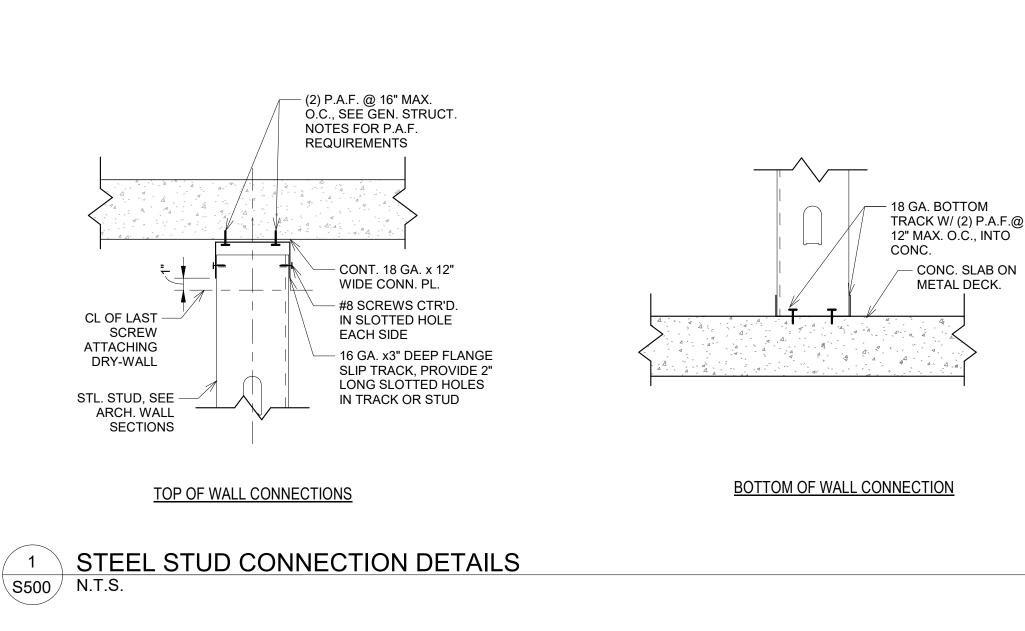


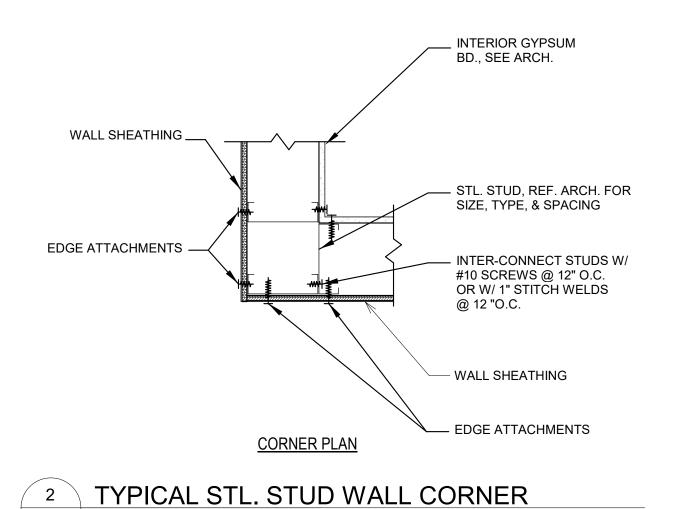
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MMI #: 6088.012

SHEET TITLE **UPPER FLR STRUCT** 

SHEET





1 STL. TRACK S500 / CONN., TYP.

UNDERSIDE OF (E) ROOF

DECK, FIELD VERIFY

5 S500 STL. STUD HEADER

COORD. REQ. W/ ARCH.

S500 N.T.S.

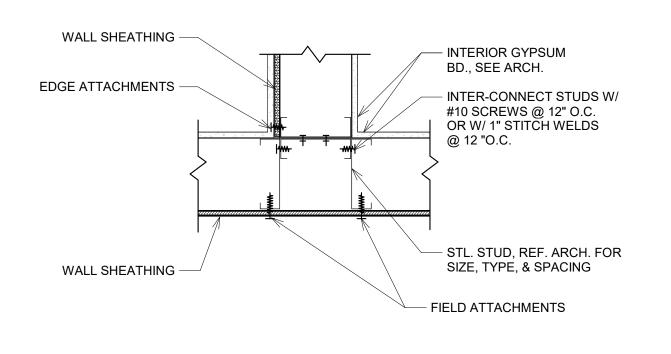
(E) NON-STRUCTURAL

MASONRÝ WALL, DEMO FULL-

HEIGHT TO BOTTOM SIDE OF (E)

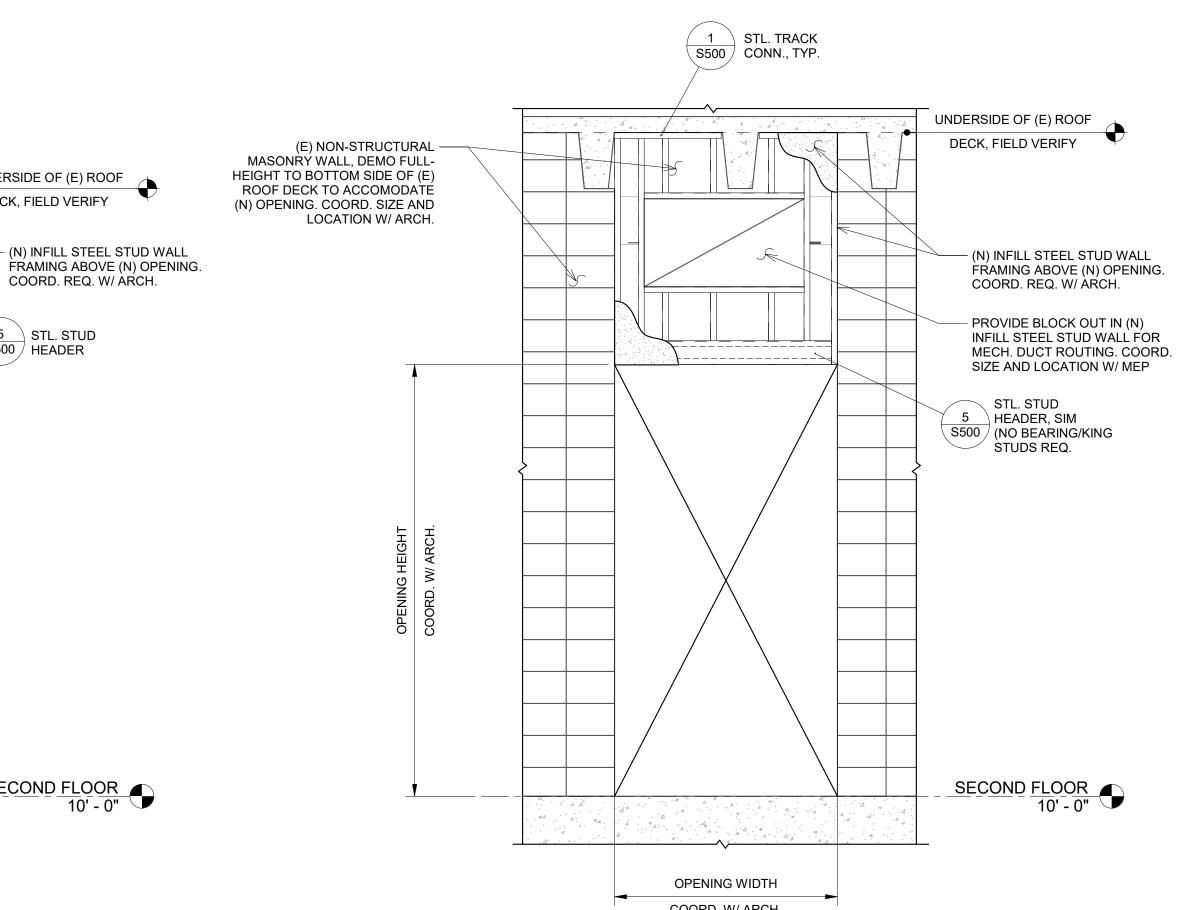
ROOF DECK TO ACCOMODATÉ

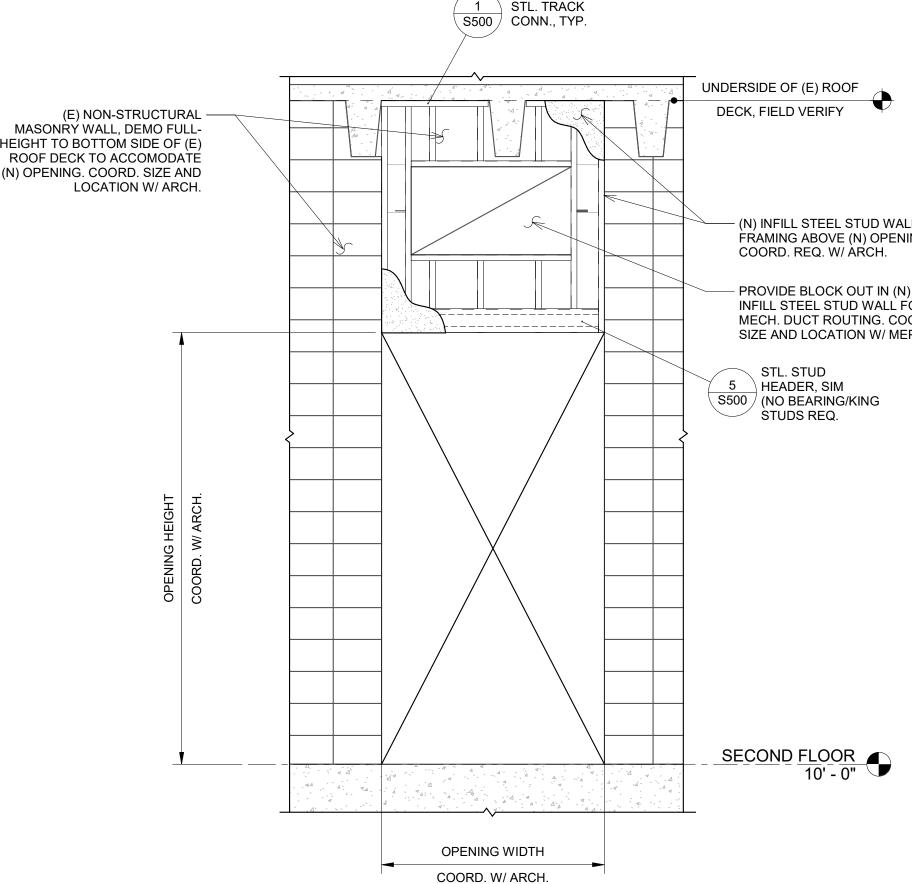
(N) OPENING. COORD. SIZE AND LOCATION W/ ARCH.



### INTERSECTION PLAN

TYP. STL. STUD WALL INTERSECTION \$500 N.T.S.





16 GA. WALL BOTT./ HEADER TOP TRACK - #8 SCREW @ 12" O.C. EA. SIDE BOTT. TRACK, SEE SCH. BLW. - (2) # 8 SCREW @ 12" O.C. SECOND FLOOR 10' - 0" OPENING WIDTH COORD. W/ ARCH. WALL OPENING ELEVATION
1/2" = 1'-0" S500

WALL OPENING ELEVATION
1/2" = 1'-0" S500



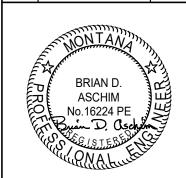


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SHEET TITLE TYPICAL CFS DETAILS

SHEET

**S500** 

**DATE** 05-23-23



STEEL STUD HEADER DETAIL

SPAN

4' < OPNG. </= 6'

2"xREQ'D WIDTH x 18 GA GUSSET PL OR -

TRACK W/ (1) #8 SCREW PER STUD @ T & B OF WALL & 2'-0" O.C., SEE NOTE

STUD ABOVE HDR. TO — MATCH ADJACENT WALL

SIZE, TYP.

JAMB STUDS, SEE -SCH. BELOW FOR

KING STUDS, SEE SCH. **BELOW FOR QUANTITY &** 

#8 MIN SCREW, TYP.

5 STER 8500 N.T.S.

HEADER

BUILT-UP (2) 6"x18 GA

STUD BOX HEADER, SEE SECTION A-A

BUILT-UP (2) 6"x18 GA. STUD BOX HEADER, SEE SECTION A-A

SEE SECTION A-A

6' < OPNG. </= 12' BUILT-UP (2) 6"x18 GA. STUD BOX HEADER,

**OPENING** 

KING

(1) STUD, WALL

THIĆKNESSx18 GA.

(2) STUDS, WALL

(4) STUDS, WALL

THICKNESSx18 GA.

NOTE:
WELDED CONNECTION ALTERNATIVE WILL BE

CONSIDERED AT CONTRACTOR REQUEST

BENT CONN. ANGLE W/ (4) #8 SCREWS

EA. LÉG, TYP @ TOP OF HEADER, EA. SIDE,

- COPE HDR. TOP & BOTT.

TRACK @ KING STUD, SCREW AS REQ'D., TYP.

- 4"x3"x18 GA. GUSSET

(2) #8 IN BOT. TRACK,

PL OR TRACK WITH

/--- 3"x3"x18 GA.x0'-5"

SEE NOTE

SÉE NOTE

OPENING

PER ARCH.

THICKNESSx18 GA.

JAMB

(1) STUD, WALL

THIĆKNESSx18 GA.

(2) STUD, WALL

THIĆKNESSx18 GA.

(4) STUD, WALL

THIĆKNESSx18 GA.

(1) #8 SCREW PER STUD SEE SCH. BLW. AND (2) #8 IN BOT. TRACK, GENERAL

WALL ABOVE -

(2) #8 SCREWS -

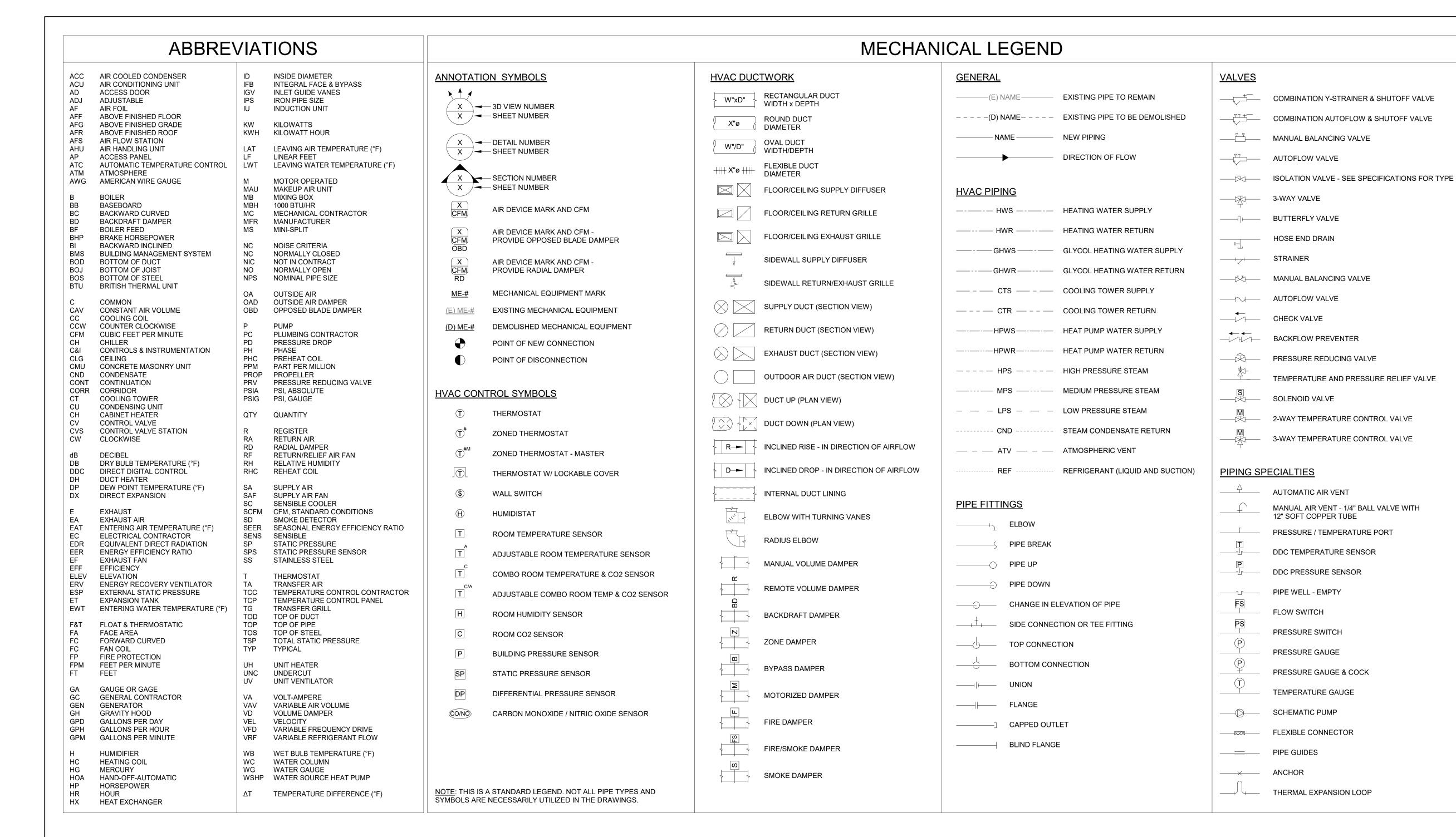
DBL. STUD BOX HDR.

