

MSU ATHLETIC ACADEMICS CENTER

BOZEMAN, MT



PROJECT INFORMATION

PROJECT SITE:
BRICK BREEDEN FIELDHOUSE, 11TH AVE
MONTANA STATE UNIVERSITY
BOZEMAN, MT

CODE INFORMATION:

APPLICABLE CODES: (STATE OF MONTANA)
-INTERNATIONAL EXISTING BUILDING CODE, 2021 EDITION
-UNIFORM PLUMBING CODE, 2021 EDITION
-INTERNATIONAL MECHANICAL CODE, 2021 EDITION
-INTERNATIONAL FUEL GAS CODE, 2021 EDITION
-NATIONAL ELECTRICAL CODE, 2021 EDITION
-INTERNATIONAL ENERGY CONSERVATION CODE, 2021 EDITION
-NFPA 13 STANDARDS, 2019 EDITION
-ANSI 2017 ICC 117.1
-INTERNATIONAL FIRE CODE, 2012 EDITION

ZONING: PLI

FIRE SPRINKLERS: YES

BUILDING CONSTRUCTION TYPE: TYPE II, EXISTING
BUILDING OCCUPANCY: A-4
REMODEL AREA OCCUPANCY TYPE: B, A-3
REMODEL AREA OCCUPANCY LOAD: 33

REMODEL AREA:
MAIN LEVEL: 2,880 (IN SCOPE) SF

PROJECT DIRECTORY

OWNER:

MONTANA STATE UNIVERSITY
UNIVERSITY FACILITIES MANAGEMENT PDC
PO BOX 172760
BOZEMAN, MT 59717-2750

ARCHITECT:

BECHTLE ARCHITECTS
4515 VALLEY COMMONS DRIVE #201
BOZEMAN, MT 59718
(406) 585-4161
CONTACT: SCOTT BECHTLE

GENERAL CONTRACTOR:

TBD

STRUCTURAL ENGINEER:

MORRISON-MAIERLE
2880 TECHNOLOGY BLVD W
BOZEMAN, MT 59718
(406) 587-0721
CONTACT: JAKE GARWOOD

ELECTRICAL ENGINEER:

MORRISON-MAIERLE
2880 TECHNOLOGY BLVD W
BOZEMAN, MT 59718
(406) 587-0721
CONTACT: JAKE GARWOOD

MECHANICAL ENGINEER:

MORRISON-MAIERLE
2880 TECHNOLOGY BLVD W
BOZEMAN, MT 59718
(406) 587-0721
CONTACT: MATT CARR

GENERAL

G000 COVER SHEET
G101 CODE REVIEW
G110 ACCESSIBILITY DETAILS
G111 ADA INFORMATION SHEET

ARCHITECTURAL

A101 DEMO FLOOR PLAN
A102 DEMO RCP
A201 FLOOR PLAN
A202 RCP
A203 FINISH FLOOR PLAN
A301 DETAILS
A401 INTERIOR ELEVATIONS
A402 INTERIOR ELEVATIONS

STRUCTURAL

S000 GENERAL STRUCT. NOTES
S001 GENERAL STRUCT. NOTES
S002 SPECIAL INSPECTIONS
S101 MAIN FLOOR NEW CONSTRUCTION
S700 TYPICAL DETAILS
S701 TYPICAL DETAILS
SD101 MAIN FLOOR DEMO PLAN

MECHANICAL

M001 MECH. LEGENDS AND NOTES
M002 MECH. SCHED. & DETAILS
M101 HVAC NEW CONSTRUCTION
MD101 MECH. DEMO. PLAN

ELECTRICAL

E000 ELECTRICAL LEGEND AND NOTES
E001 ELECTRICAL DETAILS AND SCHEDULES
E002 ELECTRICAL SPECIFICATIONS
E003 ELECTRICAL SPECIFICATIONS
E101 DEMO POWER AND SIGNAL PLAN
E102 DEMO LIGHTING PLAN
E201 POWER AND SIGNAL PLAN
E202 LIGHTING PLAN

FIRE PROTECTION

F001 FP COVER SHEET
F101 FP NEW CONSTRUCTION

GENERAL PROJECT NOTES

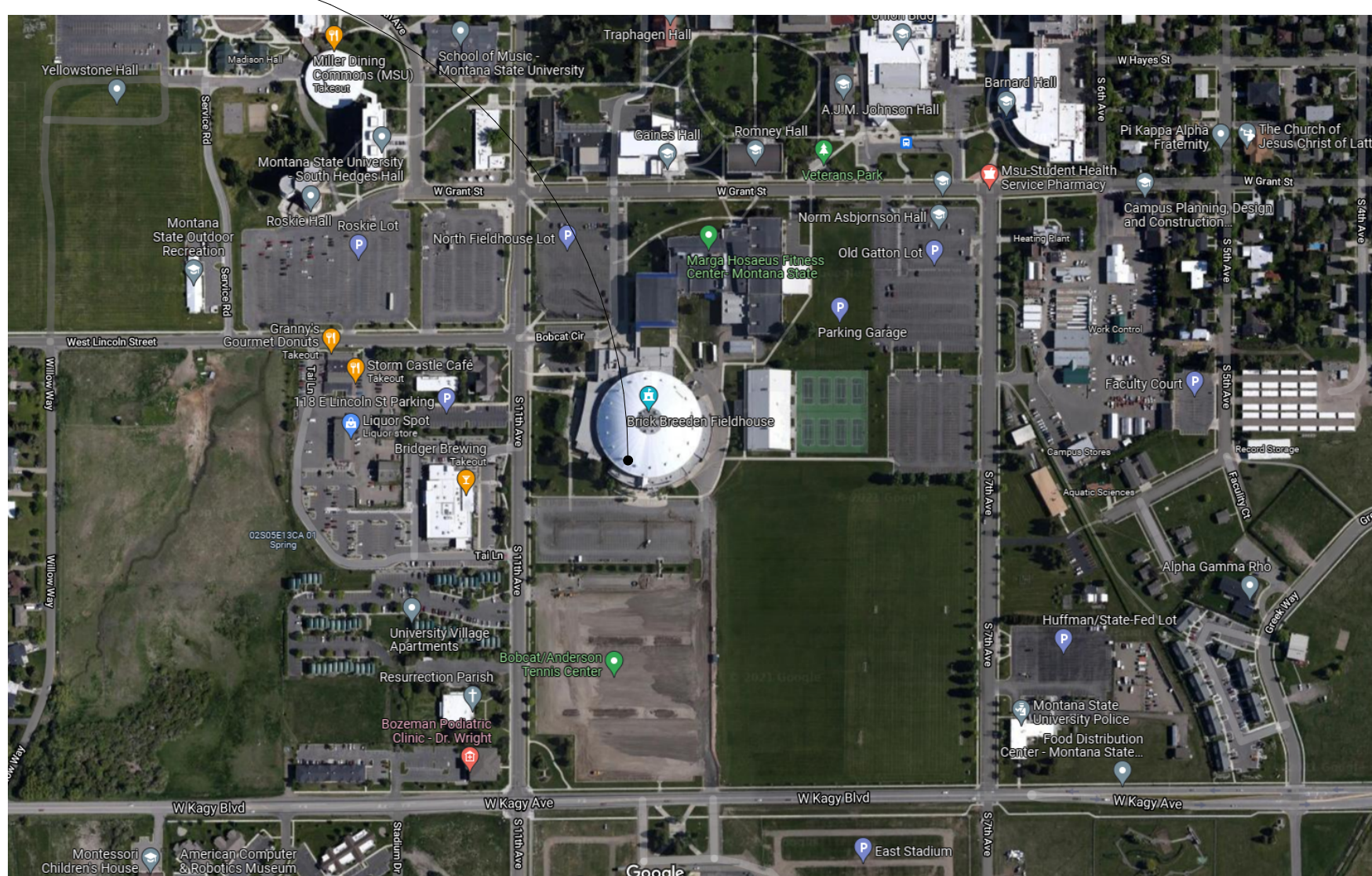
- MONTANA STATE UNIVERSITY GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION APPLIES TO THIS PROJECT AND SHALL BE INCORPORATED IN THE SERVICES PROVIDED BY THE GENERAL CONTRACTOR.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT.
- USE WRITTEN DIMENSIONS. DO NOT SCALE DRAWINGS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- THE DESIGN, ADEQUACY, AND SAFETY OF ERECTING, BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HAS NOT BEEN CONSIDERED BY AN ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE PRIOR TO THE COMPLETION OF WALLS, CEILING, AND FINISH MATERIALS.
- GENERAL CONTRACTOR TO COORDINATE ARCHITECTURAL DRAWINGS WITH MECHANICAL, ELECTRICAL, AND PLUMBING.
- ALL MATERIALS AND FINISHES ARE TO BE AS SPECIFIED, OR PRE-APPROVED EQUAL.
- SUBSTITUTIONS SHALL BE BY APPROVAL PRIOR TO THE BID, OR INDICATED AS A LINE ITEM ON THE BID AS AN ALTERNATE TO THE BASE BID. SEE SPECIFICATIONS IF AND WHEN APPLICABLE.
- CONTRACTOR IS TO USE WATER-RESISTANT GYPSUM WALL BOARD IN ALL WET SPACES (RESTROOMS, JANITORIAL AREAS, MECHANICAL/PLUMBING ROOMS, FOOD SERVICE ROOMS, ETC.)
- CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS, SHOWING ANY CHANGES TO PLANS, ELEVATIONS, SYSTEMS, DIMENSIONING, ETC.

ALTERNATES SCHEDULE

- ADD: PROVIDE AND INSTALL PIPE GUARDRAIL AT ENTRY SLAB AS INDICATED ON SHEET A201 AND A301.

VICINITY MAP

PROJECT SITE



ADA CERTIFICATION

THIS ACKNOWLEDGES THAT THE FOLLOWING PROJECT WAS DESIGNED BY BECHTLE ARCHITECTS WITH FULL KNOWLEDGE THAT THE CITY OF BOZEMAN BUILDING DIVISION WILL NOT REVIEW FOR COMPLIANCE WITH, NOR IS RESPONSIBLE FOR ENFORCEMENT OF THE FEDERAL AMERICANS WITH DISABILITIES ACT OF 1990, THE REHABILITATION ACT OF 1973, THE FAIR HOUSING AMENDMENTS ACT OF 1988, TITLE 49, CHAPTER 2, COMMONLY KNOWN AS THE MONTANA HUMAN RIGHTS ACT, OR OTHER SIMILAR FEDERAL, STATE, OR LOCAL LAWS THAT MANDATE ACCESSIBILITY TO COMMERCIAL CONSTRUCTION OR MULTIFAMILY HOUSING.

LIST OF ABBREVIATIONS

AP ACCESS PANEL	BLDG BUILDING	DS DOWN SPOUT	FND FOUNDATION	MATL MATERIAL	PERP PERPENDICULAR	SERV SERVICE	VERT VERTICAL
ACT ACOUSTIC CEILING TILE	CAB CABINET	D DRYER	GALV GALVANIZE	MAX MAXIMUM	PL PLATE	SHT SHEET	VEST VESTIBULE
ALT ALTERNATE	CLG CEILING	EA EACH	GA GAGE	MTL METAL	PLMB PLUMBING	SHTHG SHEATHING	VIF VERIFY IN FIELD
AB ANCHOR BOLT	CL CENTER LINE	E EAST	GL GRADELINE	MIN MINIMUM	PT POINT	SIM SIMILAR	WFP WATERPROOFING
∠ ANGLE	CC CENTER TO CENTER	ELEC ELECTRIC	GWB GYPSUM WALL BOARD	MISC MISCELLANEOUS	LB POUND	S SOUTH	WP WEATHERPROOF
APPD APPROVED	CER CERAMIC	EL ELEVATION	HDWD HARDWOOD	MOD MODULAR	PSI POUNDS PER SQUARE INCH	SPEC SPECIFICATION	WH WEAPHOLE
APPR APPROXIMATE	CIR CIRCLE	EQ EQUAL	HT HEIGHT	MECH MECHANICAL	PREFAB PREFABRICATED	SQ SQUARE	WT WEIGHT
ARCH ARCHITECTURAL	CLR CLEAR	EQUIP EQUIPMENT	HOR HORIZONTAL	NOM NOMINAL	QTY QUANTITY	STD STANDARD	W WEST
ASPH ASPHALT	COL COLUMN	(E) EXISTING	HB HOSE BIB	N NORTH	R RADIUS	STL STEEL	W WIDTH
@ AT	CONC CONCRETE	EXT EXTERIOR	IN INCH	NTS NOT TO SCALE	REF REFRIGERATOR	STG STORAGE	WDW WINDOW
AVE AVERAGE	CMU CONCRETE MASONRY UNIT	FT FEET	INSUL INSULATION	NO NUMBER	REG REGISTER	STRUCT STRUCTURAL	WG WIRE GLASS
BM BEAM	CONST CONSTRUCTION	FIN FINISH	INT INTERIOR	OC ON CENTER	REINF REINFORCE	SYS SYSTEM	WO WITH OUT
BRG BEARING	CONT CONTINUE	FF FINISHED FLOOR	JT JOINT	OPNG OPENING	REQD REQUIRED	THRU THROUGH	WO WOOD
BM BENCH MARK	CT CERAMIC TILE	FE FIRE EXTINGUISHER	JST JOIST	OPP OPPOSITE	REV REVISION	T&G TONGUE AND GROOVE	WM WASHING MACHINE
BLKG BLOCKING	DP DAMP ROOFING	FIX FIXTURE	LAM LAMINATE	OVHD OVERHEAD	R RISER	TR TREAD	
BD BOARD	DIA DIAMETER	FL FLOOR	LAV LAVATORY	PTD PAINTED	RFG ROOFING	TYP TYPICAL	
BS BOTH SIDES	DIM DIMENSION	FD FLOOR DRAIN	LG LENGTH	PNL PANEL	RM ROOM	UNO UNLESS NOTED OTHERWISE	
BOT BOTTOM	DW DISHWASHER	FT FOOT	LT LIGHT	PTN PARTITION	SCHED SCHEDULE	VP VENT PIPE	
BRK BRICK	DN DOWN	FTG FOOTING	MFG MANUFACTURING	PERM PERMANENT	SECT SECTION		

PROJECT SYMBOLS

	NORTH ARROW
	ROOM TAG
	WINDOW NUMBER
	DOOR NUMBER
	GRID HEAD
	PLAN NOTE
	SECTION HEAD
	WALL SECTION HEAD
	DETAIL CALLOUT
	SPOT ELEVATION



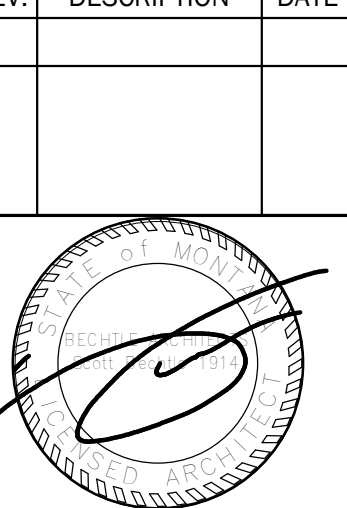
MSU-CPDC
MONTANA STATE UNIVERSITY
BOZEMAN, MONTANA
PHONE: 406.994.5413
FAX: 406.994.5665

BRICK BREEDEN AAC
BOZEMAN, MONTANA



DRAWN BY: HY
REVIEWED BY: NF

REV. DESCRIPTION DATE



PPA#19-0117
A/E#00-00-00

2042

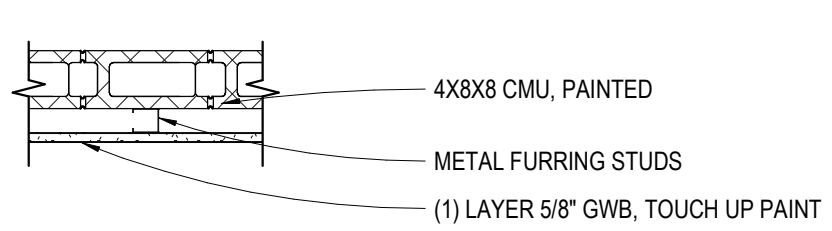
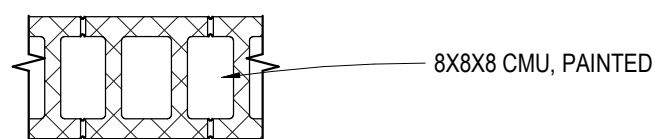
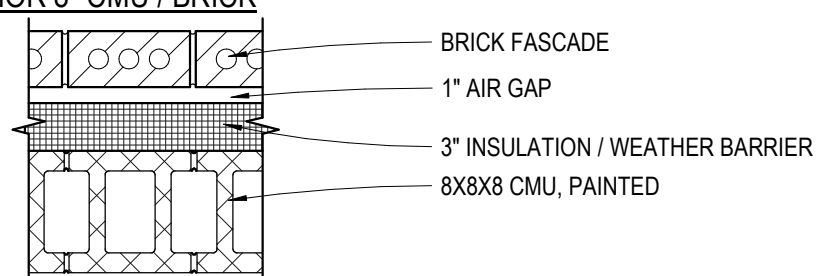
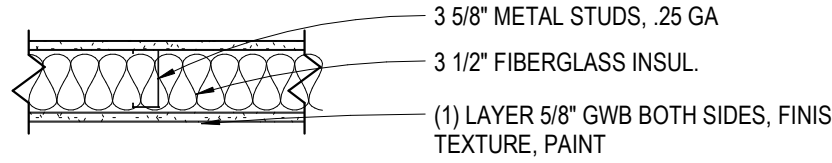
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COVER SHEET

SHEET
G000

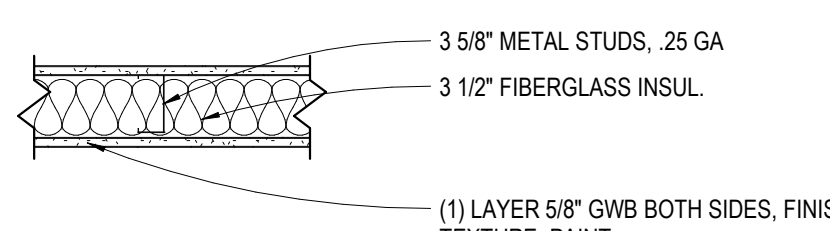
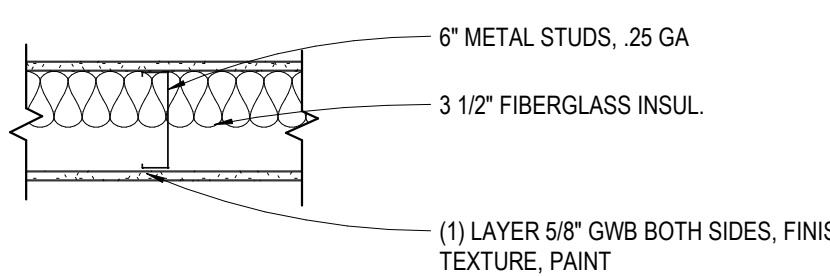
DATE
JAN 13, 2023

BIDDING / PERMIT DRAWINGS

EXISTING WALL SCHEDULE

CONSTRUCTION ASSEMBLY DETAIL	TYPE
INTERIOR 4" CMU FURRING 	E1
INTERIOR 8" CMU 	E2
EXTERIOR 8" CMU / BRICK 	E3
3 5/8" PARTITION 	E4

PARTITION TYPE SCHEDULE

CONSTRUCTION ASSEMBLY DETAIL	TYPE	SUBSTITUTIONS/ ADDITIONS/ OMISSIONS	NOTES
3 5/8" PARTITION 	P1	• NONE	• NEW WALLS TO EXTEND 6" ABOVE EXISTING CEILING
6" PARTITION 	P2	• NONE	• NEW WALLS TO EXTEND 6" ABOVE EXISTING CEILING

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MONTANA STATE UNIVERSITY
BOZEMAN, MT

CODE INFORMATION:

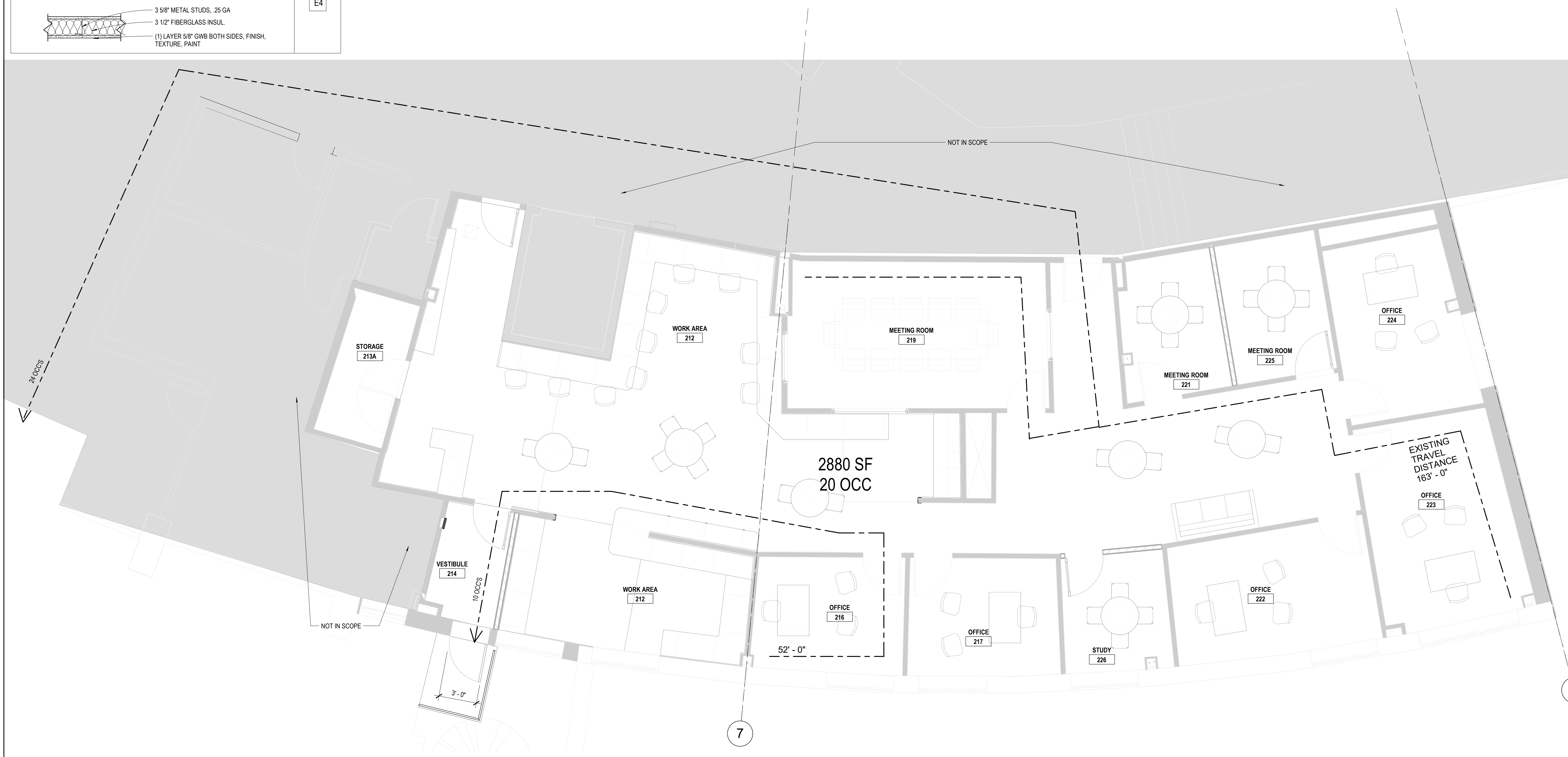
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-INTERNATIONAL FIRE CODE, 2012 EDITION

ZONING: PLI

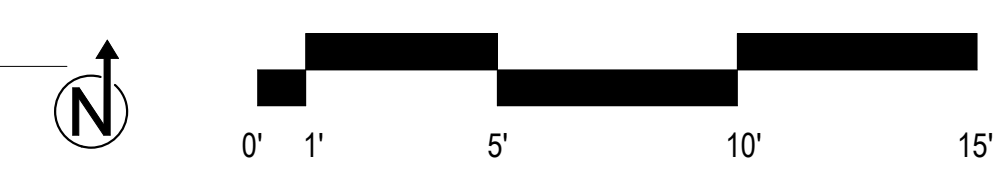
FIRE SPRINKLERS: YES

BUILDING CONSTRUCTION TYPE: TYPE II, EXISTING
BUILDING OCCUPANCY: A-4
REMODEL AREA OCCUPANCY TYPE: B, A-3
REMODEL AREA OCCUPANCY LOAD: 33

REMODEL AREA:
MAIN LEVEL: 2,880 (IN SCOPE) SF



1 LEVEL 1 - CODE PLAN
SCALE: 1/4" = 1'-0"



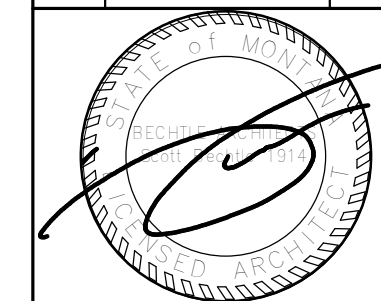
BIDDING / PERMIT DRAWINGS

BRICK BREEDEN AAC
BOZEMAN, MONTANA



DRAWN BY: Author
REVIEWED BY: Checker

REV.	DESCRIPTION	DATE



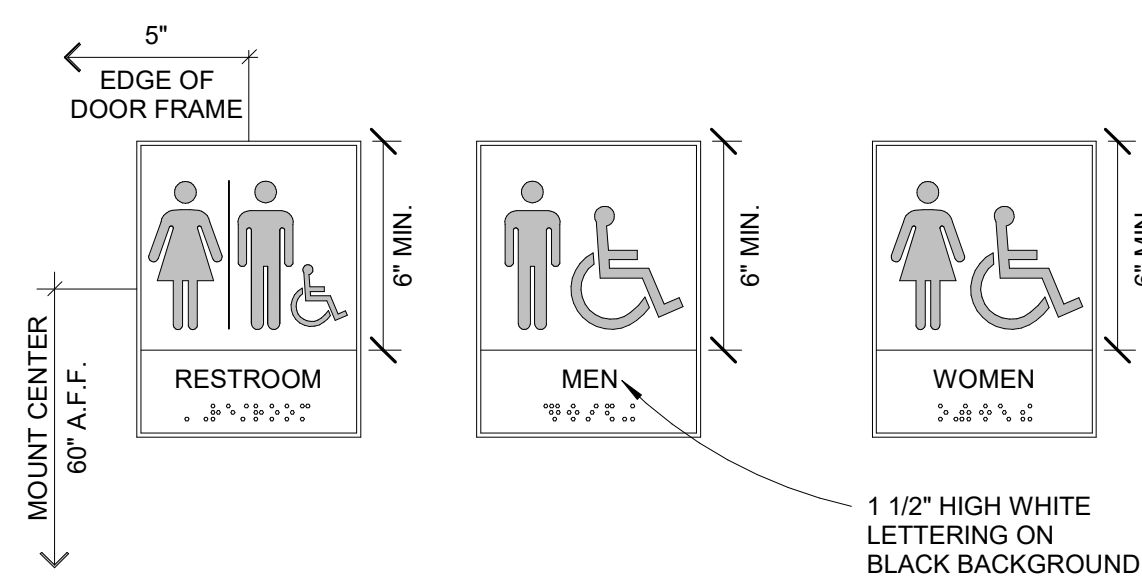
PPA#19-0117
A/E#00-00-00

2042

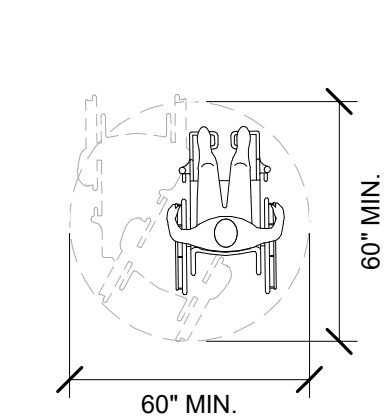
SHEET TITLE
CODE REVIEW

SHEET
G101

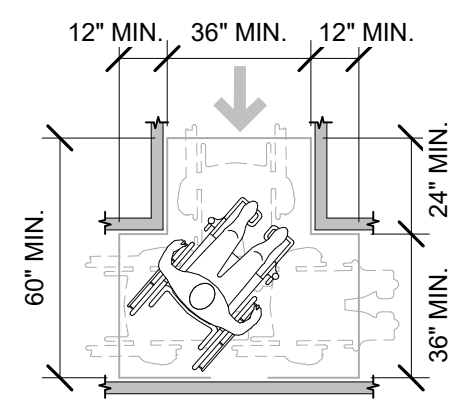
DATE
JAN 13, 2023



1 1/2" HIGH WHITE LETTERING ON BLACK BACKGROUND



1 WHEELCHAIR TURNING
1/4" = 1'-0"



2 CLEAR WIDTH OF AN ACCESSIBLE ROUTE
1/4" = 1'-0"

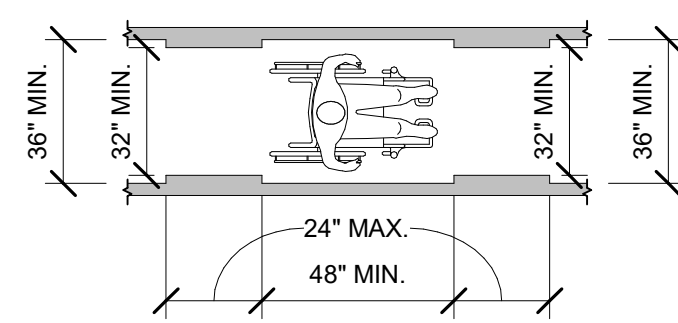
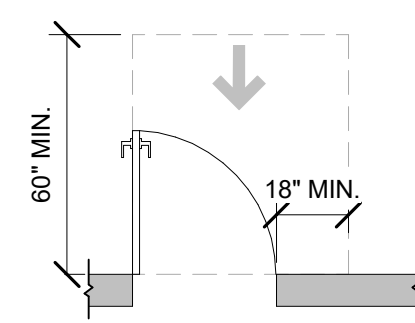
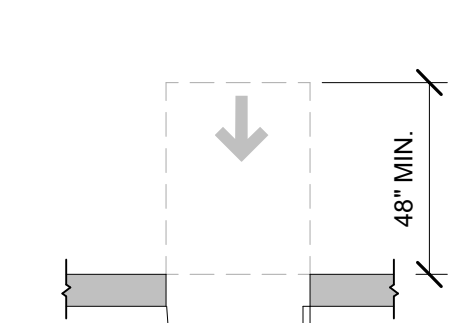


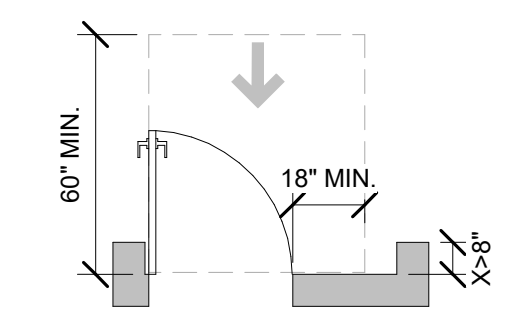
FIGURE 403.5



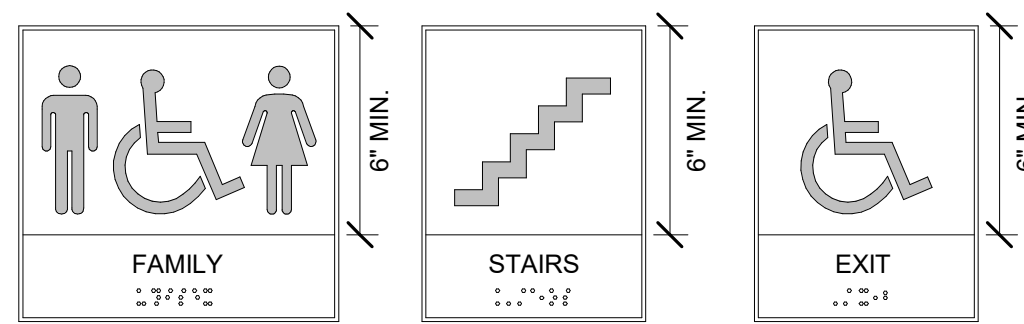
FRONT APPROACH, PULL SIDE
FIGURE 404.2.3.2 (a)



FRONT APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (b)

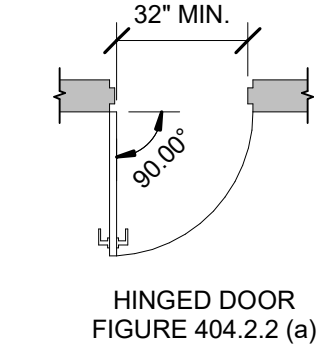


RECESSED DOOR FRONT APPROACH, PULL SIDE
FIGURE 404.2.3.5 (a)

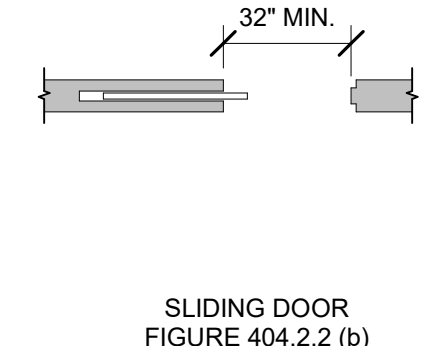


PROVIDE (1) SIGN PER TOILET COMPLYING WITH ANSI 2009, SECTION 703. SIGN TO HAVE RAISED AND BRAILLE CHARACTERS AND PICTORIAL SYMBOL OF ACCESSIBILITY. MOUNT 5'-0" TO CENTERLINE A.F.F.

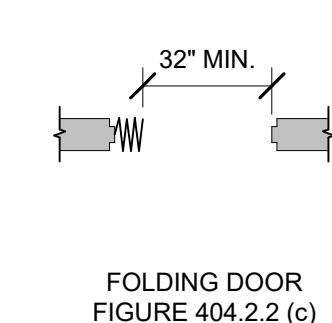
BLACK PLASTIC (FIELD) BACKGROUND w/ WHITE RAISED OR DEPRESSED EMBLEMS (NOTE- EMBLEMS & LETTERING MUST BE RAISED OR DEPRESSED MIN. 1/32" TYPICAL)



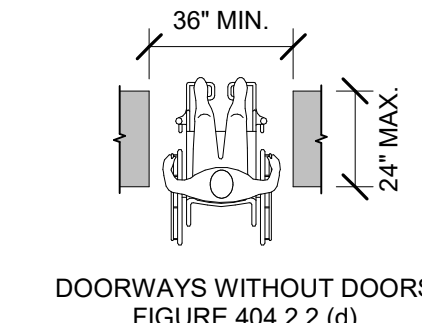
HINGED DOOR
FIGURE 404.2.2 (a)



SLIDING DOOR
FIGURE 404.2.2 (b)



FOLDING DOOR
FIGURE 404.2.2 (c)



DOORWAYS WITHOUT DOORS
FIGURE 404.2.2 (d)

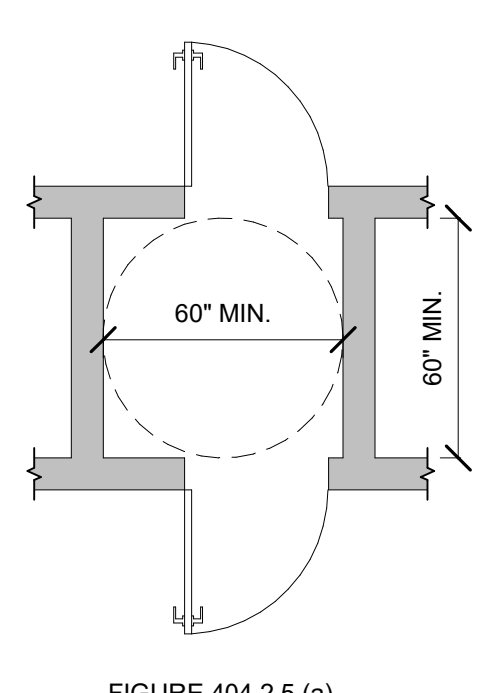


FIGURE 404.2.5 (a)

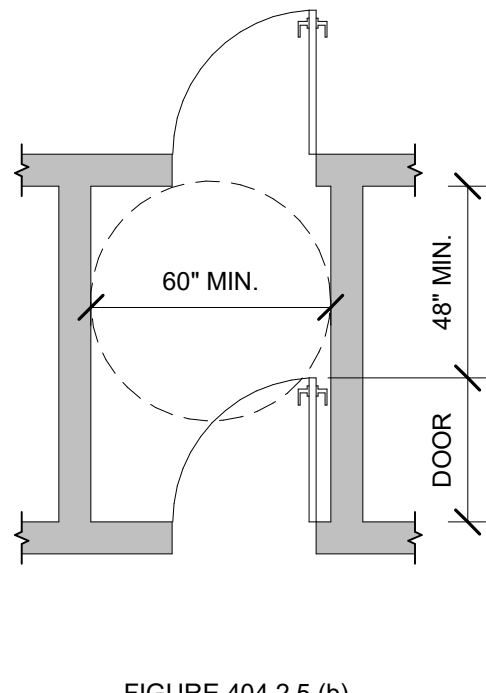


FIGURE 404.2.5 (b)

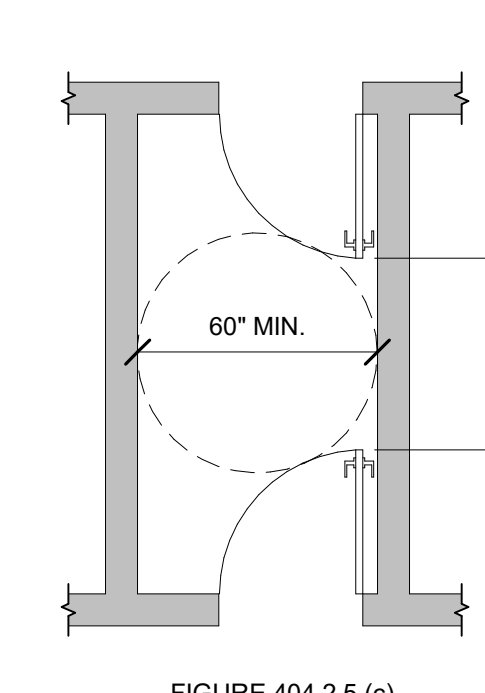
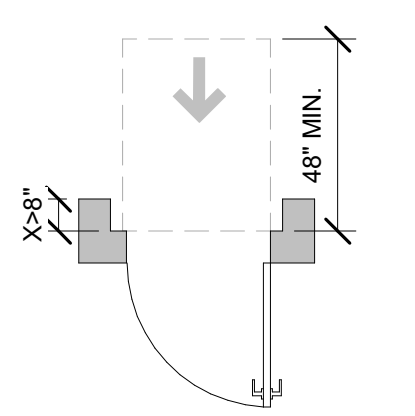
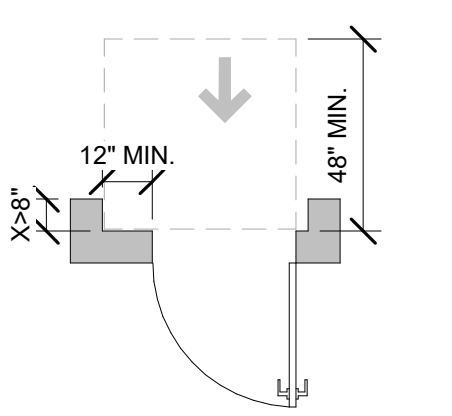


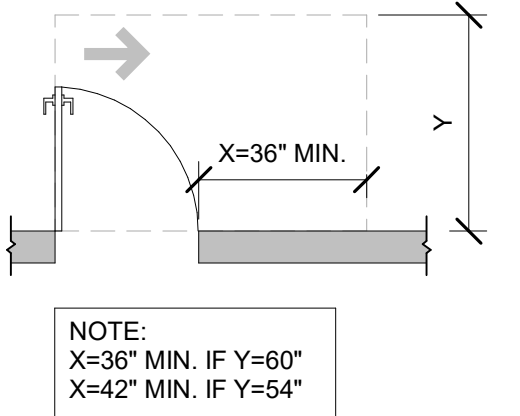
FIGURE 404.2.5 (c)



RECESSED DOOR FRONT APPROACH, PUSH SIDE
FIGURE 404.2.3.5 (b)

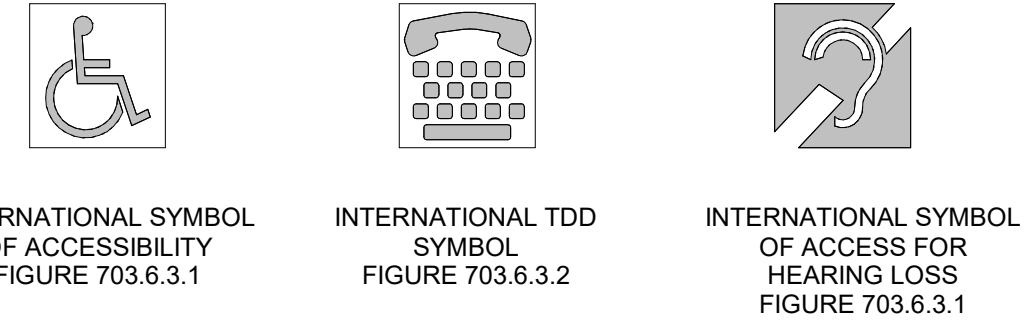


RECESSED DOOR FRONT APPROACH, PUSH SIDE WITH BOTH CLOSER AND LATCH
FIGURE 404.2.3.2 (c)

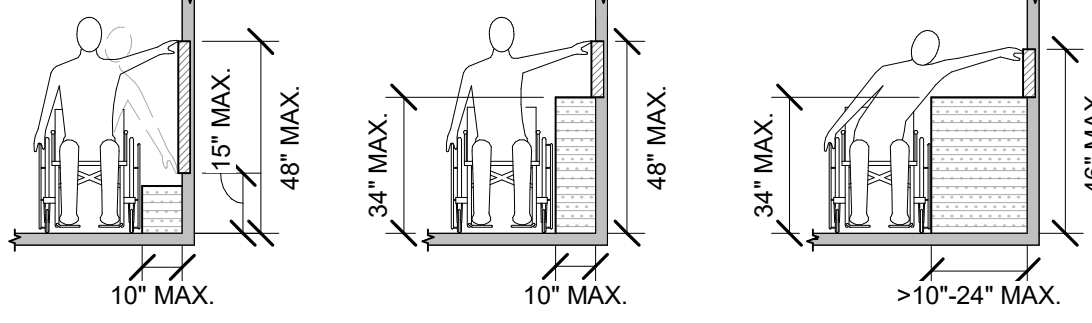


HINGE APPROACH, PULL SIDE
FIGURE 404.2.3.2 (c&d)

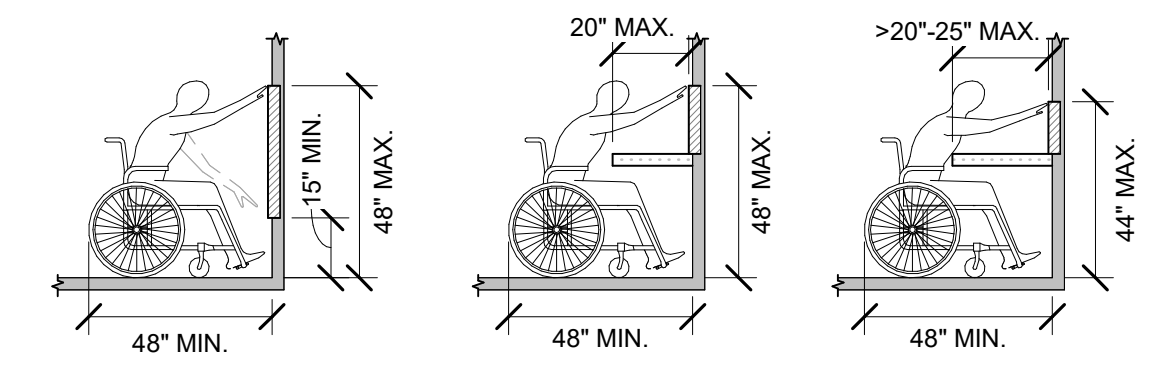
NOTE:
X=36" MIN. IF Y=60"
X=42" MIN. IF Y=54"



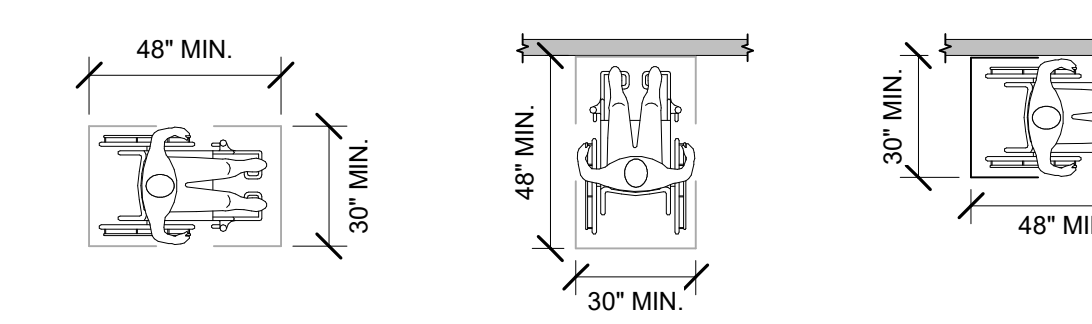
5 ACCESSIBLE SIGNAGE
N.T.S.



8 SIDE REACH
1/4" = 1'-0"

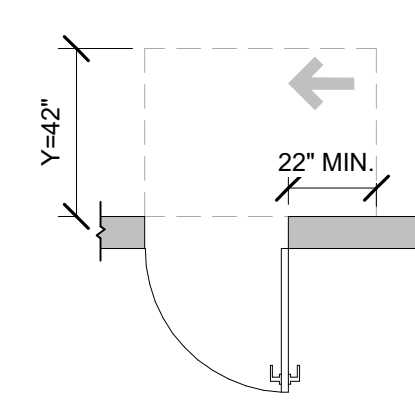


9 FORWARD REACH
1/4" = 1'-0"



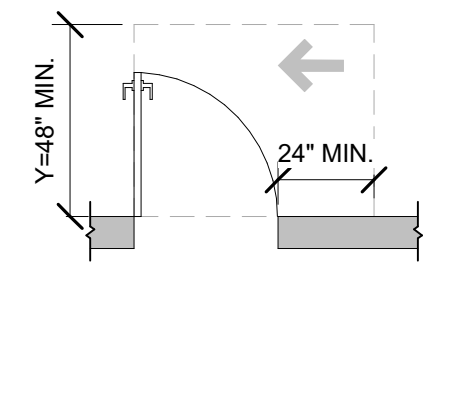
10 MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS
1/4" = 1'-0"

NOTE:
Y=48" IF DOOR HAS BOTH A CLOSER AND LATCH



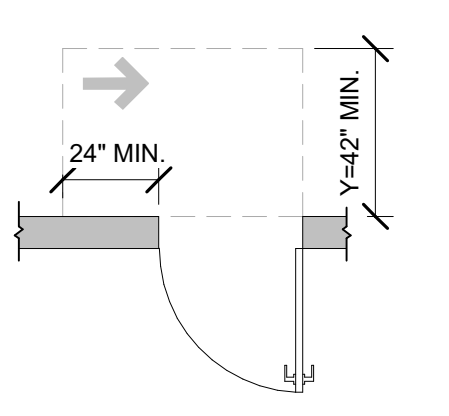
HINGE APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (e)

NOTE:
Y=54" MIN. IF DOOR HAS CLOSER

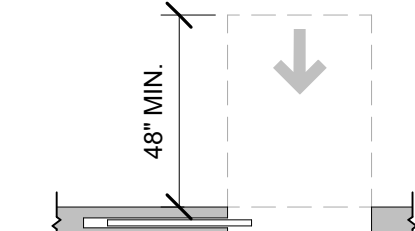


LATCH APPROACH, PULL SIDE
FIGURE 404.2.3.2 (f)

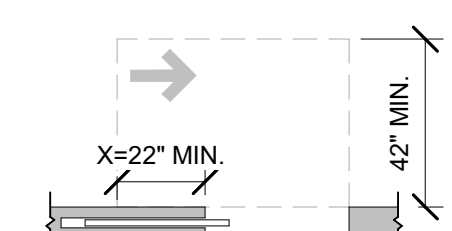
NOTE:
Y=48" MIN. IF DOOR HAS CLOSER



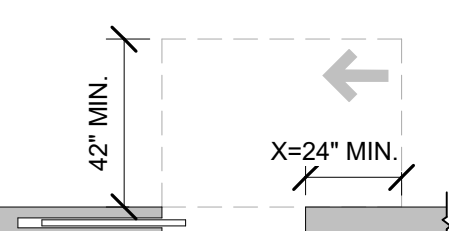
LATCH APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (g)



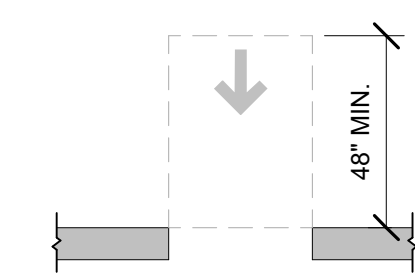
POCKET / FOLDING DOOR FRONT APPROACH
FIGURE 404.2.3.3 (a)



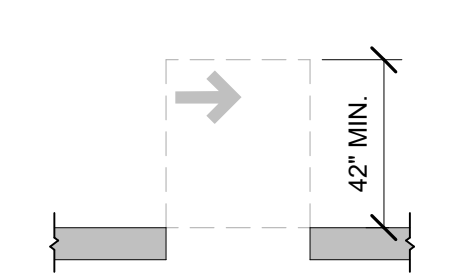
POCKET / FOLDING DOOR POCKET OR HINGE APPROACH
FIGURE 404.2.3.3 (b)



POCKET / FOLDING DOOR STOP OR LATCH APPROACH
FIGURE 404.2.3.3 (c)



WITHOUT DOOR FRONT APPROACH
FIGURE 404.2.3.4 (a)

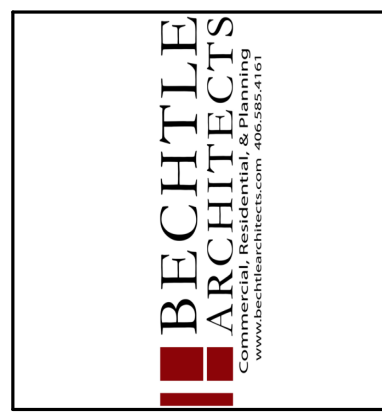


WITHOUT DOOR SIDE APPROACH
FIGURE 404.2.3.4 (b)

13 MANEUVERING CLEARANCES AT DOORS
1/4" = 1'-0"

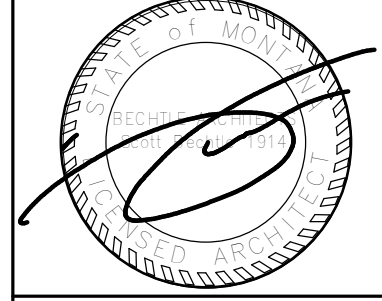
BIDDING / PERMIT DRAWINGS

BRICK BREEDEN AAC
BOZEMAN, MONTANA



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REVIEWED BY: Checker

REV.	DESCRIPTION	DATE



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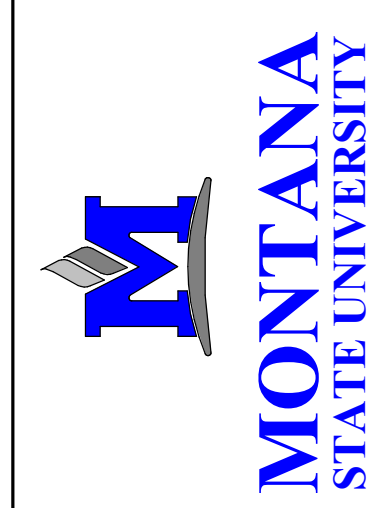
2042

SHEET TITLE
ACCESSIBILITY
DETAILS

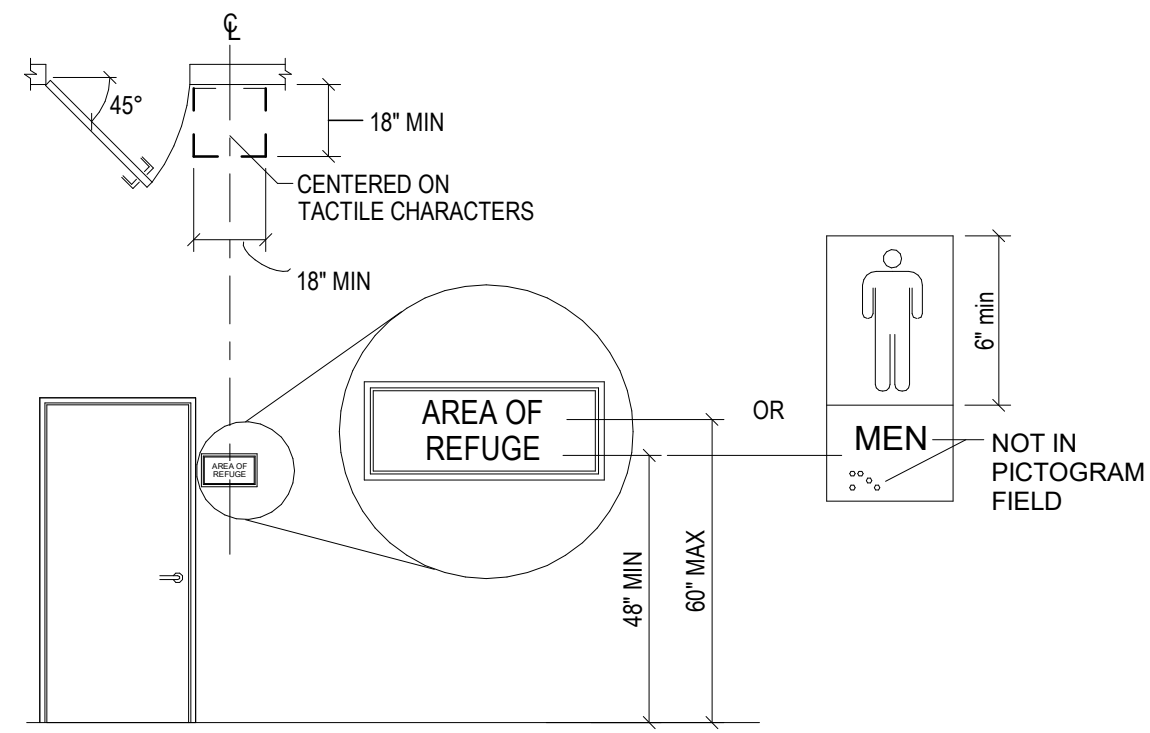
SHEET

G110

DATE
JAN 13, 2023



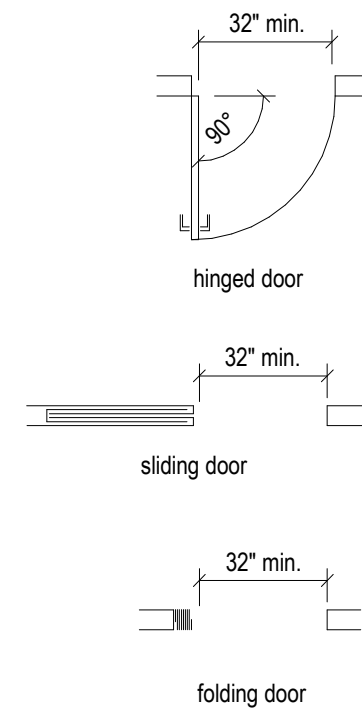
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NOTES:

- CHARACTERS SHALL BE 48 INCHES MINIMUM AND 60 INCHES MAXIMUM ABOVE THE FLOOR OR GROUND SURFACE MEASURED TO THE BASELINE OF THE CHARACTERS
- WHERE A SIGN CONTAINING TACTILE CHARACTERS IS PROVIDED AT THE DOOR, THE SIGN SHALL BE ALONGSIDE ON THE LATCH SIDE, WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS, THE SIGN SHALL BE TO THE RIGHT OF THE RIGHT-HAND DOOR, WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE OF A SINGLE DOOR, OR THE RIGHT SIDE OF THE DOUBLE DOORS. SIGNS SHALL BE ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL HAVE AN 18" MINIMUM BY 18" MINIMUM SPACE ON THE FLOOR, CENTERED ON THE SIGN, BEYOND THE ARC OF THE DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION.
- DOOR-MOUNTED SIGNS, SHALL BE PERMITTED ON THE PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.
- REFER TO SECTION 703 OF THE 2010 ADA STANDARDS FOR REQUIREMENTS OF TACTILE CHARACTERS, VISUAL CHARACTERS AND PICTOGRAMS.

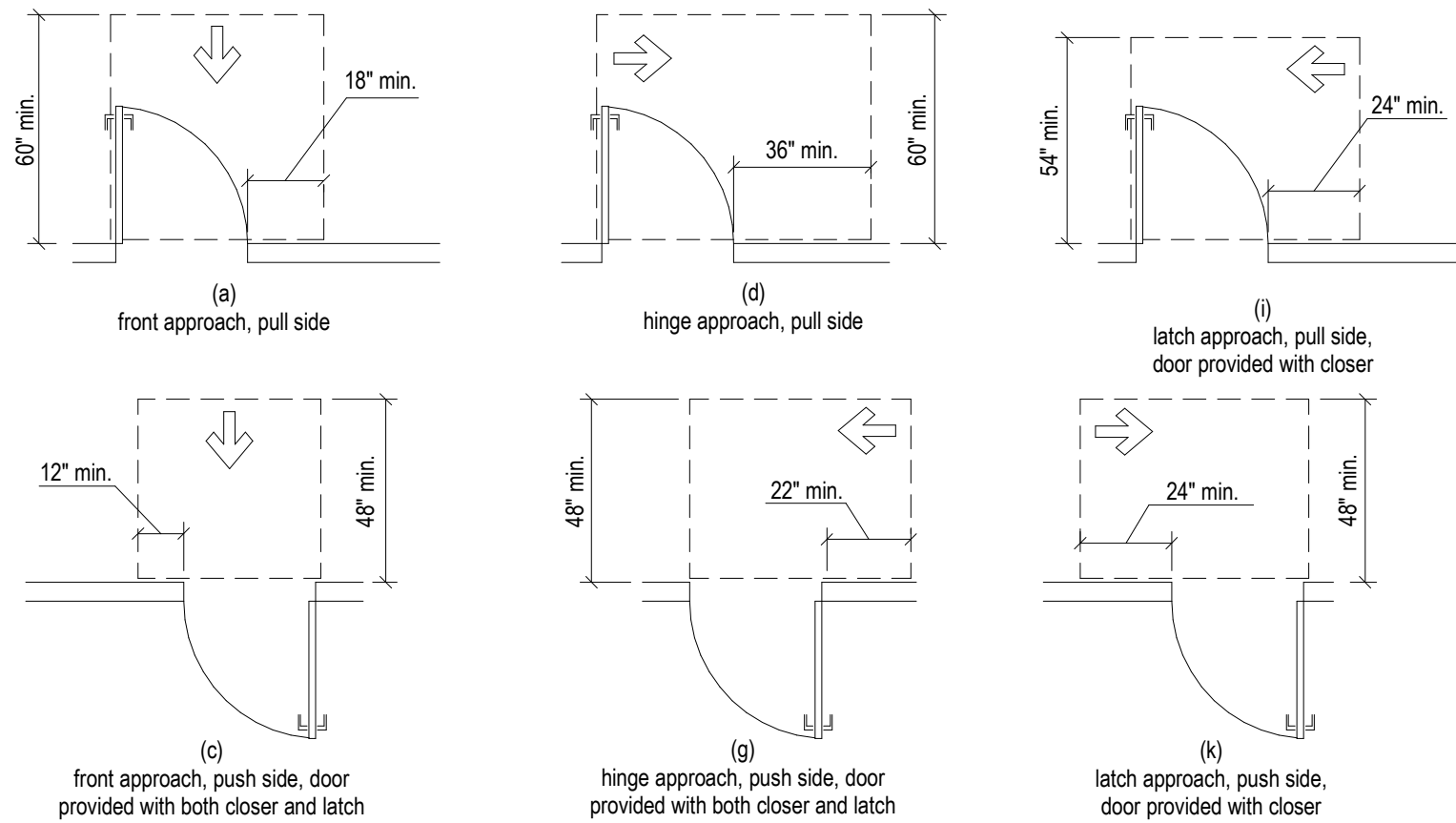
ACCESSIBLE ROOM IDENTIFICATION SIGNAGE DETAIL



NOTES:

- OPENINGS MORE THAN 24" DEEP SHALL PROVIDE A CLEAR OPENING OF 36" MINIMUM.
- THERE SHALL BE NO PROJECTIONS INTO THE REQUIRED CLEAR OPENING WIDTH LOWER THAN 34" ABOVE THE FINISHED FLOOR OR GROUND. PROJECTIONS INTO CLEAR OPENING WIDTH BETWEEN 34" AND 80" ABOVE FINISHED FLOOR OR GROUND SHALL NOT EXCEED 4"

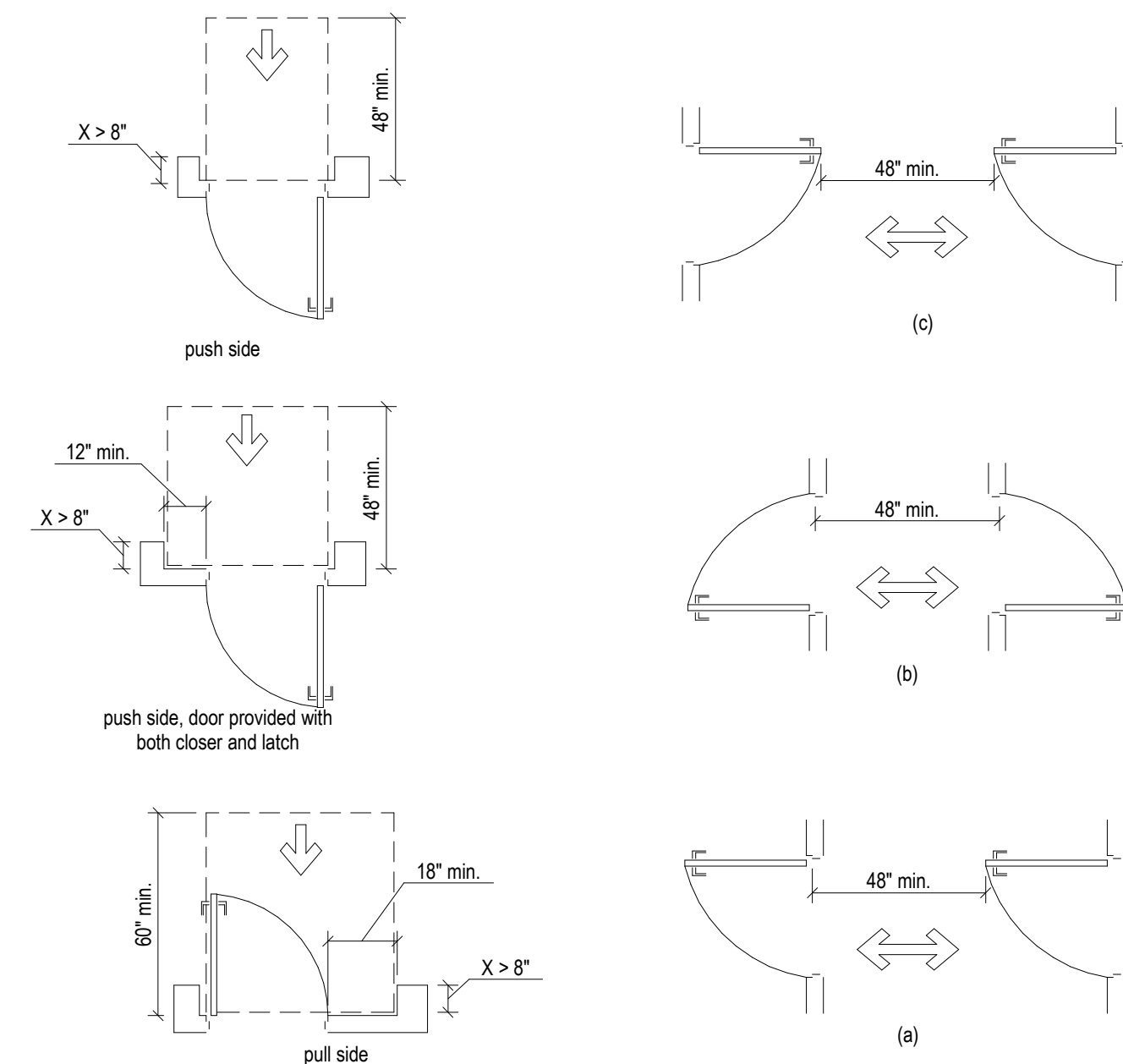
CLEAR OPENING AT ACCESSIBLE DOORS AND GATE



NOTES:

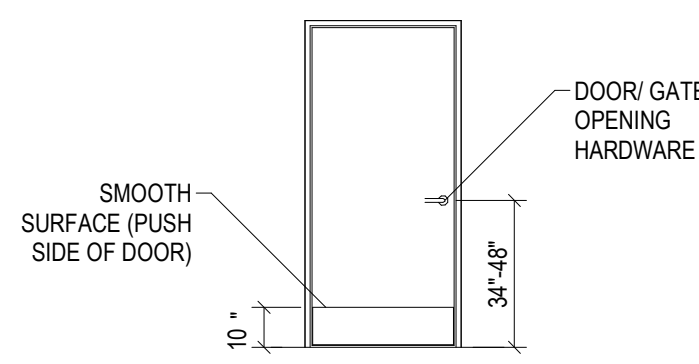
- MANEUVERING CLEARANCES FOR FORWARD APPROACH SHALL BE PROVIDED WHEN ANY OBSTRUCTION WITHIN 18 INCHES OF THE LATCH SIDE OF A DOORWAY PROJECTS MORE THAN 8 INCHES BEYOND THE FACE OF THE DOOR, MEASURED PERPENDICULAR TO THE FACE OF THE DOOR OR GATE.
- THE FLOOR OR GROUND SURFACE WITHIN THE REQUIRED MANEUVERING CLEARANCES SHALL SLOPE NO MORE THAN 2% AND CHANGES IN LEVEL WITHIN THIS AREA ARE NOT PERMITTED.