STRUCTURAL NOTES FOR REQ.

@ 12" O.C.

VARIES

SECTION A-A



### MECH. GENERAL NOTES

INSTALLATION:
A. NEW PIPING, DUCTWORK AND EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE CURRENTLY ADOPTED INTERNATIONAL MECHANICAL AND INTERNATIONAL BUILDING CODES.

B. EQUIPMENT SHALL BE INSTALLED LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS INDICATED ON PLAN. OBSERVE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS SERVE THEIR

INTENDED FUNCTION. . INSTALL EQUIPMENT, DUCTWORK, AND PIPING SO AS TO MAINTAIN CODE REQUIRED CLEARANCES FOR ELECTRICAL AND

TELECOMMUNICATION EQUIPMENT . ELEMENTS PENETRATING BUILDING COMPONENTS (ROOF ASSEMBLIES, WALL ASSEMBLIES, ETC.) SHALL BE SEALED WEATHER AND WATER TIGHT. COORDINATE PENETRATIONS WITH GENERAL CONTRACTOR TO PATCH TO THE SATISFACTION OF THE ARCHITECT OR ENGINEER.

PER IECC 2021 EQUIPMENT MANUFACTURED AFTER 1/1/2023 SHALL MEET MINIMUM SEER2 RATINGS.

COORDINATION:
A. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FIELD COORDINATE THE LOCATION OF EQUIPMENT, ROUTING OF DUCTWORK, AND ROUTING OF PIPING WITH OTHER TRADES.

B. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO REVIEW THE DRAWINGS OF OTHER DISCIPLINES AND PROVIDE THE NECESSARY LABOR AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.

COORDINATE THE INSTALLATION OF GRILLES, REGISTERS AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, THE ELECTRICAL LIGHTING PLANS. AND IF RELEVANT. THE TELECOMMUNICATION AND FIRE SPRINKLER PLANS.

A. SEE THE MEP COORDINATION SCHEDULE FOR ELECTRICAL INFORMATION. COORDINATE WITH OTHER TRADES TO ENSURE THAT ELECTRICAL DISCONNECTS, MOTOR STARTERS, VARIABLE FREQUENCY DRIVES, CONTROLS, AND ELECTRICAL ACCESSORIES ARE FURNISHED AND/OR INSTALLED BY THE APPROPRIATE TRADE.

### FREEZE PROTECTION:

A. THE MECHANICAL CONTRACTOR SHALL FILL THE HYDRONIC SYSTEMS WITH THE FOLLOWING SOLUTION: a. GLYCOL HEATING HOT WATER SYSTEM: 35% PROPYLENE GLYCOL & 65% DISTILLED WATER - GLYCOL SHALL INCLUDE CORROSION INHIBITORS

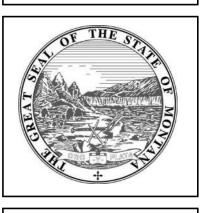
. HEATING HOT WATER SYSTEMS WITH BOILERS THAT HAVE ALUMINUM HEAT EXCHANGERS SHALL USE HERCULES CRYO-TEK 100 / AL PROPYLENE GLYCOL OR APPROVED EQUAL PRODUCT. SEE SPECIFICATION SECTION 23 2113 FOR ADDITIONAL CHEMICAL TREATMENT REQUIREMENTS.

A. EQUIPMENT SHALL BE SELECTED FOR THE PROJECT ELEVATION OF

### MECH. SHEET INDEX

NUMBER	SHEET NAME
M001	MECHANICAL LEGEND & NOTES
M002	MECHANICAL SCHEDULES
M003	MECHANICAL DETAILS
MD101	MECHANICAL DEMOLITION PLAN
M101	MECHANICAL HVAC PLAN



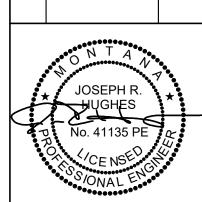


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PPA#21-0133 A/E#22037

MMI #: 6088.012

SHEET TITLE **MECHANICAL LEGEND** & NOTES

SHEET

05-23-23

DOINT NAME	HARDWARE POINTS						SOFT	VARE F	POINTS			NOTES		
POINT NAME	Al	AO	ВІ	во	AV	BV	ADJ	SCH	TRD	ALM	DISP	P		
CHEDULE						Х	Х	Х	Х		Х	INDEXED BY OCCUPANCY SCHEDULE		
									•					
EMPERATURE - SPACE	Х								Х	Х	Х	SPACE TEMPERATURE SENSOR (T-SP)		
EMPERATURE - SPACE SETPOINT					Х		Х	Х			Х	ADJUSTABLE SOFTWARE POINT		
EMPERATURE - HEATING WATER RETURN					Х		Х			Х	Х	IMMERSION TEMPERATURE SENSOR (T-HWR)		
EMPERATURE - SUPPLY AIR	Х								Х		Х	DUCT MOUNTED TEMPERATURE SENSOR (T-SA)		
	'		•							•				
AMPER - VAV BOX DAMPER POSITION		Х					Х				Х	MODULATING ACTUATOR (D-SA)		
	-	'	1	1	1	•				•				
EATING - HOT WATER VALVE POSITION		Х					Х				Х	MODULATING CONTROL VALVE (V-HC)		
	-	'	1	1	1				I	•				
IRFLOW - SUPPLY AIR VOLUME SETPOINT					Х		Х				Х	CALCULATED SOFTWARE POINT (MIN & MAX ADJ)		
IRFLOW - SUPPLY AIR VOLUME	Х								Х		Х	AIRFLOW MEASURING STATION (AF-SA)		

### **SEQUENCE OF OPERATION: VAV-1 THRU 6**

<u>AIR HANDLING UNIT (AC-1-5) - ZONE AIRFLOW (ZONE 6)</u>
• SET COLD DECK ZONE 6 DAMPER TO FULLY OPEN AND HOT DECK ZONE 6 DAMPER TO FULLY

EXISTING BUILDING CONTROLS
 INTEGRATE NEW VAVS INTO EXISTING BUILDING CONTROL GRAPHICS.

EXISTING HYDRONIC HEATING PLANT
 HEATING PLANT SHALL BE ENABLED WHEN OUTDOOR AIR TEMPERATURE FALLS BELOW 60°F

### DAMPER & HOT WATER VALVE CONTROL - HEATING MODE

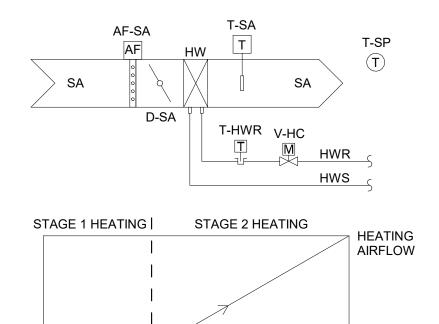
- WHEN THE ROOM TEMPERATURE IS BELOW THE HEATING ROOM TEMPERATURE SETPOINT, THE BOX SHALL IMPLEMENT A DUAL MAX HEATING CONTROL STRATEGY AS DISPLAYED IN THE ADJACENT GRAPH AND DESCRIBED IN THE FOLLOWING SEQUENCE: STAGE 1 - AIRFLOW SETPOINT SHALL BE THE MINIMUM BOX VENTILATION AIRFLOW. THE
- (DAT) AS REQUIRED TO SATISFY THE HEATING LOAD IN THE SPACE. THE DAT IS NOT TO • STAGE 2 - IF THE HEATING SETPOINT IS NOT SATISFIED AFTER REACHING A DAT OF 95°F, THE BOX AIRFLOW SHALL INCREASE TO THE HEATING AIRFLOW WHILE MODULATING THE HEATING VALVE TO MAINTAIN A DAT OF 95°F.

HEATING VALVE SHALL MODULATE OPEN, INCREASING THE DISCHARGE AIR TEMPERATURE

<u>DAMPER CONTROL - COOLING MODE</u>
• WHEN THE ROOM TEMPERATURE IS ABOVE THE COOLING ROOM TEMPERATURE SETPOINT, THE BOX SHALL INCREASE THE AIRFLOW AS REQUIRED TO MAINTAIN SPACE SETPOINT.

GENERATE ALARM WHEN SPACE TEMPERATURE DROPS BELOW SPACE LOW TEMPERATURE ALARM SETPOINT (ADJ.)

GENERATE ALARM WHÉN SPACE TEMPERATURE RISES ABOVE SPACE HIGH TEMPERATURE ALARM SETPOINT (ADJ.)



DISCHARGE AIR TEMP.

**HEATING DEMAND** 

VENTILATION AIRFLOW

100%

# DDC POINTS GENERAL NOTES, LEGEND, ABBREVIATIONS

### **DDC GENERAL NOTES:**

• REFER TO SPEC. SECTION 230900 HVAC CONTROLS FOR MORE INFORMATION.

• CONTRACTOR REQUIRED TO PROVIDE ALL LOW AND LINE VOLTAGE WIRING FOR A COMPLETE AND FUNCTIONAL SYSTEM.

SPACE TEMPERATURE CONTROL

• EACH SPACE WITH TEMPERATURE CONTROL SHALL HAVE AN OCCUPIED TEMPERATURE SETPOINT (ADJ.) AND UNOCCUPIED HIGH / LOW LIMIT TEMPERATURE SETPOINTS

 HVAC EQUIPMENT TO CONDITION EACH SPACE TO TEMPERATURE SETPOINT DURING OCCUPIED PERIODS. • HVAC EQUIPMENT SHALL ALLOW THE SPACE TEMPERATURE TO FLOAT BETWEEN HIGH AND LOW LIMIT TEMPERATURE SETPOINTS (ADJ.) DURING UNOCCUPIED PERIODS

TEMPERATURE CONTROL PANELS

• ALL TEMPERATURE CONTROL PANELS ARE TO BE BACKED UP WITH UPS BATTERY BACKUP.

### TEMPERATURE SENSORS • SEE PLANS FOR LOCATIONS.

• PROVIDE SENSOR TYPE AS SHOWN ON PLANS. IN SOME CASES PROVIDE A NON-ADJUSTABLE, BLANK, WALL PLATE TEMPERATURE SENSOR AND IN SOME CASES PROVIDE AN ADJUSTABLE SENSOR WITH DISPLAY. REGARDLESS OF WHAT TYPE IS SPECIFIED, RUN ENOUGH CONDUCTORS TO BE ABLE TO USE THE ADJUSTABLE WITH DISPLAY VERSION IN ALL LOCATIONS IN CASE IT IS DESIRED AT A LATER DATE TO SWITCH.

	DEFINITIONS										ABBREVIATIONS						
HAF	HARDWARE POINTS SOFTWARE POINTS				Α	ALARM	Н	HUMIDITY SENSOR	SPT	SETPOINT							
Al	AO	ВІ	во	AV	BV	ADJ	SCH	TRD	ALM	DISP	С	COMMAND	HTG	HEATING	SS	SAIL SWITCH	
5	5	h	5	UE	UE	BLE	LE .	Q.	R	−	CLG	COOLING	NC	NORMALLY CLOSED	S/S	START/STOP	
INPU	Ę	N N	Ę	ΛAΓ	ΑAL		EDU	IREN	\LA	ISPL	CO	CARBON MONOXIDE	NO	NORMALLY OPEN	Т	TEMPERATURE SENSOR	
90	G 01	Σ	Q	)g	ξ	SO	SCHEDI	_	•		CO2	CARBON DIOXIDE	Р	PRESSURE	VFD	VARIABLE FREQ. DRIVE	
\A	Γο	BINA	AR	ALC	₹	AD,	S				CS	COMMAND STATUS	R	RELAY	ZN	ZONE	
4	Ā	ш	B	¥	B						CT	CURRENT TRANSDUCER	S	STATUS			
	٩										DP	DIFFERENTIAL PRESSURE	SP	STATIC PRESSURE			

			LEC	GEND			
	FAN	<b>T</b>	DUCT TEMPERATURE SENSOR - AVERAGING	SP	DUCT STATIC PRESSURE SENSOR	© 0 0 0 0	DUCT-MOUNTED CO2 SENSOR
M	MOTORIZED DAMPER WITH ACTUATOR	T	MANUAL RESET FREEZESTAT	<b>DP</b>	AIR FILTER DIFFERENTIAL PRESSURE SENSOR	<b>AF</b>	AIRFLOW MEASURING STATION
T	DUCT TEMPERATURE SENSOR - SINGLE POINT	P	MANUAL RESET HIGH LIMIT DUCT PRESSURE SENSOR	SD	DUCT SMOKE DETECTOR	TYPE	HEATING/COOLING COIL
T	TEMPERATURE SENSOR - IMMERSION TYPE	VFD	VARIABLE FREQUENCY DRIVE	Î	OUTSIDE AIR TEMPERATURE SENSOR	$\bigcirc$	CURRENT TRANSDUCER
DP T	DIFFERENTIAL PRESSURE SENSOR	©	SPACE CO2 SENSOR	Ĉ	OUTSIDE AIR CO2 SENSOR	+	CONTROL RELAY
<b>M</b>	MODULATING CONTROL VALVE WITH ACTUATOR	(T)	SPACE TEMPERATURE SENSOR (SEE FLOOR	(P) N	SPACE PRESSURE	$\bigcirc$	SCHEMATIC PUMP

PLANS FOR TYPE)

			GRILLE,	REGISTE	ER AND	DIFF	JSER S	CHEDULE					
MARK	MFGR	MODEL	DESCRIPTION	FUNCTION	MAX CFM	NC AT MAX CFM	THROW AT MAX CFM (FT)	PRESSURE DROP AT MAX CFM (in. W.C.)	NECK SIZE (W"xH")	DAMPER TYPE	MATERIAL	FINISH	REMARKS
S-1	PRICE	520	24" x 6" DOUBLE DEFLECTION LOUVERED GRILLE	SUPPLY	260	16	15	0.1	24" x 6"	OPPOSED BLADE	STEEL	BY ARCH	SEE NOTES
S-2	PRICE	520	12" x 6" DOUBLE DEFLECTION LOUVERED GRILLE	SUPPLY	225	20	14	0.1	12" x 6"	OPPOSED BLADE	STEEL	BY ARCH	SEE NOTES
S-3	PRICE	SCD	12" x 12" SURFACE MOUNT SQUARE CEILING DIFFUSER	SUPPLY	250	22	13	0.1	8"ø	MANUAL	STEEL	BY ARCH	SEE NOTES
S-4	PRICE	SCD	24" x 24" LAY-IN SQUARE CEILING DIFFUSER	SUPPLY	200	-	7	0.1	8"ø	MANUAL	STEEL	BY ARCH	SEE NOTES
R-1	PRICE	530	36" x 20" SINGLE DEFLECTION LOUVERED GRILLE	RETURN	1120	-	-	0.04	36" x 20"	NONE	STEEL	BY ARCH	SEE NOTES
R-2	PRICE	530	24" x 12" SINGLE DEFLECTION LOUVERED GRILLE	RETURN	450	-	-	0.04	24" x 12"	NONE	STEEL	BY ARCH	SEE NOTES
R-3	PRICE	530	12" x 6" SINGLE DEFLECTION LOUVERED GRILLE	RETURN	150	15	-	0.05	12" x 6"	NONE	STEEL	BY ARCH	SEE NOTES
R-4	PRICE	530	32" x 12" SINGLE DEFLECTION LOUVERED GRILLE	RETURN	720	-	-	0.04	32" x 12"	NONE	STEEL	BY ARCH	SEE NOTES
R-5	PRICE	85	24" x 12" SURFACE MOUNT EGGCRATE GRILLE	RETURN	250	-	-	0.06	20" x 8"	NONE	STEEL	BY ARCH	SEE NOTES
R-6	PRICE	510Z	40" x 24" ZERO DEFLECTION LOUVERED GRILLE	RETURN	2800	23	-	0.04	40" x 24"	NONE	STEEL	BY ARCH	SEE NOTES
R-7	PRICE	85	24" x 12" LAY-IN EGGCRATE GRILLE	RETURN	200	-	-	0.06	20" x 8"	NONE	STEEL	BY ARCH	SEE NOTES

(SEE SCHEDULE FOR TYPE)

NOTES: PROVIDE MANUAL BALANCING DAMPER AT LOCATIONS WHERE A SPECIFIED AIR VOLUME IS REQUIRED I.E. FOR SUPPLY AND EXHAUST ONLY. COORDINATE FRAME AND MOUNTING TYPES. SEE ARCHITECTURAL PLANS FOR CEILING TYPES. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL FITTINGS AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION. SCHEDULES N.C. VALUES ARE VALID FOR SCHEDULE AIR FLOW ONLY AND REPRESENT A MAXIMUM ACCEPTABLE N.C. VALUE. SUBSTITUTED EQUIPTMENT SHALL HAVE N.C. VALUE EQUAL TO OR BELOW THE SCHEDULES N.C. AT THE AIR FLOW LISTED ON THE PLANS.