REQUIRED DOOR MANEUVERING CLEARANCES AT ACCESSIBLE DOORS AND GATES



MANEUVERING CLEARANCES AT RECESSED DOORS

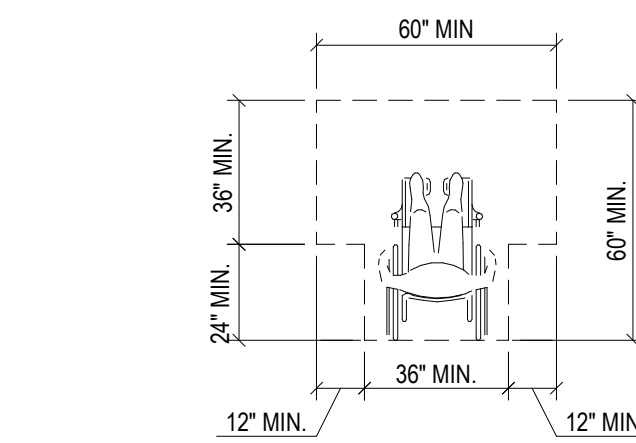
MANEUVERING CLEARANCES AT DOORS IN SERIES



NOTES:

- HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRIP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. SUCH HARDWARE SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FLOOR OR GROUND WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION. OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES.
- DOOR CLOSERS SHALL BE REQUIRED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES SHALL BE 5 SECONDS MINIMUM.
- DOOR SPRING HINGES SHALL ADJUST SO THAT FROM THE OPEN POSITION OF 70 DEGREES, THE DOOR SHALL MOVE TO THE CLOSED POSITION IN 1.5 SECONDS MINIMUM, MEASURED UNDER AMBIENT CONDITIONS.
- FIRE DOORS SHALL HAVE THE MINIMUM OPENING FORCE ALLOWED BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY. THE MAXIMUM FORCE FOR PUSHING OPEN OR PULLING OPEN DOORS OTHER THAN FIRE DOORS SHALL BE 5 POUNDS, THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR IN A CLOSED POSITION.
- DOOR SURFACES WITHIN 10 INCHES OF THE FLOOR OR GROUND MEASURED VERTICALLY SHALL BE SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR. PARTS CREATING HORIZONTAL OR VERTICAL JOINTS IN SUCH SURFACE SHALL BE WITHIN 1/16 INCH OF THE SAME PLANE AS THE OTHER. CAVITIES CREATED BY ADDED KICK PLATES SHALL BE 80" HIGH.

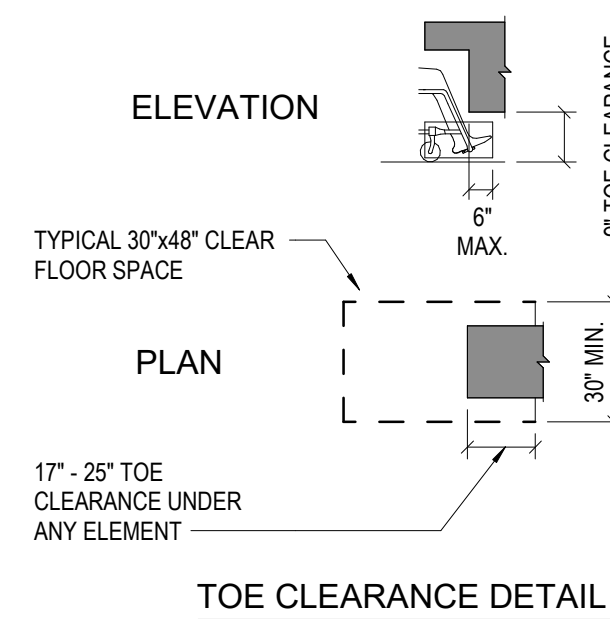
ACCESSIBLE DOOR AND GATE HARDWARE



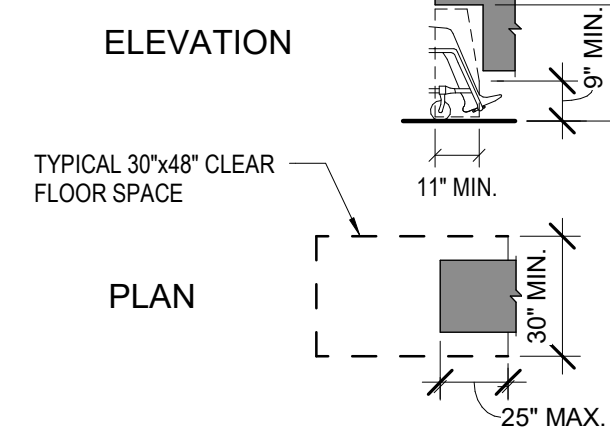
NOTES:

- THE FLOOR OR GROUND SURFACE WITHIN THE REQUIRED MANEUVERING CLEARANCES OR CLEAR FLOOR SPACE SHALL SLOPE NO MORE THAN 2% AND CHANGES IN LEVEL WITHIN THIS AREA ARE NOT PERMITTED.
- WHERE TURNING SPACE IS REQUIRED, THE CIRCLE OR T-SHAPE SPACE MAY BE USED.

CLEAR FLOOR AND TURNING SPACE



TOE CLEARANCE DETAIL



KNEE CLEARANCE DETAIL

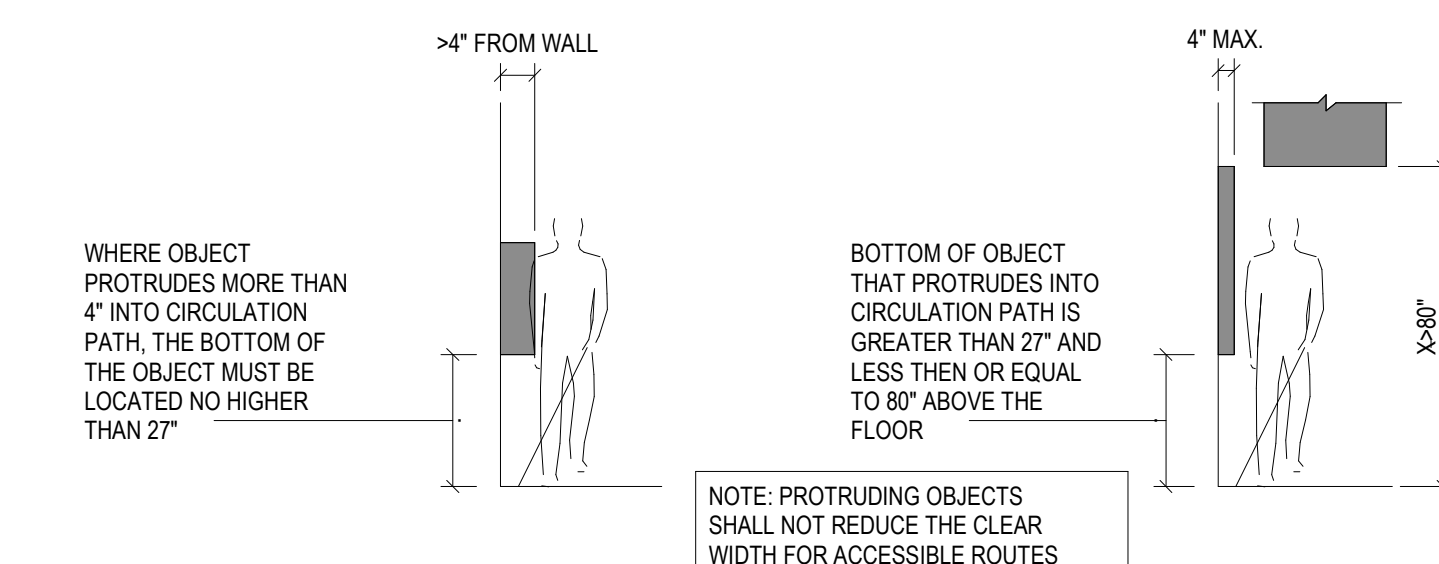
NOTES:

- SPACE UNDER AN ELEMENT BETWEEN THE FINISH FLOOR OR GROUND AND 9" ABOVE THE FINISH FLOOR OR GROUND SHALL BE CONSIDERED TOE CLEARANCE
- TOE CLEARANCE SHALL EXTEND 25" MAXIMUM UNDER ELEMENT
- WHERE TOE CLEARANCE IS REQUIRED AT AN ELEMENT AS PART OF THE CLEAR FLOOR SPACE, THE TOE CLEARANCE SHALL EXTEND 17" MINIMUM UNDER THE ELEMENT
- TOE CLEARANCE SHALL BE 30" WIDE MINIMUM

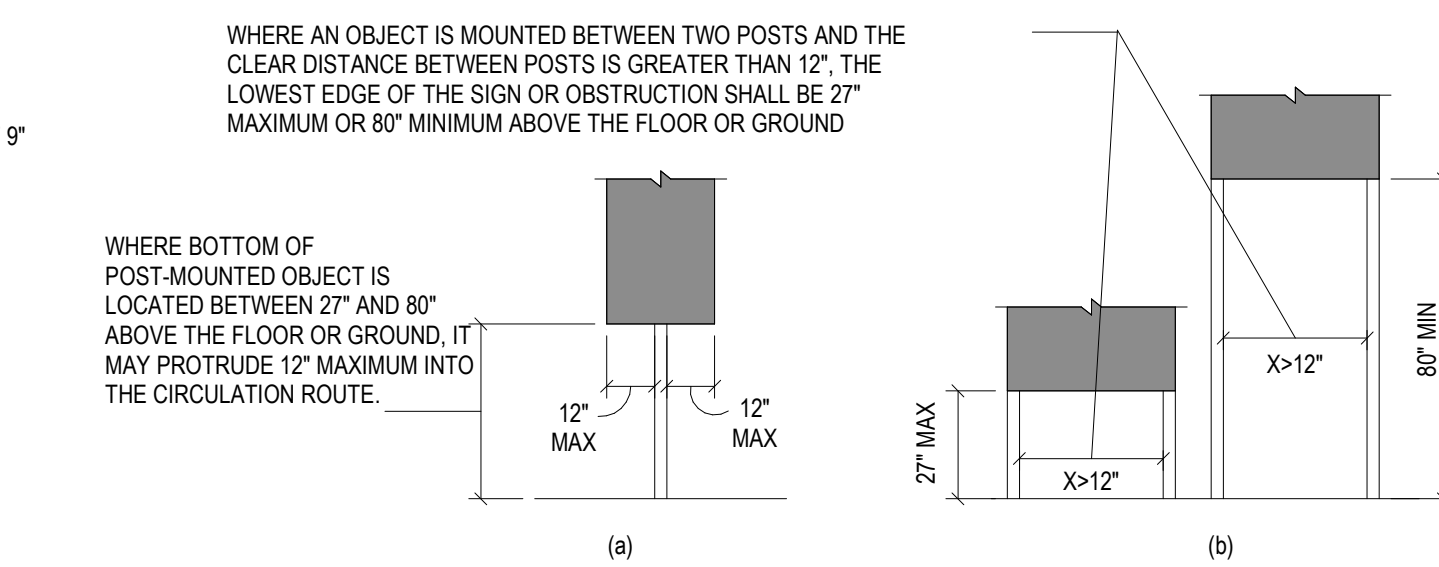
NOTES:

- SPACE UNDER AN ELEMENT BETWEEN 9" AND 27" ABOVE THE FINISH FLOOR SHALL BE CONSIDERED KNEE CLEARANCE
- KNEE CLEARANCE SHALL EXTEND 25" MAXIMUM UNDER ELEMENT AT 9" ABOVE THE FINISHED FLOOR
- WHERE KNEE CLEARANCE IS REQUIRED AT AN ELEMENT AS PART OF THE CLEAR FLOOR SPACE, THE KNEE CLEARANCE SHALL BE 11" DEEP MINIMUM AT 9" ABOVE THE FLOOR OR GROUND AND 9" DEEP MINIMUM AT 27" ABOVE THE FINISH FLOOR OR GROUND
- BETWEEN 9" AND 27" ABOVE THE FINISH FLOOR OR GROUND, THE KNEE CLEARANCE SHALL BE PERMITTED TO REDUCE AT A RATE OF 1" IN DEPTH FOR EVERY 6" IN HEIGHT

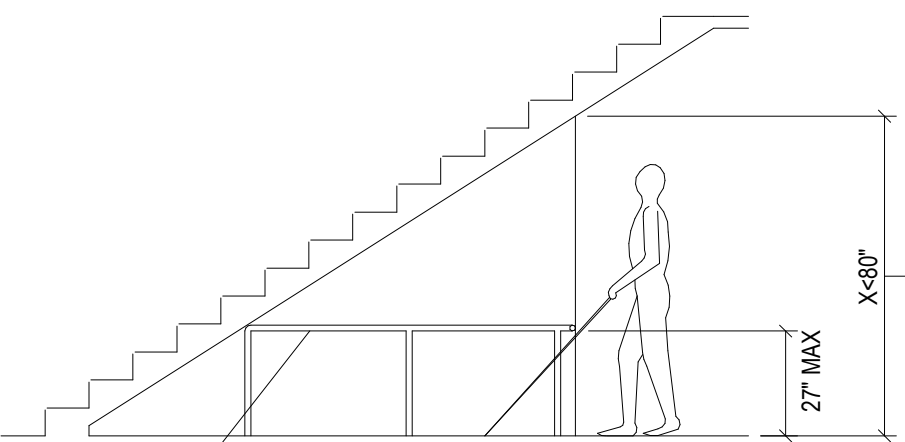
PROTRUDING OBJECTS DETAIL



POST MOUNTED PROTRUDING OBJECT DETAIL



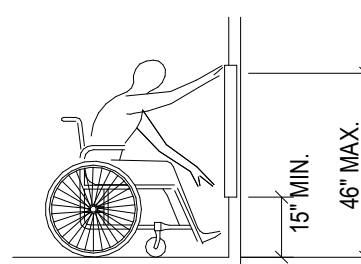
POST MOUNTED PROTRUDING OBJECT DETAIL



THE LEADING EDGE OF GUARDRAILS OR BARRIERS SHALL BE 27" MAXIMUM ABOVE THE FINISHED FLOOR.

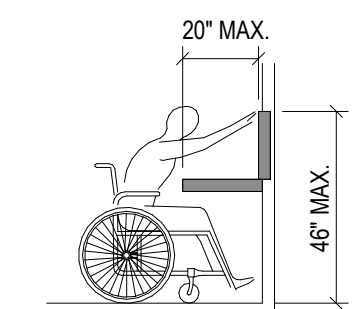
NOTE: WHERE RAILING IS USED AS A BARRIER, IT IS RECOMMENDED TO PROVIDE ONE DETECTABLE RAIL BELOW AT A MAXIMUM OF 27" AFF BUT PREFERABLY AT A LOW HEIGHT (AT 6" AFF) WITH AN ADDITIONAL RAIL HEIGHT (AT 34" AFF).

VERTICAL CLEARANCE DETAIL



NOTE:

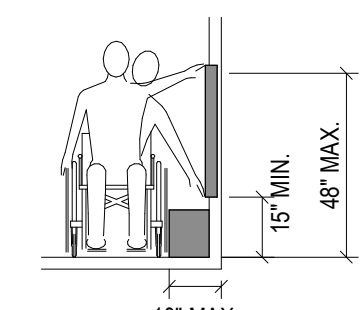
WHERE A FORWARD REACH IS UNOBSTRUCTED, THE HIGH FORWARD REACH SHALL BE 48" MAXIMUM AND THE LOW FORWARD REACH SHALL BE 15" MINIMUM ABOVE THE FINISHED FLOOR OR GROUND



NOTE:

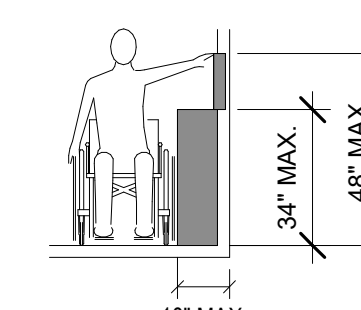
WHERE THE HIGH FORWARD REACH IS OVER AN OBSTRUCTION, THE CLEAR FLOOR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH OVER THE OBSTRUCTION. THE FORWARD REACH SHALL BE 48" MAXIMUM WHERE THE REACH DEPTH IS 20" MAXIMUM. WHERE THE REACH DEPTH EXCEEDS 20" THE HIGH FORWARD REACH SHALL BE 44" MAXIMUM AND THE DEPTH SHALL BE 25" MAXIMUM.

FORWARD REACH DETAIL



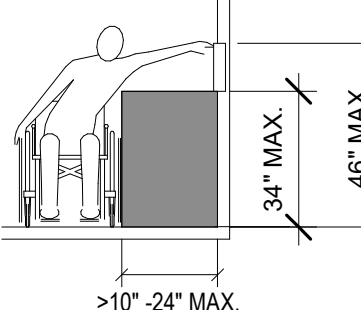
NOTE:

WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE HIGH SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48" MAXIMUM AND THE LOW SIDE REACH SHALL BE 15" MINIMUM ABOVE THE FINISHED FLOOR OR GROUND.

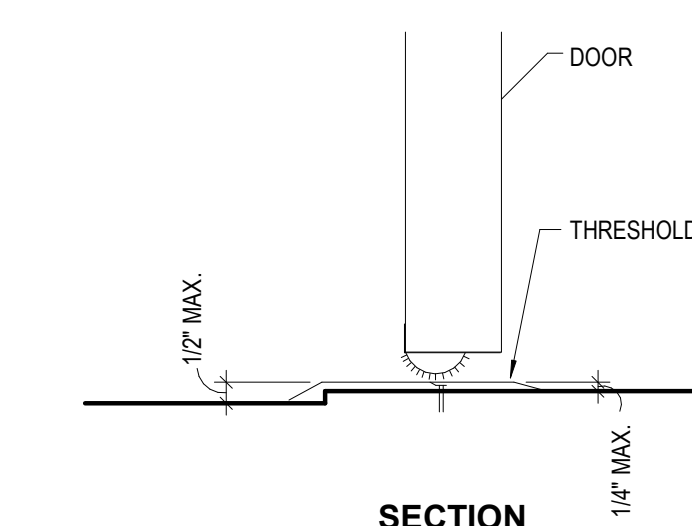


NOTE:

WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE HIGH SIDE REACH IS OVER AN OBSTRUCTION, THE HEIGHT OF THE OBSTRUCTION SHALL BE 34" MAXIMUM AND THE DEPTH OF THE OBSTRUCTION SHALL BE 24" MAXIMUM. THE HIGH SIDE REACH SHALL BE 48" MAXIMUM FOR A REACH OF 10" MAXIMUM. WHERE THE REACH EXCEEDS 10" THE HIGH SIDE REACH SHALL BE 46" MAXIMUM FOR A REACH DEPTH OF 24" MAXIMUM.



SIDE REACH DETAIL



ACCESSIBLE DOOR THRESHOLD

DEMO PLAN KEYED NOTES

NO.	DESCRIPTION
1	DEMO WALL
2	DEMO WALL, PREP FOR NEW OPENING
3	REMOVE DOOR, SAVE FOR NEW LOCATION
4	REMOVE FIRE EXTINGUISHER CABINET, SAVE FOR NEW LOCATION
5	DEMO CASEWORK
6	DEMO FLOOR FINISH, PREP FOR NEW
7	RELOCATE EXISTING OUTLET AND ASSOCIATED CONDUIT
8	DEMO GWB FOR NEW BLOCKING REQUIRED FOR COUNTERTOP SUPPORT
9	REMOVE ROOM / DOOR SIGNAGE AND RELOCATE
10	REMOVE METAL SIGN, SALVAGE AND RELOCATE
11	PROTECT WHITE BOARD OUTSIDE OF WALL DEMO FOR NEW OPENINGS
12	DEMO COUNTERTOP, SALVAGE BASE CABINETS, UPPER CABINETRY TO REMAIN THIS SIDE
13	REMOVE & DISPOSE APPLIANCES & PLUMBING FIXTURES

DEMOLITION GENERAL NOTES

- A** DRAWINGS COMMUNICATE DESIGN INTENT ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND SHALL CONTACT ARCHITECT WITH ANY DISCREPANCIES PRIOR TO COMMENCING WITH WORK
- B** CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL PERMITS PRIOR TO COMMENCEMENT OF ANY AND ALL DEMOLITION WORK.
- C** CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND PLACEMENT OF TEMPORARY SHORING FOR ALL EXISTING STRUCTURAL COMPONENTS.
- D** CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF ANY AND ALL DEMOLITION WORK.
- E** CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE OCCURRING DURING DEMOLITION AND CONSTRUCTION ACTIVITIES AND SHALL PREP AND MATCH DEMOLISHED SURFACES AND INSTALL NEW FINISHES AS REQUIRED.
- F** CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL WASTE LEGALLY AND DOCUMENTED. THE OWNER RESERVES THE RIGHT TO RETAIN ANY REMOVED ITEM. ITEMS REQUESTED TO BE RETAINED BY THE OWNER WILL BE IDENTIFIED DURING THE PRECONSTRUCTION MEETING AS WELL AS A LOCATION ON SITE FOR STORAGE OF REQUESTED ITEMS.
- G** CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY EXISTING MATERIALS TO REMAIN THAT HAVE BEEN UNCOVERED AND SHOW SIGNS OF WEATHER DAMAGE, MOLD AND/OR DETERIORATION.
- H** CONTRACTOR SHALL ENSURE THE OPERATION OF THE EXISTING FIRE ALARM AND SPRINKLER SYSTEM SHALL REMAIN DURING DEMOLITION AND CONSTRUCTION.



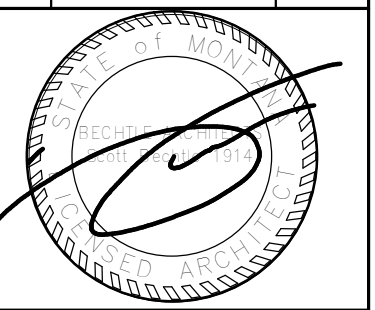
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REVIEWED BY: NF

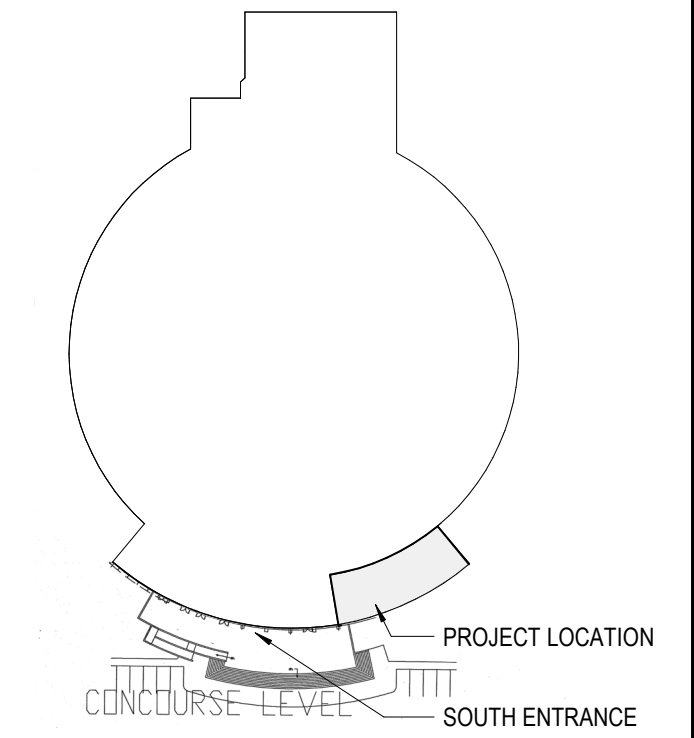
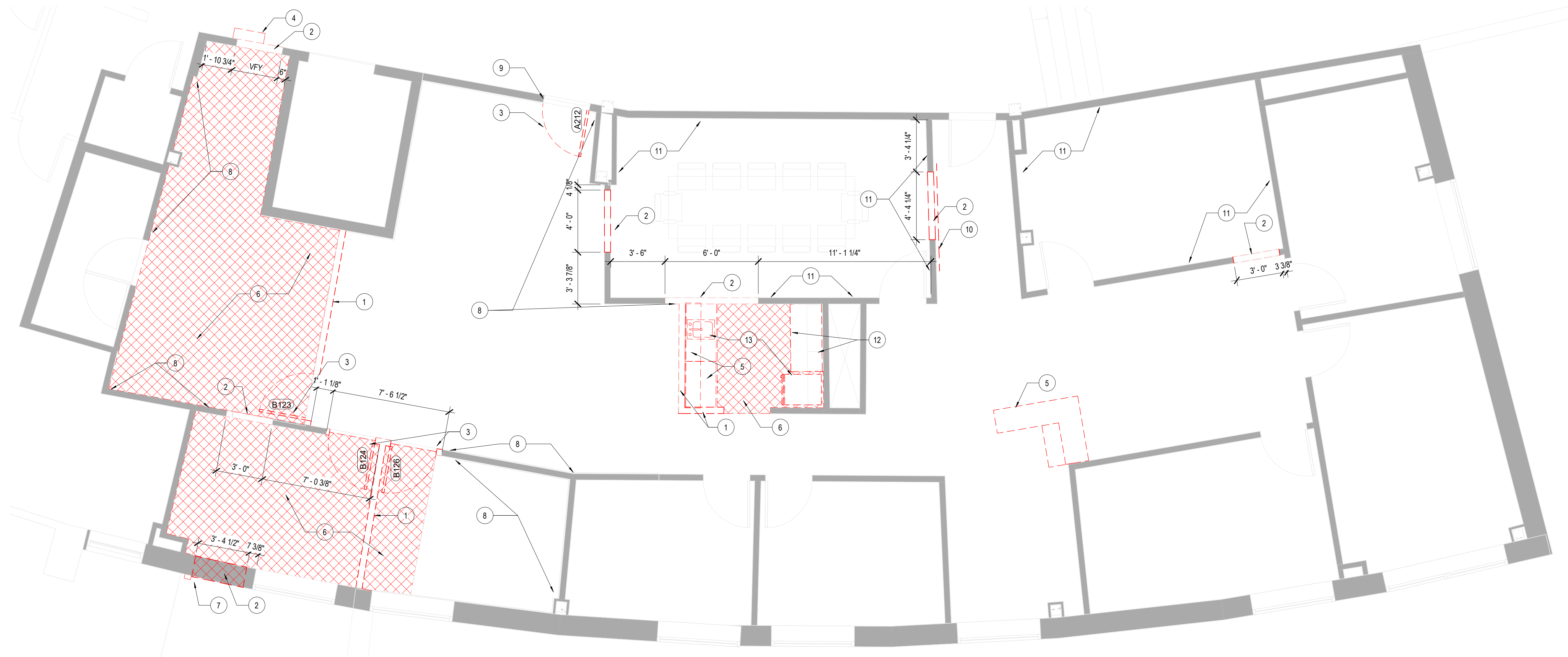
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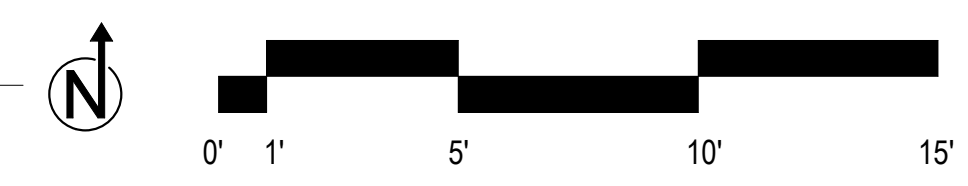
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2042

SHEET TITLE
DEMO FLOOR PLAN
SHEET
A101

DATE
JAN 13, 2023



1 LEVEL 1 - DEMO PLAN
SCALE: 1/4" = 1'-0"



BUILDING KEY PLAN
NTS

DEMO RCP KEYED NOTES

NOTE	DESCRIPTION
1	DEMO CEILING TILES AND GRID
2	DEMO PORTION OF CEILING GRID, PREP FOR NEW WALL
3	REMOVE LIGHT FIXTURE
4	REMOVE LIGHT FIXTURE, RELOCATE
5	LIGHT FIXTURE TO REMAIN

DEMOLITION GENERAL NOTES

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- H** CONTRACTOR SHALL ENSURE THE OPERATION OF THE EXISTING FIRE ALARM AND SPRINKLER SYSTEM SHALL REMAIN DURING DEMOLITION AND CONSTRUCTION.



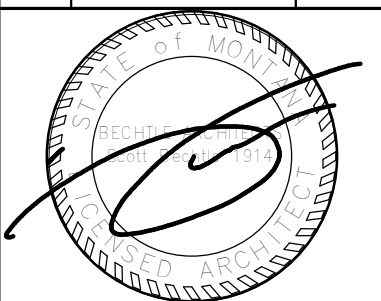
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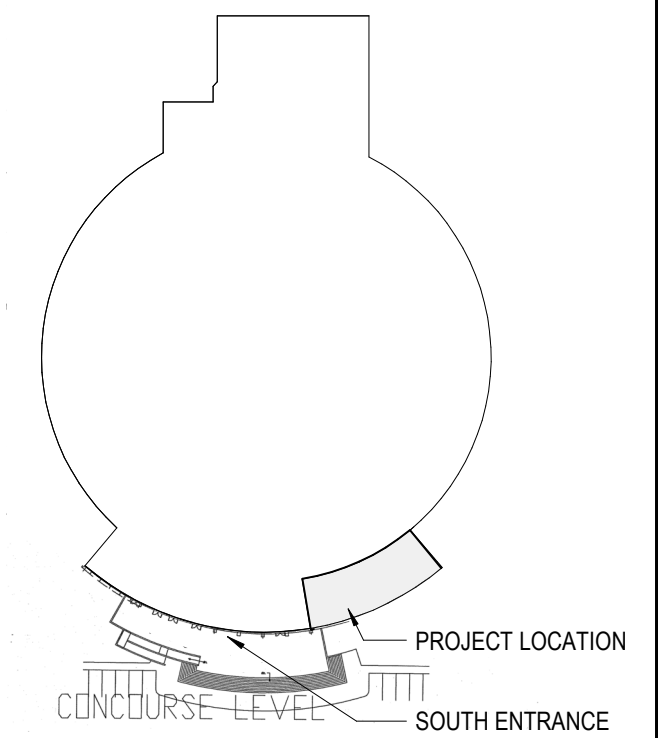
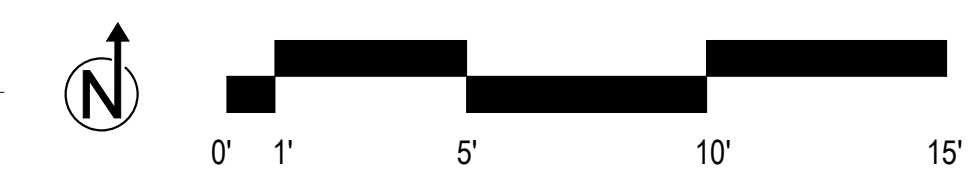
SHEET TITLE
DEMO RCP

SHEET
A102

DATE
JAN 13, 2023



1 LEVEL 1 - DEMO RCP
 SCALE: 1/4" = 1'-0"



BIDDING / PERMIT DRAWINGS

SHADING LEGEND

EXISTING WALLS TO REMAIN

FLOOR PLAN KEYED NOTES

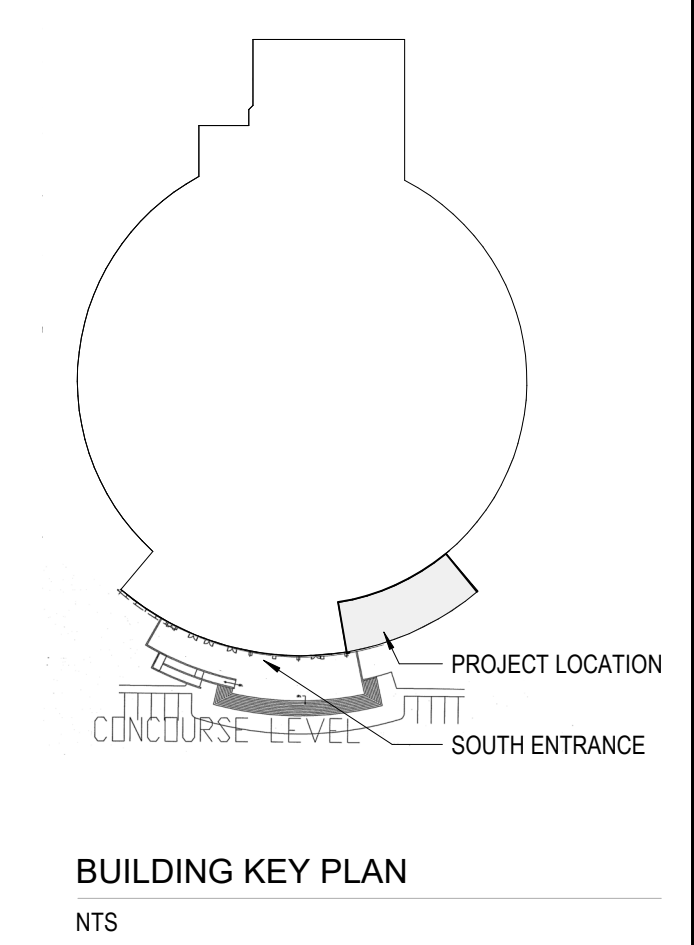
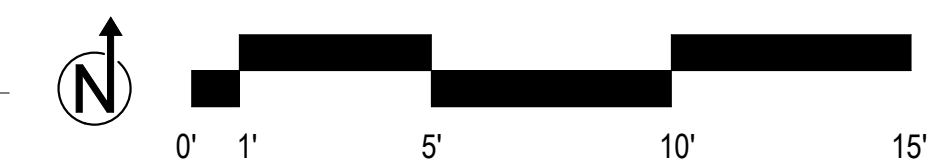
NO.	DESCRIPTION
1	NEW PLAM COUNTERTOP. SEE DETAIL 9 & 10/A301
2	RELOCATED FIRE EXTINGUISHER CABINET. SEE ADA DETAILS FOR MOUNTING HEIGHTS
3	NEW CONCRETE SLAB. SEE STRUCT
4	NEW FLOOR FINISH
5	INFILL WALL W/ CMU, MATCHING (E) WALL CONST.
6	PATCH GWB WHERE WALL WAS REMOVED
7	EXISTING CARPET TO REMAIN
8	FLOORING TRANSITION
9	PATCH AND FILL IN FLOORING. MATCH EXISTING
10	EXISTING CONCRETE SLAB
11	CHANGE IN COUNTER HEIGHT
12	2X2 HSS LEGS WITH CROSS SUPPORT
13	NEW 1-1/4" GALV. PIPE GUARD RAIL, MATCH (E), ADD ALT SEE COVER SHEET G00
14	TOUCHUP PAINT TO MATCH CONCOURSE WALL

GENERAL FLOOR PLAN NOTES

- A SEE G101 FOR PARTITIONS & ASSEMBLIES.
- B DIMENSIONS ARE TO F.O. STUD FOR NEW WALLS, F.O. FINISH FOR (E) WALLS, F.O. CONCRETE / MASONRY, OR CENTERLINE OF COLUMN.
- C USE WRITTEN DIMENSIONS. DO NOT SCALE DRAWINGS. WHERE NO DIMENSION IS PROVIDED CONSULT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- D FRAMING CONTRACTOR IS TO COORDINATE LOCATION AND INSTALL ADEQUATE BLOCKING FOR ALL OWNER AND CONTRACTOR SUPPLIED EQUIPMENT.
- E ALL MATERIAL AND FINISHES ARE TO BE AS SPECIFIED, OR APPROVED EQUAL.
- F CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS SHOWING ANY CHANGES TO PLANS AND DIMENSIONING.
- G SEE A203 FOR FINISH SCHEDULE



1 LEVEL 1 - FLOOR PLAN
SCALE: 1/4" = 1'-0"



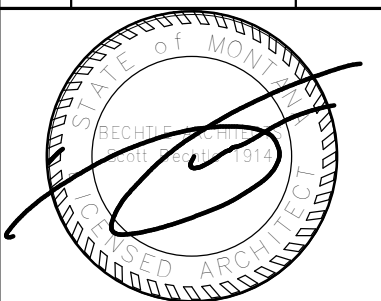
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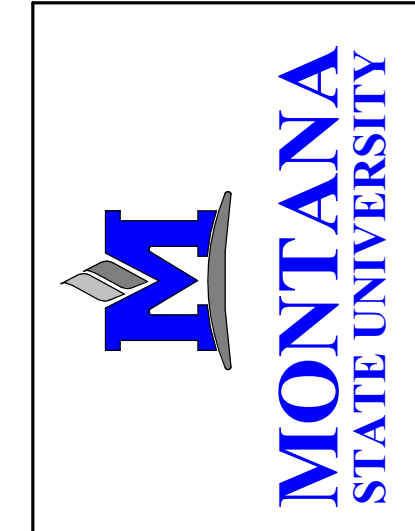
SHEET TITLE
FLOOR PLAN

SHEET
A201

DATE
JAN 13, 2023

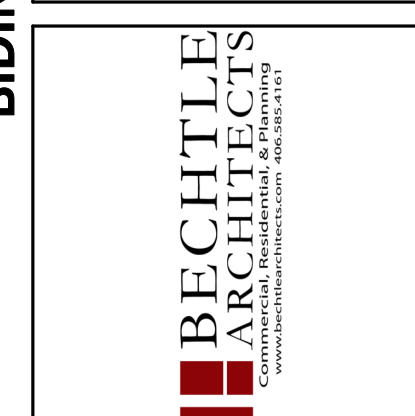
BIDDING / PERMIT DRAWINGS

RCP KEYED NOTES	
NO.	DESCRIPTION
1	NEW CEILING GRID AND TILES
2	NEW LIGHT FIXTURE
3	NEW FRAMED BULKHEAD
4	REPLACED ACT TILE AND GRID



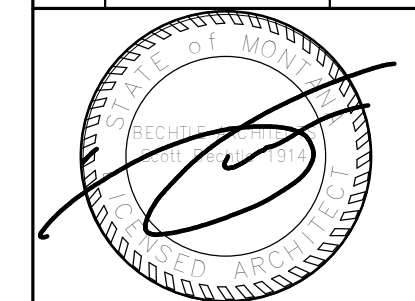
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BIDING / PERMIT DRAWINGS
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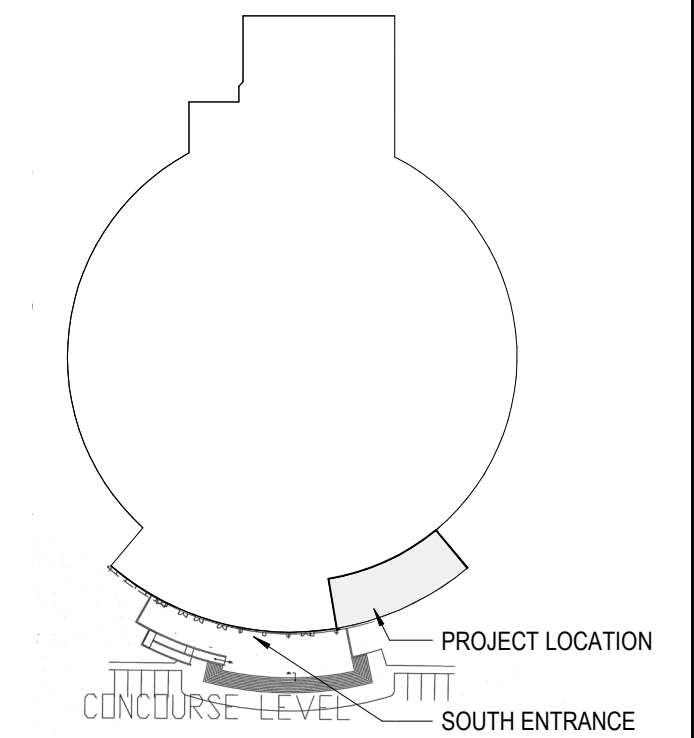
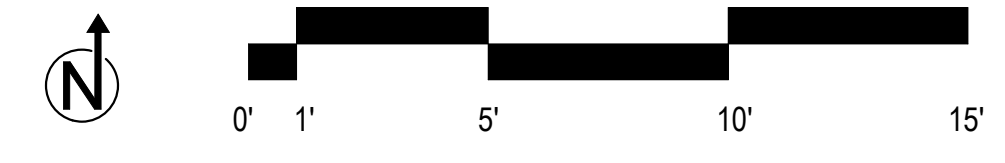
SHEET TITLE
RCP

SHEET
A202

DATE
JAN 13, 2023



1 LEVEL 1 - RCP
SCALE: 1/4" = 1'-0"



BUILDING KEY PLAN
NTS

FINISH PLAN KEYED NOTES

NO.	DESCRIPTION
1	PAINT WALL TO MATCH (E)
2	NO NEW FINISHES THIS ROOM
3	MARKER BOARD TO REMAIN. PAINT WHERE REMOVED FOR NEW WDW.
4	TOUCHUP PAINT TO MATCH CONCOURSE WALL
5	PAINT CMU WALL TO MATCH (E)

FFE SCHEDULE

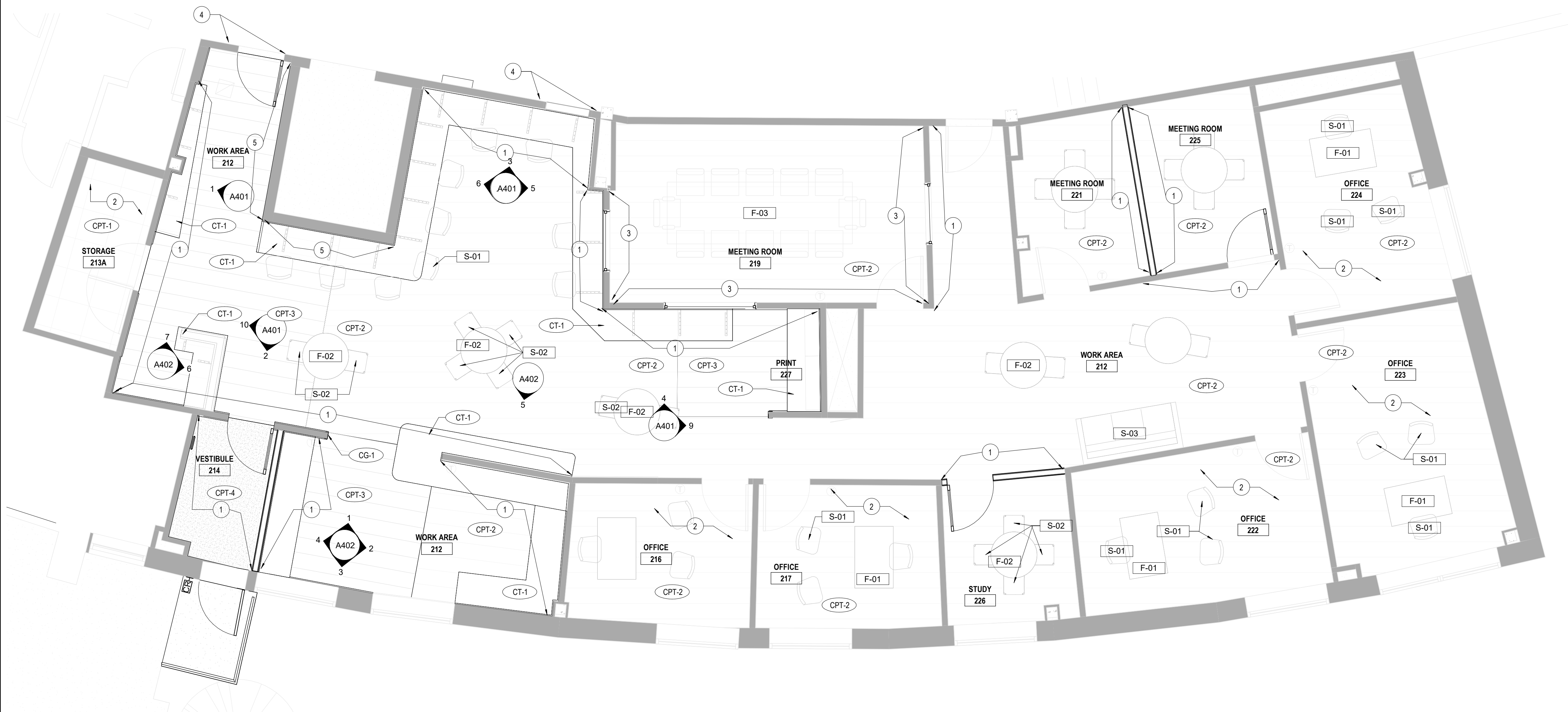
NO.	DESCRIPTION	COMMENTS	COUNT
F-01	OFFICE DESK 48" X 30"		5
F-02	36" DIAMETER TABLE		8
F-03	CONFERENCE TABLE 48" X 144"		1
S-01	OFFICE CHAIR		25
S-02	WORK CHAIR		24
S-03	COUCH		1
S-04	TASK CHAIR W/ ARMS		2
S-05	TASK CHAIR		10

INTERIOR MATERIAL SCHEDULE

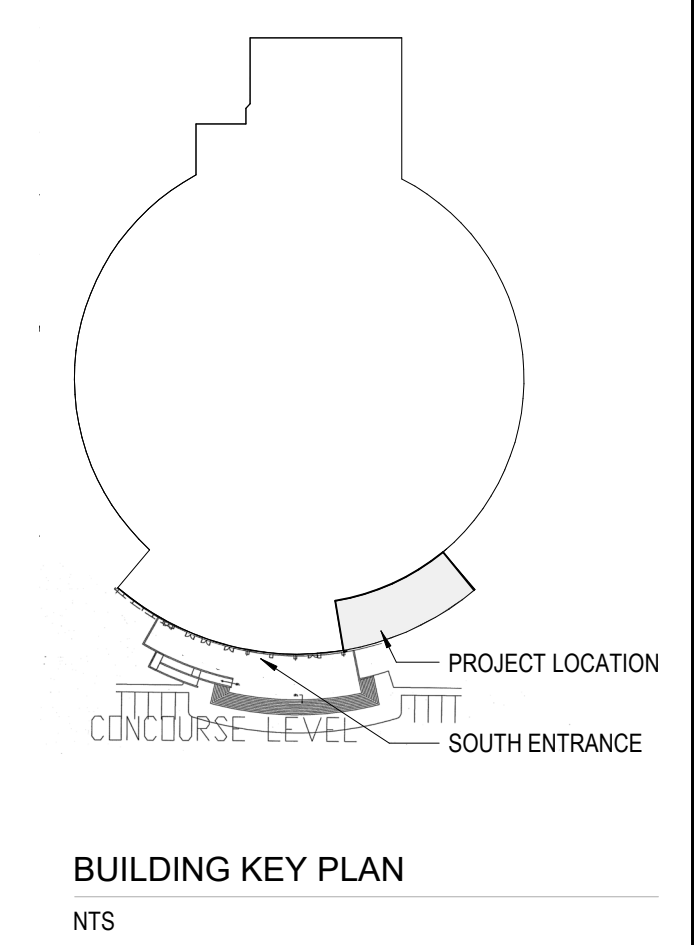
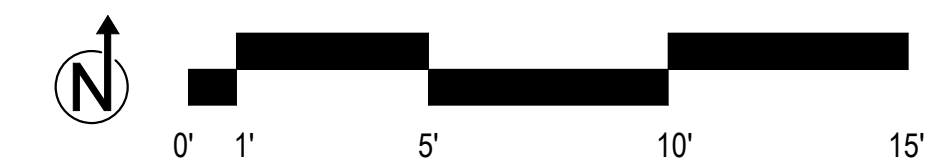
SYMBOL	MATERIAL	MANUFACTURER	TYPE, COLOR	COMMENTS
BS-1	BACK SPLASH	WILSONART (BOD)	1/2" PLYWOOD SUBSTRATE WITH PLASTIC LAMINATE FINISH	
CG-1	CORNER GUARD			MATCH (E)
CPT-1	EXISTING CARPET	TBD	SOLID COLOR CARPET	VIF IF REPLACEMENT IS NEEDED
CPT-2	EXISTING CARPET TILES	TBD	12X48 CARPET TILES RUNNING BOND PATTERN	VIF IF REPLACEMENT IS NEEDED
CPT-3	CARPET TILES	SHAW CONTRACT (BOD)	12X48 CARPET TILES, FOUNDATION TILE, EXTRAORDINARY, 51169, STRATUS 68504	MATCH (E), VIF (E) TYPE
CPT-4	WALK-OFF CARPET TILES	SHAW CONTRACT (BOD)	24X24 CARPET TILES, WELCOM II TILE, STEPPIN OUT, ST031, CHARCOAL 31549	
CT-1	COUNTER TOP	WILSONART (BOD)	ORGANIC COTTON, VINE VELVET TEXTURE FINISH, 4945-38, MATCHING EDGE BAND OR FOLKSTONE REHAU D381	1-1/8" PLYWOOD SUBSTRATE, SEE DETAILS A301
HIM-1	HOLLOW METAL FRAME		FULLY WELDED HM FRAME, PAINTED, MATCH (E)	SEE DOOR SCHEDULE
MTL-1	STEEL COUNTER TOP BRACKET	A&M (BOD)	20" STEEL BRACKET, POWDER COATED, DARK GREY	
MTL-2	STEEL COUNTER TOP BRACKET	A&M (BOD)	18" TO 8" STEEL BRACKET, POWDER COATED, DARK GREY	
PT-1	PAINT		(E) WALL PAINT, TOUCH-UP, MATCH (E), GREY	
PT-2	PAINT		(E) WALL PAINT, TOUCH-UP, MATCH (E), BLUE	
SB-3	STEEL BRACKET		2"X2" HSS COUNTER TOP BRACKET LEG, POWDERCOATED DARK GREY	
SB-4	STEEL LEG		2"X2" HSS COUNTER TOP LEG, POWDERCOATED DARK GREY	
WB-1	WALL BASE	JOHNSONITE (BOD)	4" RUBBER BASE	MATCH EXISTING
WTI-1	APRON TRIM		3/4" MDF WOOD TRIM, PAINTED	

ROOM FINISH NOTES

- A** REFER TO PLANS & INTERIOR ELEVATIONS FOR FINISH & ACCESSORIES LOCATIONS
- B** CONTRACTOR RESPONSIBLE FOR INSTALLING ALL FINISH FLOORING PER MANUFACTURER'S REQUIREMENTS
- C** CONTRACTOR IS TO PROVIDE AND INSTALL ALL UNDERLAYMENT MATERIALS AS REQUIRED BY PRODUCT MANUFACTURER
- D** CONTRACTOR IS TO PROVIDE AND INSTALL ALL FLOORING TRANSITIONS (RESILIENT) AS REQUIRED
- E** SEE REFLECTED CEILING PLANS FOR CEILING TYPE DESCRIPTIONS
- F** CONTRACTOR IS TO SUBMIT PRODUCT CUTSHEETS FOR REVIEW PRIOR TO ORDERING /INSTALLATION.
- G** CONTRACTOR IS TO SUBMIT FINISH MATERIAL MOCK-UP TO ENSURE COLOR SELECTION AND FINISH IS APPROVED PRIOR TO ORDERING /INSTALLATION OF FINISH
- H** ALL CORNER TRIM AT GYPSUM WALL BOARD SHALL BE SQUARE, TYPICAL.
- I** FURNITURE IS NOT INCLUDED IN THE PROJECT SCOPE AND IS SHOWN FOR REFERENCE ONLY.
- J** SIGNAGE IS NOT INCLUDED IN THE PROJECT SCOPE.



1 LEVEL 1 - FINISH PLAN
SCALE: 1/4" = 1'-0"



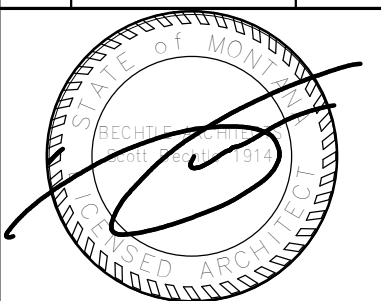
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BOZEMAN, MONTANA



DRAWN BY: Author
REVIEWED BY: Checker

REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00

2042

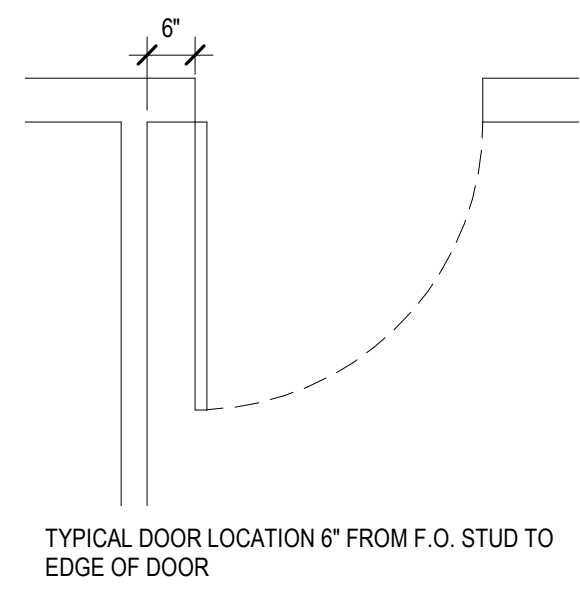
SHEET TITLE
FINISH FLOOR
PLAN

SHEET
A203

DATE
JAN 13, 2023

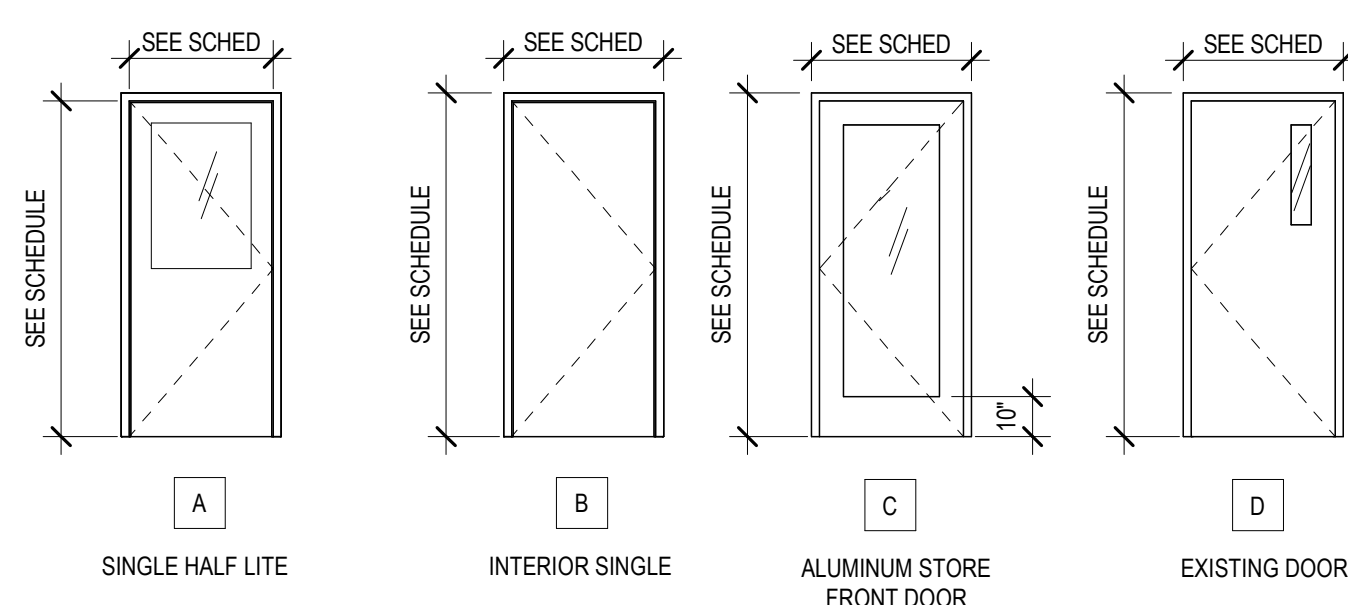
BIDDING / PERMIT DRAWINGS

DOOR FRAMING DETAIL



DOOR TYPES

NOTE: ALL GLAZING IN DOORS SHALL BE TEMPERED



DOOR SCHEDULE

NO.	SIZE			DOOR					FRAME			DETAILS			COMMENTS	
	WIDTH	HEIGHT	THICKNESS	TYPE	RATING	MATERIAL	FINISH	HARDWARE	TYPE	MATERIAL	FINISH	HEAD	JAMB	THRESHOLD		SIGNAGE
A212	3'-0"	7'-0"	1 3/4"	D	60 MIN	WD	PTD	(E)	F3	HM	PTD	5/A301	5/A301		S2	3, 5
A225	3'-0"	7'-0"	1 3/4"	A	N/A	WD	STN	MATCH (E) PASSAGE	F2	HM	PTD	1/A301	2/A301		S3	4
B124	3'-0"	7'-0"	1 3/4"	A	N/A	WD	STN	(E)	(E)	(E)	PTD	4/A301	4/A301		S3	1, 3
B126	3'-0"	7'-0"	1 3/4"	A	N/A	WD	STN	(E)	(E)	(E)	PTD	1/A301	2/A301		S3	1, 3
B214	3'-0"	7'-0"	1 3/4"	C	N/A	ALUM	FF	MATCH (E), SEE SPEC	F1	ALUM	FF	4/A301	4/A301	3/A301	S1	2

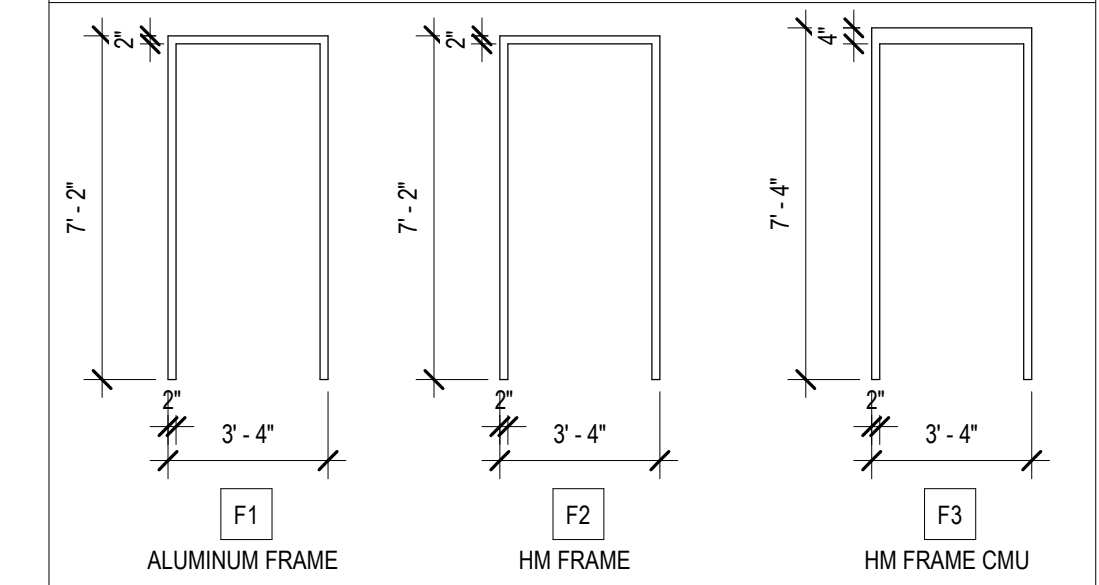
DOOR COMMENTS

- EXISTING DOOR & FRAME TO BE REINSTALLED IN NEW LOCATION
 - ALUMINUM FRAMES & ALUMINUM DOORS SHALL MATCH (E) FINISH; CLEAR, ANODIZED
 - RELOCATED DOORS TO BE TOUCHED UP AS NEEDED.
 - NEW INTERIOR DOORS TO MATCH (E) WD TYPE & STN
 - EXISTING DOOR TO BE RELOCATED W/ NEW FRAME
- ABBREVIATIONS:
 ALUM - ALUMINUM
 FF - FACTORY FINISH
 WD - WOOD
 MCWD - METAL CLAD WOOD (PAINT GRADE)
 STN - STAINED
 PTD - PAINTED
 IHM - INSULATED HOLLOW METAL
 HM - HOLLOW METAL
 ISTL - INSULATED RIBBED STEEL

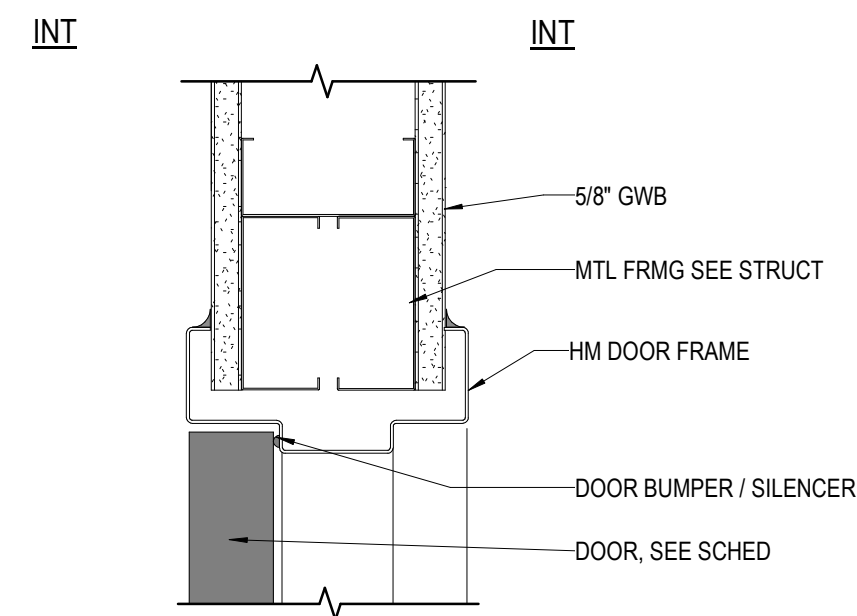
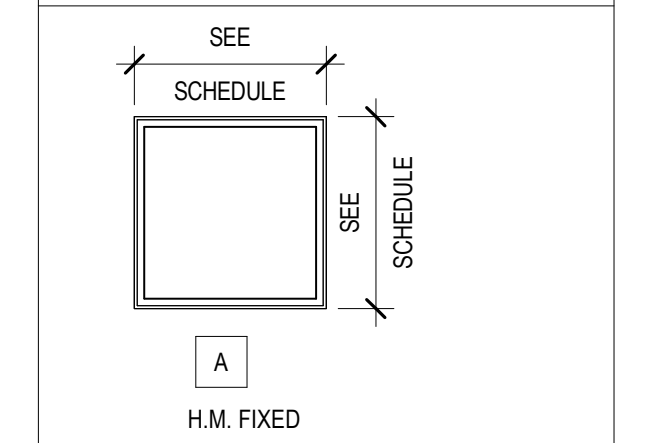
DOOR SIGNAGE

- SIGNS TO BE PROVIDED AND INSTALLED BY G.C.:
- S1 "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED", WHITE LETTERING
 - S2 (E) ROOM NUMBER / NAME PLAQUE TO BE RELOCATED
 - S3 ROOM NUMBER / NAME PLAQUE MATCH (E)
- SIGNAGE TO COMPLY WITH CABO/ANSI A117.1/ADAAG. CENTER OF SIGNS, CHARACTERS OR SYMBOLS SHALL BE LOCATED 60" A.F.F. AT LATCH SIDE OF DOOR OR ADJACENT WALL. PROVIDE PICTOGRAMS AND CHARACTERS AS INDICATED. RAISE SYMBOLS AND CHARACTERS MINIMUM 1/32" ABOVE BACKGROUND.

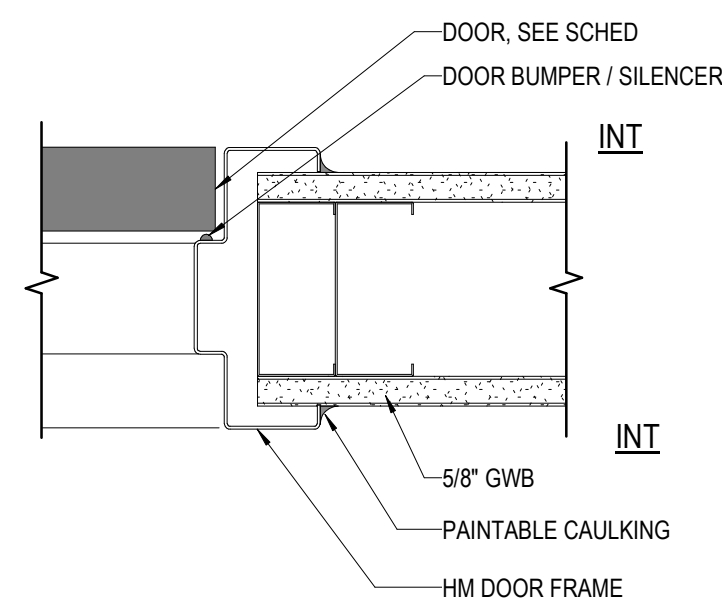
DOOR FRAME TYPES



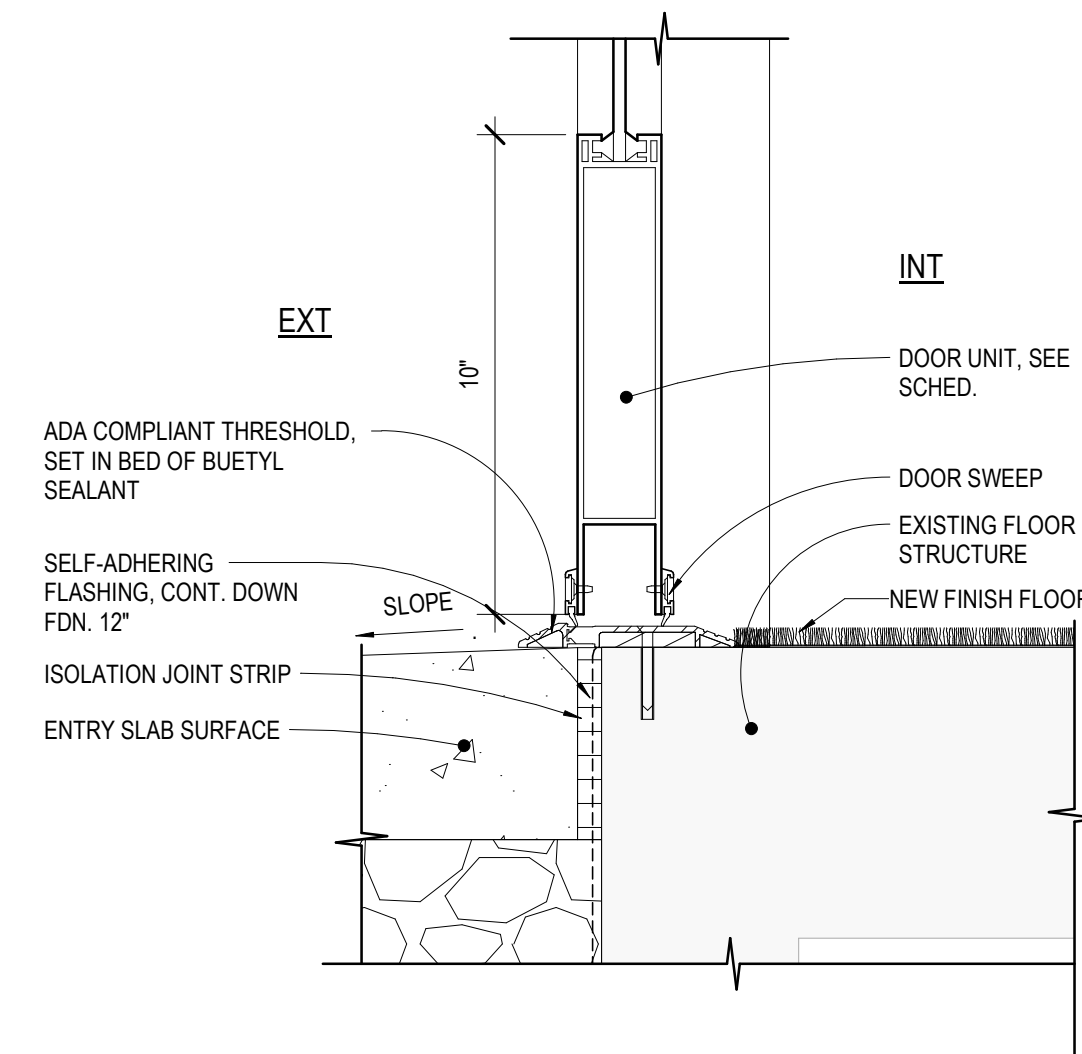
WINDOW TYPES



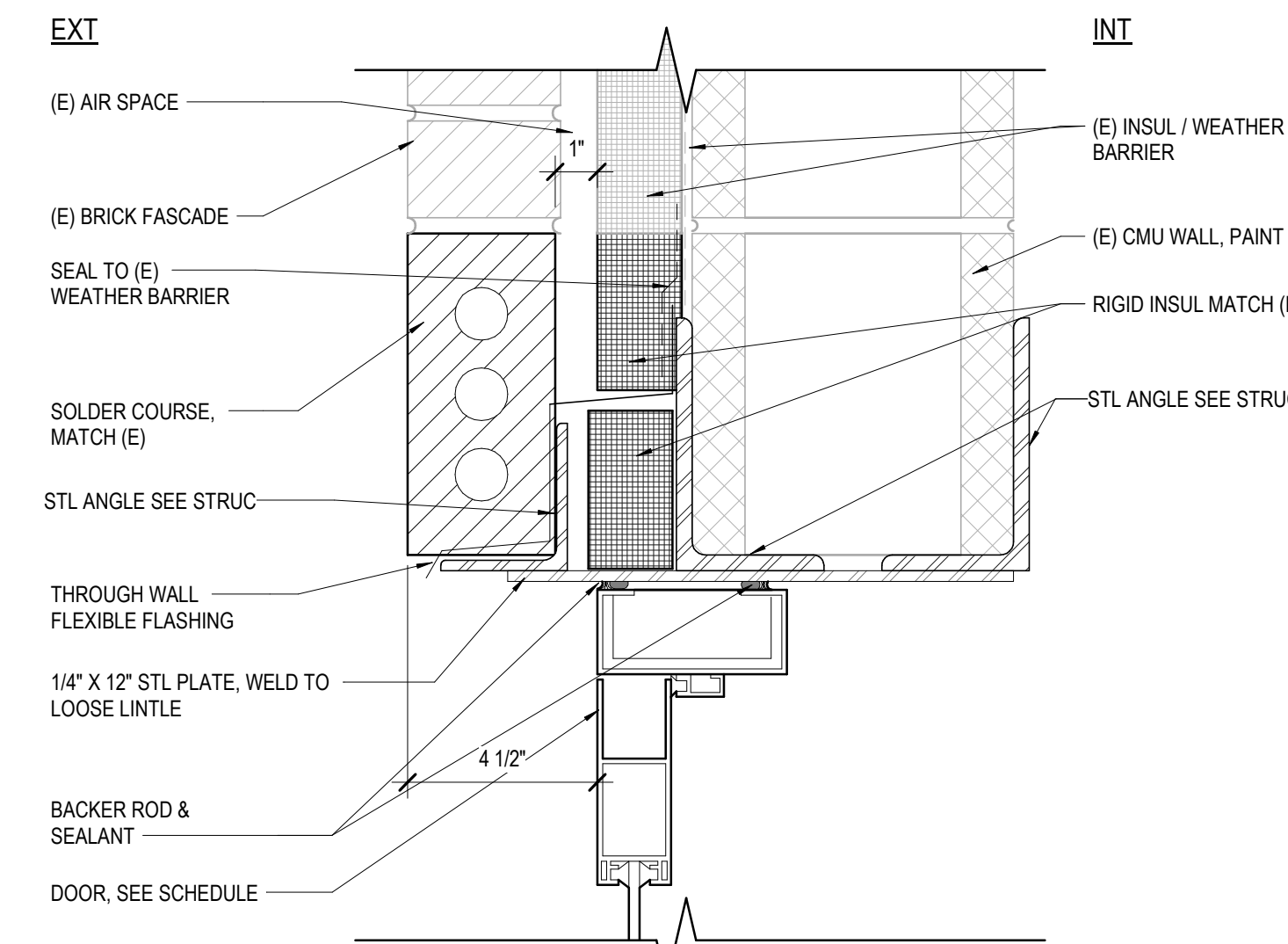
1 HM DOOR HEAD @ INT FRAME WALL
SCALE: 3" = 1'-0"