# VAV BOX SCHEDULE

ADDITIONAL DETAILS:

NOT EXCEED THE VALUE LISTED IN SCHEDULE.

1. BOXES ARE PRESSURE INDEPENDENT (REFER TO SPECIFICATIONS & CONTROL DRAWINGS FOR CONTROL TYPÈS).

2. SEE DDC POINTS AND SEQUENCES FOR CONTROL STRATEGY.

3. MAXIMUM INLET VELOCITY = 2100 FPM. 4. TRANSITION TO BOX INLET SIZE A MINIMUM OF 4X THE INLET DIAMETER AND A MAXIMUM OF 5X THE INLET DIAMETER UPSTREAM OF THE VAV BOX.

5. MINIMUM INLET STATIC PRESSURE REQUIRED TO OPERATE BOX SHALL

6. PROVIDE ACCESS DOOR FOR EACH VAV BOX IN A HARD LID OR SECURE CEILING SPACE. AREA ADJACENT TO VAV BOX SHALL REMAIN CLEAR OF OBSTRUCTIONS TO ALLOW FOR INSTALLATION, BALANCING, AND MAINTENANCE. FIELD COORDINATE WITH ALL OTHER TRADES TO CONFIRM CONFIGURATION (I.E. LH OR RH) PRIOR TO ORDERING EQUIPMENT.

7. VAV BOXES SHALL BE SELECTED TO ENSURE PROPER OPERATION AND

CONTROL THROUGHOUT LISTED AIRFLOW RANGE. THE MAXIMUM ALLOWED

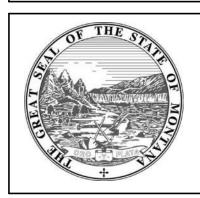
RADIATED AND DISCHARGE NOISE CRITERIA (NC) MUST BE BELOW NC = 23

THROUGHOUT LISTED AIRFLOW RANGE.

1. VAV BOX CONTROLLERS AND ACTUATORS TO BE PROVIDED AND INSTALLED BY TEMPERATURE CONTROLS CONTRACTOR. 2. PROVIDE PROTECTIVE SHROUD FOR CONTROLS WHEN ORDERING VAV

				SIZE (IN)			AIRSIDE DATA								WETSIDE DATA						
MARK	MANUF.	MODEL	INLET DIAMETER	DISCHARGE WIDTH	DISCHARGE HEIGHT	COOLING (CFM)	HEATING (CFM)	MINIMUM VENTILATION (CFM)	MIN OPERATING PD (IN WC)	CAPACITY (MBH)	EAT (°F)	LAT (°F)	APD (IN WC)	FLOW RATE (GPM)	EWT (°F)	LWT (°F)	WPD (FT)	ROWS	CONFIG.	WORKING FLUID	VALVE
VAV-1	PRICE	SDV5	12	16	15	1000	1000	350	0.25	36.8	55	94.6	0.14	2.0	180	139.5	0.62	2	RH	35% PG	2-WAY
VAV-2	PRICE	SDV5	10	14	12.5	620	620	200	0.25	25.2	55	98.5	0.12	1.5	180	143.1	0.82	2	RH	35% PG	2-WAY
VAV-3	PRICE	SDV5	7	12	10	320	320	120	0.25	15.2	55	106.0	0.09	1.0	180	146.5	0.33	2	RH	35% PG	2-WAY
VAV-4	PRICE	SDV5	8	12	10	450	450	180	0.25	17.4	55	96.4	0.12	1.0	180	141.7	0.33	2	LH	35% PG	2-WAY
VAV-5	PRICE	SDV5	12	16	15	1170	1170	450	0.25	43.1	55	94.6	0.18	2.5	180	142.1	0.91	2	RH	35% PG	3-WAY
VAV-6	PRICE	SDV5	4	12	8	150	150	60	0.25	5.7	55	95.0	0.03	1.5	180	171.8	1.44	1	RH	35% PG	2-WAY

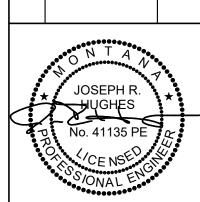




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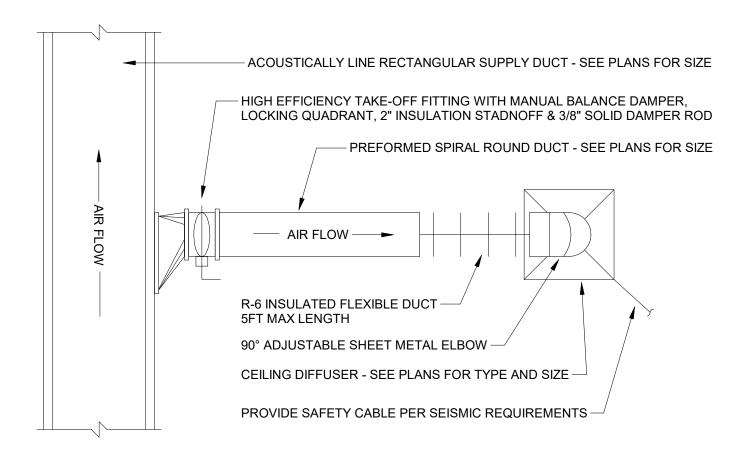
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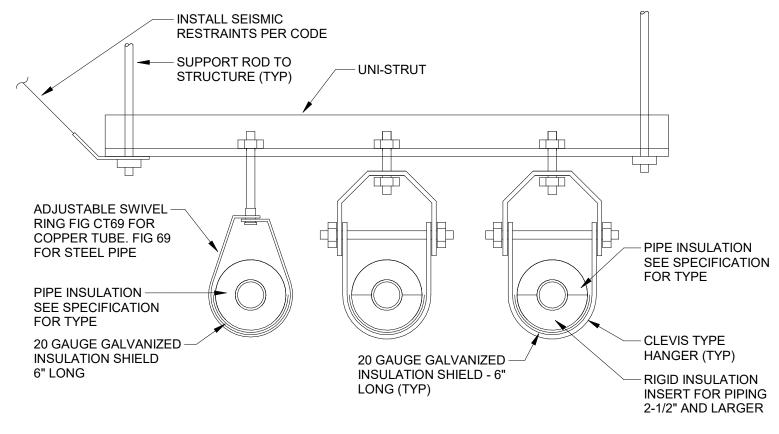
SHEET TITLE **MECHANICAL SCHEDULES** 

SHEET

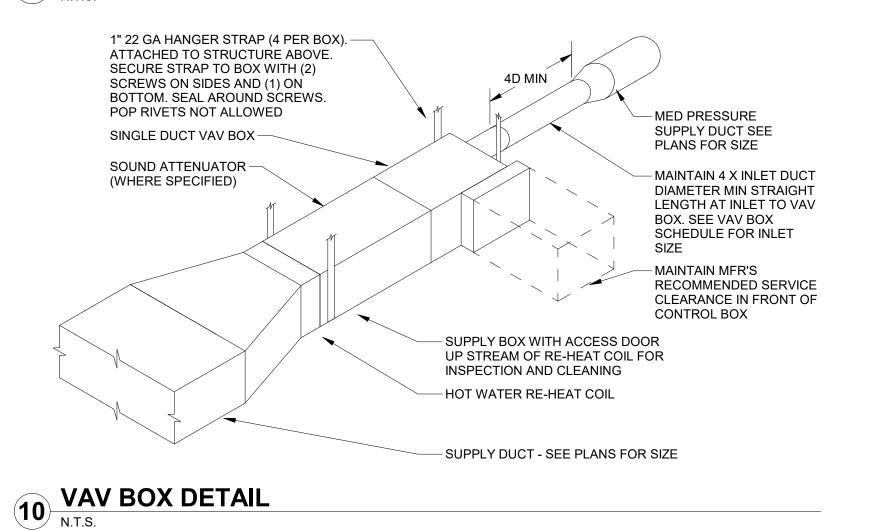
# **HOT WATER COIL - 2 WAY VAV BOX PIPING DETAIL**

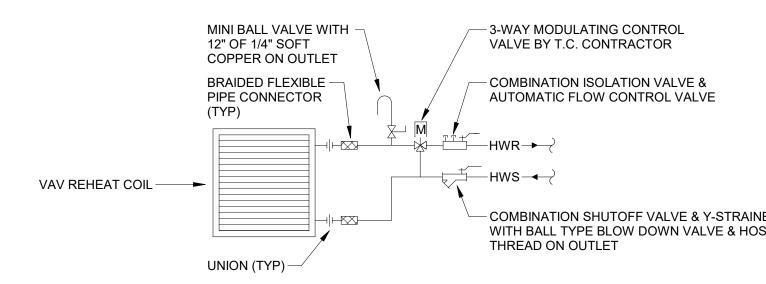


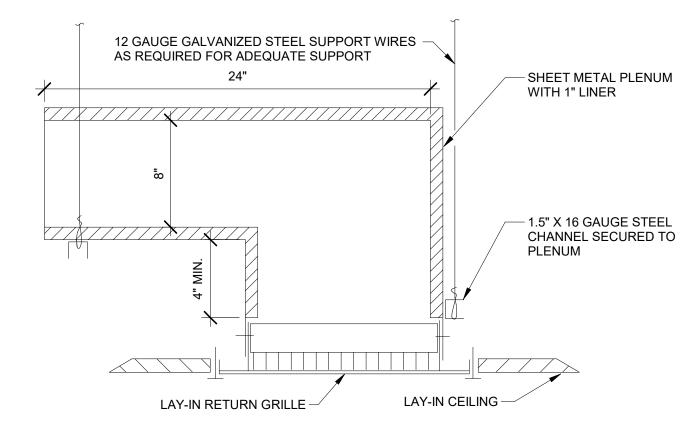
# **CEILING SUPPLY DIFFUSER DETAIL**



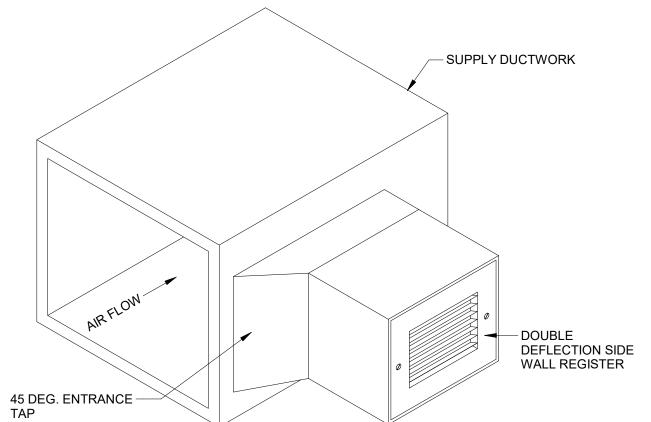


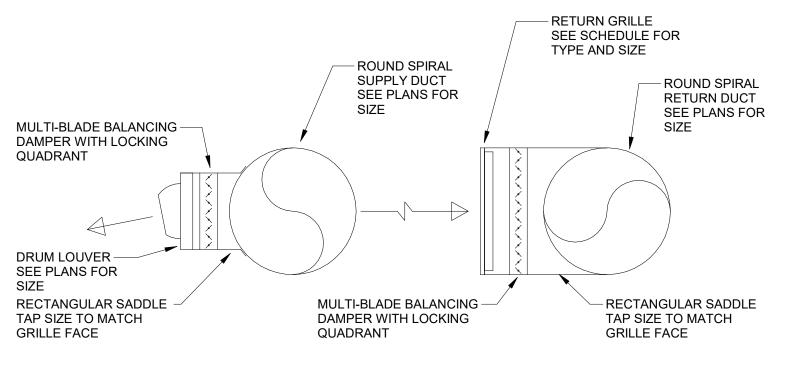




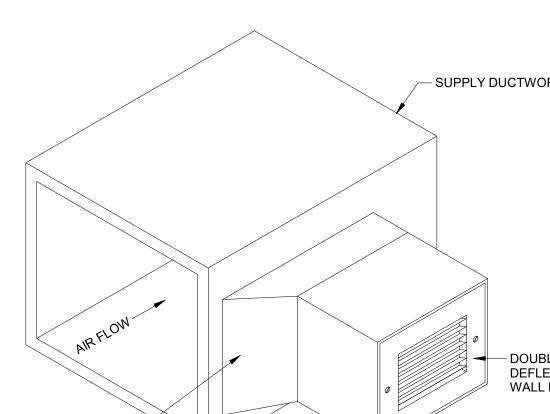


**S** RETURN GRILLE DETAIL N.T.S.

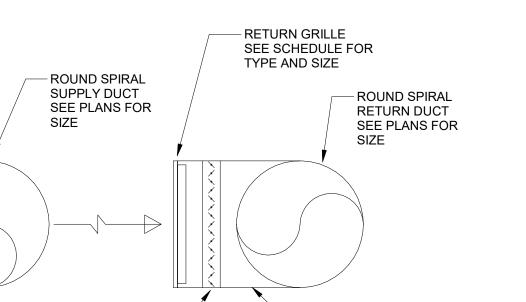




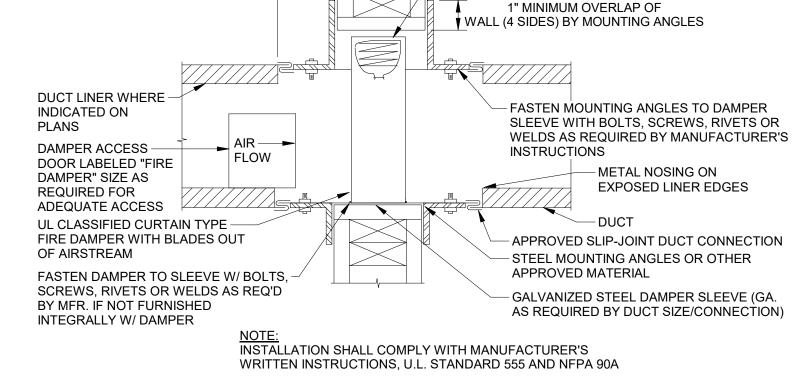
COMBINATION SHUTOFF VALVE & Y-STRAINER WITH BALL TYPE BLOW DOWN VALVE & HOSE **HOT WATER COIL - 3 WAY VAV BOX PIPING DETAIL**N.T.S.







**DUCT MOUNTED GRILLE DETAIL** 



RATED WALL ASSEMBLY

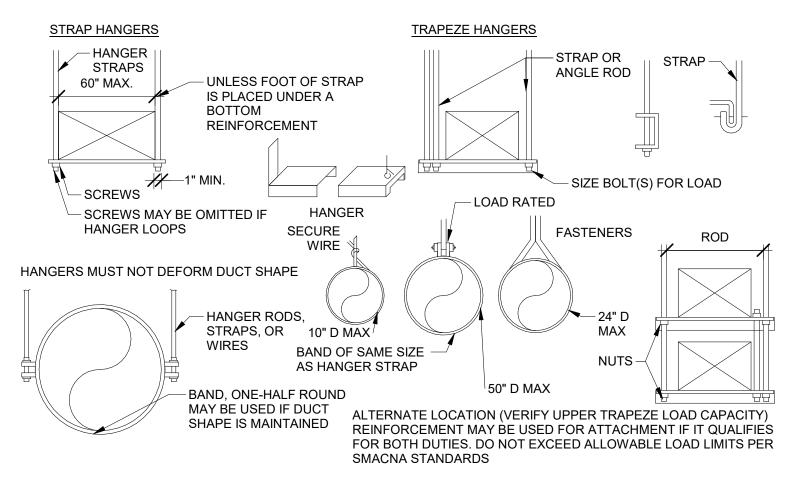
- EXPANSION CLEARANCE AS REQ'D BY MFR BETWEEN

DAMPER/SLEEVE AND WALL OPENING, MINIMUM 1/4"

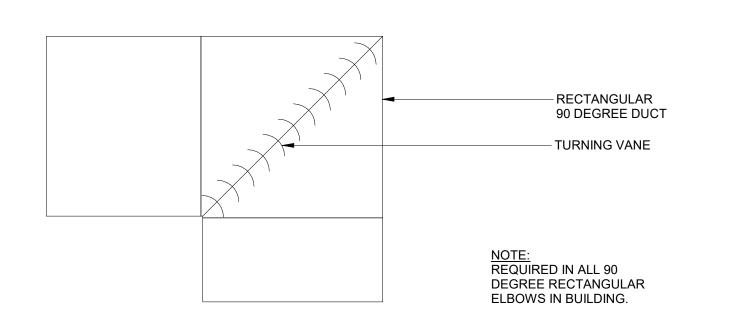
# FIRE DAMPER AT WALL DETAIL N.T.S.