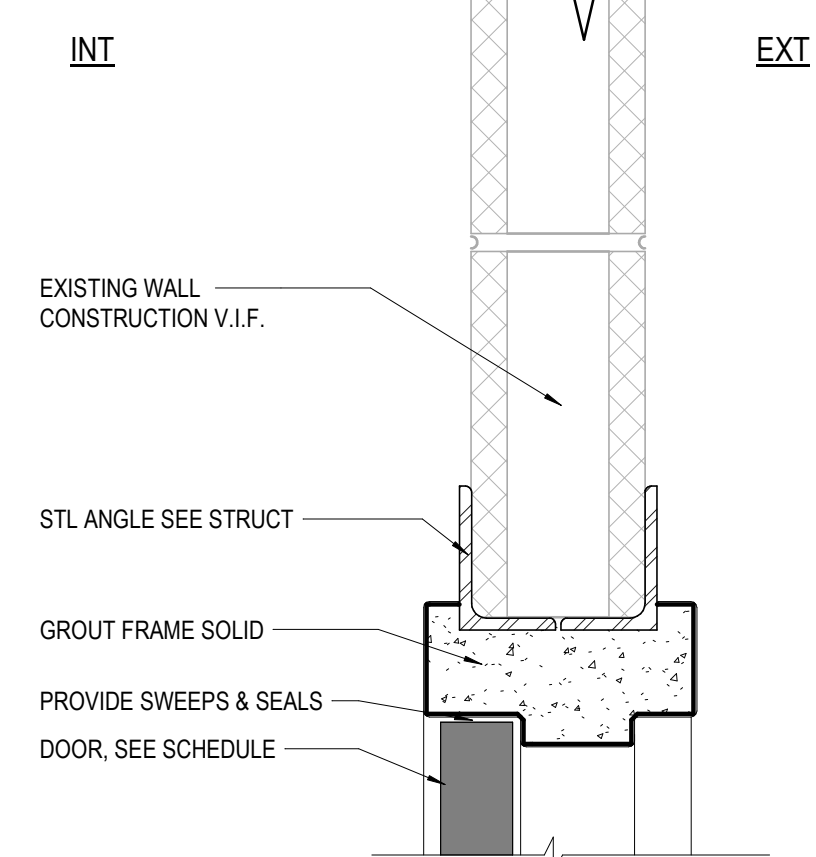
2 HM DOOR JAMB @ INT FRAME WALL
SCALE: 3" = 1'-0"



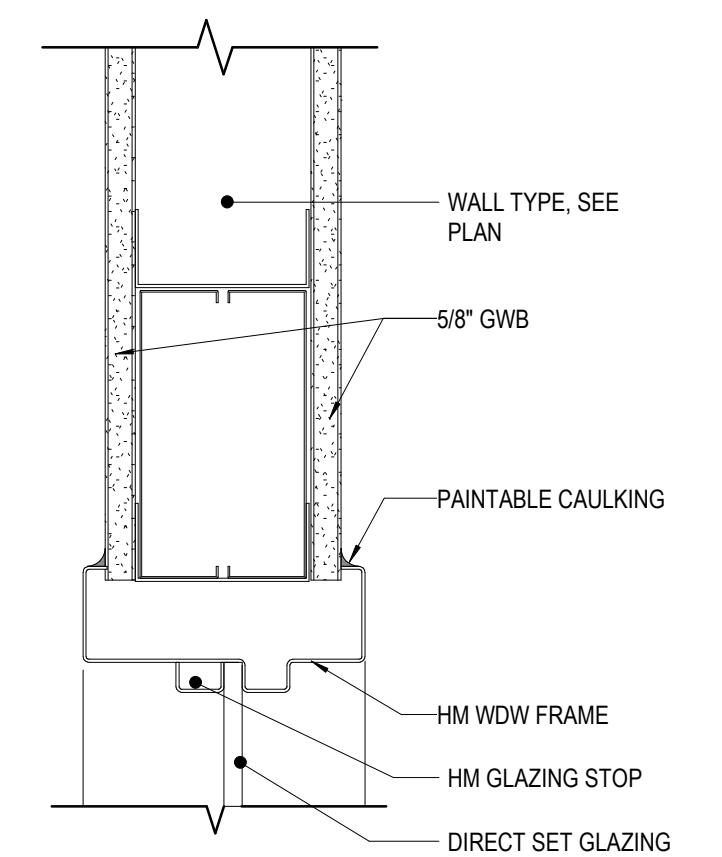
3 DOOR THRESHOLD @ ENTRY SLAB
SCALE: 3" = 1'-0"



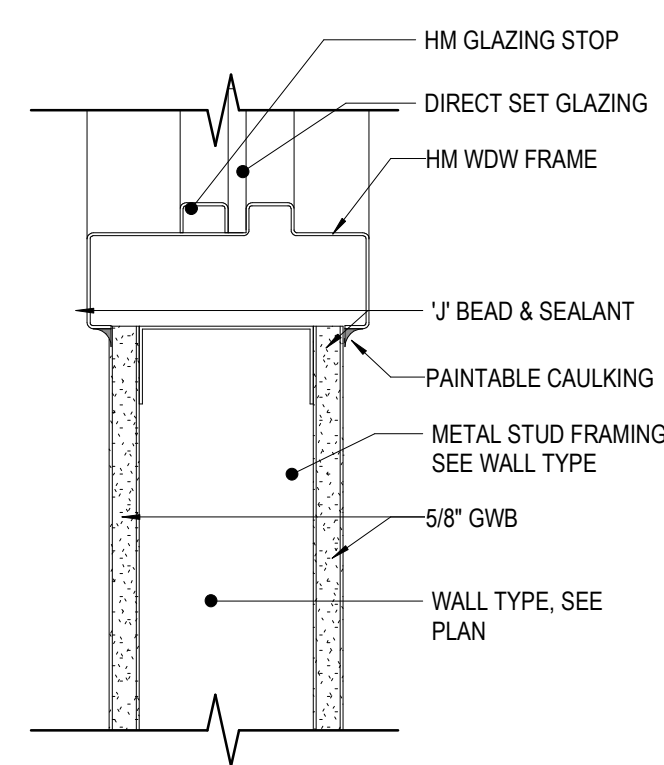
4 DOOR HEAD @ EXT. STOREFRONT
SCALE: 3" = 1'-0"



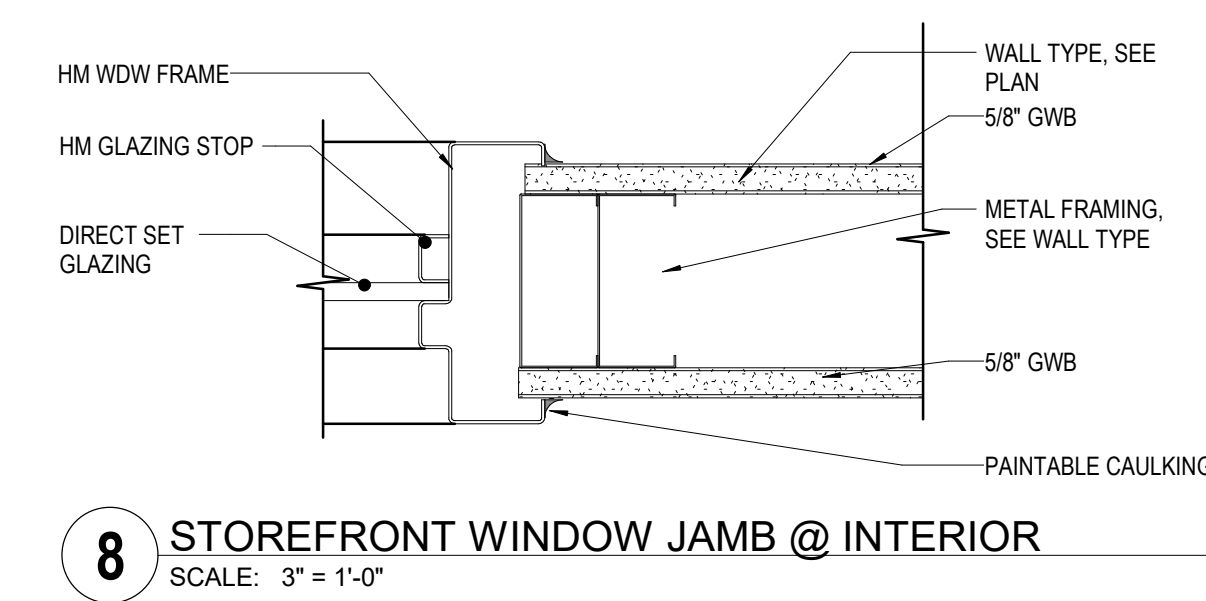
5 DOOR HEAD @ INT CMU (JAMB SIM)
SCALE: 3" = 1'-0"



6 STOREFRONT WINDOW HEAD @ INTERIOR
SCALE: 3" = 1'-0"



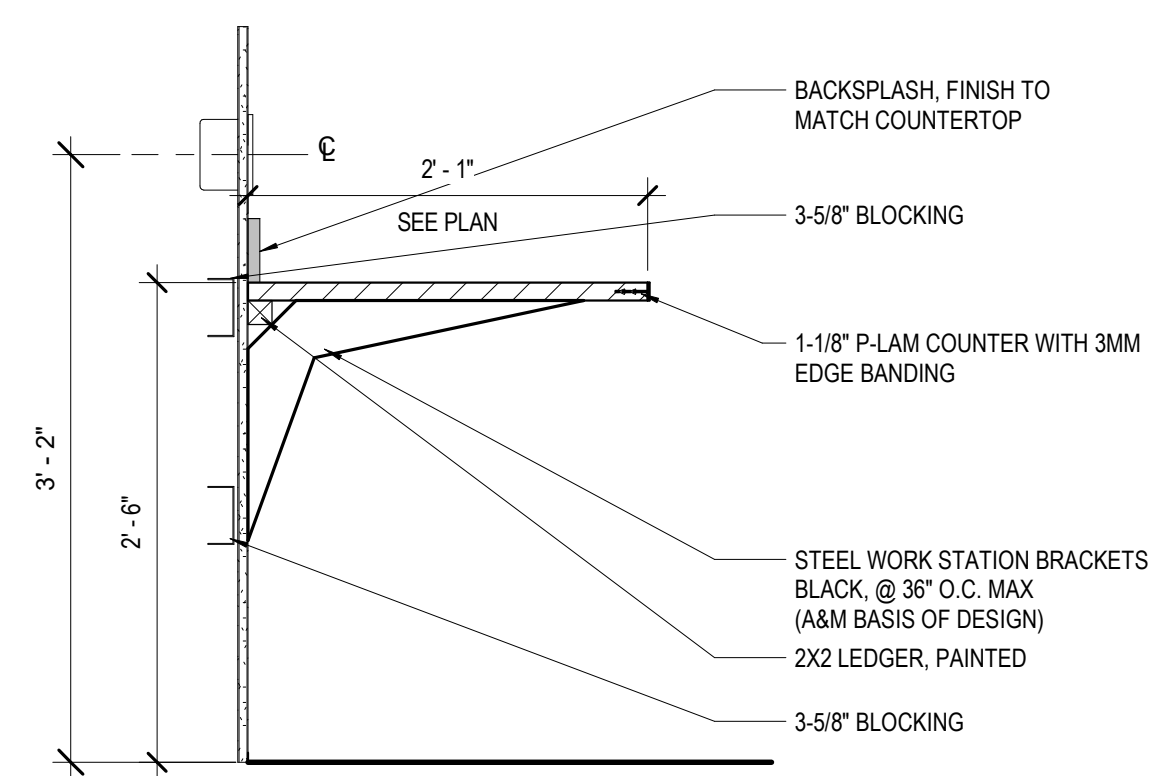
7 STOREFRONT WINDOW SILL @ INTERIOR
SCALE: 3" = 1'-0"



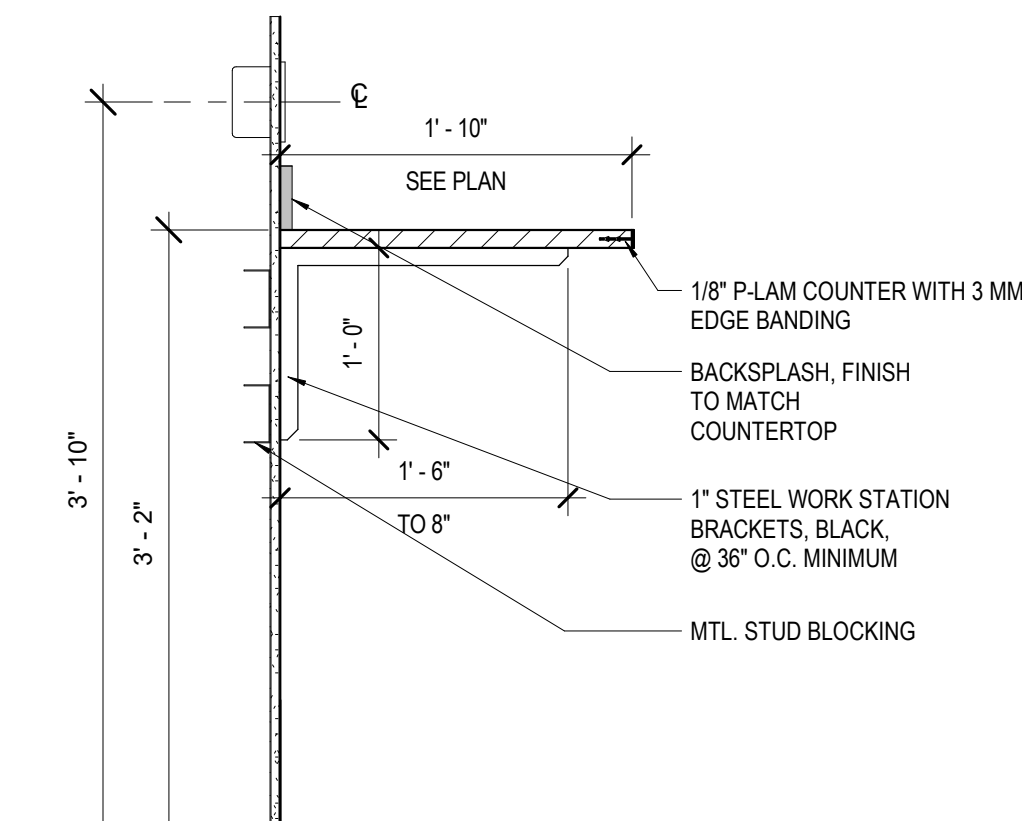
8 STOREFRONT WINDOW JAMB @ INTERIOR
SCALE: 3" = 1'-0"

WINDOW SCHEDULE

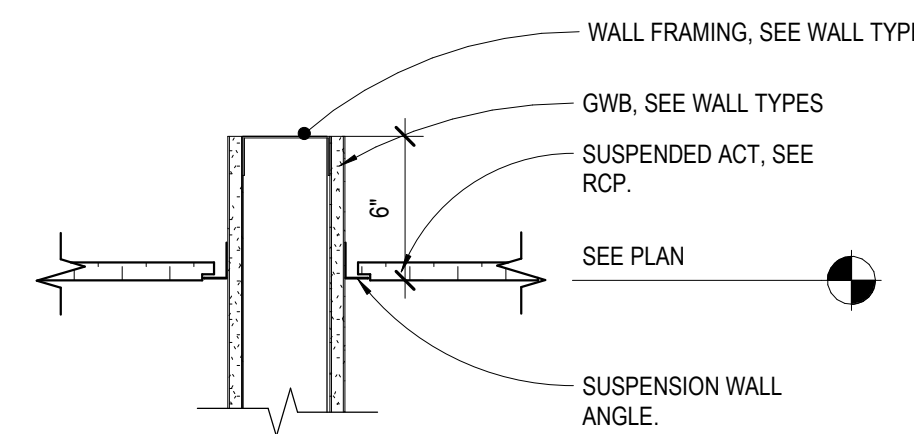
NO.	SIZE			HEAD HEIGHT	WINDOW			DETAILS			COMMENTS
	WIDTH	HEIGHT	TYPE		MATERIAL	FINISH	GLAZING	HEAD	JAMB	SILL	
1	4'-0"	3'-6"	A	7'-0"	HM	PTD	TEMP	5/A301	6/A301	7/A301	
2	6'-0"	3'-6"	A	7'-0"	HM	PTD		5/A301	6/A301	7/A301	
3	4'-0"	3'-6"	A	7'-0"	HM	PTD		5/A301	6/A301	7/A301	



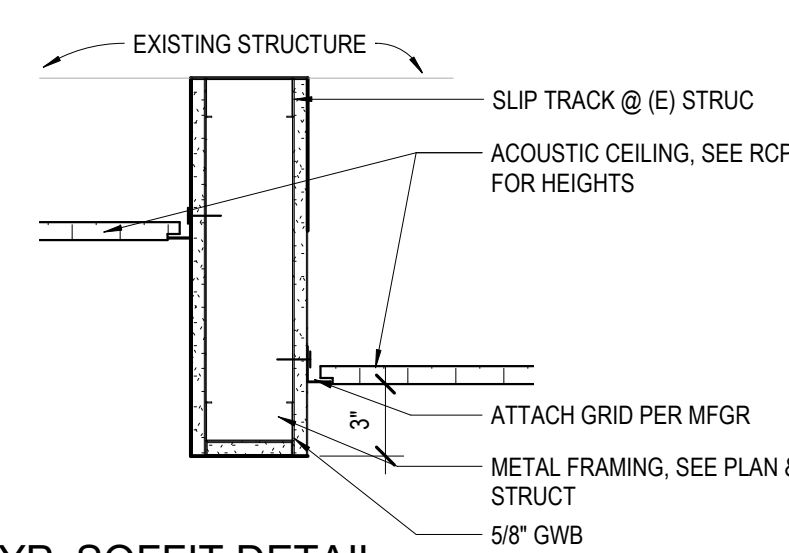
9 30" COUNTER, TYP.
SCALE: 1" = 1'-0"



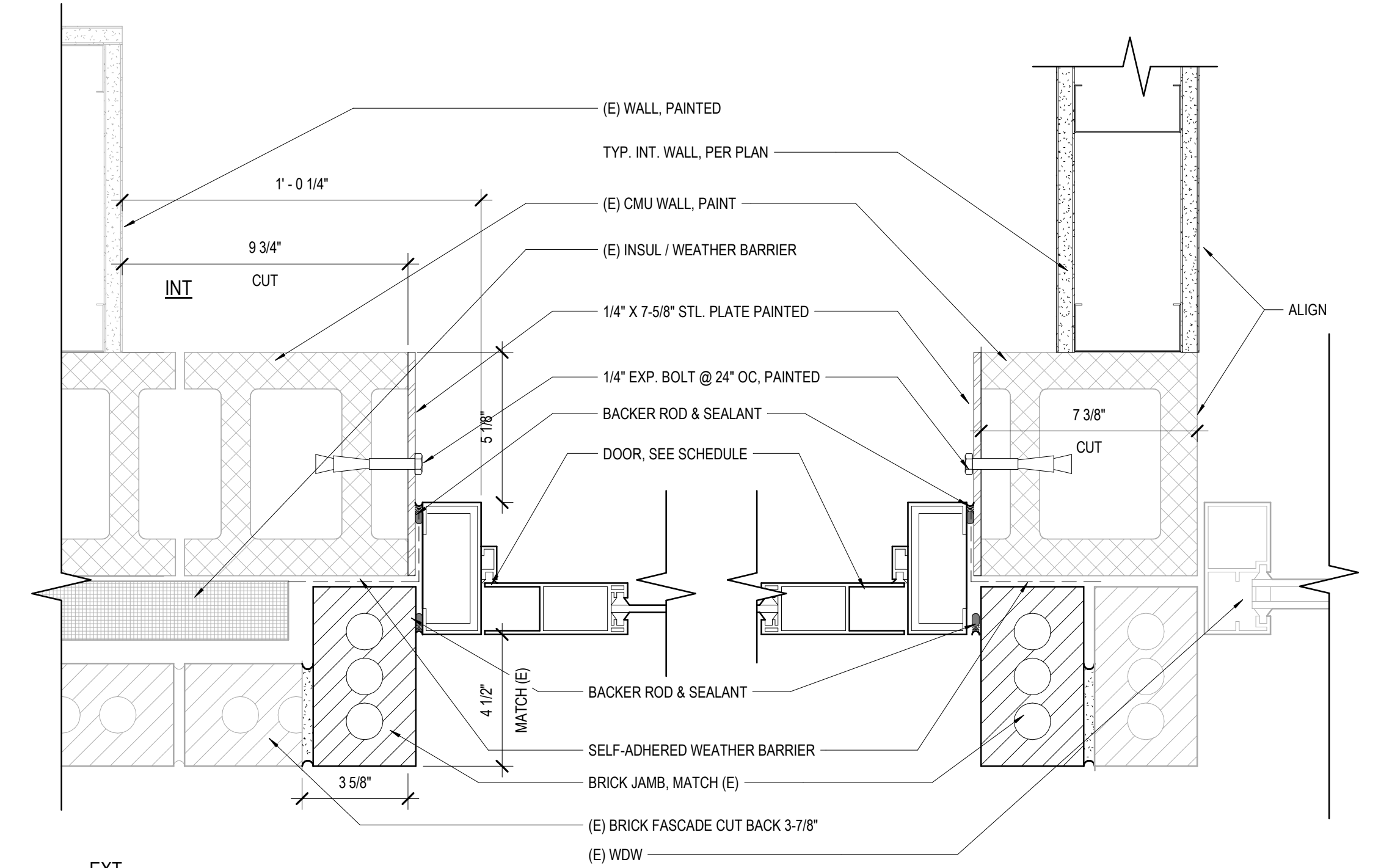
10 38" COUNTER, TYP.
SCALE: 1" = 1'-0"



11 ACOUSTIC CEILING DETAIL
SCALE: 1 1/2" = 1'-0"



12 TYP. SOFFIT DETAIL
SCALE: 1 1/2" = 1'-0"



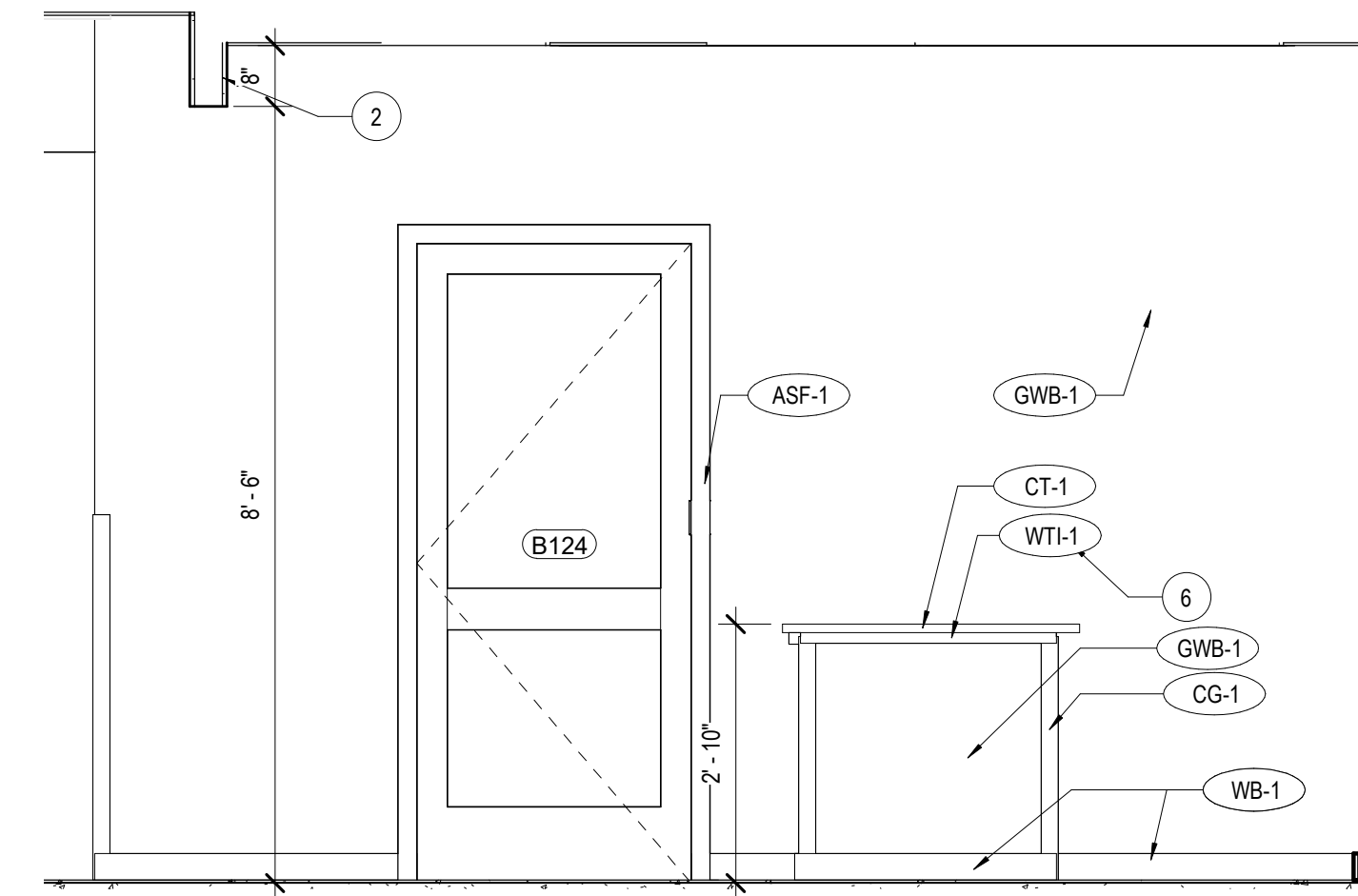
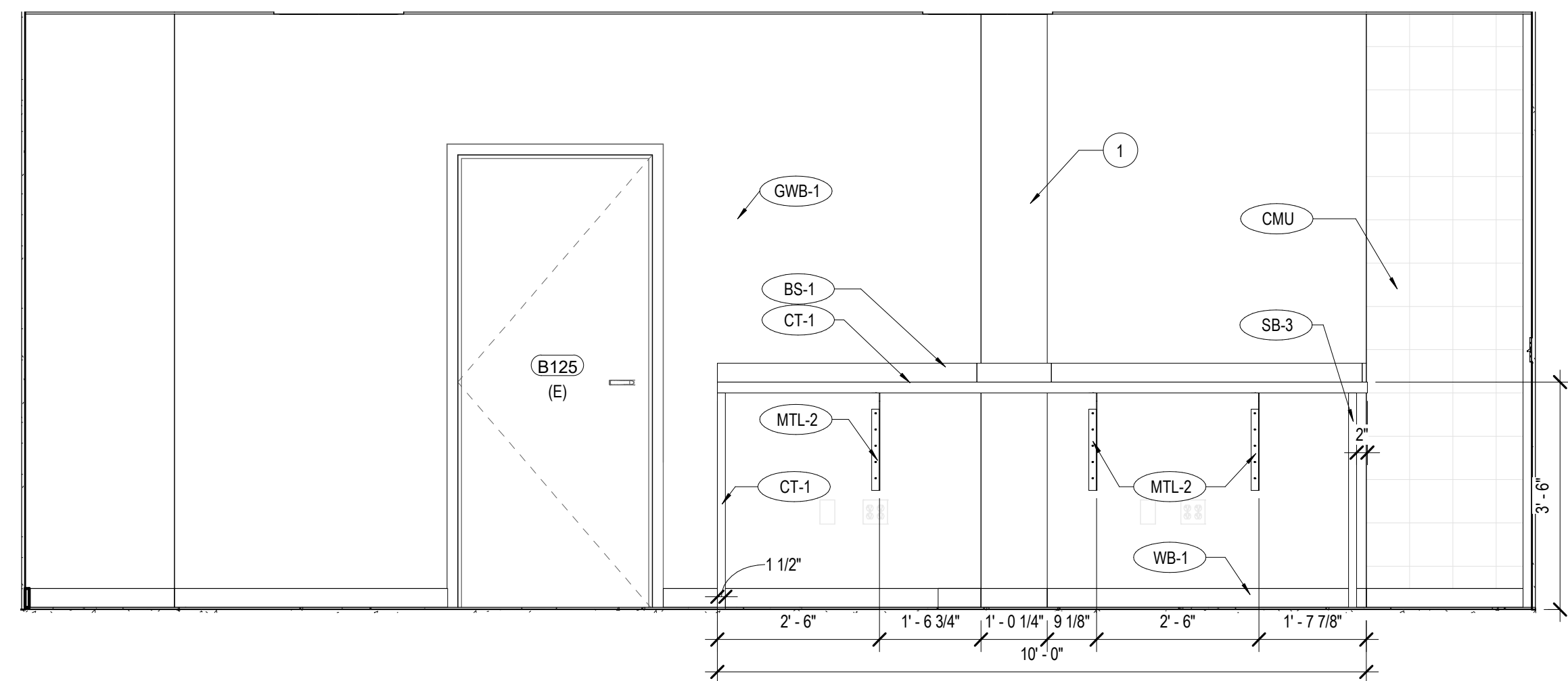
13 DOOR JAMB @ EXT. STOREFRONT
SCALE: 3" = 1'-0"

INT. MATERIAL SCHED.