SLEEVE TO EXTEND 6" MIN.

BEYOND WALL LINE

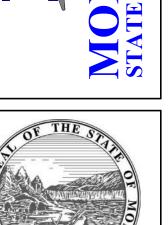


# 6 DUCT SUPPORT DETAIL N.T.S.



9 RECTANGULAR DUCT TURNING VANE DETAIL





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SHEET TITLE **MECHANICAL DETAILS** 

SHEET

# MECHANICAL DEMO NOTES

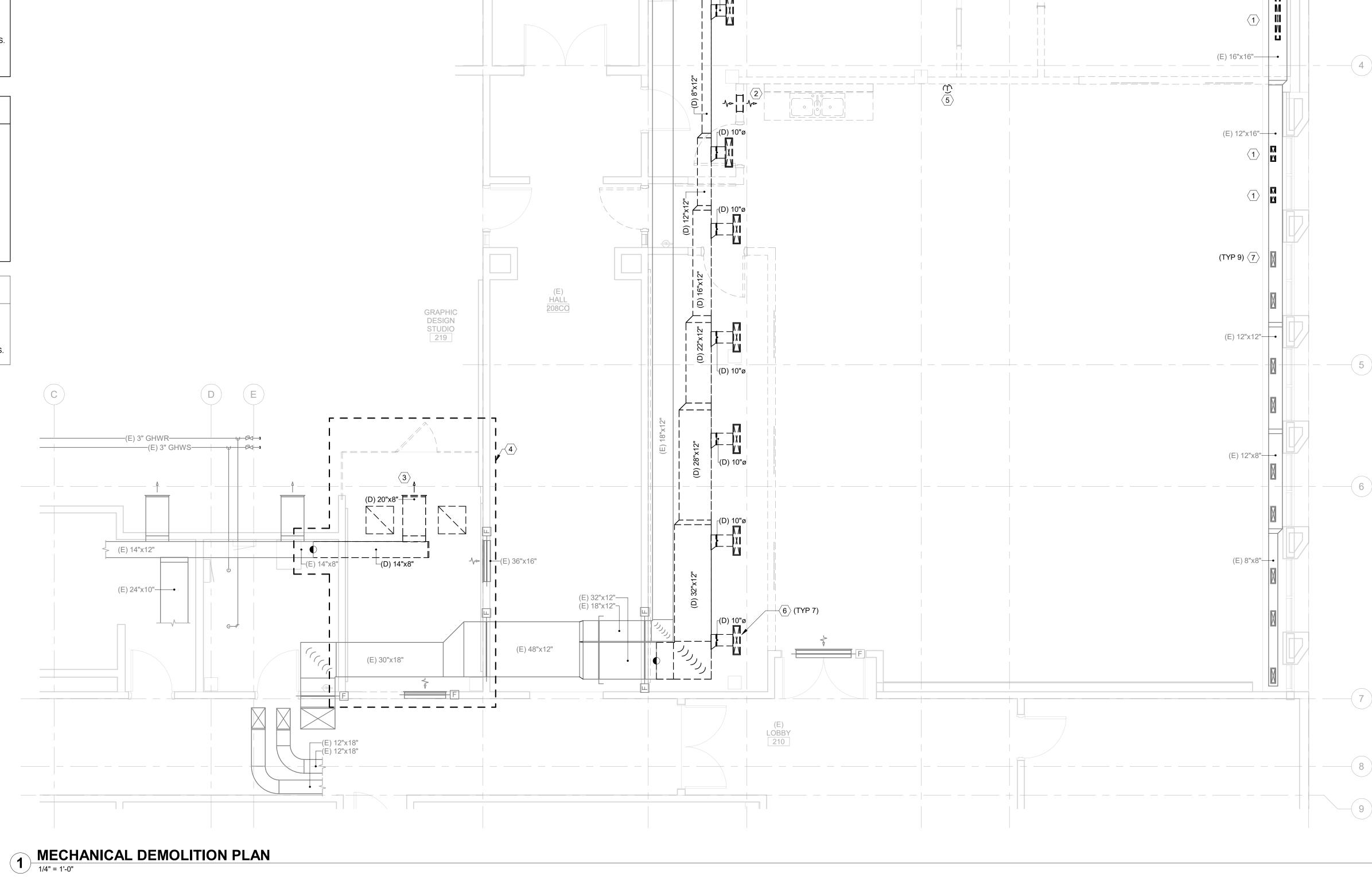
- A. LOCATIONS AND DIMENSIONS OF EXISTING FACILITIES IDENTIFIED ON THIS DRAWING ARE APPROXIMATE AND REPRESENT THE BEST AVAILABLE INFORMATION BASED ON A COMBINATION OF FIELD INVESTIGATIONS AND VARIOUS DESIGN AND RECORD DRAWINGS AVAILABLE AT THE TIME OF THE DESIGN. FIELD VERIFY LOCATIONS AND DIMENSIONS PRIOR TO AND DURING PERFORMANCE OF THE WORK. PROVIDE DEMOLITION WORK NECESSARY TO COMPLETE THE SCOPE OUTLINED IN THE CONSTRUCTION DOCUMENTS.
  B. EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHOWN AS
- DARK AND DASHED SHALL BE DEMOLISHED. EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHOWN LIGHT SHALL REMAIN
- C. THE MECHANICAL CONTRACTOR SHALL COORDINATE SALVAGE OF REMOVED EQUIPMENT IN GOOD CONDITION WITH THE OWNER. THE MECHANICAL CONTRACTOR SHALL DISPOSE OF UNWANTED EQUIPMENT. D. COORDINATE UTILITY OUTAGES WITH THE GENERAL CONTRACTOR
- THROUGHOUT THE DURATION OF CONSTRUCTION. NOTIFICATION MUST BE GIVEN TO THE OWNER AT LEAST A WEEK PRIOR TO ANY PLANNED OUTAGES . COORDINATE WITH THE GENERAL CONTRACTOR TO PATCH AND REPAIR ROOF, WALL, CEILING, OR FLOOR PENETRATIONS ASSOCIATED WITH THE DEMOLITION OF THE EXISTING MECHANICAL SYSTEMS.

# **# KEY NOTES:**

- DEMOLISH SILL MOUNTED DIFFUSER. PATCH DUCT AIRTIGHT. COORDINATE WITH ARCH TO PATCH SILL.
- DEMOLISH LOW TRANSFER GRILLE.
- B. DEMOLISH SIDEWALL DIFFUSER. COORDINATE EXTENT OF WALL DEMOLITION WITH NEW WORK.
- I. DEMOLITION IN PHOTO STUDIO 220 TO BE BID AS ALTERNATE #1.
  5. DEMOLISH THERMOSTAT AND ASSOCIATED CONTROL WIRING. CONTROL
- WORK TO BE PERFORMED BY JOHNSON CONTROLS.
- 6. DEMOLISH CEILING DIFFUSER.
  7. SILL MOUNTED DIFFUSER TO REMAIN.

# **EXISTING SYSTEMS NOTE**

EXISTING SYSTEMS BEING MODIFIED AND REUSED MUST BE TESTED BY THE CONTRACTOR FOR ANY DEFICIENCIES AND REPORTED TO THE ENGINEER AND OWNER PRIOR TO REMOVING COMPONENTS FROM ORIGINAL LOCATION. EXISTING SYSTEM SHALL BE MODIFIED AS SHOWN AND RESTORED TO THE CONDITION AND OPERATION AS TESTED PRIOR TO REMOVAL OF COMPONENTS.



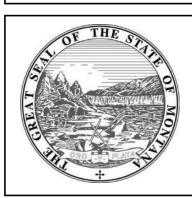
(E) STAIR

209



(D) 18"x12"

(E) 18"x12"

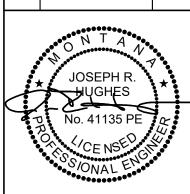


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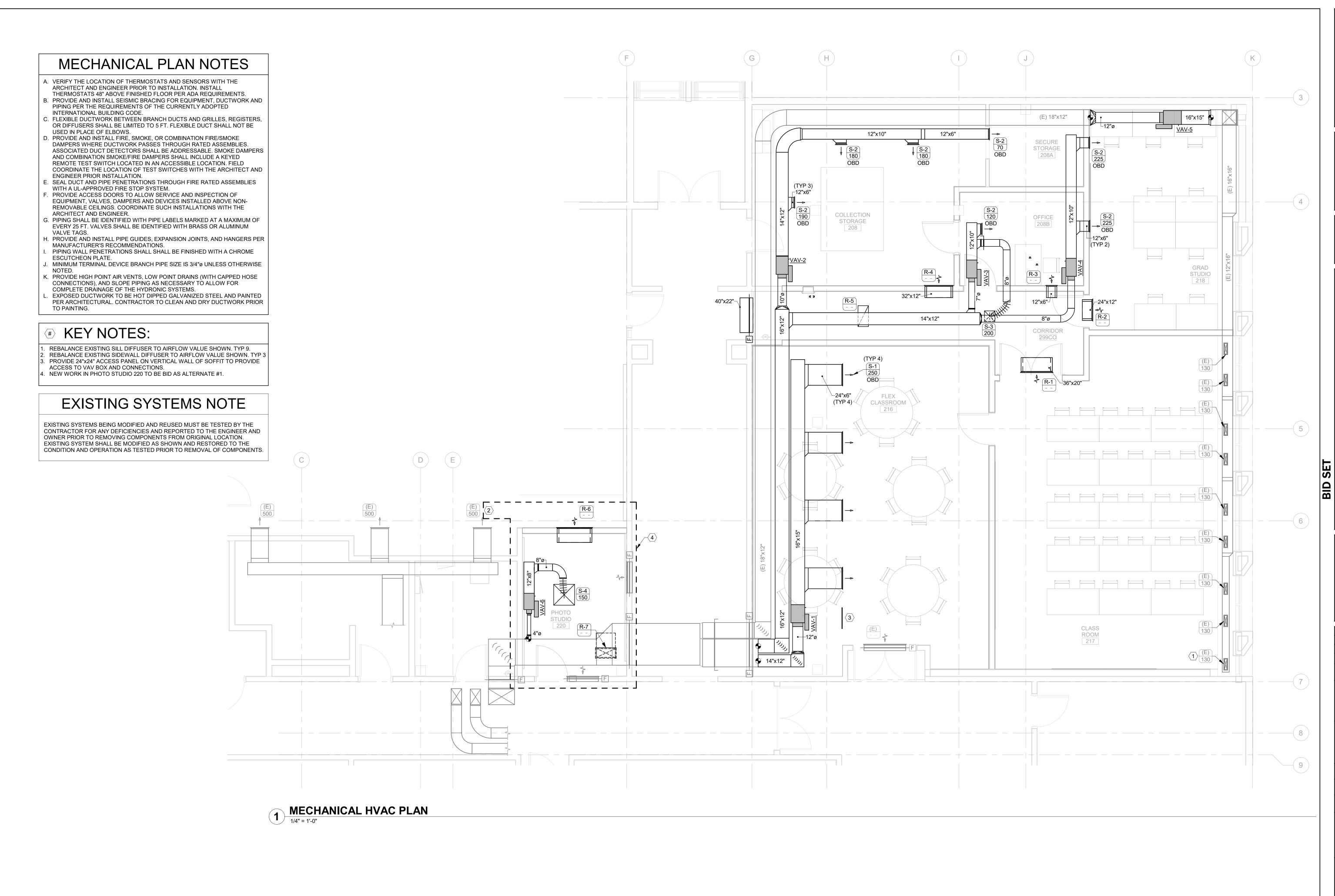


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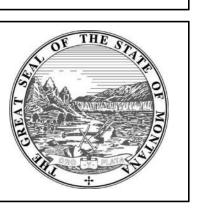
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SHEET TITLE **MECHANICAL DEMOLITION PLAN** 

SHEET







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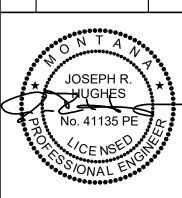
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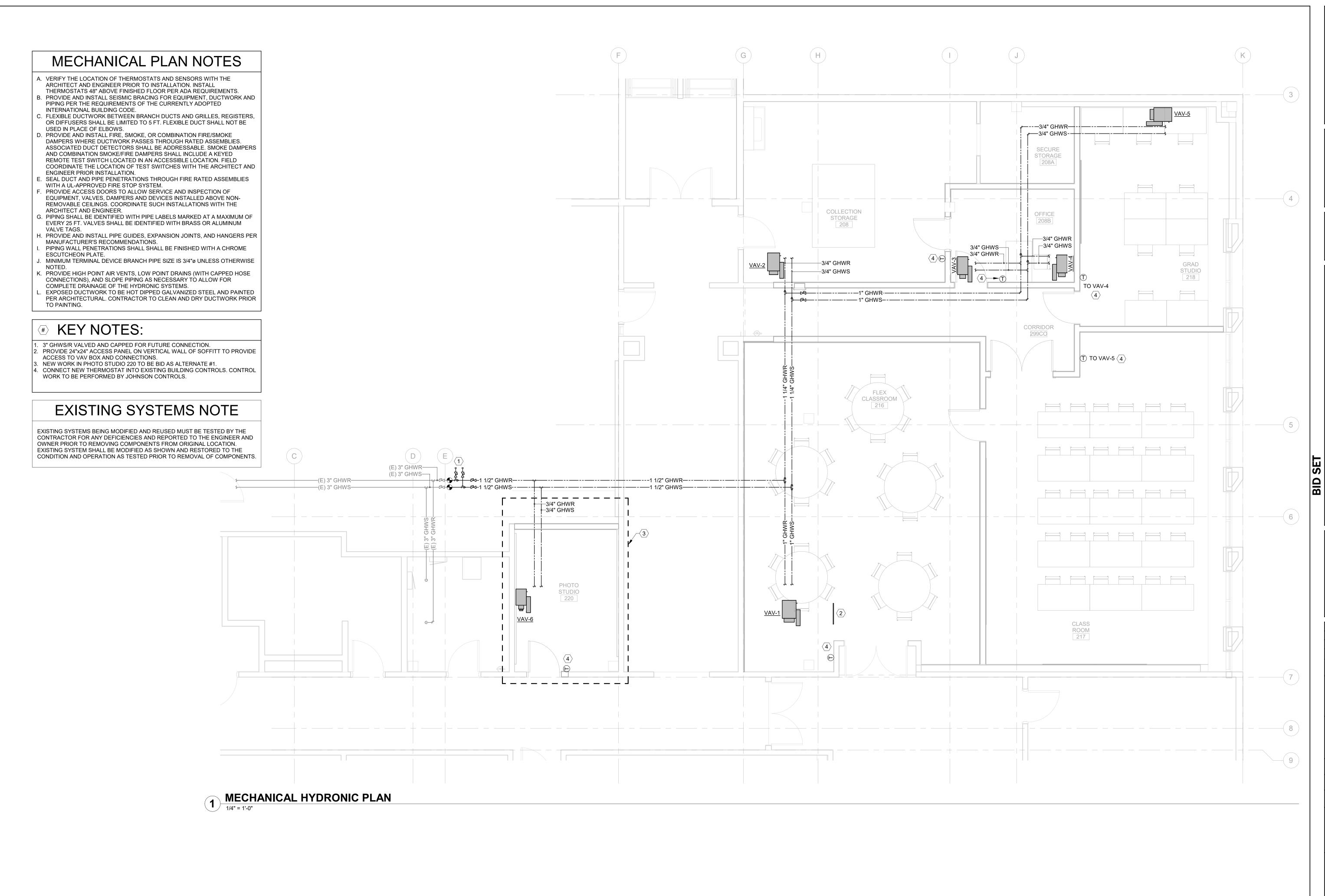
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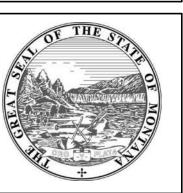
SHEET TITLE
MECHANICAL HVAC
PLAN