SYMBOL	MATERIAL
BS-1	BACK SPLASH
CG-1	CORNER GUARD
CPT-1	EXISTING CARPET
CPT-2	EXISTING CARPET TILES
CPT-3	CARPET TILES
CPT-4	WALK-OFF CARPET TILES
CT-1	COUNTER TOP
HM-1	HOLLOW METAL FRAME
MTL-1	STEEL COUNTER TOP BRACKET
MTL-2	STEEL COUNTER TOP BRACKET
PT-1	PAINT
PT-2	PAINT
SB-3	STEEL BRACKET
SB-4	STEEL LEG
WB-1	WALL BASE
WTI-1	APRON TRIM

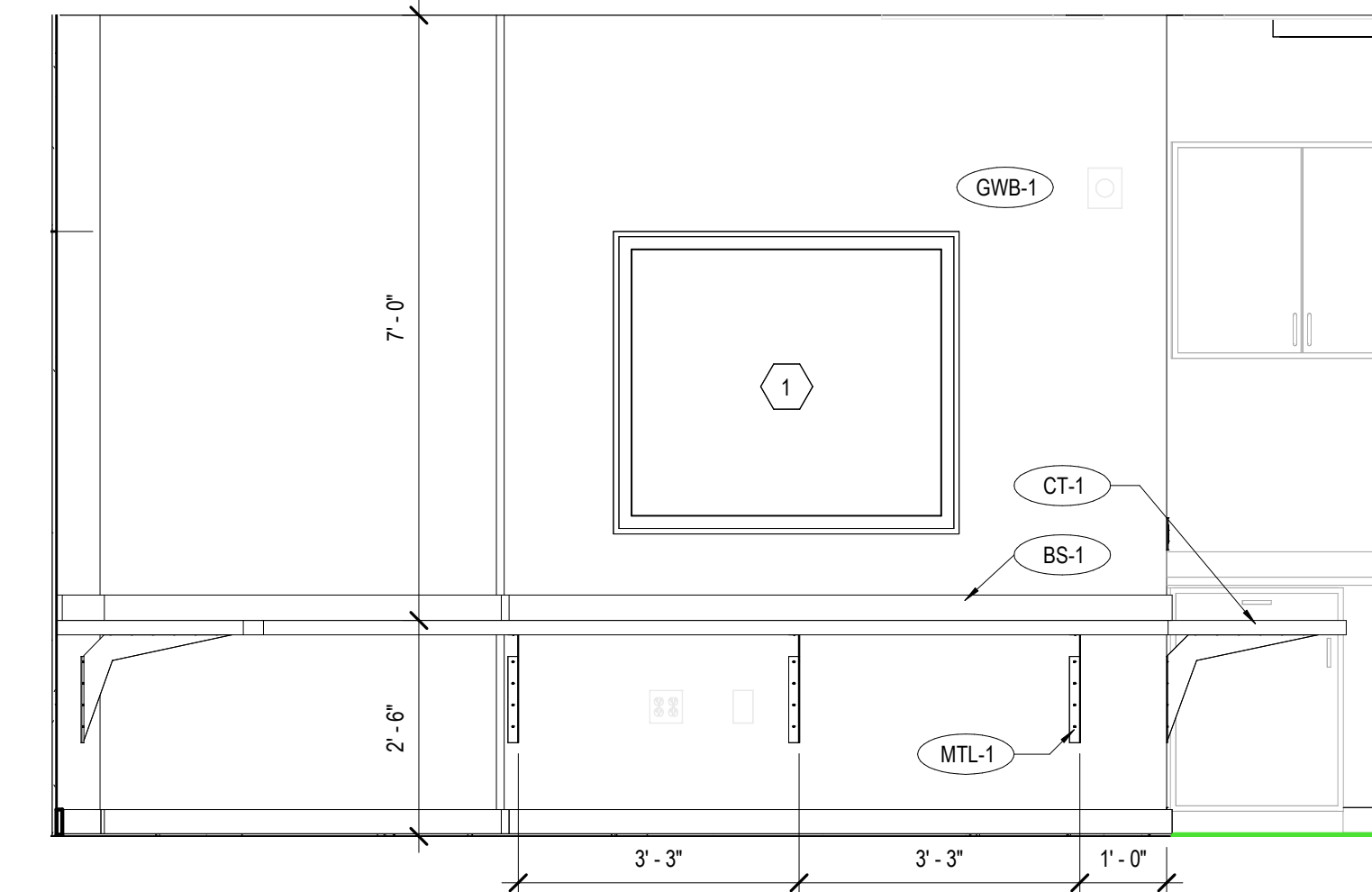
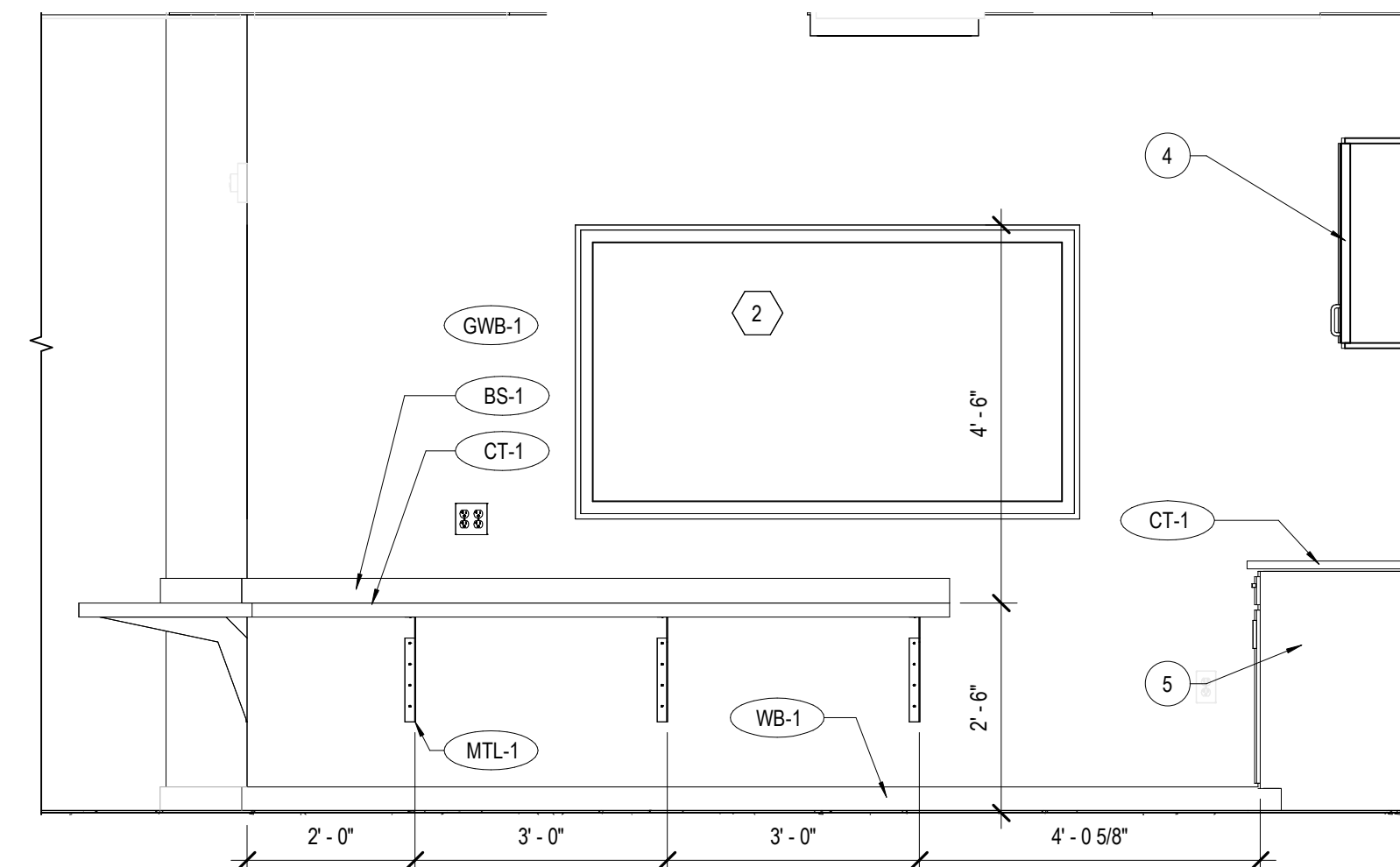
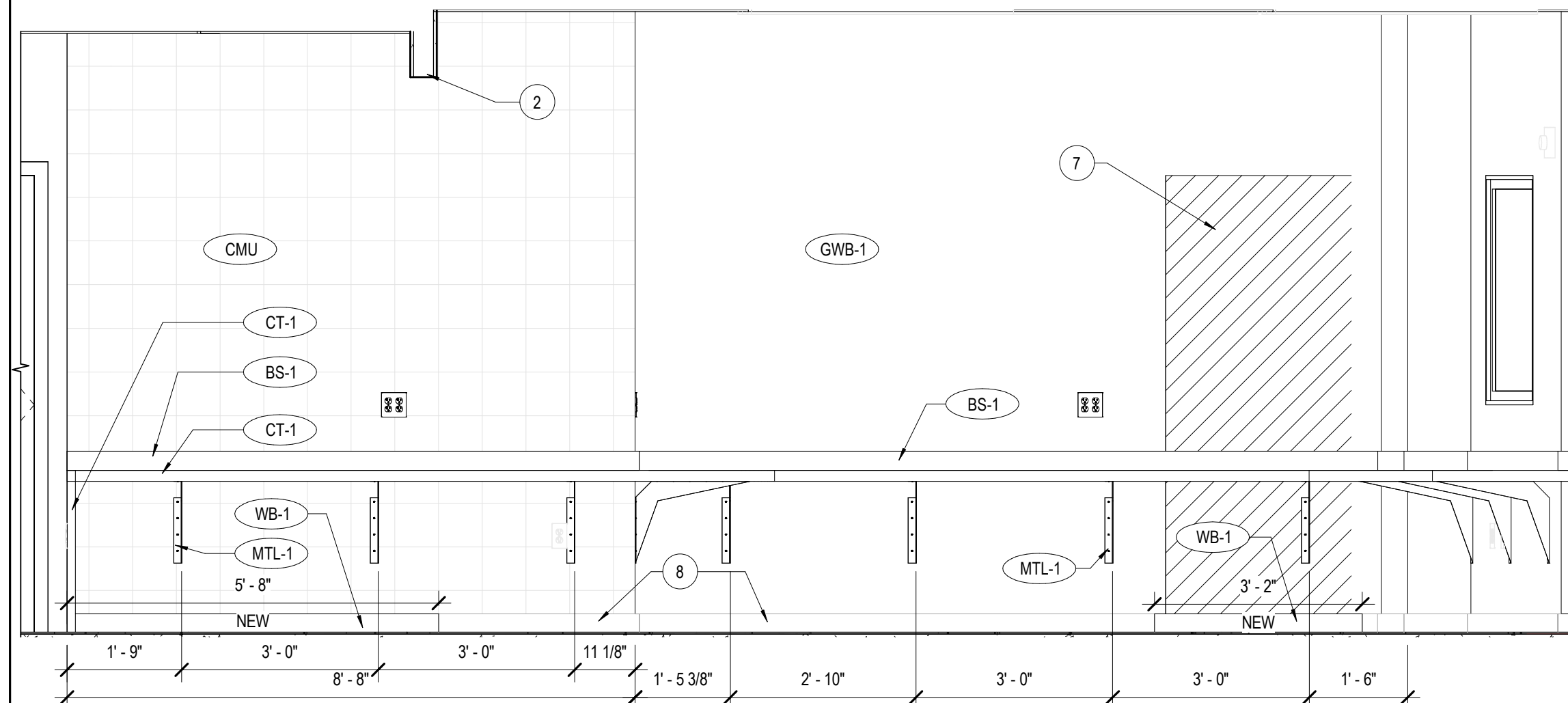
INT. ELEV. KEYED NOTES

NO.	DESCRIPTION
1	COLUMN BUMPOUT
2	EXISTING WALL BULKHEAD, PATCH & PAINT
3	PAINT WALL WHERE (E) WALL REMOVED
4	EXISTING UPPER CABINERY TO REMAIN
5	EXISTING BASE CABINERY TO REMAIN
6	PLAM COUNTERTOP CLEAT/APRON
7	INFILL WALL W/ CMU, MATCHING (E) WALL CONST.
8	(E) RUBBER WALL BASE, TO REMAIN



1 NORTH ENTRY - WEST
SCALE: 1/2" = 1'-0"

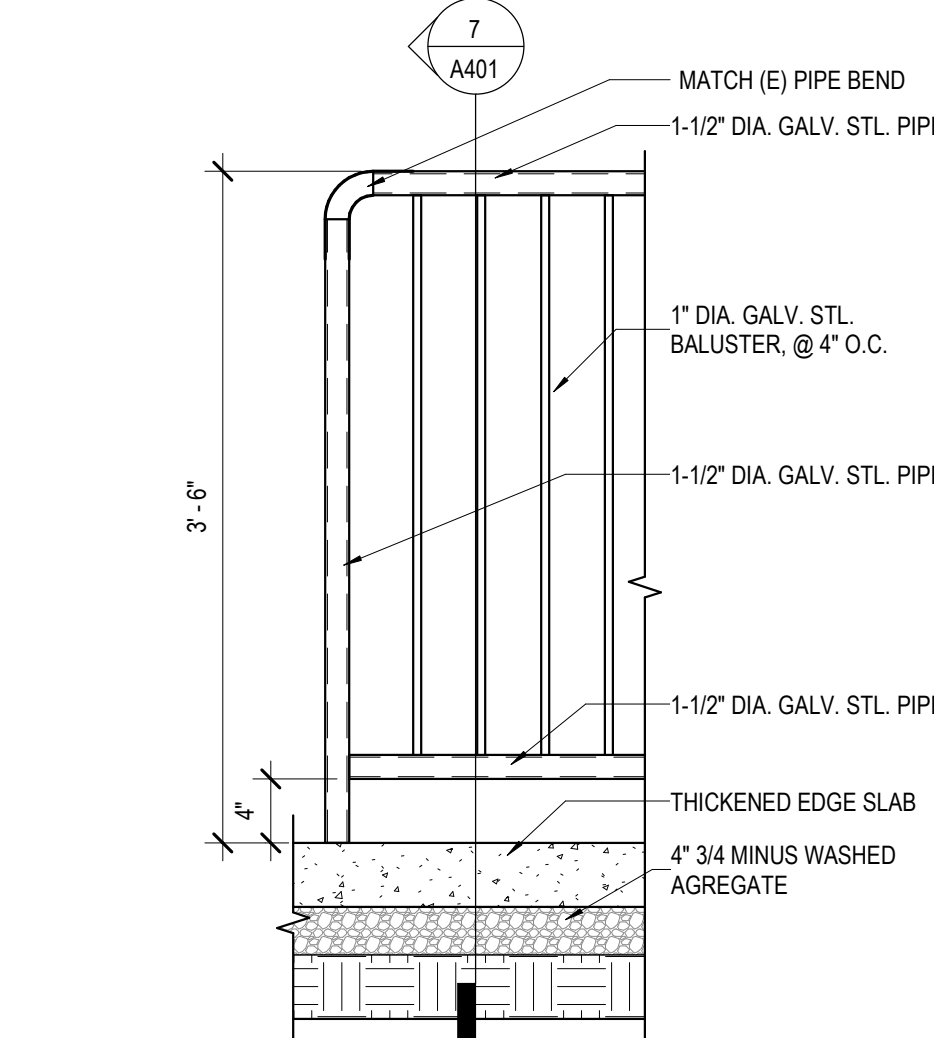
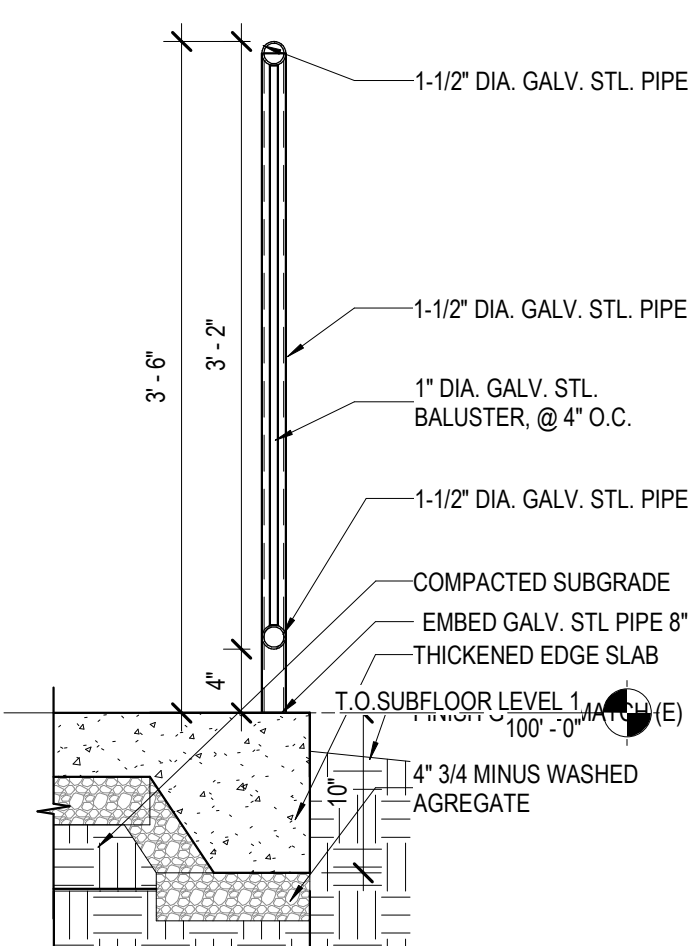
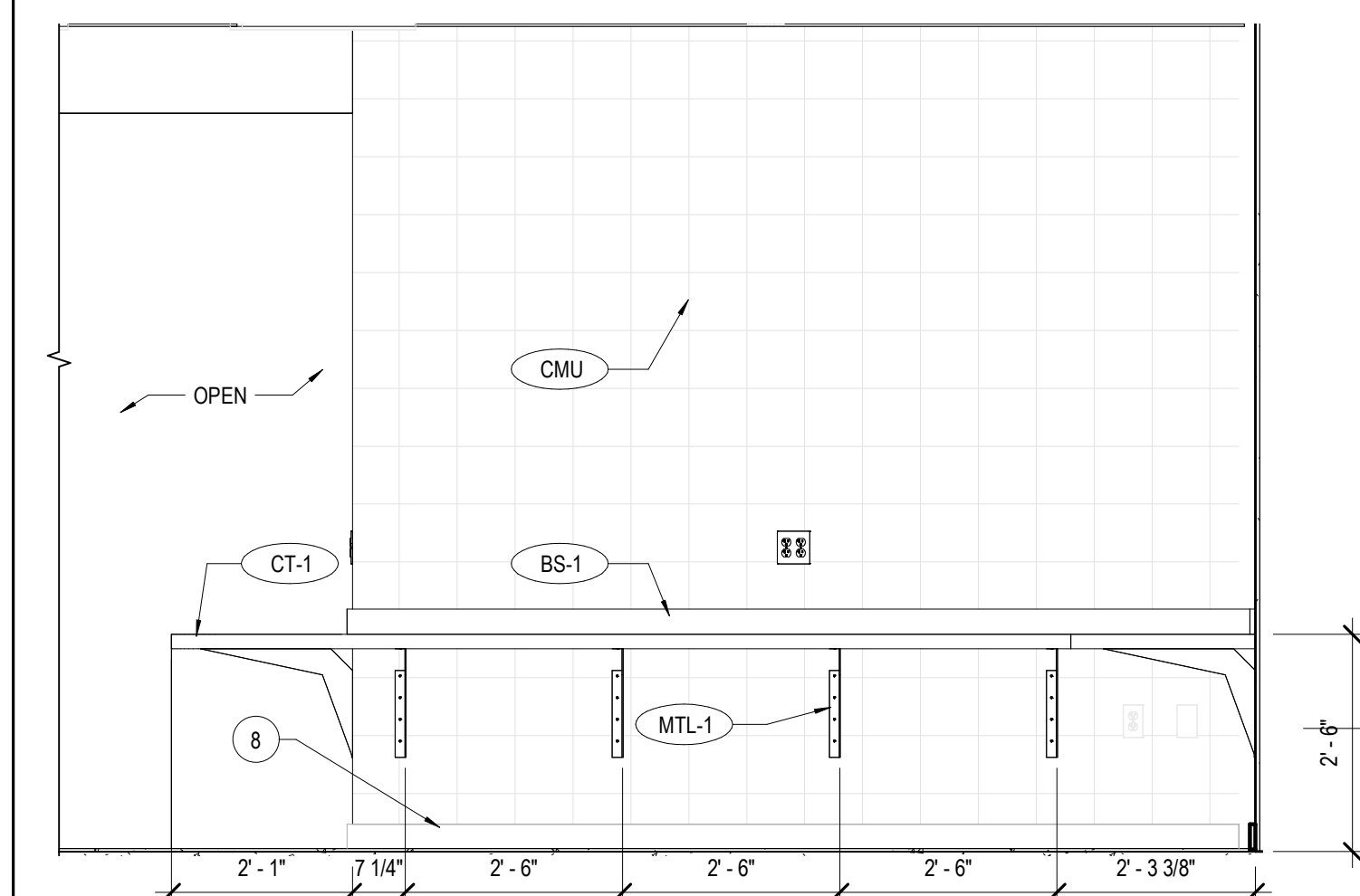
2 CONTROL DESK - SOUTH
SCALE: 1/2" = 1'-0"



3 N WORK AREA - NORTH
SCALE: 1/2" = 1'-0"

4 N WORK AREA - NORTH 2
SCALE: 1/2" = 1'-0"

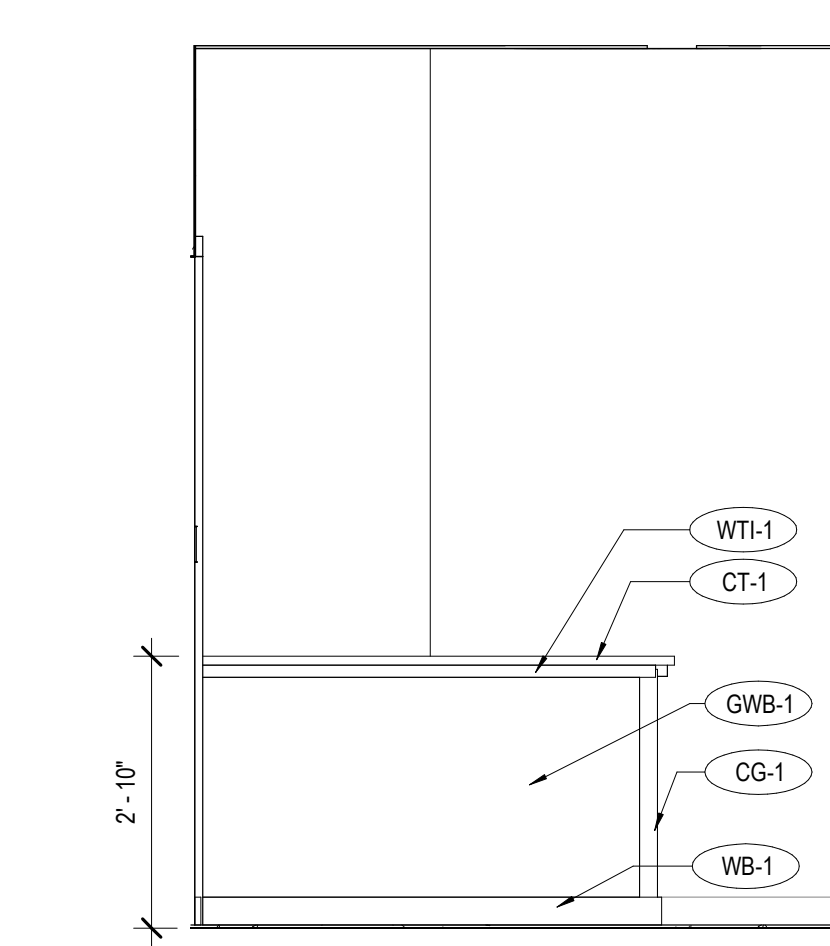
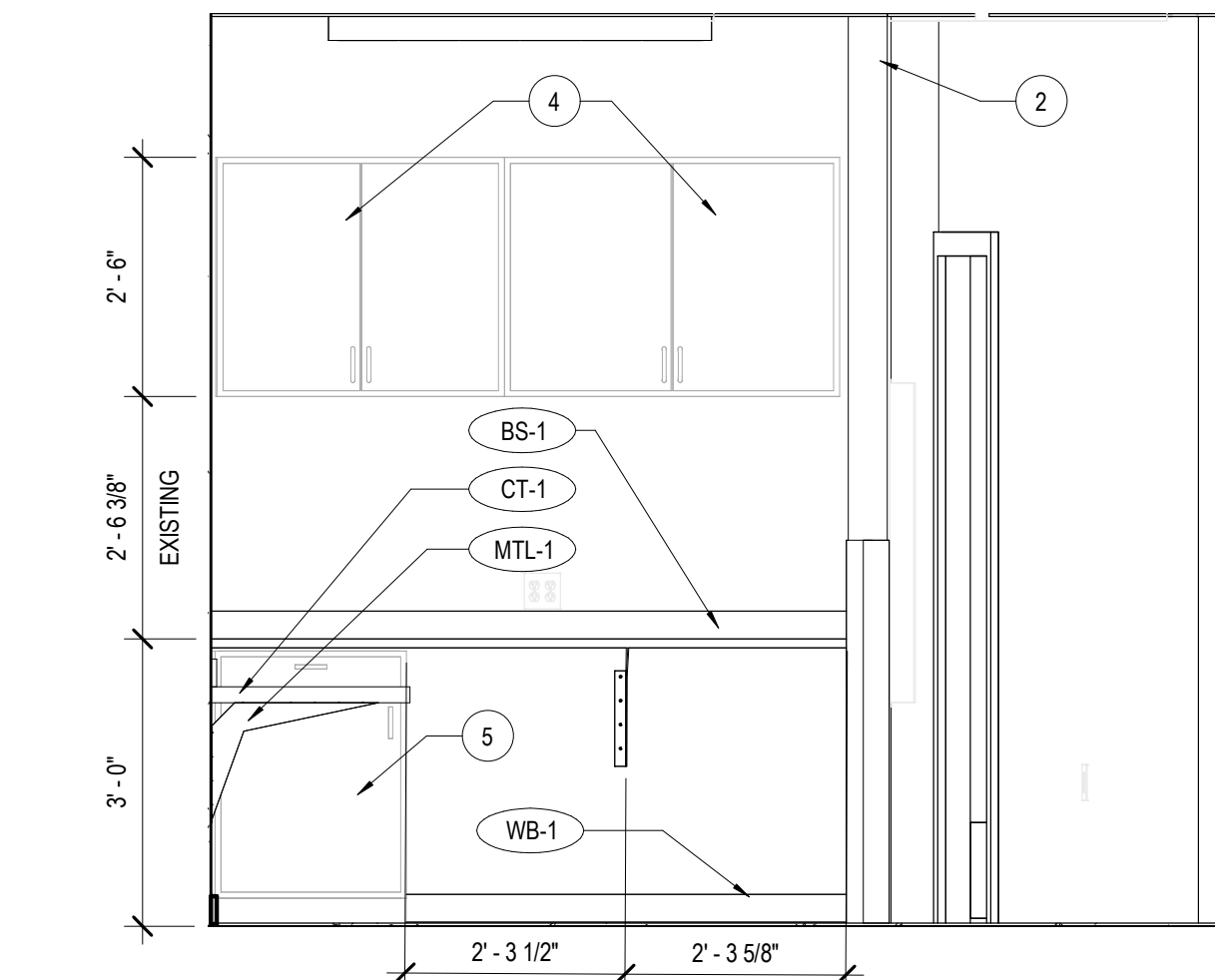
5 N WORK AREA - EAST
SCALE: 1/2" = 1'-0"



6 N WORK AREA - WEST
SCALE: 1/2" = 1'-0"

7 GUARDRAIL DETAIL
SCALE: 1" = 1'-0"

8 GUARDRAIL ELEVATION
SCALE: 1" = 1'-0"



9 PRINT STATION
SCALE: 1/2" = 1'-0"

10 CONTROL DESK - WEST
SCALE: 1/2" = 1'-0"



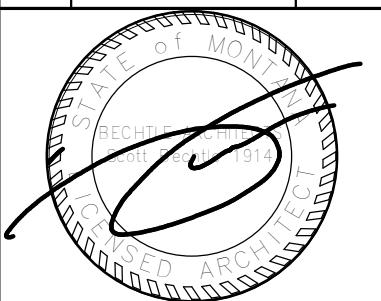
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DRAWN BY: Author
REVIEWED BY: Checker

REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00

2042

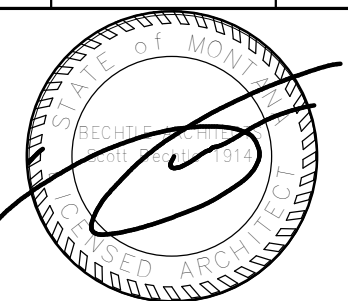
SHEET TITLE
INTERIOR ELEVATIONS
SHEET

A401

DATE
JAN 13, 2023

BIDDING / PERMIT DRAWINGS

REV.	DESCRIPTION	DATE

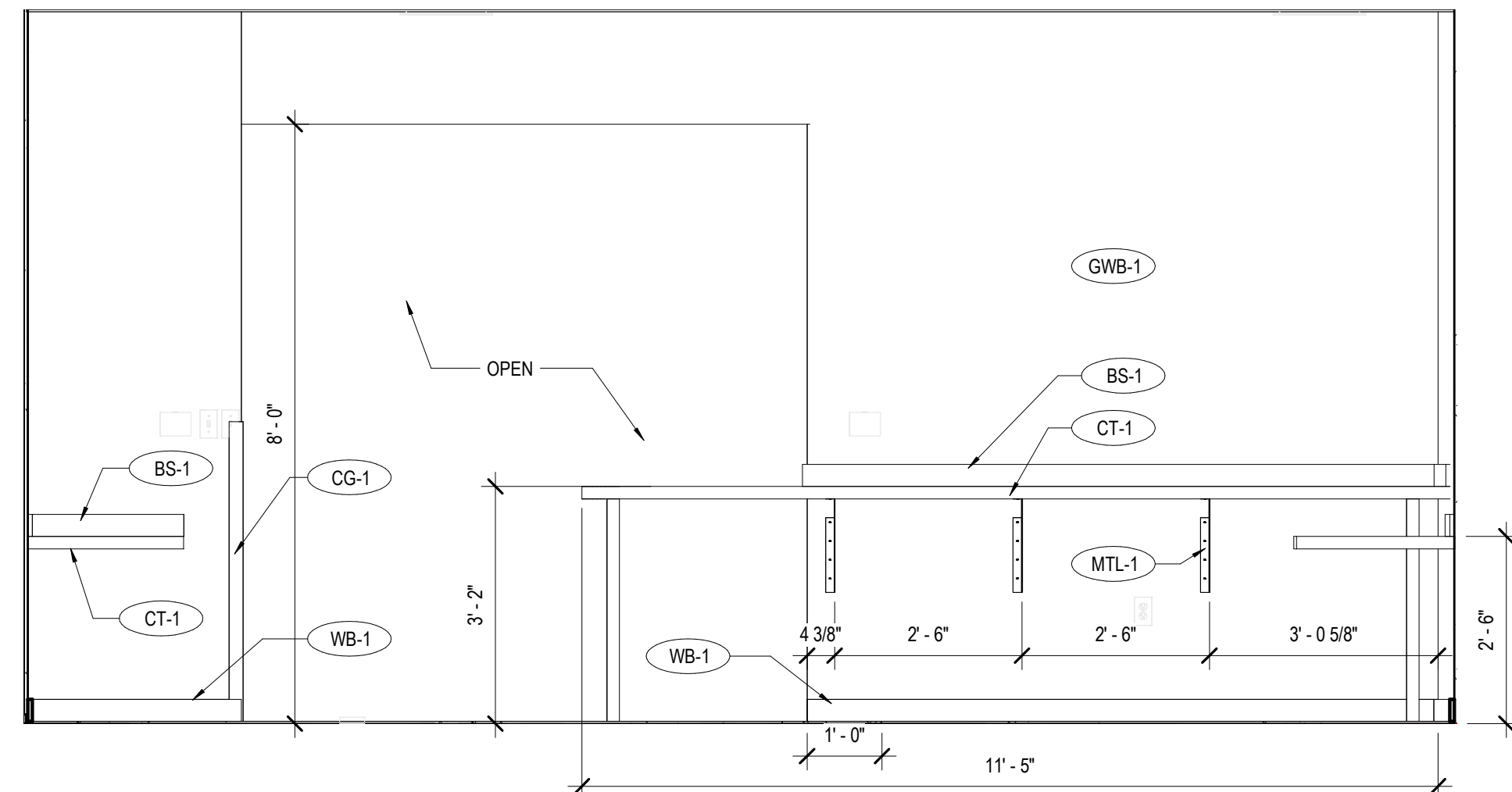


INT. MATERIAL SCHED.

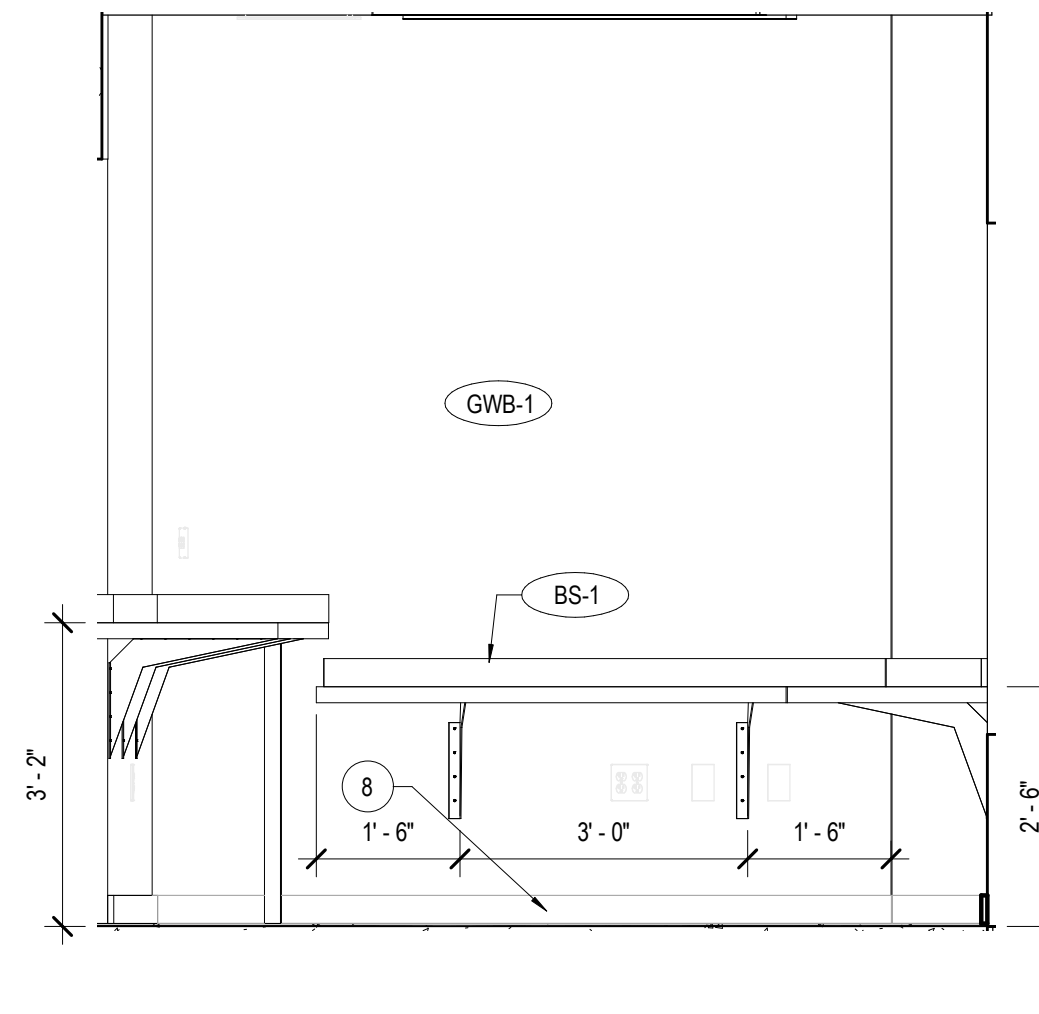
SYMBOL	MATERIAL
BS-1	BACK SPLASH
CG-1	CORNER GUARD
CPT-1	EXISTING CARPET
CPT-2	EXISTING CARPET TILES
CPT-3	CARPET TILES
CPT-4	WALK-OFF CARPET TILES
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HM-1	HOLLOW METAL FRAME
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MTL-2	STEEL COUNTER TOP BRACKET
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PT-2	PAINT
SB-3	STEEL BRACKET
SB-4	STEEL LEG
WB-1	WALL BASE
WTI-1	APRON TRIM

INT. ELEV. KEYED NOTES

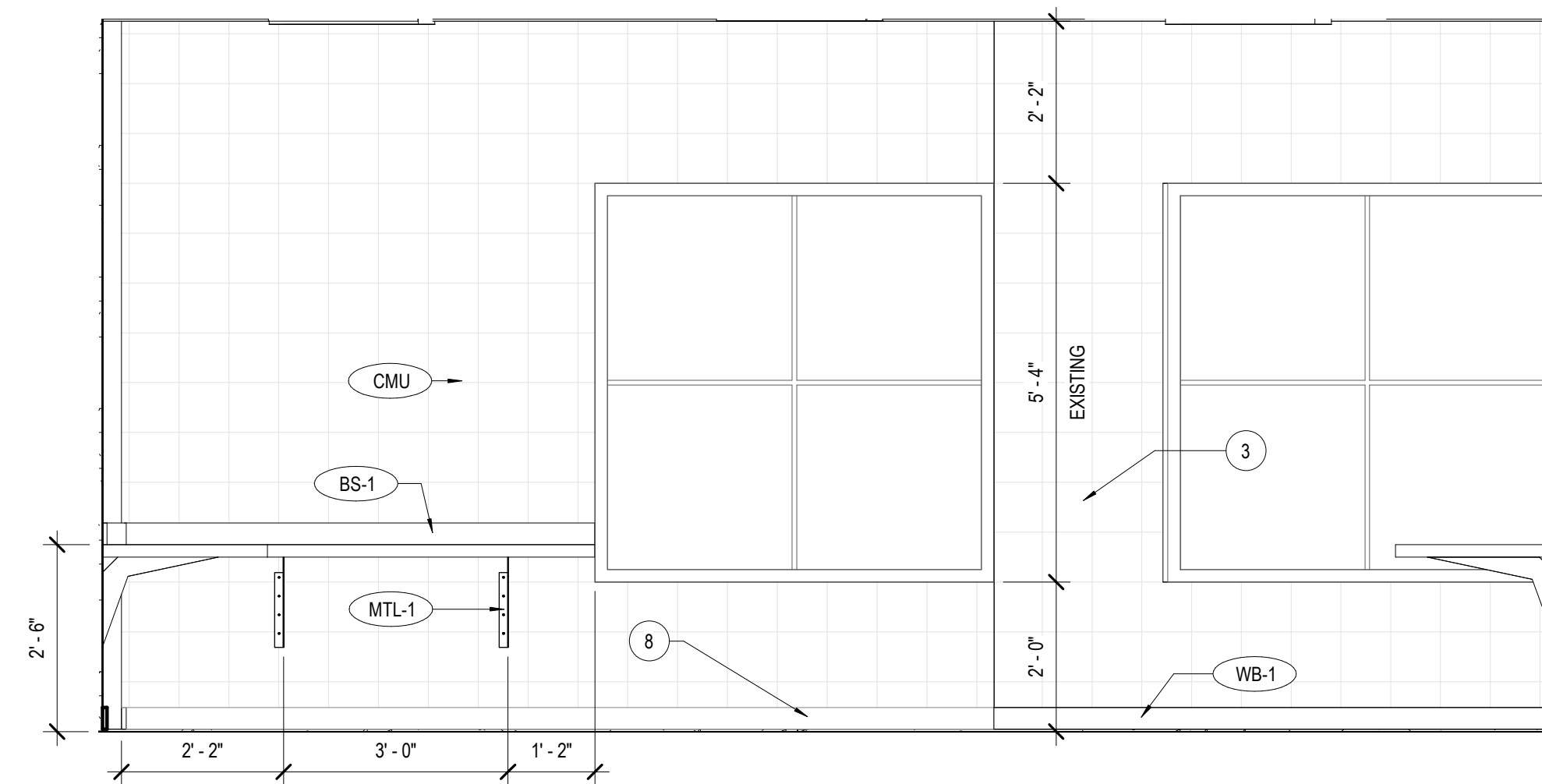
NO.	DESCRIPTION
1	COLUMN BUMP-OUT
2	EXISTING WALL BULKHEAD, PATCH & PAINT
3	PAINT WALL WHERE (E) WALL REMOVED
4	EXISTING UPPER CABINETS TO REMAIN
5	EXISTING BASE CABINETS TO REMAIN
6	PLAM COUNTERTOP CLEAT/APRON
7	INFILL WALL W/ CMU, MATCHING (E) WALL CONST.
8	(E) RUBBER WALL BASE, TO REMAIN



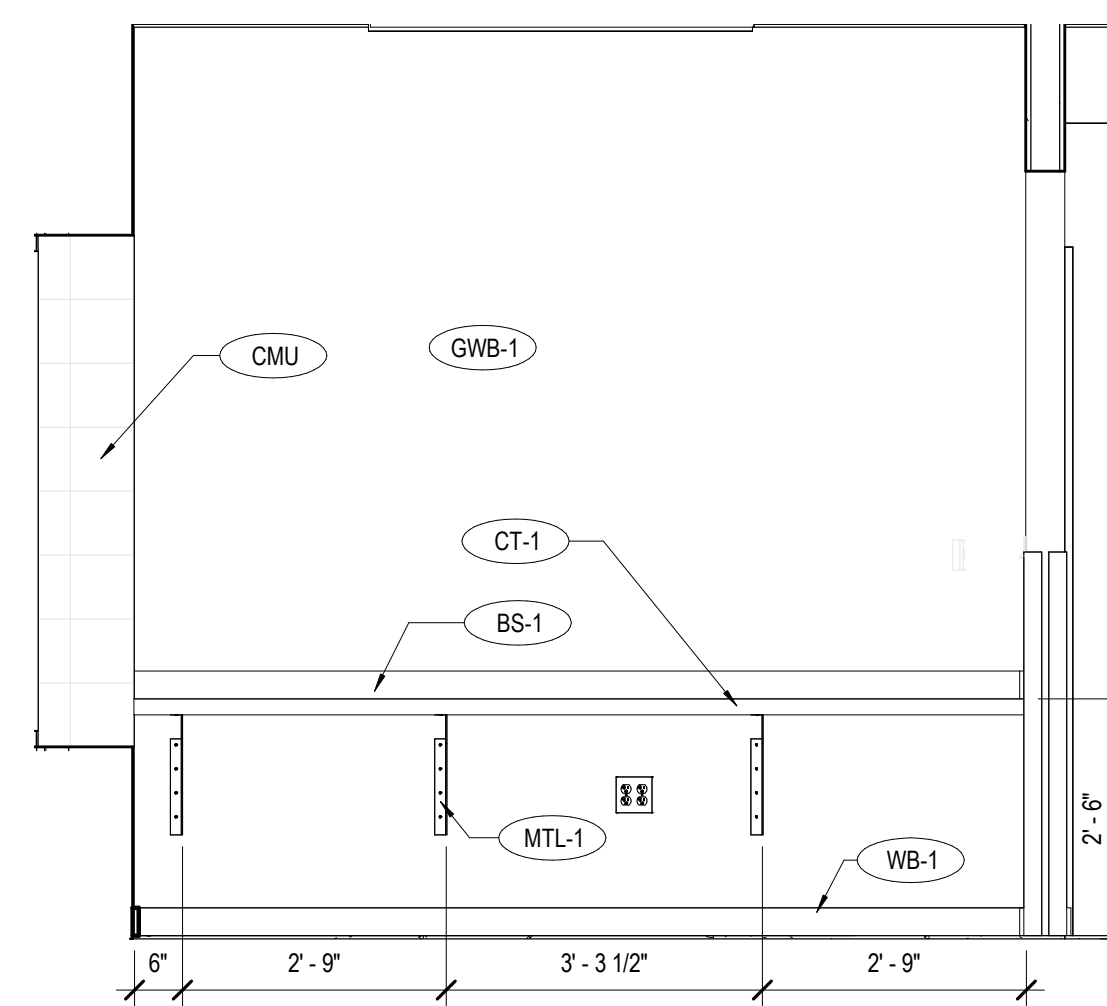
1 S WORK AREA - NORTH
SCALE: 1/2" = 1'-0"



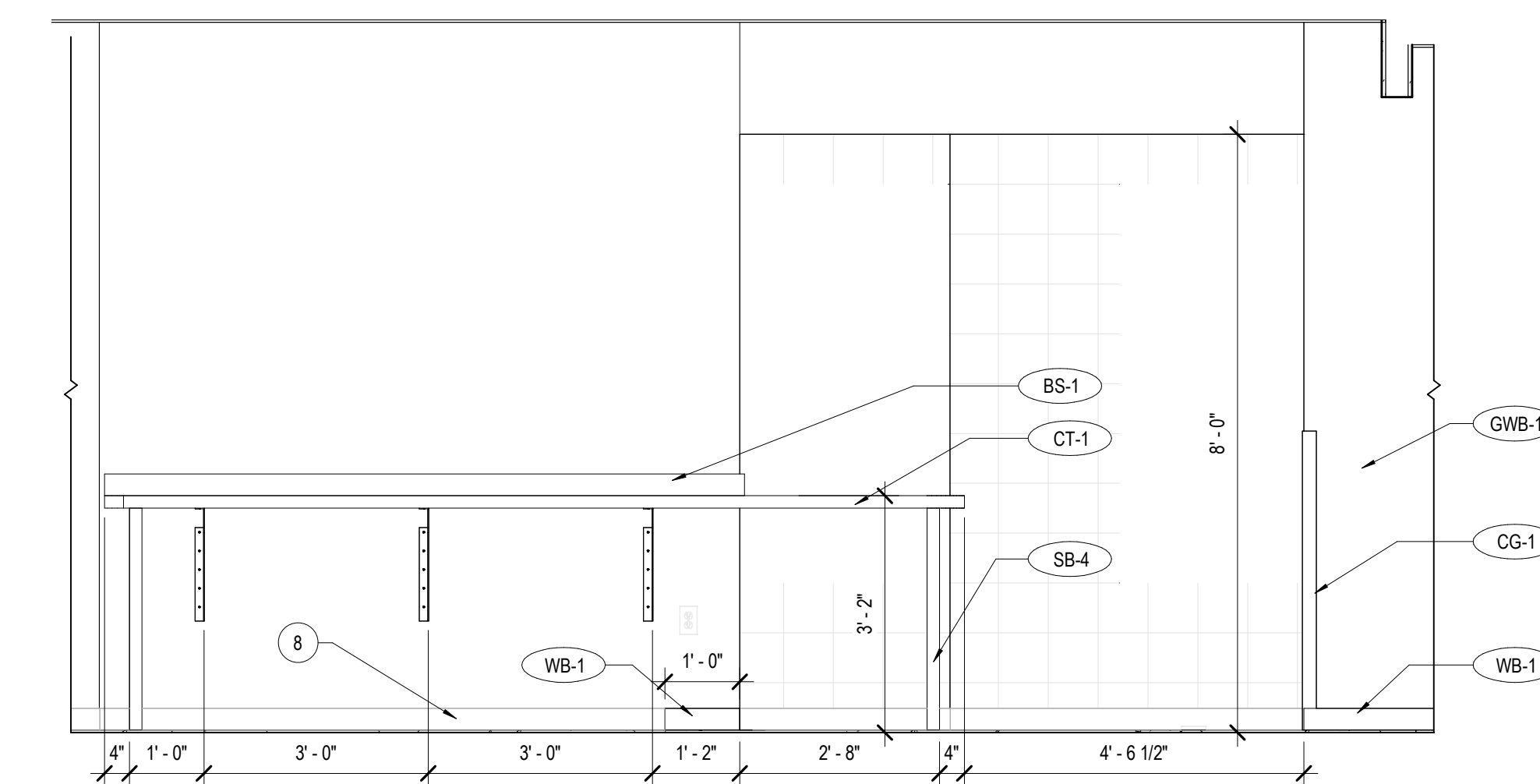
2 S WORK AREA - EAST
SCALE: 1/2" = 1'-0"



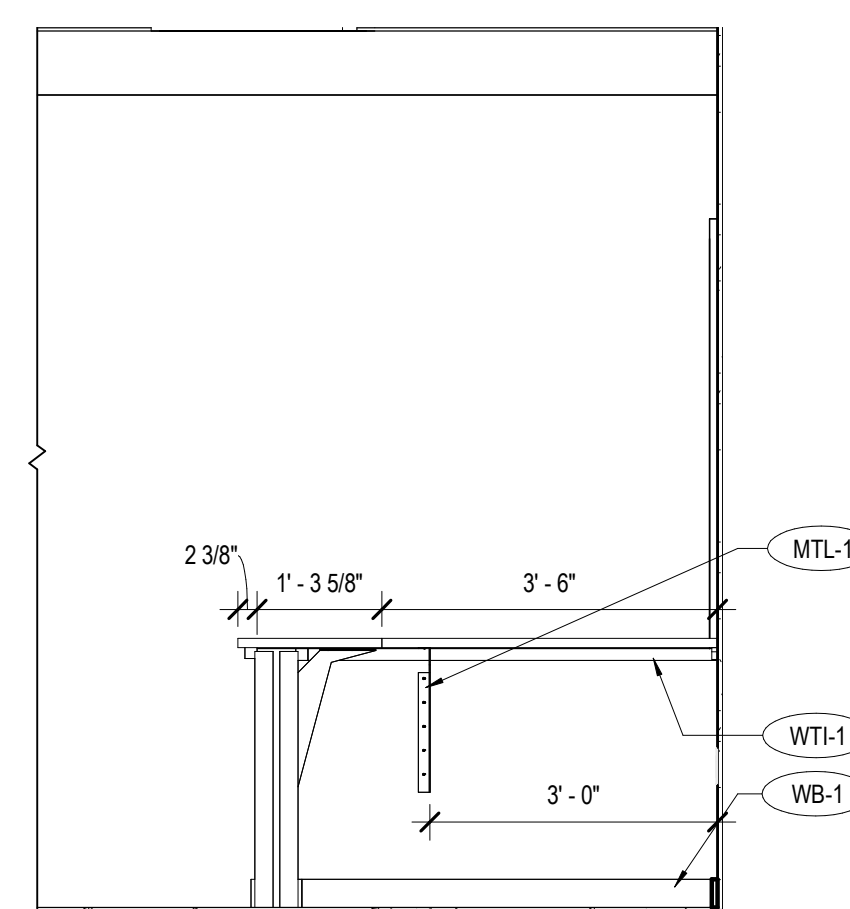
3 S WORK AREA - SOUTH
SCALE: 1/2" = 1'-0"



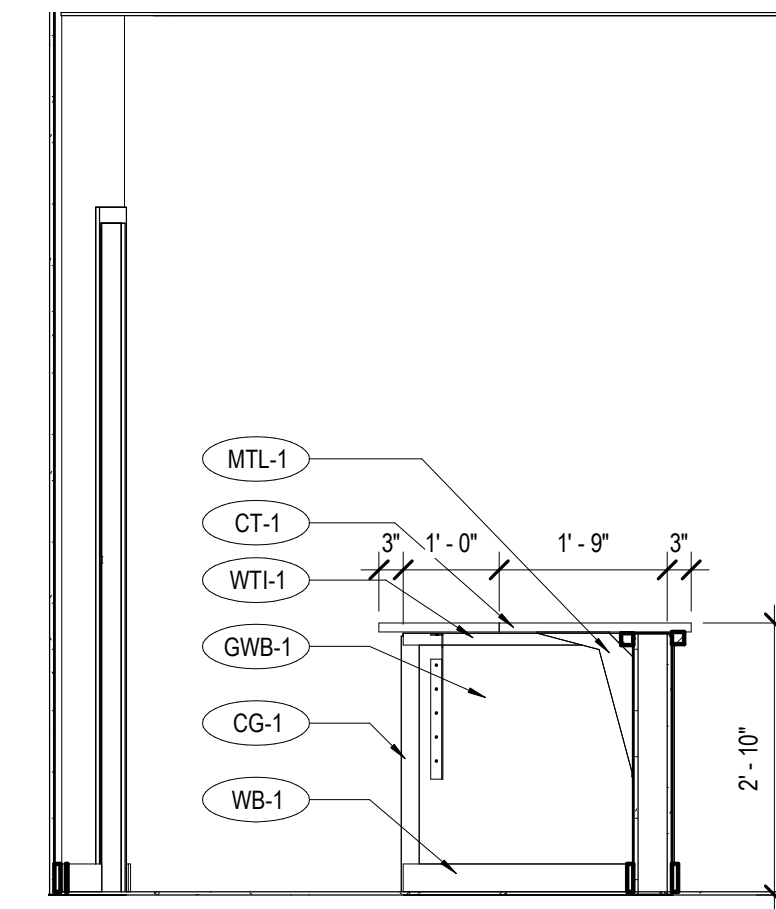
4 S WORK AREA - WEST
SCALE: 1/2" = 1'-0"



5 S WORK AREA - SOUTH 2
SCALE: 1/2" = 1'-0"



6 Elevation 1 - d
SCALE: 1/2" = 1'-0"



7 Elevation 1 - c
SCALE: 1/2" = 1'-0"

BIDDING / PERMIT DRAWINGS

GENERAL STRUCTURAL NOTES:

THESE DRAWINGS HAVE BEEN PREPARED SOLELY FOR USE IN THE CONSTRUCTION OF ATHLETIC ACADEMICS CENTER IN THE BRICK BREEDEN FIELDHOUSE AT MONTANA STATE UNIVERSITY. POSSESSION OF THESE DRAWINGS DOES NOT GRANT A LICENSE TO CONSTRUCT OR FABRICATE THE WHOLE, OR PARTS OF THIS PROJECT IN OTHER LOCATIONS.

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 DOCUMENTATION 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 BUILDING CODE (IBC) AS AMENDED BY THE STATE OF MONTANA (INTERNATIONAL BUILDING CODE, 2021 EDITION, EFFECTIVE JUNE 2022)
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.

BASEMENT WALLS WHICH TIE TO UPPER SLABS SHALL NOT BE BACKFILLED UNTIL THE UPPER SLABS REACH FULL STRENGTH UNLESS ADEQUATE BRACING IS PROVIDED AT THE TOP OF THE WALL.

EXISTING CONDITIONS:

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.

DESIGN CRITERIA:

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

DESIGN CRITERIA

LIVE LOAD CRITERIA (IBC 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
OFFICE BUILDINGS; OFFICES	50 PSF + PARTITIONS	2000 LBS
SCHOOLS; CLASSROOMS	40 PSF	1000 LBS
STORAGE; LIGHT	125 PSF (NON-REDUCABLE)	N/A
STAIRS AND EXIT WAYS	100 PSF	300 LBS

ROOF LIVE LOAD CRITERIA (IBC 1603.1.2)

ORDINARY FLAT, PITCHED, CURVED	20 PSF (SEE SNOW LOAD)	N/A
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SNOW LOAD CRITERIA (IBC 1603.1.3)

DESIGN ROOF SNOW LOAD	50 PSF MINIMUM PER MSU
SNOW DRIFT	PER ASCE 7-16 AS SHOWN ON PLANS
GROUND SNOW LOAD	P _g = 41.1 PSF (REF. MONTANA GROUND SNOW LOAD FINDER)
FLAT ROOF SNOW LOAD	P _f = 50 PSF
SNOW EXPOSURE FACTOR	C _e = 1.0
SNOW LOAD IMPORTANCE FACTOR	I _s = 1.1
THERMAL FACTOR	C _t = 1.0

WIND LOAD CRITERIA (IBC 1603.1.4)

BASIC DESIGN WIND SPEED	V = 114 MPH
RISK CATEGORY	III
WIND EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT	G _{Cp1} = +/- 0.55
COMPONENT & CLADDING PRESSURE...	SEE ASCE 7-16, CH. 30

SEISMIC LOAD CRITERIA (IBC 1603.1.5)

RISK CATEGORY	III	
SEISMIC IMPORTANCE FACTOR	I _e = 1.25	
MAPPED SPECTRAL RESPONSE	S _s = 0.679	S ₁ = 0.214
SITE CLASS	D	
DESIGN SPECTRAL RESPONSE	S _{ds} = 0.569	S _{d1} = 0.278
SEISMIC DESIGN CATEGORY	D	

GEOTECHNICAL CRITERIA (IBC 1603.1.6)

DESIGN BASIS	PRESUMPTIVE VALUES OF SOILS (IBC 1806)	
DESIGN SOIL BEARING PRESSURE	1500 PSF (DL + LL)	2000 PSF (EL / WL INCLUDED)
RETAINING WALLS EQ. FLUID...	35 PCF (ACTIVE)	55 PCF (AT REST)
PASSIVE BEARING PRESSURE	250 PSF/FT	
COEFFICIENT OF SLIDING FRICTION	0.3	

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 BEEN RESOLVED.

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

- FOOTING REINFORCING
- AS REQUIRED TO ADDRESS STRUCTURAL ISSUES

SUBMITTALS:

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

- CONCRETE MIX DESIGNS

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.

EARTHWORK:

GENERAL:

STABILITY OF CONSTRUCTION EXCAVATION AND WORKER SAFETY ARE THE RESPONSIBILITY OF THE CONTRACTOR. BASED UPON THE GEOTECHNICAL REPORT, TEMPORARY CONSTRUCTION EXCAVATIONS, ABOVE GROUND/WATER, TO BE PLANNED IN ACCORDANCE WITH OSHA PROVISIONS SHOULD ASSUME TYPE B MATERIAL FOR STIFF CLAY, AND TYPE C MATERIAL FOR SAND.

DO NOT EXCAVATE CLOSER THAN 2:1 SLOPE BELOW FOOTING EXCAVATIONS.

ALL SLABS-ON-GRADE SHALL BEAR ON COMPACTED STRUCTURAL FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL MOISTURE SENSITIVE SLABS-ON-GRADE OR THOSE SUBJECT TO RECEIVE MOISTURE SENSITIVE COATINGS OR COVERINGS SHALL BE PROVIDED WITH AN APPROPRIATE CAPILLARY BREAK AND VAPOR BARRIER OR RETARDANT OVER THE SUBGRADE PREPARED AND INSTALLED AS NOTED IN THE GEOTECHNICAL REPORT, BARRIER MANUFACTURER'S WRITTEN RECOMMENDATIONS AND COORDINATED WITH THE FINISHES SPECIFIED BY THE ARCHITECT.

PRESCRIPTIVE EARTHWORK:

A GEOTECHNICAL INVESTIGATION HAS NOT BEEN PERFORMED. IF ANY OF THE FOLLOWING CONDITIONS ARE DISCOVERED DURING CONSTRUCTION AT THE BUILDING SITE, A GEOTECHNICAL INVESTIGATION SHALL BE COMMISSIONED IN ACCORDANCE WITH CHAPTER 18 OF THE INTERNATIONAL BUILDING CODE:

- QUESTIONABLE SOIL
- EXPANSIVE SOIL
- FLOOR LEVEL WHERE SUCH FLOOR IS LOCATED BELOW THE FINISHED GROUND LEVEL ADJACENT TO THE FOUNDATION.
- ROCK STRATA OF VARIABLE OR DOUBTFUL CHARACTERISTICS
- EXCAVATIONS THAT WILL REMOVE THE LATERAL SUPPORT OF AN ADJACENT, EXISTING FOUNDATION
- USE OF COMPACTED FILL MATERIAL BELOW SHALLOW FOUNDATIONS IN EXCESS OF 12 INCHES IN DEPTH
- USE OF CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

THE SITE WORK DESCRIBED BELOW IS BASED ON RECOMMENDATIONS FROM THE PRESCRIPTIVE REQUIREMENTS IN THE INTERNATIONAL BUILDING CODE CHAPTER 18

- REMOVE ALL ORGANIC MATERIAL AND TOPSOIL FROM AREAS UNDER THE BUILDING OR UNDER PAVED AREAS.
- FOUNDATIONS SHALL BE BUILT ON UNDISTURBED SOIL OR COMPACTED FILL MATERIAL 12 INCHES OR LESS IN DEPTH. IF PROVIDED, COMPACTED FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND HAVE AN IN-PLACE DRY DENSITY NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557. IF THE COMPACTED FILL MATERIAL EXCEEDS 12 INCHES IN DEPTH OR CLSM IS USED, PLACEMENT SHALL COMPLY WITH THE PROVISIONS OF AN APPROVED GEOTECHNICAL INVESTIGATION AND REPORT.
- THE BOTTOM OF ALL EXTERIOR FOOTINGS AND FOOTINGS SUSCEPTIBLE TO FROST HEAVE SHALL EXTEND A MINIMUM DEPTH BELOW LOWEST ADJACENT FINISHED GRADE OF **18 INCHES**.
- THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS, OR WITH CLSM. THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPPROOFING MATERIAL, IF PRESENT. CLSM NEED NOT BE COMPACTED.
- DAMPPROOFING, WATERPROOFING, AND FOUNDATION DRAINS: COMPLY WITH SECTION 1805 OF THE IBC. DESIGN/SPECIFICATION OF THESE SYSTEMS IS TO BE BY OTHERS.

THE SUBGRADE OF SLABS-ON-GRADE SHALL BE STRIPPED, TILLED, AND RE-COMPACTED TO PRODUCE A UNIFORM SURFACE. THE SUBGRADE SHALL BE OVERLAIN WITH 6 INCHES, MINIMUM, OF CLEAN, DENSELY-GRADED, CRUSHER-RUN BASE MATERIAL WITH A BALANCED FINE CONTENT THAT SATISFIES THE REQUIREMENTS OF ASTM D1241, TYPE 1 MIXTURE, GRADATION C. THE BASE MATERIAL SHALL BE COMPACTED TO A DRY DENSITY NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557. THE SURFACE OF THE BASE MATERIAL SHALL BE CHOKED OFF WITH SAND OR FINE GRAVEL AND COMPACTED TO PROVIDE A SMOOTH, PLANAR SURFACE FOR THE CONCRETE SLABS-ON-GRADE.

PROVIDE A VAPOR RETARDER DIRECTLY AS REQUIRED BY THE ARCHITECT BELOW SLABS-ON-GRADE AND ABOVE THE GRANULAR BASE MATERIAL. THE VAPOR RETARDER SHALL COMPLY WITH ASTM E1745 AND SHALL BE 10 MILS THICK, MINIMUM.

CONCRETE:

CAST-IN-PLACE CONCRETE:

CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301, SPECIFICATION FOR STRUCTURAL CONCRETE, AND ACI 117, SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS, UNLESS NOTED OTHERWISE.

AVERAGE CONCRETE STRENGTH DETERMINED BY JOB CAST LAB CURED CYLINDER TO BE AS INDICATED BELOW PLUS INCREASE DEPENDENT ON THE PLANT'S STANDARD DEVIATION AS SPECIFIED IN ACI 318. MINIMUM CONCRETE PROPERTIES SHALL BE AS FOLLOWS:

CONCRETE PROPERTIES

USE	EXPOSURE	MIN COMPRESSIVE STRENGTH	TEST AGE DAYS	AIR CONTENT	MAX WATER TO CEMENT RATIO	MAX AGGREGATE SIZE
EXTERIOR SLABS ON GRADE	F1	4,000 PSI	28	4.5% +/- 1.5%	0.45	1"

THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS ALONG WITH TEST DATA A MINIMUM OF TWO WEEKS PRIOR TO PLACING CONCRETE.

CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN ONE THIRD OF THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER.

CURING OF CONCRETE SHALL COMPLY WITH ACI 308, UNLESS NOTED OTHERWISE.

WHERE CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM 1/4" AMPLITUDE.

PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE CORNERS UNLESS NOTED OTHERWISE.

SHORING DESIGN IS THE CONTRACTOR'S RESPONSIBILITY. SHORING FORMWORK SHALL NOT BE REMOVED FROM HORIZONTAL MEMBERS BEFORE CONCRETE STRENGTH IS AT LEAST 70 PERCENT OF DESIGN STRENGTH AS DETERMINED BY FIELD CURED CYLINDERS.

PROVIDE TOOLED OR SAW-CUT CONTROL JOINTS IN SLABS ON GRADE COMPLYING WITH THE FOLLOWING CRITERIA. THE CONTRACTOR SHALL SUBMIT CONTROL JOINT PLAN PRIOR TO POURING THE SLABS:

- JOINT SPACING SHALL NOT EXCEED 30 TIMES THE SLAB THICKNESS
- ASPECT RATIO OF SLAB PANELS SHALL BE MAXIMUM OF 1.5 TO 1.0; HOWEVER A RATIO OF 1.0 TO 1.0 IS PREFERRED
- JOINTS SHALL BE CONTINUOUS ACROSS INTERSECTING JOINTS, NOT STAGGERED OR OFFSET
- JOINTS SHALL EXTEND FROM ISOLATION JOINT AROUND COLUMNS AND WALLS

REINFORCING STEEL:

REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING PROPERTIES:

REINFORCEMENT STEEL PROPERTIES

USE	REINFORCEMENT SIZE	SPECIFICATION
GENERAL USE	#7 & SMALLER	ASTM A615, GRADE 60

REINFORCING STEEL TO BE WELDED SHALL USE ONLY LOW HYDROGEN ELECTRODES. ALL WELDING TO BE IN COMPLIANCE WITH AWS D1.4. WELD REINFORCING STEEL ONLY WHERE INDICATED ON THE DRAWINGS. WELDING OR TACK WELDING OF REINFORCEMENT BARS TO OTHER BARS OR STEEL COMPONENTS IS PROHIBITED.

REINFORCING STEEL IN BEAMS AND SLABS SHALL BE SUPPORTED ON CONCRETE DOBBIES, OR APPROVED CHAIRS IN SUFFICIENT NUMBERS TO SUPPORT THE BARS WITHOUT SETTLEMENT. FABRICATE AND INSTALL REINFORCING STEEL ACCORDING TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES - ACI STANDARD 315.

CONTRACT LAP ALL REINFORCING BARS PER THE TYPICAL LAP SPlice LENGTH SCHEDULE, EXCEPT AS NOTED ON DRAWINGS. MECHANICAL SPLICES NOTED ON THE DRAWINGS SHALL BE DAYTON SUPERIOR BAR-LOCK OR APPROVED WITH A CURRENT ICC-ES OR IAPMO-ES EVALUATION REPORT.

GRADE 60 REINFORCING STEEL LAP SPlice LENGTH AND DEVELOPMENT LENGTH

BAR SIZE	F _c = 3,000 PSI			F _c = 4,000 PSI						
	MISC BARS	TOP BARS (SEE NOTE...)	HOOK BARS	MISC BARS	TOP BARS (SEE NOTE 3)	HOOK BARS				
	Ld	LAP	Ldh	Ld	LAP	Ldh				
#3	17	22	22	28	9	15	19	29	25	8
#4	22	29	29	38	11	19	25	25	33	10
#5	28	36	36	47	14	24	31	31	41	12
#6	33	43	43	56	17	29	37	37	49	15
#7	48	63	63	81	20	42	54	54	71	17
#8	55	72	72	93	22	48	62	62	81	19
#9	62	81	81	105	25	54	70	70	91	22
#10	70	91	91	118	28	61	79	79	102	25
#11	78	101	101	131	31	67	87	87	114	27

- ALL TABULATED VALUES ARE IN INCHES, FOR GRADE 60, UNCOATED REINFORING, NORMAL WEIGHT CONCRETE WITH CLEAR SPACING AND CLEAR COVER GREATER THAN THE BAR...
- IT SHALL BE PERMITTED TO INTERPOLATE BETWEEN CONCRETE STRENGTHS OR USE THE NEXT LOWER CONCRETE STRENGTH.
- TOP BARS ARE ANY HORIZ BAR PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZ WALL BARS ARE CONSIDERED TOP...
- LAP SPLICES ARE FOR NON-LATERAL LOAD RESISTING ELEMENTS, FOR REBAR LAPS SPLICES AT LATERAL LOAD RESISTING ELEMENTS, REFERENCE PLANS AND ELEVATIONS.
L_d = DEVELOPMENT LENGTH IN TENSION OF DEFORMED BAR
L_{dh} = DEVELOPMENT LENGTH IN TENSION OF DEFORMED BAR OR DEFORMED WIRE WITH A...
LAP = LAP SPlice LENGTH OF DEFORMED BAR OR DEFORMED WIRE

REINFORCING STEEL SHALL BE PROTECTED BY PLACING BARS WITH A MINIMUM COVER, UNLESS NOTED OTHERWISE.