SHEET

M101







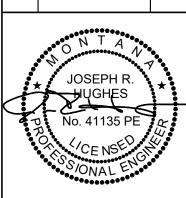
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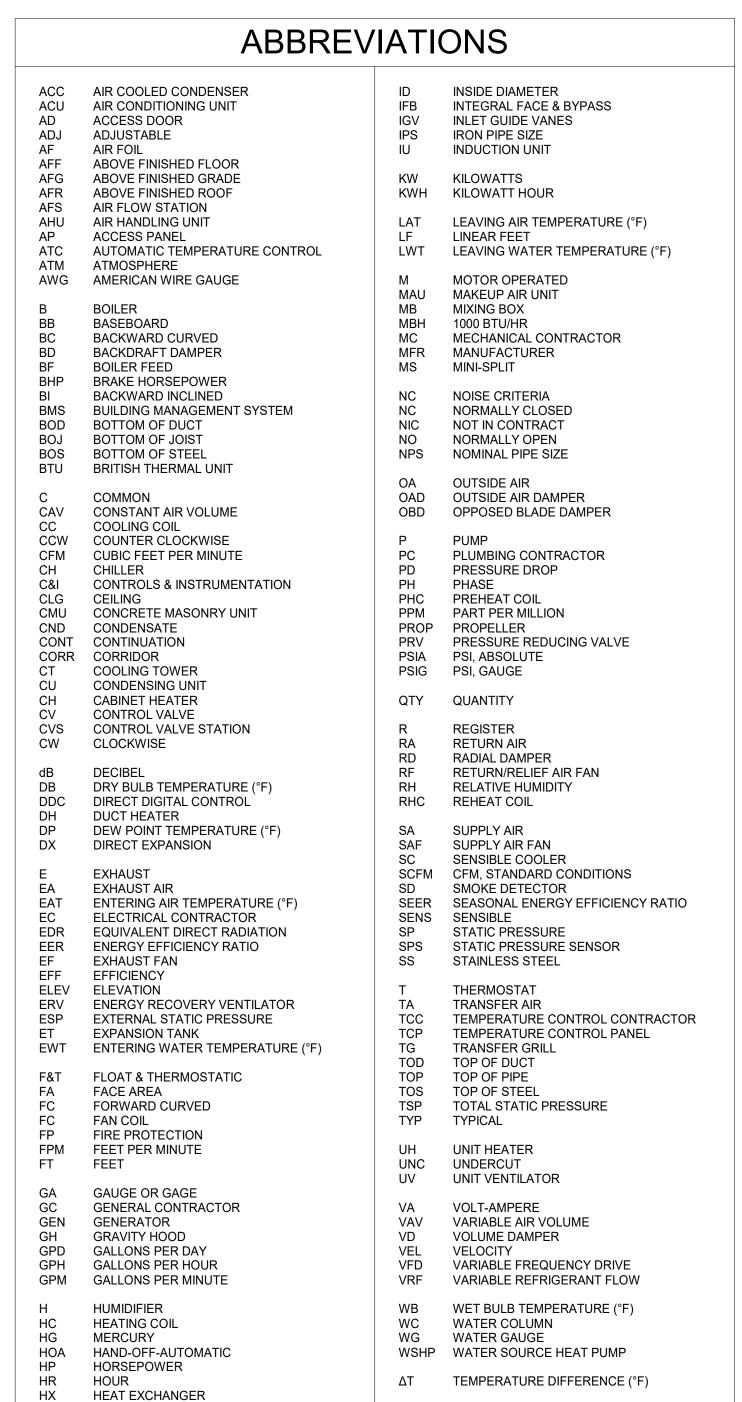
SHEET TITLE

MECHANICAL

HYDRONIC PLAN

HYDRONIC PLA

M102



	PLUMBING LEGEND	
ANNOTATION SYMBOLS	PIPE FITTINGS	PIPING SPECIALTIES
3D VIEW NUMBER  SHEET NUMBER	ELBOW  PIPE BREAK	AUTOMATIC AIR VENT  MANUAL AIR VENT - 1/4" BALL VALVE WITH
	PIPE UP	12" SOFT COPPER TUBE
X DETAIL NUMBER  X SHEET NUMBER	——————————————————————————————————————	PRESSURE / TEMPERATURE PORT  DDC TEMP SENSOR
X SECTION NUMBER	CHANGE IN ELEVATION OF PIPE	P DDC PRESSURE SENSOR
X SHEET NUMBER	SIDE CONNECTION OR TEE FITTING	PIPE WELL - EMPTY
PF-# PLUMBING FIXTURE / EQUIPMENT MARK  PF-# PLUMBING FIXTURE (LOCATED ON FLOOR ABOVE)	———— TOP CONNECTION	FS FLOW SWITCH
(E) PF-# EXISTING PLUMBING FIXTURE / EQUIPMENT	BOTTOM CONNECTION	PS PRESSURE SWITCH
(D) PF-# DEMOLISHED PLUMBING FIXTURE / EQUIPMENT	——II—— UNION	PRESSURE GAUGE
POINT OF NEW CONNECTION		PRESSURE GAUGE & COCK
POINT OF DISCONNECTION  1/4" SLOPE — DIRECTION OF FLOW AND SLOPE PER FOOT		TEMPERATURE GAUGE
	BLIND FLANGE	———— SCHEMATIC PUMP
GENERAL	VALVES	
NAME (E) EXISTING PIPE TO REMAIN	COMBINATION Y-STRAINER & SHUTOFF VALVE	——— PIPE GUIDES
NAME (D) EXISTING PIPE TO BE DEMOLISHED	COMBINATION AUTOFLOW & SHUTOFF VALVE	ANCHOR
NAME NEW PIPING	MANUAL BALANCING VALVE	THERMAL EXPANSION LOOP
DIRECTION OF FLOW	AUTOFLOW VALVE	—+W WATER METER
PLUMBING	——————————————————————————————————————	FLOOR CLEAN OUT
—-— DCW —-— DOMESTIC COLD WATER	3-WAY VALVE	WALL CLEAN OUT
———— DHW ———— DOMESTIC HOT WATER (120°F)	——————————————————————————————————————	WATER HAMMER ARRESTER  HOSE BIBB
——————————————————————————————————————	HOSE END DRAIN	
— – – — HTHW— – – — HIGH TEMPERATURE HOT WATER (140°F)		
IRR IRRIGATION	MANUAL BALANCING VALVE	
RO REVERSE OSMOSIS TREATED	AUTOFLOW VALVE	
———— SAN ————— SANITARY WASTE	CHECK VALVE	
— — V — — SANITARY VENT	BACKFLOW PREVENTER  PRESSURE REDUCING VALVE	
GW GREASE WASTE	PRESSURE REDUCING VALVE  TEMPERATURE AND PRESSURE RELIEF VALVE	
AW ACID WASTE	SOLENOID VALVE	
— — — AV — — — ACID VENT	2-WAY TEMPERATURE CONTROL VALVE	
NG NATURAL GAS	3-WAY TEMPERATURE CONTROL VALVE	
LPG LIQUIFIED PETROLEUM GAS	<del>''</del>	
— — RWL — — RAIN WATER LEADER  — — ORL — — RAIN WATER OVERFLOW		
CND CONDENSATE DRAIN		
— - — CA — - — COMPRESSED AIR		NOTE: THIS IS A STANDARD LEGEND. NOT ALL PIPE TYPES AND SYMBOLS ARE NECESSARILY UTILIZED IN THE DRAWINGS.

### PLUMBING GENERAL NOTES

INSTALLATION:

A. NEW PIPING AND EQUIPMENT TO BE INSTALLED IN ACCORDANCE

A. NEW PIPING AND EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE CURRENTLY ADOPTED UNIFORM PLUMBING AND

INTERNATIONAL BUILDING CODES. B. EQUIPMENT SHALL BE INSTALLED LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS INDICATED. OBSERVE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS SERVE THEIR INTENDED FUNCTION.

C. DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE PURPOSE OF THESE PLANS IS TO INDICATE THE INTENDED SIZES, APPROXIMATE LOCATION AND ROUTING OF MAJOR COMPONENTS. ACTUAL CONDITIONS AND LOCATIONS SHALL BE FIELD VERIFIED AND ADJUSTED IF NECESSARY.

D. PROVIDE AND INSTALL SEISMIC BRACING FOR EQUIPMENT AND PIPING PER THE REQUIREMENTS OF THE CURRENTLY ADOPTED INTERNATIONAL BUILDING CODE.

E. ELEMENTS PENETRATING BUILDING COMPONENTS (ROOF ASSEMBLIES, WALL ASSEMBLIES, ETC.) SHALL BE SEALED WEATHER AND WATER TIGHT. COORDINATE PENETRATIONS WITH GENERAL CONTRACTOR TO PATCH TO THE SATISFACTION OF THE ARCHITECT OR ENGINEER.

MATERIAL THAT IS IN CONTACT WITH POTABLE DOMESTIC WATER SHALL BE NSF CERTIFIED LEAD FREE.

COORDINATION:

A. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO FIELD COORDINATE THE LOCATION OF EQUIPMENT AND ROUTING OF PIPING WITH OTHER TRADES.

B. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THE DRAWINGS OF OTHER DISCIPLINES AND PROVIDE LABOR AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.

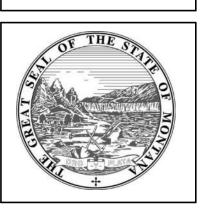
A. SEE THE MEP COORDINATION SCHEDULE FOR ELECTRICAL INFORMATION. COORDINATE WITH OTHER TRADES TO ENSURE THAT ELECTRICAL DISCONNECTS, MOTOR STARTERS, VARIABLE FREQUENCY DRIVES, CONTROLS, AND ELECTRICAL ACCESSORIES ARE FURNISHED AND/OR INSTALLED BY THE APPROPRIATE TRADE.

A. EQUIPMENT SHALL BE SELECTED FOR THE PROJECT ELEVATION OF

### PLUMBING SHEET INDEX

NUMBER	SHEET NAME
P001	PLUMBING LEGEND & NOTES
PD101	PLUMBING DEMOLITION PLAN



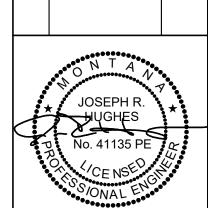


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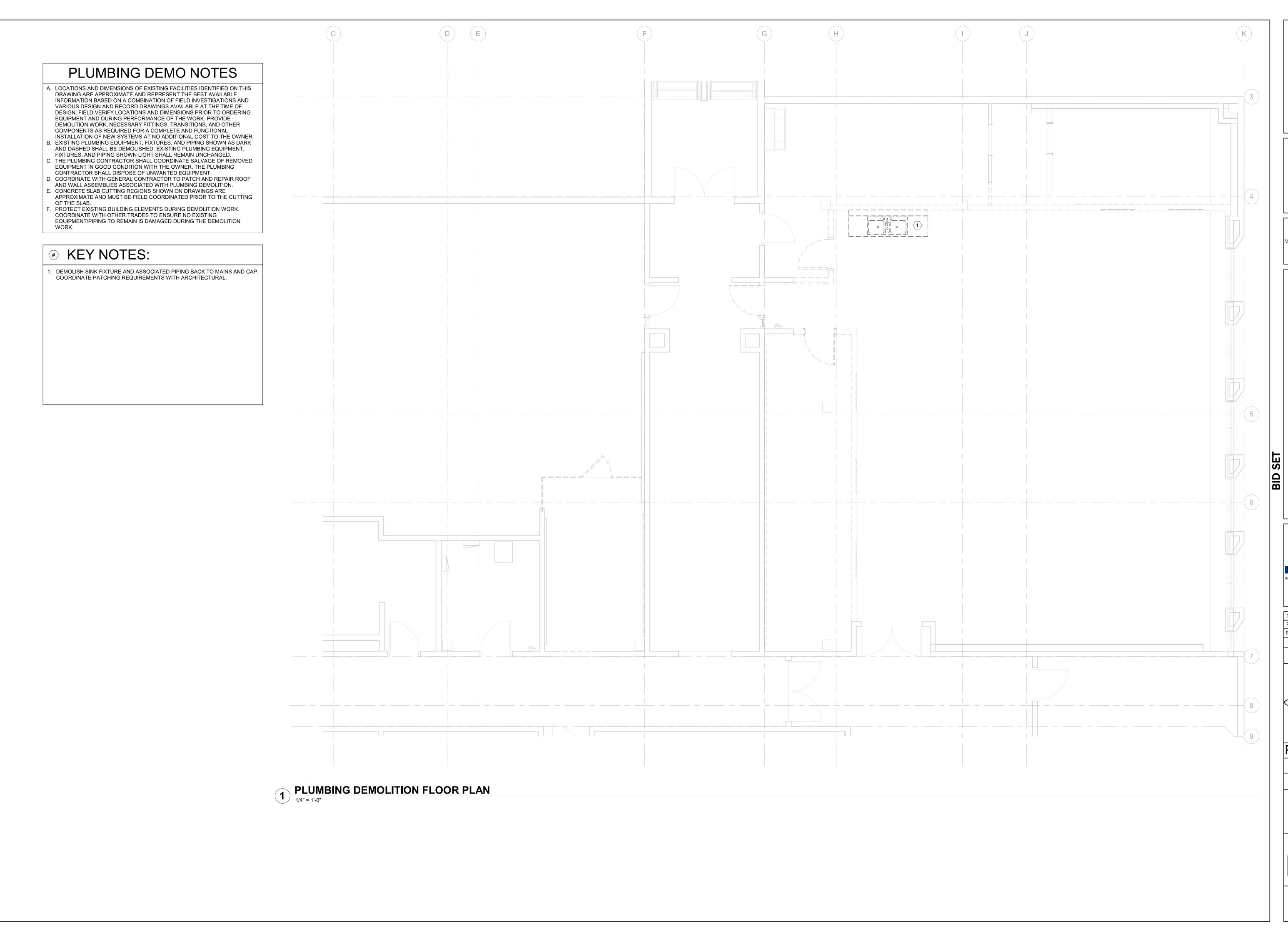
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SHEET TITLE **PLUMBING LEGEND &** 

> **NOTES** SHEET

05-23-23



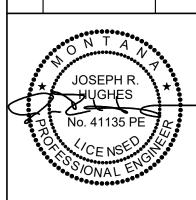




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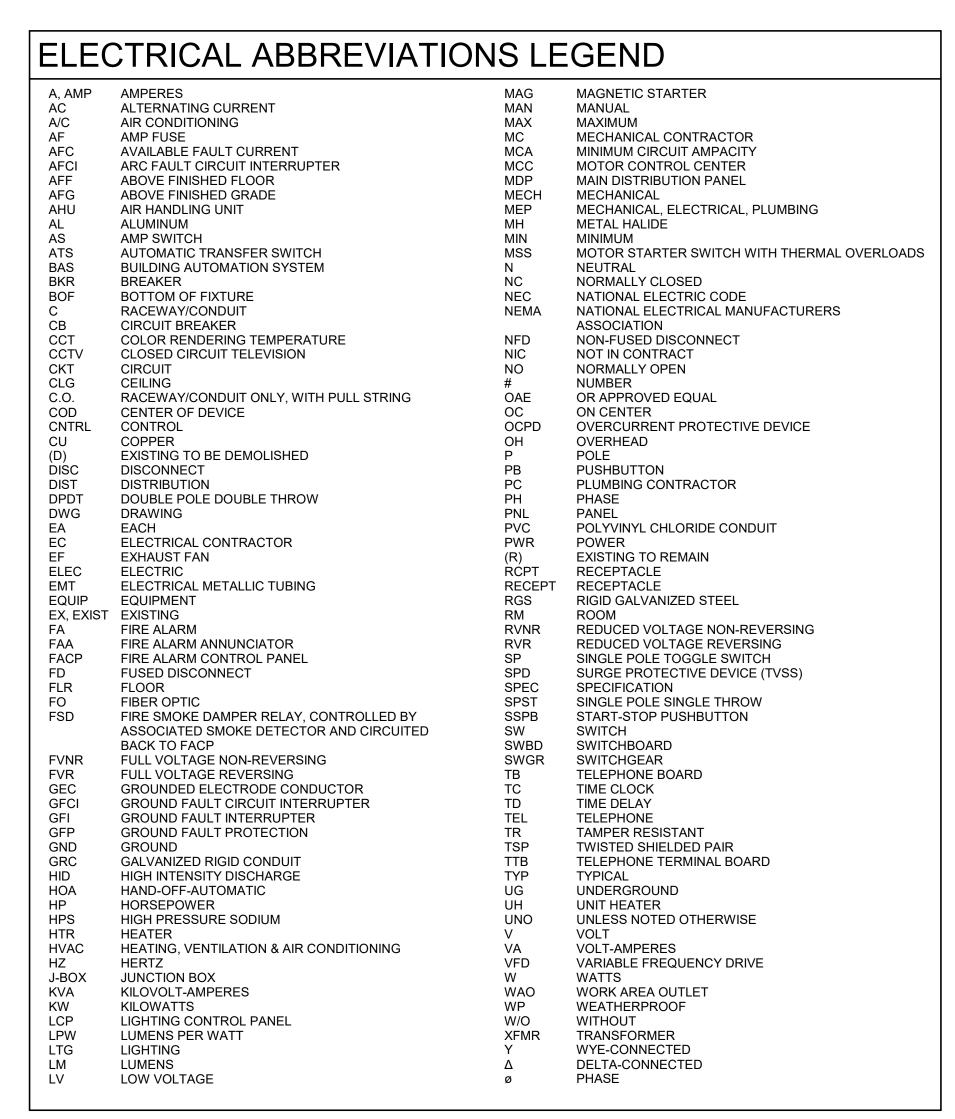


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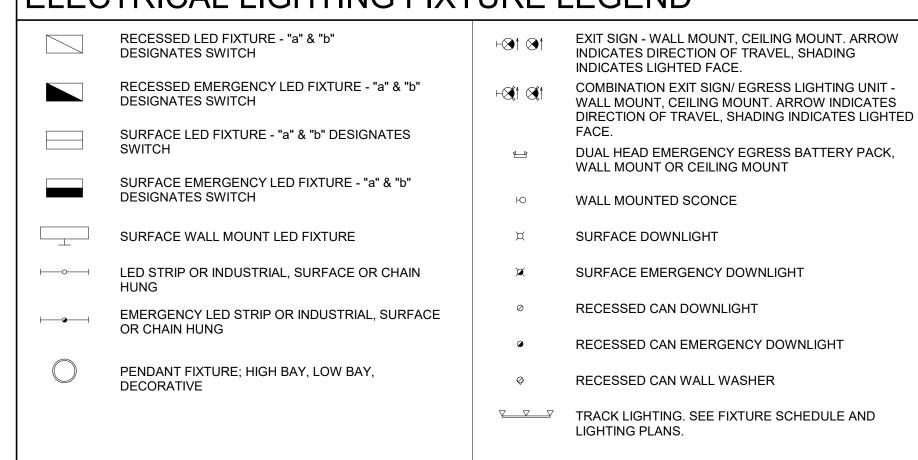
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SHEET TITLE **PLUMBING DEMOLITION PLAN** 

SHEET



# ELECTRICAL LIGHTING FIXTURE LEGEND



# ELECTRICAL ONE-LINE LEGEND CT AND CUSTOMER POWER METER MOTOR TAND CUSTOMER POWER METER VFD VARIABLE FREQUENCY DRIVE

UTILITY ELECTRIC METER AND BASE (BASE BY CUSTOMER)

SPD SURGE PROTECTION DEVICE

LIGHTNING ARRESTER, TYPE 1 SPD, MOUNTED ON EXTERIOR OF MAIN SWITCHGEAR (SQUARE D. SDSA SERIES, OAE)

STRESS RELIEF CONE

CONNECTION

+

\$\frac{1}{X}\$ PFC POWER FACTOR CORRECTION CAPACITOR

\$\frac{1}{X}\$ EQUIPMENT TOGGLE DISCONNECT SWITCH \frac{1}{X}" INDICATES TYPE: \frac{1}{Y} F - FUSTAT

M - MOTOR STARTER SWITCH W/ THERMAL OVERLOADS

TRANSFORMER, 3-PH, 3-WIRE DELTA CONNECTION
TRANSFORMER, 3-PH, 4-WIRE GROUNDED WYE

CONTACTOR NORMALLY OPEN, NORMALLY CLOSED

FIXED MOUNT LV BREAKER

FUSED SWITCH ("XXAS/XXAF" - SW AND FUSE AMP RATING)

GENERATOR

WALL MOUNTED BREAKER

THERMAL OVERLOAD ELEMENT

DISCONNECT SWITCH ("XXAS" = SWITCH AMP RATING)

FUSED DISCONNECT SWITCH ("XXAS/XXAF" = SW AND

FUSE AMP RATING)

COMBINATION MOTOR STARTER (STR SIZE, TYP, AS, AF, SEE MEP COORDINATION SCHEDULE)

SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

# ELECTRICAL POWER LEGEND

PANEL AND CIRCUIT DESIGNATION ARE SHOWN NEXT
TO EACH DEVICE (PANEL NAME - CIRCUIT NUMBER).
BRANCH CIRCUIT WIRE SIZE IS #12, UNO. A SINGLE
INSULATED GREEN GROUND CONDUCTOR SHALL BE
PROVIDED WITH EACH HOME RUN. PROVIDE A
SEPARATE NEUTRAL FOR EACH CIRCUIT. HOME RUNS
SHALL HAVE NO MORE THAN THREE CIRCUITS. LINE
VOLTAGE AND LOW VOLTAGE WIRING IS NOT SHOWN
ON PLANS. FOR EQUIPMENT CIRCUITING, SEE MEP
COORDINATION SCHEDULE.
"X" INDICATES TYPE:
GFI - GROUND FAULT INTERRUPTER
WP - WEATHERPROOF WHILE-IN-USE COVER
U - PROVIDE WITH (2) USB PORTS

WP - WEATHERPROOF WHILE-IN-USE COVER
U - PROVIDE WITH (2) USB PORTS
TR - TAMPER RESISTANT

SIMPLEX RECEPTACLE - CEILING MOUNT, WALL

MOUNT (+18", UNO)

DUPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)

QUADRUPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)

ABOVE COUNTER RECEPTACLE - MOUNT AT +4" ABOVE BACKSPLASH

FLOOR BOX WITH POWER/DATA COMBO

SPECIAL PURPOSE RECEPTACLE (MOUNT AT +18", UNO)

"X" INDICATES TYPE:

A - NEMA 5-20R, #12 CU; B - NEMA 5-30R, #10 CU
C - NEMA 5-50R. #6 CU; D - NEMA 6-20R. #12 CU

PANELBOARD OR LOAD CENTER

A - NEMA 5-20R, #12 CU; C - NEMA 5-50R, #6 CU; E - NEMA 6-30R, #10 CU; G - NEMA 14-20R, #12 CU; I - NEMA 14-50R, #6 CU\* \* +4" AFF FOR RANGE

PUSHBUTTON (MOUNT AT +48", UNO)

"X" INDICATES TYPE:

EPO - EMERGENCY POWER OFF

ADA - HANDICAPPED ACCESSIBLE DOOR

(DEVICE BY OTHERS)

ODO - OVERHEAD DOOR OPERATOR

RECESSED AV WALL BOX: SEE DETAIL ON SHEET E002 FOR FURTHER INFORMATION AND REQUIREMENTS.

(DEVICE BY OTHERS)

J JUNCTION BOX

GROUNDING BUS

DROP-DOWN RECEPTACLE. SEE DETAIL FOR FURTHER INFORMATION.

- PS-X — SURFACE MOUNTED PLUGSTRIP

'X" INDICATES TYPE:

A - PLUGSTRIP, POWER ONLY, OUTLET EVERY 3' OC

B - WIREMOLD SERIES 4000 POWER AND DATA

C - WIREMOLD SERIES 5000 POWER AND DATA

CONDUIT RACEWAY. CONCEALED IN WALL, FLOOR, OR CEILING WHERE POSSIBLE, OTHERWISE EXPOSED WITH NEAT AND CLEAN ROUTING WITH CONDUIT PAINTED TO MATCH SURROUNDINGS.

RACEWAY STUB-OUT WITH BUSHED END

# ELECTRICAL LIGHTING CONTROL LEGEND

STANDARD LIGHTING CONTROLS: SWITCHES AND LINE VOLTAGE DIMMERS	DIGITAL LIGHTING CONTROLS: ROOM CONTROLLERS AND LOW VOLTAGE DEVICES
TOGGLE SWITCH (MOUNT AT +48", UNO)  "X" INDICATES TYPE:  BLANK - SINGLE POLE 3 - INDICATES THREE-WAY 4 - INDICATES FOUR-WAY	©S HOS OCCUPANCY SENSOR - DUAL TECHNOLOGY CEILING MOUNT: WATTSTOPPER LMDC-100, OR EQUAL WALL MOUNT: WATTSTOPPER LMDX-100, OR EQUAL WALL MOUNT AT +96", UNO
D - INDICATES FOUR-WAY  D - INDICATES DIMMER SWITCH  PHILIPS SUNRISE - ON/OFF  K - INDICATES KEYED SWITCH	P PHOTOCELL - CEILING MOUNT WATTSTOPPER LMLS-400, OR EQUAL
T - INDICATES TIMER P - INDICATES PILOT LIGHT OS - INDICATES WALL SWITCH OCC SENSOR	©1 ON/OFF ROOM CONTROLLER WITH (1) RELAY WATTSTOPPER DLM LMRC-101, OR EQUAL
WATTSTOPPER DW100 (SINGLE OR DUAL DW-200 SWITCH) OSD - INDICATES WALL SWITCH OCC SENSOR WITH 0-10V DIMMING - WATTSTOPPER DW-311	© ON/OFF/0-10V ROOM CONTROLLER WITH (1) RELAY WATTSTOPPER DLM LMRC-211, OR EQUAL
a - INDICATES SINGLE POLE LIGHTING SWITCH ZONE FOR ZONE a b - INDICATES SINGLE POLE LIGHTING SWITCH	© ON/OFF/0-10V ROOM CONTROLLER WITH (2) RELAYS WATTSTOPPER DLM LMRC-212, OR EQUAL
ZONE FOR ZONE b ab - INDICATES LIGHTING SWITCHES WITH MULTIPLE ZONES	©4 ON/OFF/0-10V ROOM CONTROLLER WITH (3) RELAYS WATTSTOPPER DLM LMRC-213, OR EQUAL
	©5 ON/OFF/UNIVERSAL-DIMMING ROOM CONTROLLER WITH (1) RELAY WATTSTOPPER DLM LMRC-221, OR EQUAL
	\$LVD LOW VOLTAGE DIMMING SWITCH WATTSTOPPER DLM LMDM-101, OR EQUAL
	\$LV LOW VOLTAGE SWITCH WATTSTOPPER DLM LMSW-101, OR EQUAL

### ABBREVIATIONS AND SYMBOLS GENERAL NOTES

- A. THE ABBREVIATIONS ON THIS SHEET COMPRISE A STANDARD LIST; NOT ALL ABBREVIATIONS APPEAR ON THIS PROJECT.
- A. THE ABBREVIATIONS ON THIS SHEET COMPRISE A STANDARD LIST; NOT ALL ABBREVIATIONS APPEAR ON THIS PROBE. THE SYMBOLS ON THIS SHEET COMPRISE A STANDARD LIST; NOT ALL SYMBOLS APPEAR ON THIS PROJECT.
- C. ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS, MAKING ADJUSTMENTS AS REQUIRED TO AVOID INTERFERENCE WITH EQUIPMENT SUCH AS BASEBOARD FIN-TUBE, CABINET UNIT HEATERS, ETC. ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ALL SUCH HEIGHT ADJUSTMENTS. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED.

### ELECTRICAL PROJECT GENERAL NOTES

- A. PRIOR TO BID CONTRACTOR SHALL VISIT THE SITE. NOT ALL WORK REQUIRED TO COMPLETE THE PROJECT IS SHOWN ON THE DRAWINGS.
  THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL THE WORK REQUIRED TO COMPLETE THE PROJECT IN ADDITION TO
- THE LOCAL CONDITIONS AND INCLUDE SAID WORK IN THE BID.

  B. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1, "STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING." THIS PUBLICATION IS AVAILABLE FROM NECA BY TELEPHONE AT 301-657-3110 OR ON-LINE AT
- WWW.NECANET.ORG.

  C. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH MECHANICAL FOR PLENUM SPACES AND PROVIDE PLENUM RATED CABLES WHERE REQUIRED FOR LIGHTING CONTROL, DATA, AND ALL OTHER L.V. SYSTEMS NOT INSTALLED IN CONDUIT. VERIFY CONDUIT
- REQUIREMENTS ON DRAWINGS AND SPECIFICATIONS.

  D. FIRE-RESISTANCE: PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 24" BETWEEN OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTANCE RATED WALLS. WHERE THIS IS NOT POSSIBLE INSTALL UL LISTED PUTTY PADS ON ALL OUTLET BOXES NOT MEETING THE 24"
- SEPARATION. PROVIDE A UL LISTED THROUGH -PENETRATION FIRESTOP FOR PENETRATIONS OF FIRE-RESISTANCE RATED ASSEMBLIES.

  E. CONDUCTORS ARE SIZED PER THE 75 DEGREE C RATING COLUMN OF NEC TABLE 310.16. IF THE TERMINAL USED FOR A TERMINATION OF A PARTICULAR CONDUCTOR IS NOT MARKED, OR THE TERMINAL IS MARKED FOR 60 DEGREE C CONDUCTORS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EITHER ADJUST THE AMPACITY OF THE CONDUCTOR TO MATCH THE 60 DEGREE COLUMN OF TABLE 310.16, OR
- REPLACE THE TERMINAL WITH ONE RATED FOR AT LEAST 75 DEGREES C.

  F. BASED ON ACTUAL HOMERUN LENGTHS REQUIRED IN THE FIELD, THE CONTRACTOR SHALL CALCULATE AND INCREASE THE WIRE SIZES AS REQUIRED TO LIMIT BRANCH CIRCUIT VOLTAGE DROP TO 3%. FOR 20A BRANCH CIRCUITS THE MINIMUM CONDUCTOR SIZES SHALL BE AS FOLLOWS: #10 AWG CU FOR RUNS BETWEEN 100 AND 200 LINEAR FEET, #8 AWG CU FOR RUNS BETWEEN 200 AND 325 LINEAR FEET, AND AS CALCULATED BY THE CONTRACTOR FOR CIRCUITS EXTENDING BEYOND 325 LINEAR FEET. IN ALL CASES WHERE WIRE SIZES INCREASE, THE
- CONTRACTOR SHALL PROVIDE LARGER CONDUITS AS REQUIRED.
  G. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120V BRANCH CIRCUIT.
- H. ALL FIRE ALARM CABLE TO BE INSTALLED IN 3/4" RED CONDUIT. IF CONDUIT IS EXPOSED TO PUBLIC, PAINT CONDUIT TO MATCH SURROUNDINGS, ALL FIRE ALARM JUNCTION BOXES AND COVERS ARE TO BE RED FINISH.

### ELECTRICAL PROJECT DEMO NOTES

- A. DURING DEMOLITION, THE CONTRACTOR SHALL NOTE ALL EXISTING RACEWAY (BOTH SURFACE AND CONCEALED) TO THE EXTENT POSSIBLE. THESE RACEWAYS SHALL BE REUSED TO THE GREATEST EXTENT POSSIBLE TO INSURE A CLEAN FINISHED PRODUCT. WHERE PRACTICAL, AND ALLOWED PER CODE, FISHING THROUGH WALLS WITH MC CABLE IS PREFERRED TO SURFACE-MOUNTED CONDUIT.
- B. CONTRACTOR SHALL REMOVE, TRANSPORT, AND LEGALLY DISPOSE OF LAMPS AND BALLASTS OFF-SITE. IT IS ASSUMED THAT THE BALLASTS DO NOT CONTAIN PCBs. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF IT IS SUSPECTED THAT BALLASTS CONTAIN PCBs.
- C. ALL POWER INTERRUPTIONS SHALL BE COORDINATED WITH OWNER. ANY DISRUPTION OF WORKERS IN THE SPACE SHALL BE KEPT TO A MINIMUM AND BE COORDINATED WITH THE OWNER PRIOR TO WORK COMMENCING IN THAT SPACE.

  D. CONTRACTOR SHALL EXTEND UNSWITCHED HOT LEG FROM EXISTING EMERGENCY FIXTURE LOCATION TO NEW EMERGENCY FIXTURES, AS NEEDED. SEE DEMO PLANS FOR AN APPROXIMATION OF EXISTING EMERGENCY FIXTURE LOCATIONS. FIELD VERIFY EXACT LOCATION PRIOR
- TO BID.

  E. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY EXISTING CONDUIT OR FEEDER CIRCUITS THAT ARE INTENDED TO REMAIN THAT ARE SAW-CUT, OR OTHERWISE DAMAGED, AS PART OF THE DEMOLITION PROCESS. PROVISION FOR THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO: ALL NECESSARY CONDUIT AND CONDUCTORS, MOUNTING ACCESSORIES AND LABOR, TO RESTORE THE
- SYSTEM TO ITS INTENDED FUNCTION.

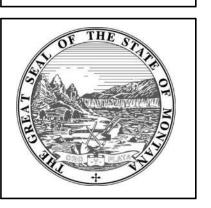
  F. ELECTRICAL DRAWINGS SHOWING EXISTING BUILDING CONDITIONS, SUCH AS DEMOLITION DRAWINGS, EXISTING PANEL SCHEDULES, ETC ARE BASED ON RECORD DRAWINGS AND SITE VISITS. IF ACTUAL EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON DRAWINGS, PLEASE NOTICY ENGINEER

# ELECTRICAL LOW VOLTAGE LEGEND

	FIRE ALARM SYSTEM	TELEPHONE/DATA
PS	SPRINKLER PRESSURE SWITCH	√ VOICE-DATA OUTLET (MOUNT AT +18", UNO).  SEE NOTE.
FS	SPRINKLER FLOW SWITCH	OZEMOTE.
TS	SPRINKLER TAMPER SWITCH	WIRELESS ACCESS POINT (MOUNT AT CEILING). SEE NOTE.
$\mathbb{H}$	HEAT DETECTOR	
(SD)	SMOKE DETECTOR - PHOTO-ELECTRIC	NOTE: PROVIDE ROUGH-IN ONLY. 4-SQUARE BOX WITH MUD
(SD) <sub>D</sub>	DUCT SMOKE DETECTOR	RING & 1" CONDUIT ROUTED TO ACCESSIBLE CEILING SPACE IN EXISTING HALLWAY. BUSH CONDUIT ENDS AND PROVIDE WITH PULL STRING.
SS	SINGLE-STATION SMOKE DETECTOR. PROVIDE 120V AND MONITOR AT FACP VIA RELAY.	SECURITY / AV
(co)	CARBON MONOXIDE DETECTOR	CARD READER - SEE ELECTRICAL DETAILS FOR ROUGH-IN (MOUNT AT +48", OR MATCH ADJACENT
HD	DOOR HOLDER	DOOR ACCESS CONTROL)
HE	MANUAL STATION (MOUNT AT +48", UNO)	HRE REQUEST TO EXIT MOTION DETECTOR
HEX EX	STROBE - WALL MOUNT (+90"), CEILING MOUNT	DC DOOR CONTACTS
	HORN/STROBE - WALL MOUNT (+90"), CEILING MOUNT	ES ELECTRIC STRIKE
		EL ELECTRIC LOCK
		C CCTV CAMERA - CEILING MOUNT OR WALL MOUNT. SEE NOTE.
		SPEAKER (WALL MOUNT). SEE NOTE.
		NOTE: PROVIDE ROUGH-IN ONLY. 1-GANG BOX WITH MUD RING

& 1" CONDUIT ROUTED AS SHOWN ON PLAN.





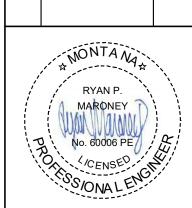
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PPA#21-0133 A/E#22037

MMI #: 6088.012

SHEET TITLE

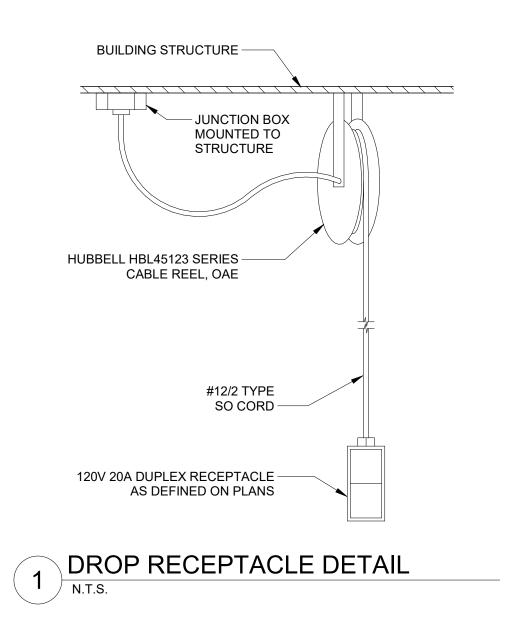
ELECTRICAL LEGENDS

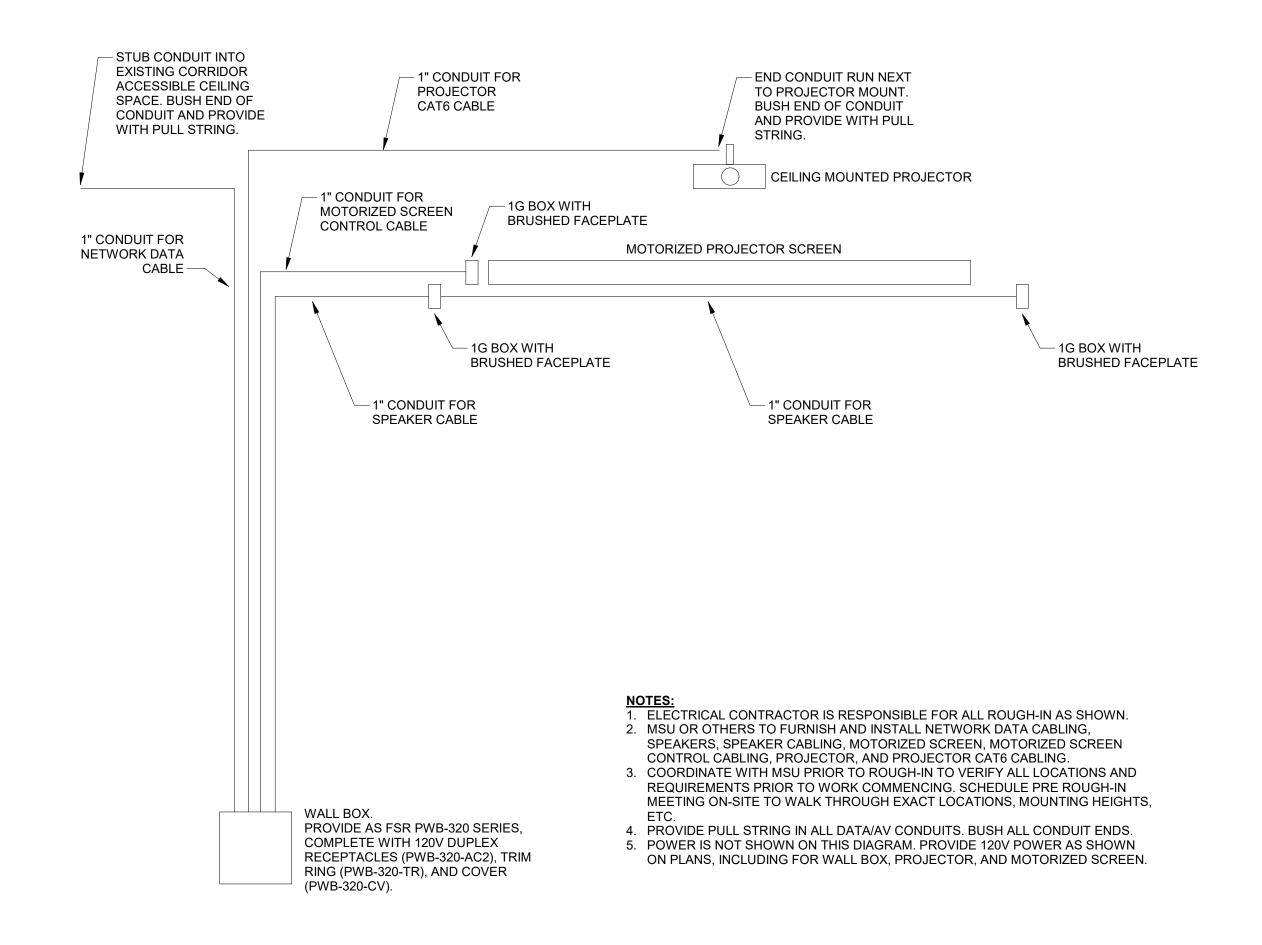
AND ABBREVIATIONS

SHEET

E001

05-23-23





LMRC-213 TRIPLE RELAY ON/OFF/0-10V DIMMING ROOM CONTROLLER Red LIGHTING LOAD Vio NEUTRAL WHT Yel LIGHTING LOAD Vio UNSWITCHED Blu LIGHTING LOAD Vio HOT BLK 120/277 0-10VDC DIMMING BALLAST REQUIRED. — RJ45 PORT (TYPICAL) CLASS 2 0-10 VOLT CONTROL WIRING LMRJ SERIES PRE-TERMINATED CABLES OR CAT5E.
FREE TOPOLOGY & SPLITTER ACCEPTABLE LMDM-101 DIGITAL AS NEEDED DIMMING SWITCH PER PLANS LMRJ-C8 LMDC-100 OCCUPANCY COUPLER SENSOR RJ45 (TYP.)

### **SEQUENCE OF OPERATIONS:**

OFFICE: MANUAL-ON VIA SWITCH. AUTO-OFF VIA OCCUPANCY SENSOR(S). SWITCH SHALL PROVIDE FULL DIMMING

<u>CLASSROOM:</u>
AUTO-ON, AUTO-OFF VIA OCCUPANCY SENSOR(S). SWITCH(ES) SHALL PROVIDE FULL DIMMING OVERRIDE OF ASSOCIATED ZONES.

HALLWAYS: AUTO-ON, AUTO-OFF VIA OCCUPANCY SENSOR(S).

NOTES:

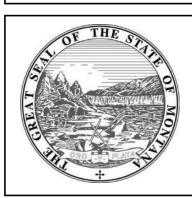
• MOUNT ROOM CONTROLLERS IN CONCEALED LOCATION ABOVE ACCESSIBLE CEILING SPACE, OR IN A NEARBY BACK-OF-HOUSE JANITOR/MECH/ELECT ROOM. DO NOT LOCATE ROOM CONTROLLERS EXPOSED IN PUBLIC VIEW. • DEVICES ARE PRESET FOR PLUG n' GO OPERATION.

ALL ROOMS ARE STAND ALONE.

NUMBER OF ZONES ("a" "b" ETC) INDICATES NUMBER OF RELAYS REQUIRED IN A ROOM. ROOMS WITH NO LOWERCASE LETTERS INDICATES A SINGLE ZONE ONLY.

3 LIGHTING CONTROL DIAGRAM - TYP.





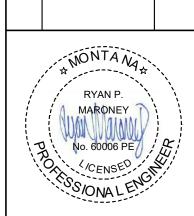
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SHEET TITLE **ELECTRICAL DETAILS** 

SHEET

	Branch Panel: P4  Location: EX. ELE Supply From: EXISTII  Mounting: Surface Enclosure: Type 1	NG					Volts: Phases: Wires:		Wye				Mai	C. Rating: EXISTING ins Type: MLO s Rating: 225 A	G	
Notes EXIST	TING PANELBOARD	Load Classification	Trip	Poles		A		В		c	Poles	Trip	Load Classification	Ciı	cuit Description	
1	EXISTING LOAD		20 A	1	0	1620					1	20 A	Receptacle		CLASSROOM 216	
3	<1> RCPT - PHOTO STUDIO 220	Receptacle	20 A	1			540	900			1	20 A	Receptacle	<1> RCPT - CLAS		
5	EXISTING LOAD		20 A	1					0	900	1	20 A	Receptacle	<1> RCPT - CLAS		
7	EXISTING LOAD		20 A	1	0	360					1	20 A	Receptacle		ECTION STORAGE 208	
9	<1> RCPT - GRAD STUDIO & OFFICE	Receptacle	20 A	1			720	540	1000	- 10	1	20 A	Receptacle		ECTION STORAGE 208	
11	<1> RCPT - GRAD STUDIO & OFFICE	Receptacle	20 A	1					1080	540	1	20 A	Receptacle		ECTION STORAGE 208	
	EXISTING LOAD		20 A	1	0	0					1	20 A		EXISTING LOAD		
	EXISTING LOAD		20 A	1			0	0			1	20 A		EXISTING LOAD		
17	EXISTING LOAD		20 A	1					0	0	1	20 A		EXISTING LOAD		
	EXISTING LOAD		20 A	1	0	0					1	20 A		EXISTING LOAD		$\overline{}$
21	EXISTING LOAD		20 A	1			0	0			1	20 A		EXISTING LOAD		
23	EXISTING LOAD		20 A	1					0	0	1	20 A		EXISTING LOAD		
25	<2> PROJECTOR, SCREEN, AV BOX - ROOM 21	· · · · · · · · · · · · · · · · · · ·	20 A	1	1372						1			SPACE		
27	<2> PROJECTOR, SCREEN, AV BOX - ROOM 21		20 A	1			1372				1			SPACE		
29	<2> DROP RCPTS - ROOM 217	Receptacle	20 A	1					360		1			SPACE		
31	<2> TRACK LIGHTING - ROOM 216	Lighting	20 A	1	115						1			SPACE		
33	SPACE			1							1			SPACE		
35	SPACE			1							1			SPACE		
37	SPACE			1							1			SPACE		
39	SPACE			1							1			SPACE		
41	SPACE			1							1			SPACE		
			Total	Load:	346	7 VA	407	2 VA	2880	O VA						
			Total A	Amps:	30	) A	35	5 A	24	ŀΑ						
<2> P	REUSE EXISTING 20A-1P CIRCUIT BREAKER FOR PROVIDE NEW 20A-1P CIRCUIT BREAKER FOR NE	EW LOAD	0	a4c -11				-1	=-4					D	Tatala	
	Classification		Conne		oad	De	emand Fac		Estir	nated De				Panei	Totals	
Lightii				15 VA			125.00%			144 VA						
Motor				24 VA			112.50%			2277 VA				Total Conn. Load:		
Rece	ptacle		82	80 VA			100.00%	)		8280 VA	١		Т	Total Est. Demand:	10701 VA	
														Total Conn.:	29 A	
													T	otal Est. Demand:	30 A	
						1			1						1	

					LUMINAIRE SCHE	EDULE				
TYPE	LAMPS	LOAD (W)	OUTPUT (LM, NOMINAL)	CCT (K)	DESCRIPTION	MFR	CATALOG NO. OR SERIES	MOUNTING	VOLTAGE	NOTES
B1	LED	23 W	3000 LM	3500	4' ARCHITECTURAL SURFACE WRAP	HE WILLIAMS	39-4-L30/835-A-DRV-UNV	SURFACE	277 V	1
B1E	LED	23 W	3000 LM	3500	SAME AS B1, WITH INTEGRAL EMERGENCY BATTERY	HE WILLIAMS	39-4-L30/835-A-EM/10WLP-DRV-UNV	SURFACE	277 V	1
F1	LED	41 W	5000 LM	3500	4' LINEAR, SUSPENDED VIA AIRCRAFT CABLE	LITHONIA	ZL1D-L48-5000LM-FST-MVOLT-35K- 80CRI-WH-ZACVH-M100	SUSPENDED	277 V	1
F1E	LED	41 W	5000 LM	3500	SAME AS F1, WITH INTEGRAL EMERGENCY BATTERY	LITHONIA	ZL1D-L48-5000LM-FST-MVOLT-35K- 80CRI-E7W-WH-ZACVH-M100	SUSPENDED	277 V	1
F2	LED	41 W	5000 LM	3500	4' LINEAR, SURFACE MOUNT	LITHONIA	ZL1D-L48-5000LM-FST-MVOLT-35K- 80CRI-WH	SURFACE	277 V	1
F2E	LED	41 W	5000 LM	3500	SAME AS F2, WITH INTEGRAL EMERGENCY BATTERY	LITHONIA	ZL1D-L48-5000LM-FST-MVOLT-35K- 80CRI-E7W-WH	SURFACE	277 V	1
T1	LED	10 W	800 LM / HEAD	3500	TRACK LIGHT, LENGTH AND NUMBER OF HEADS PER PLANS. PROVIDE ALL ACCESSORIES FOR A COMPLETE TRACK LIGHTING SYSTEM INCLUDING CURRENT LIMITERS.	COOPER	TRACK: L650MB SERIES, HEAD: L81208FL9035MB	SURFACE	120 V	1,2
T2	LED	10 W	800 LM / HEAD	3500	TRACK LIGHT, LENGTH AND NUMBER OF HEADS PER PLANS. PROVIDE ALL ACCESSORIES FOR A COMPLETE TRACK LIGHTING SYSTEM INCLUDING CURRENT LIMITERS.	COOPER	TRACK: L650MB SERIES, HEAD: L81208FL9035MB	SURFACE	120 V	1,2
Т3	LED	10 W	800 LM / HEAD	3500	TRACK LIGHT, LENGTH AND NUMBER OF HEADS PER PLANS. PROVIDE ALL ACCESSORIES FOR A COMPLETE TRACK LIGHTING SYSTEM INCLUDING CURRENT LIMITERS.	COOPER	TRACK: L650MB SERIES, HEAD: L81208FL9035MB	SURFACE	120 V	1,2
X1	LED	4 W	N/A		EXIT SIGN, DIE-CAST ALUMINUM HOUSING, BRUSHED AL FACE, RED LETTERING, WITH INTEGRAL EMERGENCY BATTERY	LITHONIA	LE-S-1-R-EL-N-SD	UNIVERSAL	277 V	1,2

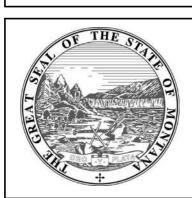
NOTES:

1. ANY ALTERNATE SUBSTITUTE FIXTURE REQUIRES PRIOR APPROVAL BEFORE BIDDING. FOLLOW PROPER PROJECT SUBSTITUTION PROCEDURES. REFER TO PROJECT MANUAL FOR REQUIREMENTS.

2. VERIFY FINISH WITH ARCHITECT.

GENERAL NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND PROVIDE ALL MOUNTING, FIRE-RATED, AND IC-RATED ACCESSORIES AS REQUIRED. FOR FIRE-RATED CEILING ASSEMBLIES AND FOR CEILINGS WITH INSULATION, VERIFY ALL RECESSED LUMINAIRE HOUSINGS ARE RATED APPROPRIATELY OR PROVIDE DROP-OVER ENCLOSURES OR TENTS FOR LUMINAIRES. VERIFY THAT DROP-OVER ENCLOSURES OR TENTS ALLOW FOR AIR SPACE AROUND LUMINAIRE PER MANUFACTURER'S RECOMMENDATIONS.





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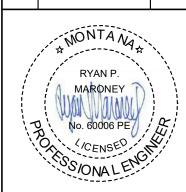
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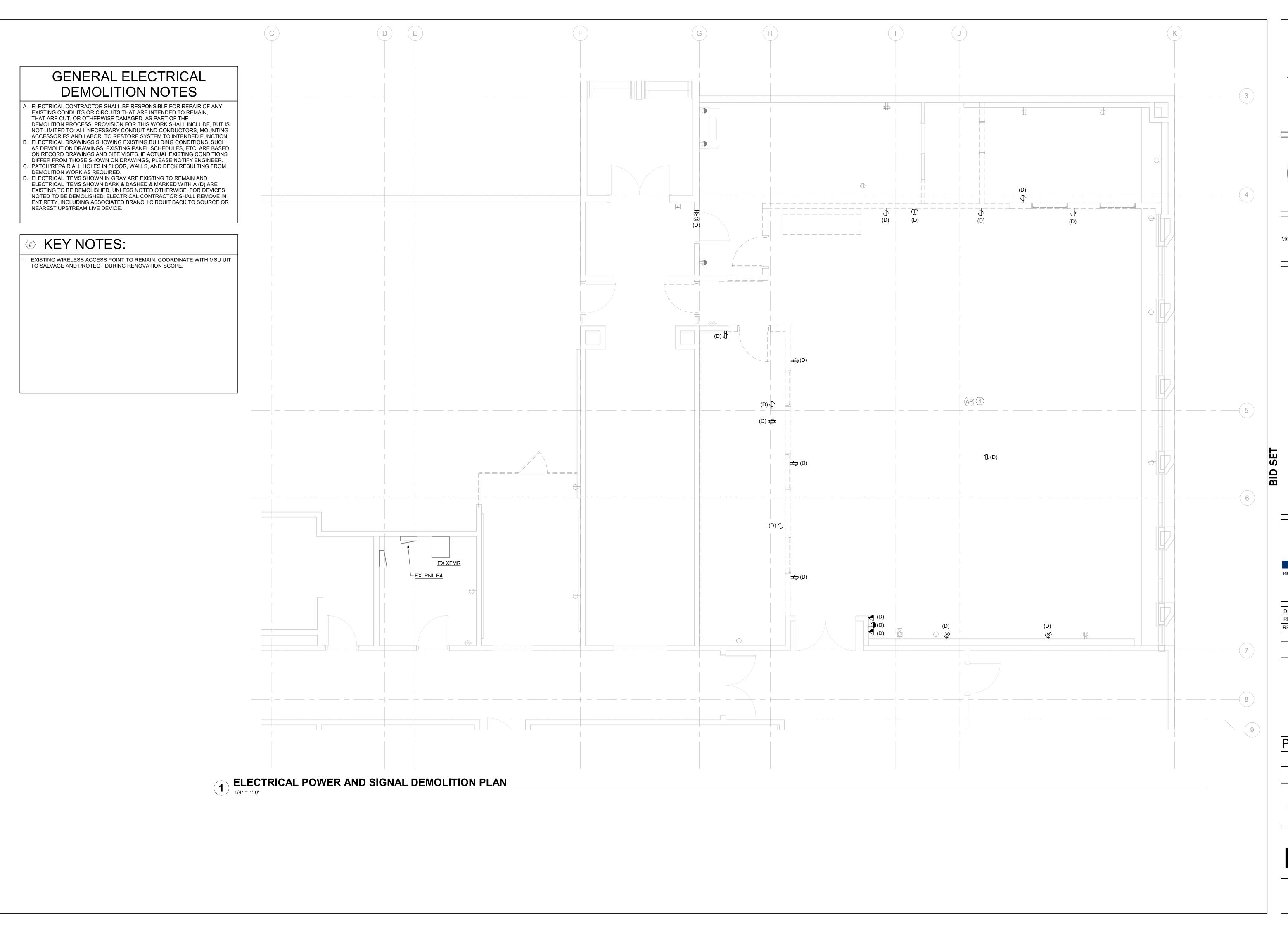
SHEET TITLE

ELECTRICAL

SCHEDULES

SHEET

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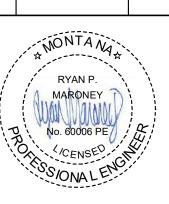
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HAYNES FRENOVAT

Morrison
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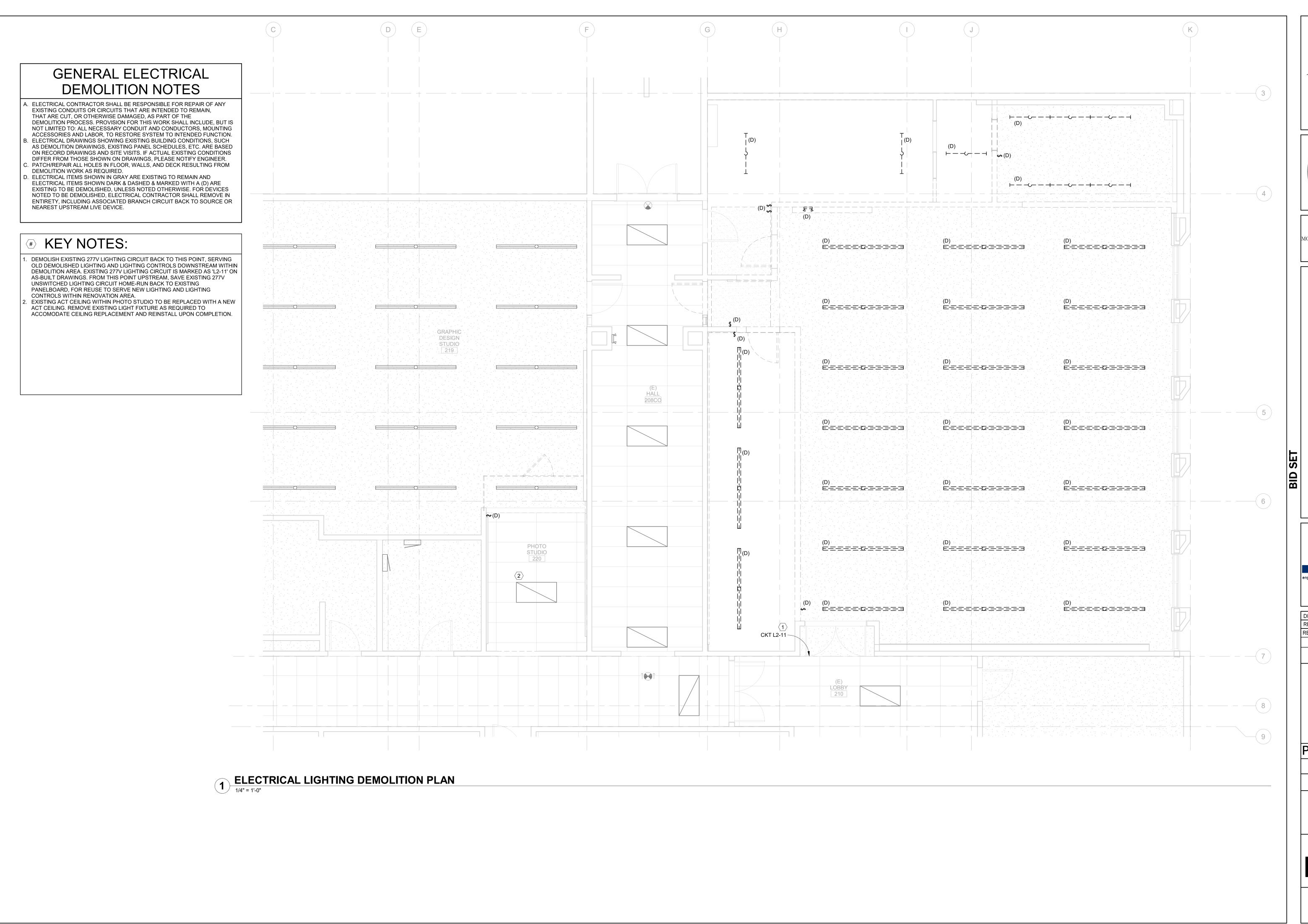
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MMI #: 6088.012

SHEET TITLE
POWER AND SIGNAL
DEMOLITION PLAN

SHEET

ED101







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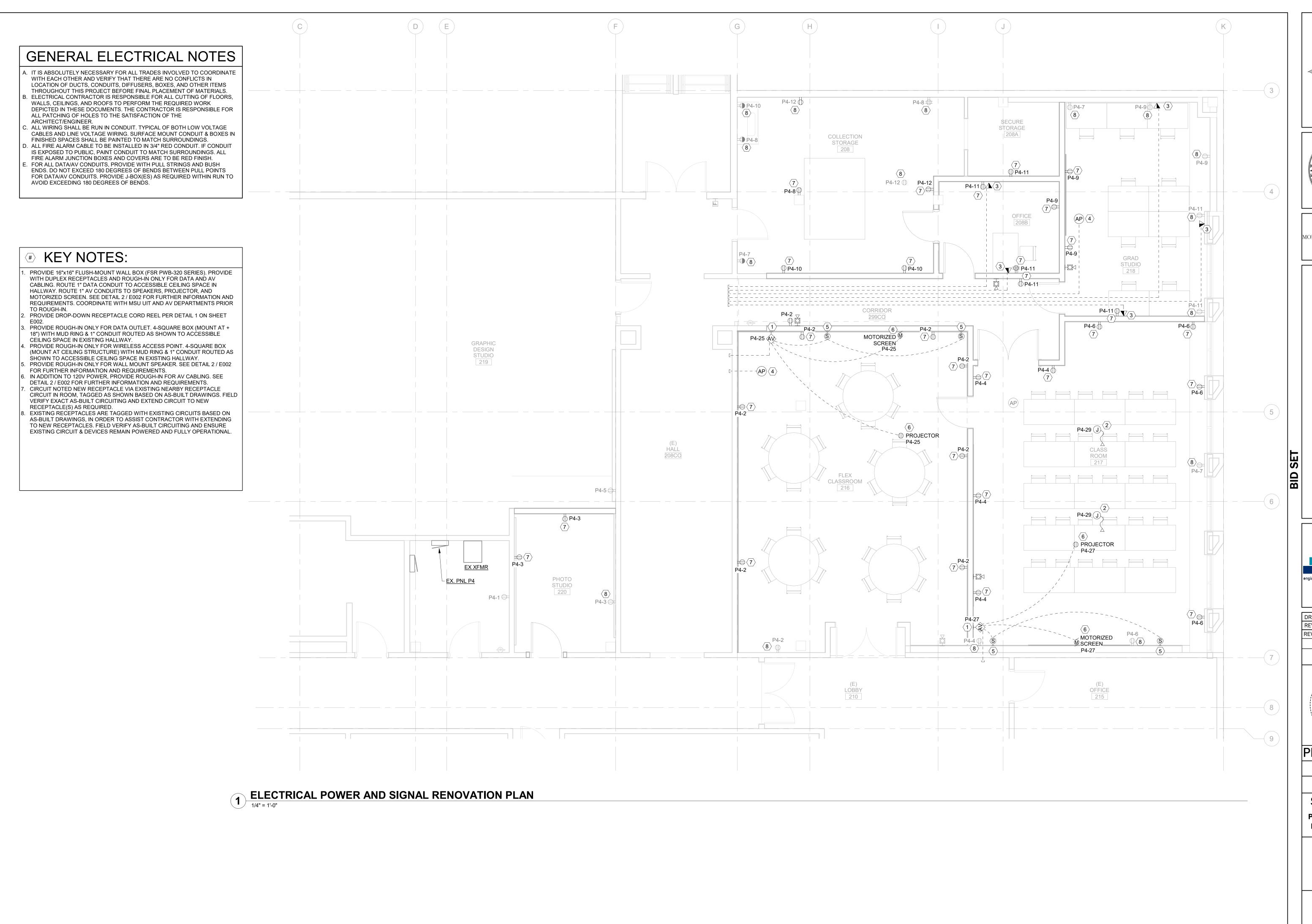
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MMI #: 6088.012

SHEET TITLE
LIGHTING
DEMOLITION PLAN

SHEET

ED201





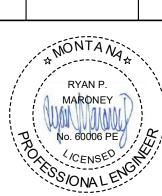


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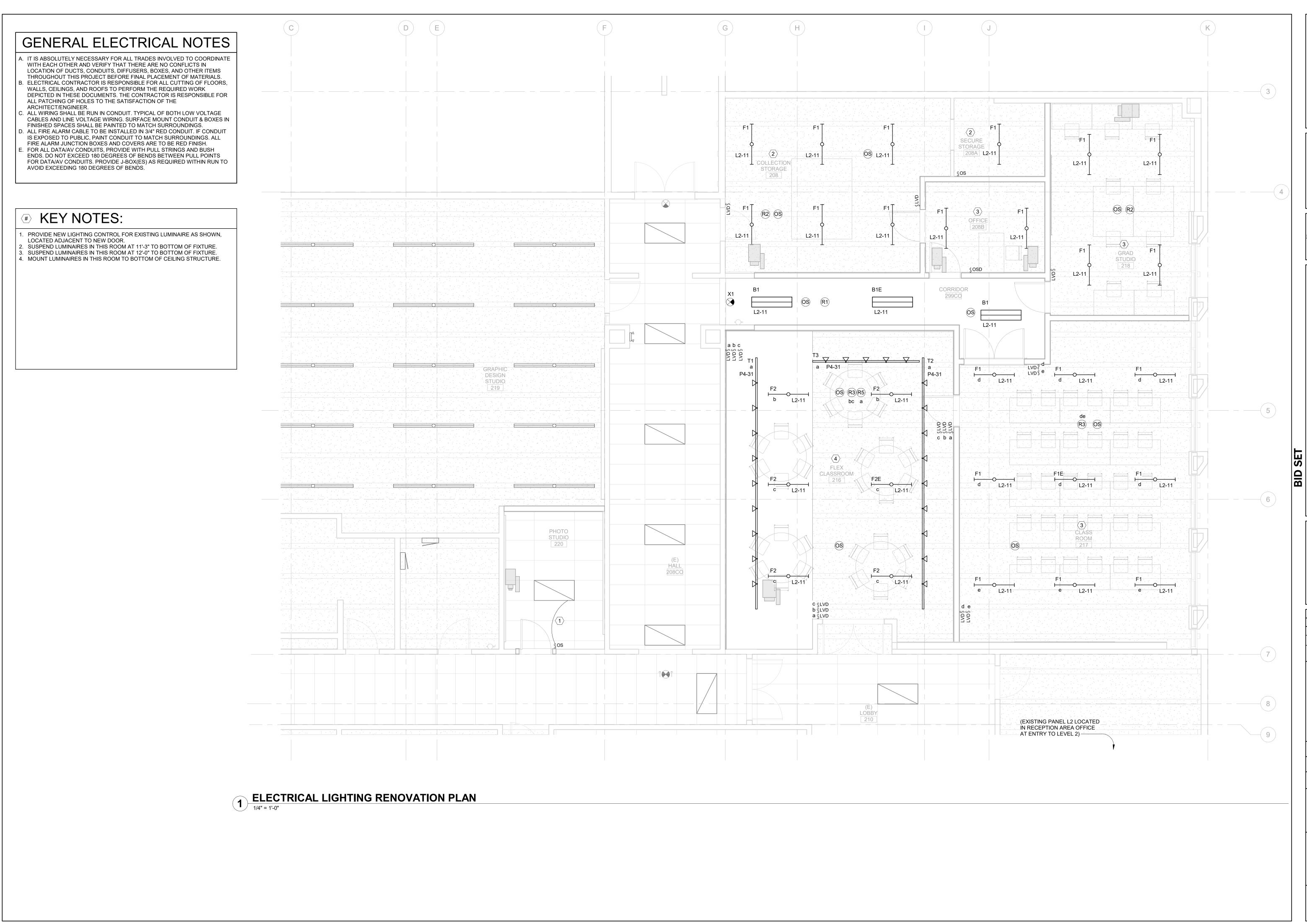
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MMI #: 6088.012

SHEET TITLE **POWER AND SIGNAL RENOVATION PLAN** 

SHEET

E101







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RENOVATION PLAN

SHEET

E201