REINFORCING STEEL CONCRETE COVER

USE	CLEAR COVER
SLABS	3/4"
BEAMS AND COLUMNS	1-1/2" (TO STIRRUPS OR TIES)
WALLS (INTERIOR FACES)	3/4"
CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO WEATHER OR EARTH	1-1/2" (FOR #5 OR SMALLER), 2" (FOR #6 AND...)

PROVIDE DOWELS FROM FOOTINGS TO MATCH ALL VERTICAL WALL, PILASTER AND COLUMN REINFORCING. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCING IN WALLS AND FOOTINGS AT ALL CORNERS AND INTERSECTIONS. CONTINUE HORIZONTAL WALL BARS THROUGH PILASTERS COLUMNS AND INTERSECTING WALLS.

ALL ANCHOR BOLTS, HOLDDOWNS AND OTHER REQUIRED ACCESSORIES SHALL BE SECURED IN PLACE PRIOR TO INSPECTION AND CONCRETE PLACEMENT. DO NOT STAB THE ABOVE LISTED ITEMS INTO FRESH CONCRETE AFTER PLACEMENT. PROPERLY VIBRATE AROUND INSTALLED ITEMS TO ENSURE PROPER CONSOLIDATION OF CONCRETE.

CONCRETE CONT.:

CONCRETE CONNECTORS:

STEEL HEADED STUD ANCHORS SHALL BE NELSON GRANULAR FLUX-FILLED HEADED STUDS OR PRIOR APPROVED EQUAL AND BE MANUFACTURED FROM ASTM A29-12 / A108, GRADES 1010-1020 COLD ROLLED CARBON STEEL WITH A MINIMUM TENSILE STRENGTH OF 60,000 PSI. DEFORMED BAR ANCHORS SHALL BE NELSON, TYPE D2L. STUDS AND DEFORMED BAR SHALL BE AUTOMATICALLY END WELDED WITH A STUD WELDING JUNT TO FULLY DEVELOP THE CONNECTION.

UNLESS A SPECIFIC ANCHOR PRODUCT IS NOTED IN THE DRAWINGS, POST-INSTALLED ANCHORS MAY USE ONE OF THE ANCHORS LISTED BELOW FOR THE REQUIRED TYPE.

POST INSTALLED CONCRETE ANCHORS

TYPE	PRODUCT	REPORT #
ADHESIVE ANCHORS & DOWELS	SIMPSON SET-XP	ICC-ES ESR-2508
	SIMPSON AT-XP	IAPMO-UES ER-263
	HILTI HIT-HY 200	ICC-ES ESR-3187

ALL ANCHORS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PRODUCT EVALUATION REPORTS.

EMBEDMENTS SPECIFIED ON DRAWINGS ARE "EFFECTIVE" EMBEDMENTS. REFERENCE MANUFACTURER LITERATURE FOR CORRESPONDING ACTUAL EMBEDMENT DEPTHS.

ANCHORS RODS EXPOSED TO EARTH OR WEATHER SHALL BE PROTECTED FROM CORROSION BY HOT-DIP GALVANIZING OR USE OF STAINLESS STEEL. POST INSTALLED EXPANSION AND SCREW ANCHORS EXPOSED TO EARTH OR WEATHER SHALL BE STAINLESS STEEL.

FOR POST-INSTALLED ANCHORS, LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED.

IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF (2) ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE ANCHOR AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MANY NOT BE SHIFTED AS NOTED ABOVE, SEEK GUIDANCE FROM THE STRUCTURAL ENGINEER OF RECORD.

SPECIAL INSPECTION OF ANCHOR INSTALLATION IS REQUIRED UNLESS SPECIFICALLY NOTED OTHERWISE IN DRAWINGS. SEE SPECIAL INSPECTION AND MATERIALS TESTING PROGRAM AND NOTES.

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 (F_y = 33 KSI), 16 GAUGE (54MIL) AND THICKER STEEL SHALL BE FORMED FROM ASTM A1003 ST50H (F_y = 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 WITH (1) SCREW AT EACH FLANGE.

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 STRAPPINGS 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 REQUIREMENTS.

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 BULDEX TEXS (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 OTHERWISE ON DRAWINGS. DO NOT INSTALL UNTIL THE CONCRETE HAS REACHED ITS DESIGNATED STRENGTH.



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MASONRY:

REINFORCED CONCRETE MASONRY:

CONCRETE MASONRY UNITS TO BE MEDIUM WEIGHT UNITS AND SHALL COMPLY WITH ASTM C90, SAMPLED AND TESTED IN ACCORDANCE WITH ASTM C140. LINEAL SHRINKAGE FOR UNITS SHALL NOT EXCEED 0.065%. BLOCK COMPRESSIVE STRENGTH SHALL BE AS INDICATED IN THE 'CONCRETE MASONRY ASSEMBLY STRENGTH' TABLE. ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fm) AS INDICATED IN THE TABLE AS VERIFIED BY THE UNIT STRENGTH METHOD.

CONCRETE MASONRY ASSEMBLY STRENGTH

Fm [PSI]	BLOCK UNIT STRENGTH [PSI]	MORTAR	GROUT STRENGTH [PSI]
1,500	1,900	TYPE M OR S	2,000

WALLS SHALL BE REINFORCED AS SHOWN ON THE PLANS AND DETAILS AND, IF NOT SHOWN, SHALL BE AS NOTED UNDER "MASONRY REINFORCING STEEL".

PROVIDE VERTICAL CONTROL JOINTS IN CONTINUOUS MASONRY SUCH THAT THE DISTANCE BETWEEN JOINTS DOES NOT EXCEED THE LESSER OF A LENGTH-TO-HEIGHT RATIO OF 1.5 OR 25 FEET. CONTROL JOINTS SHALL BE LOCATED NO CLOSER THAN 2'-0" FROM EDGE OF OPENINGS. EXCEPT WHERE OFFSETS ARE SHOWN, MASONRY CONTROL JOINTS SHALL BE A CONTINUOUS VERTICAL LINE FROM TOP OF FOUNDATION TO TOP OF MASONRY WALL. REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATIONS.

CONCRETE SURFACES ABUTTING STRUCTURAL MASONRY STARTER COURSES SHALL BE CLEANED AND ROUGHENED TO A FULL 1/4" AMPLITUDE.

MORTAR:

MORTAR SHALL BE OF THE TYPE INDICATED IN THE 'CONCRETE MASONRY ASSEMBLY STRENGTH' TABLE AND SHALL CONFORM TO ASTM C270 USING THE 'PROPERTY METHOD'. THE MORTAR MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 1,800 PSI FOR TYPE S AND 2,500 PSI FOR TYPE M. MORTAR PROJECTIONS INTO CELLS TO BE GROUTED SHALL BE LIMITED TO 3/8" MAXIMUM.

MASONRY GROUT:

GROUT SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH AS INDICATED IN THE 'CONCRETE MASONRY ASSEMBLY STRENGTH' TABLE AND CONFORM TO ASTM C476. GROUT SHALL CONSIST OF A MIXTURE OF CEMENTITIOUS MATERIALS, AGGREGATE AND A FLUIDIFIER ADMIXTURE, INTRUSION AID BY SPECRETE-IP OR APPROVED EQUAL. ADMIXTURE DOSAGE TO BE IN STRICT COMPLIANCE WITH MANUFACTURERS RECOMMENDATIONS.

ALL CELLS CONTAINING VERTICAL BARS AND ALL BOND BEAMS SHALL BE FILLED WITH GROUT. FULLY GROUT ALL STRUCTURAL MASONRY WALLS UNLESS NOTED OTHERWISE.

THE MAXIMUM GROUT POUR HEIGHT SHALL BE 12'-8". CLEAN-OUTS AND BAR POSITIONERS ARE REQUIRED FOR ANY POUR HEIGHT GREATER THAN 5'-0" UNLESS A GROUT DEMONSTRATION PANEL IS CONSTRUCTED. WHERE CLEAN-OUTS ARE REQUIRED, CLEAN-OUTS SHALL BE LOCATED AT ALL CORES CONTAINING VERTICAL REINFORCEMENT AND AT A MAXIMUM OF 32" O.C. GROUT LIFTS GREATER THAN 5'-0" ARE PERMITTED PROVIDED THAT THE FOLLOWING CONDITIONS ARE MET:

- THE MASONRY HAS CURED FOR AT LEAST 4 HOURS.
- THE GROUT SLUMP IS MAINTAINED BETWEEN 10 AND 11 INCHES.
- NO INTERMEDIATE REINFORCED BOND BEAMS ARE PLACED BETWEEN THE TOP AND THE BOTTOM OF THE POUR HEIGHT.

MASONRY REINFORCING STEEL:

REINFORCING FOR MASONRY SHALL CONFORM TO ASTM A615, GRADE 60. WELDED REINFORCEMENT SHALL CONFORM TO ASTM A706 GRADE 60. REINFORCING SHALL BE SECURELY PLACED IN ACCORDANCE WITH ACI 530 SECTION 3.4. UNLESS NOTED OTHERWISE ON THE PLANS, THE MINIMUM WALL REINFORCING SHALL BE AS FOLLOWS:

- VERTICAL: (1) #5 AT 48" O.C.
- HORIZONTAL: (2) #4 AT 48" O.C. FOR RUNNING BOND, (2) #4 AT 24" O.C. FOR STACKED BOND.
- CORNERS AND INTERSECTIONS: (1) #5 CORNER BAR x 24 INCHES x 24 INCHES AT EACH BOND BEAM FOR 8" WALLS. (2) #4 CORNER BARS x 24 INCHES x 24 INCHES AT EACH BOND BEAM FOR 10 AND 12 INCH WALLS.

FABRICATE AND INSTALL REINFORCING STEEL IN ACCORDANCE WITH CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE. SHOP DRAWINGS SHALL INCLUDE ELEVATIONS OF ALL STRUCTURAL CONCRETE MASONRY WALLS SHOWING LOCATIONS OF BOND BEAMS, REINFORCING BARS, AND OTHER SPECIAL REINFORCEMENT.

SPICES IN VERTICAL WALL REINFORCING CONTAINING (2) OR MORE BARS SHALL BE LAPPED 62 BAR DIAMETERS. FOR OTHER SPICES A 52 BAR DIAMETER LAP MAY BE USED.

BOND BEAMS WITH TWO #4 BARS HORIZONTALLY SHALL OCCUR AT EACH INTERMEDIATE FLOOR OR ROOF LEVEL AND AT TOP OF WALLS WHERE WALLS EXTEND ABOVE THE ROOF. STEP BOND BEAMS AS REQUIRED TO MATCH ROOF SLOPES. PROVIDE A BOND BEAM WITH TWO #4 BARS HORIZONTALLY ABOVE AND BELOW ALL OPENINGS, AND EXTEND 2'-6" PAST THE OPENING AT EACH SIDE. PROVIDE (2) #5 EXTENDING THE FULL LEVEL HEIGHT AT EACH SIDE OF OPENINGS AND AT WALL ENDS UNLESS NOTED OTHERWISE.

FOUNDATION DOWELS SHALL BE PROVIDED TO MATCH SIZE AND SPACING OF WALL REINFORCING AND BE DEVELOPED IN THE MASONRY AND CONCRETE.

MINIMUM GROUT COVER BETWEEN REINFORCEMENT AND THE INSIDE FACE OF CELLS SHALL BE 1/4" FOR FINE GROUT AND 1/2" FOR COURSE GROUT.

MASONRY CONNECTORS:

HEADED STEEL STUD CONNECTORS SHALL BE NELSON GRANULAR FLUX-FILLED HEADED STUDS OR PRIOR APPROVED EQUAL AND BE MANUFACTURED FROM ASTM A29-12 / A108, GRADES 1010-1020 COLD ROLLED CARBON STEEL WITH A MINIMUM TENSILE STRENGTH OF 60,000 PSI. DEFORMED BAR ANCHORS SHALL BE NELSON TYPE D2L OR APPROVED EQUAL. STUDS AND DEFORMED BAR TO BE AUTOMATICALLY END WELDED WITH A STUD WELDING GUN. ALTERNATE WELDING PROCEDURES MAY BE USED ONLY WITH PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

UNLESS A SPECIFIC ANCHOR PRODUCT IS NOTED IN THE DRAWINGS, POST-INSTALLED ANCHORS MAY USE ONE OF THE ANCHORS LISTED BELOW FOR THE REQUIRED TYPE.

POST INSTALLED MASONRY ANCHORS		
TYPE	PRODUCT	REPORT #
ADHESIVE ANCHORS & DOWELS	SIMPSON SET-XP	IAPMO ER-265
	SIMPSON AT-XP	IAPMO ER-281
	HILTI HIT-HY 270	ICC ESR-4143
EXPANSION ANCHOR	SIMPSON WEDGE-ALL	ICC ESR-1396
	HILTI KWIK BOLT 3	ICC ESR-1385
SCREW ANCHOR	SIMPSON TITEN HD	ICC ESR-1056
	HILTI KWIK HUS-EZ	ICC ESR-3056

ALL ANCHORS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PRODUCT EVALUATION REPORTS. EMBEDMENTS SPECIFIED ON DRAWINGS ARE "EFFECTIVE" EMBEDMENTS. REFERENCE MANUFACTURER LITERATURE FOR CORRESPONDING ACTUAL EMBEDMENT DEPTHS.

ANCHORS EXPOSED TO EARTH OR WEATHER SHALL BE PROTECTED FROM CORROSION BY HOT-DIP GALVANIZING OR USE OF STAINLESS STEEL.

STRUCTURAL ABBREVIATIONS

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

STRUCTURAL ANNOTATIONS AND SYMBOLS

SYMBOL/ANNOTATION	DESCRIPTION	SYMBOL/ANNOTATION	DESCRIPTION
	WOOD OR STEEL STUD WALL HATCH		WOOD OR STEEL STUD SHEAR WALL (GRAY HATCH)
	RIGID INSULATION HATCH		WOOD OR STEEL STUD BEARING WALL BELOW
	NORTH ARROW		NONSTRUCTURAL PARTITION WALL EXTENDING TO FLOOR ABOVE
	DETAIL CALLOUT (90 DEGREE ORIENTATION TO CURRENT VIEW) VIEW ORIENTED TOWARD ARROW		WOOD TOP PLATE ELEVATION STEP
	DETAIL CALLOUT (MATCHES ORIENTATION OF CURRENT VIEW) ENLARGED VIEW		WOOD STRUCTURAL PANEL DECK
	ELEVATION CALLOUT		CROSS-LAMINATED TIMBER DECK
	SECTION CALLOUT		BEAM/TRUSS SYSTEM CALLOUT
	COMPONENT ELEVATION		



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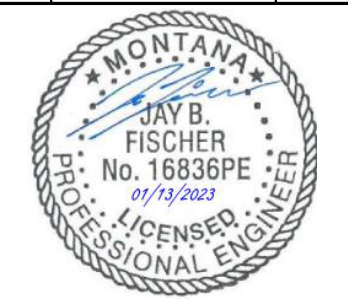


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2042

SHEET TITLE
GENERAL STRUCT.
NOTES

SHEET

S001

DATE

JAN. 13, 2023

STATEMENT OF SPECIAL INSPECTION AND TESTING NOTES:

SPECIAL INSPECTIONS SHALL CONFORM TO CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC), CONTRACT DOCUMENTS, AND APPROVED SUBMITTALS. THE OWNER SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS AND TESTING DESCRIBED HEREIN.

SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED AND ACCREDITED INDEPENDENT AGENCY MEETING THE REQUIREMENTS OF ASTM E329 (GENERAL), ASTM D3740 (SOILS), ASTM C1077 (CONCRETE), ASTM A890 (STEEL), AND ASTM E543 (NON-DESTRUCTIVE). THE INSPECTION AND TESTING AGENCY SHALL FURNISH TO THE ARCHITECT AND ENGINEER A COPY OF THEIR SCOPE OF ACCREDITATION. SPECIAL INSPECTORS SHALL BE APPROVED BY THE BUILDING OFFICIAL. WELDING INSPECTORS SHALL BE QUALIFIED PER AWS D1.1.

THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. ISSUES REQUIRING IMMEDIATE CORRECTIVE ACTIONS OR ENGINEERING INPUT ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY UPON DISCOVERY.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, ARCHITECT, ENGINEER, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED, IS IN CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS, AND THAT ALL DISCREPANCIES NOTED IN THE REPORTS HAVE BEEN CORRECTED.

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OF COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED HEREIN.

INSPECTION FREQUENCY:

- A. CONTINUOUS INSPECTION: THE SPECIAL INSPECTOR SHALL BE PRESENT WHEN AND WHERE THE WORK IS BEING PERFORMED AT ALL TIMES.
- B. PERIODIC INSPECTION: THE SPECIAL INSPECTOR SHALL BE INTERMITTENTLY PRESENT WHEN AND WHERE THE WORK IS BEING PERFORMED. THE INSPECTOR SHALL OBSERVE THE WORK AT ITS COMMENCEMENT, AT PERIODIC INTERVALS THEREAFTER, AND WHEN THE WORK IS COMPLETED.
- C. OBSERVE: THE INSPECTOR SHALL OBSERVE THESE FUNCTIONS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATIONS (REFERENCE AISC 360 AND AISC 341 FOR ADDITIONAL INFORMATION). PERFORM: THESE INSPECTIONS SHALL BE PERFORMED PRIOR TO FINAL ACCEPTANCE OF THE ITEM (REFERENCE AISC 360 AND AISC 341 FOR ADDITIONAL INFORMATION).
- D. DOCUMENT: THE INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (REFERENCE AISC 360 AND AISC 341 FOR ADDITIONAL INFORMATION).

SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

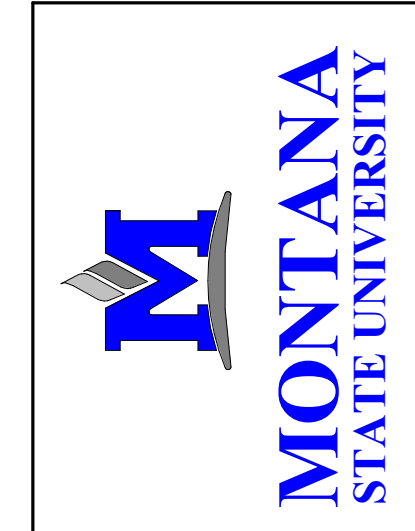
- A. STEEL FABRICATORS AND INSTALLERS CERTIFIED THROUGH AISC COMPLY WITH THIS PROVISION. THE FABRICATOR AND OR INSTALLER MUST STILL COMPLETE AND DOCUMENT THE QUALITY CONTROL TASKS AND NON-DESTRUCTIVE TESTING OUTLINED IN AISC 360 AND AISC 341, AS APPLICABLE.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION				
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY	REMARKS
INSPECTION OF REINFORCING STEEL AND PLACEMENT	TABLE 1705.3	ACI 318: Ch. 20, 25.2, 26.3, 26.6.1-26.6.3	PERIODIC	
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE: VERIFY ANCHOR PRODUCT NAME, TYPE, AND DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, CLEANLINESS OF THE HOLE AND ANCHOR, PRODUCT EXPIRATION DATE (IF APPLICABLE), COMPLIANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE (IF APPLICABLE) FOR: a) ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS		ACI 318: 17.8.2.4 PRODUCT EVALUATION REPORT	CONTINUOUS	
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE: VERIFY ANCHOR PRODUCT NAME, TYPE, AND DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, CLEANLINESS OF THE HOLE AND ANCHOR, PRODUCT EXPIRATION DATE (IF APPLICABLE), COMPLIANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE (IF APPLICABLE) FOR: b) MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN a)	TABLE 1705.3	ACI 318: 17.8.2 PRODUCT EVALUATION REPORT	PERIODIC	
VERIFY USE OF REQUIRED MIX DESIGN		ACI 318: CH. 19, 26.4.3, 26.4.4	PERIODIC	
INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES		ACI 318: 26.5, 26.12	CONTINUOUS	
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		ACI 318: 26.5.3-26.5.5	PERIODIC	
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		ACI 318: 26.11.1.2(b)	PERIODIC	

TESTING OF CONCRETE CONSTRUCTION			
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY
CONCRETE STRENGTH TEST SPECIMENS	TABLE 1705.3	ASTM C31 AND C39	FOR EACH CLASS OF CONCRETE (E.G. FOOTINGS, WALLS, OR SLAB ON GRADE), ONE SET OF SPECIMENS EACH DAY OR LESSER OF: ONE SET FOR EACH 150 YDS OF CONCRETE OR ONE SET FOR EACH 5,000 SQUARE FEET OF SLABS OR WALL
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF CONCRETE		ASTM C172 ACI 318-14: 26.4 AND 26.12	FOR EACH SPECIMEN

TESTING OF SOILS AND FOUNDATIONS			
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	TABLE 1705.6	PROJECT GEOTECHNICAL REPORT	PERIODIC

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS				
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY	REMARKS
VERIFY MATERIALS BELOW SHALLOW FOUNDATION ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	TABLE 1705.6	GEOTECHNICAL REPORT	PERIODIC	BY THE GEOTECHNICAL ENGINEER
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL			PERIODIC	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS			PERIODIC	
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL			CONTINUOUS	
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY			PERIODIC	



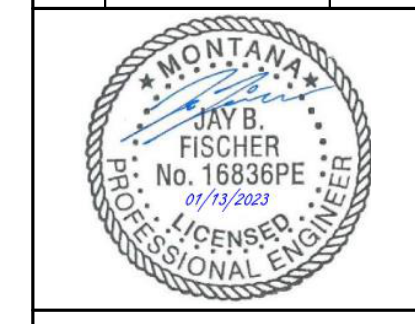
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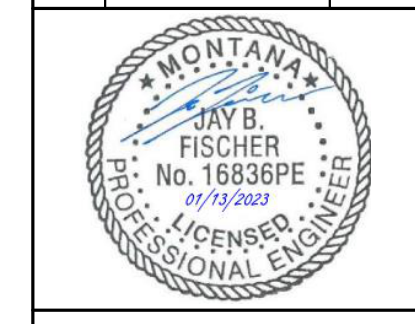
2042

SHEET TITLE
SPECIAL INSPECTIONS

SHEET
S002

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JAN. 13, 2023

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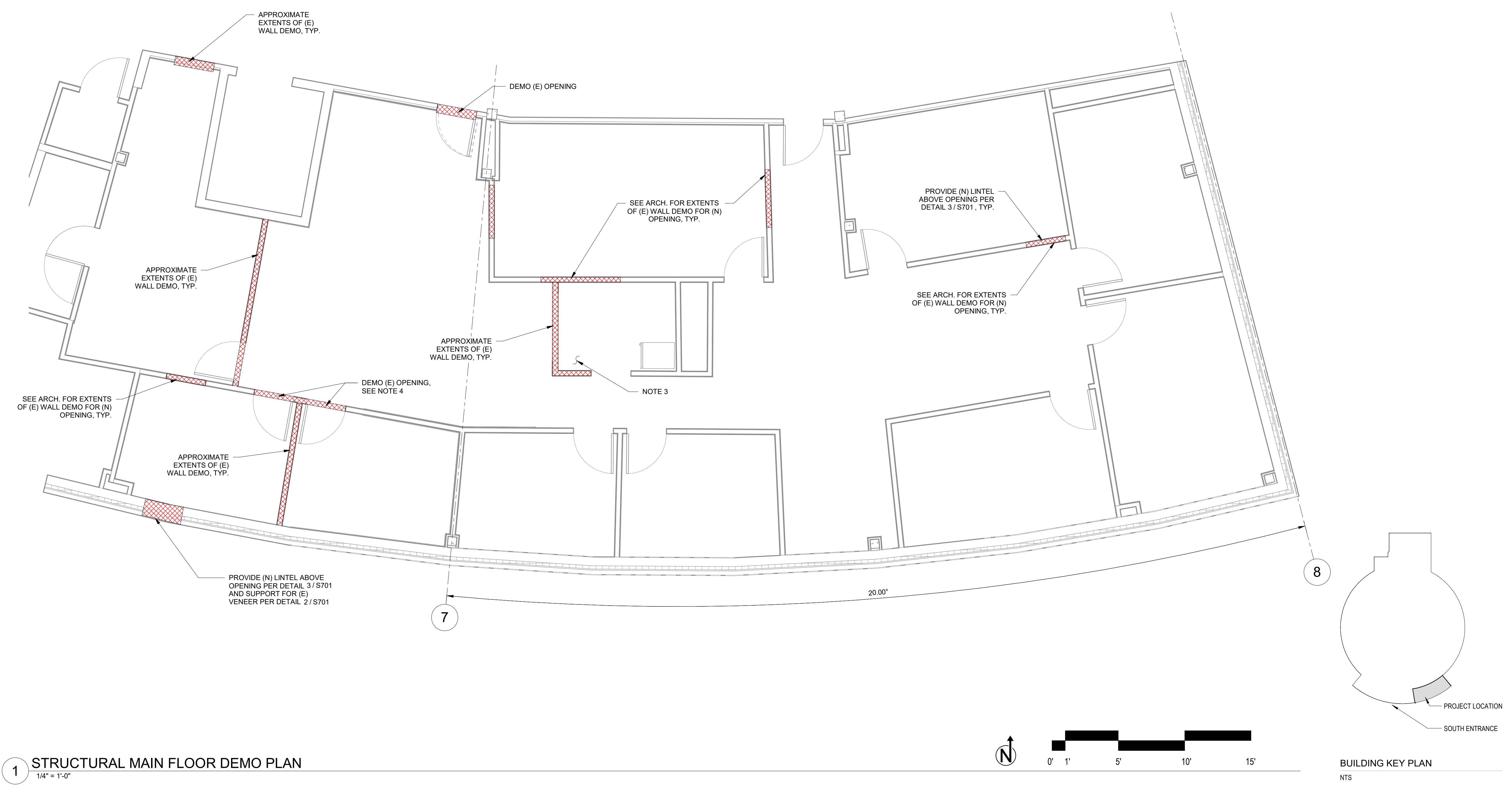
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SHEET TITLE
MAIN FLOOR
DEMO PLAN

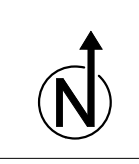
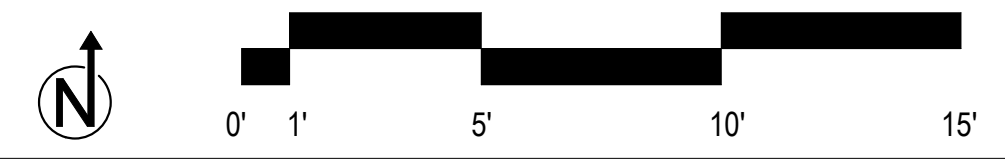
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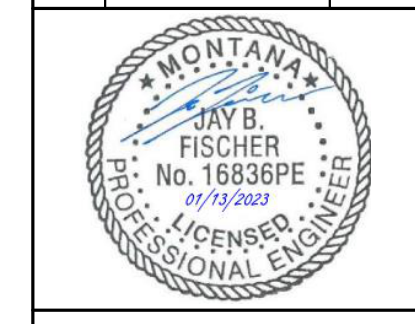
- PLAN NOTES**
1. CONTRACTOR TO FIELD VERIFY ALL ELEMENTS, DIMENSIONS, AND ELEVATIONS.
 2. SEE GENERAL STRUCTURAL NOTES ON SHEETS S001 AND S002 FOR ADDITIONAL REQUIREMENTS.
 3. FLOOR FILL DETAIL FOR DEMOED SLAB, TYP. PER DTL. 8 / S700.
 4. PROVIDE NEW HEADERS AT LOCATION WHERE (E) OPENINGS ARE TO BE DEMO'D PER DTL. 5 / S700, TYP.



1 STRUCTURAL MAIN FLOOR DEMO PLAN
 1/4" = 1'-0"



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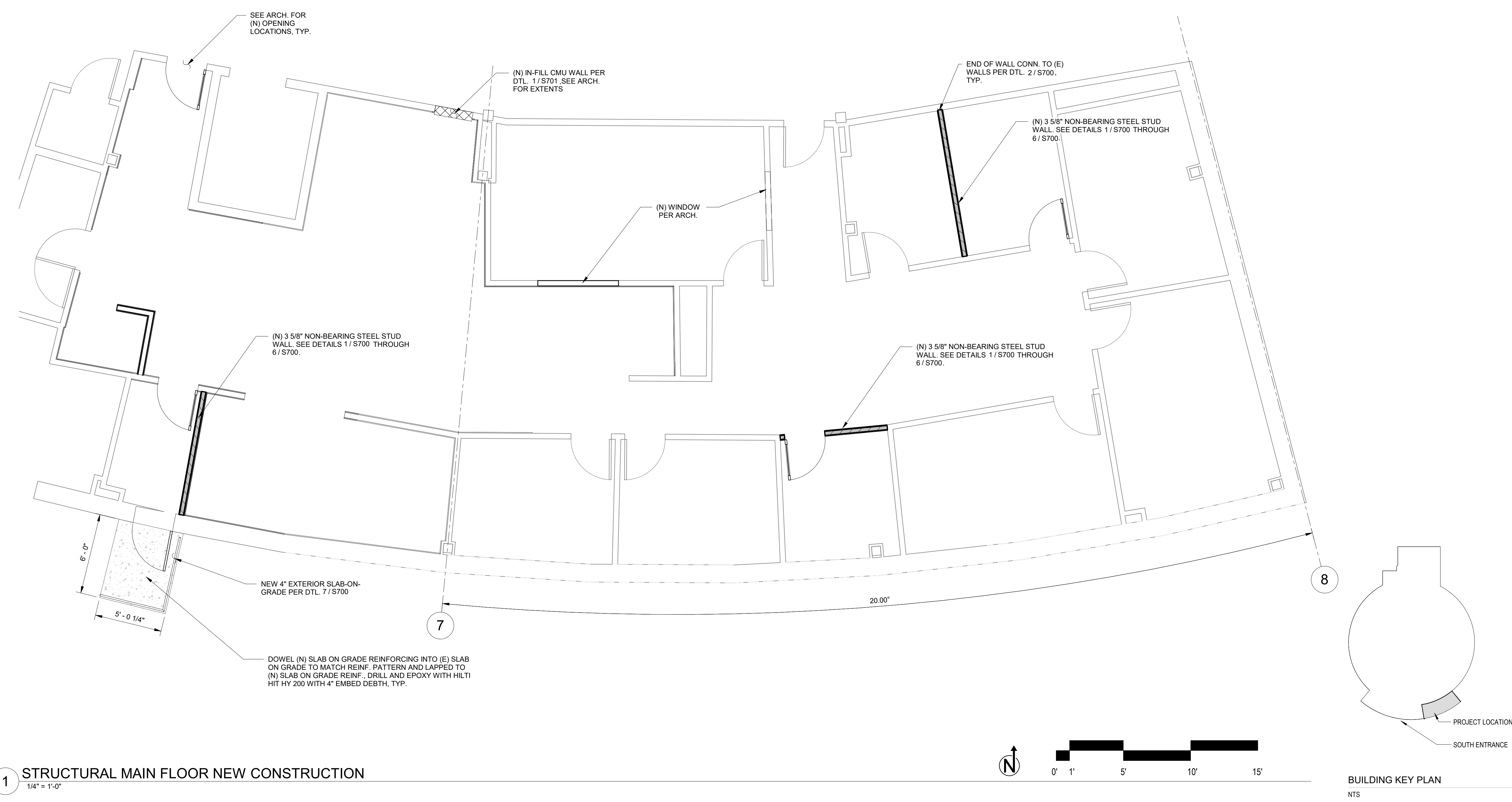
SHEET TITLE
MAIN FLOOR NEW CONSTRUCTION

SHEET
S101

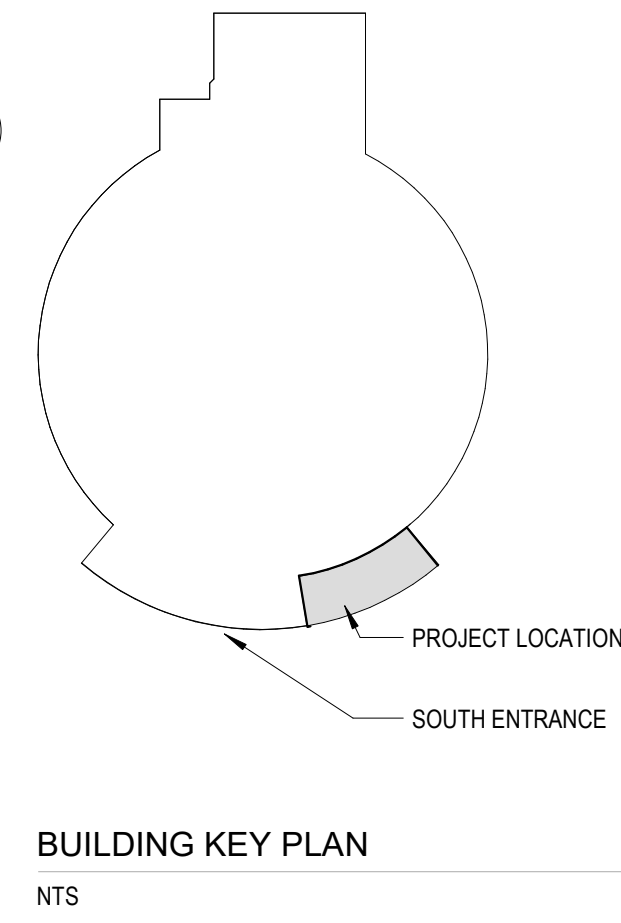
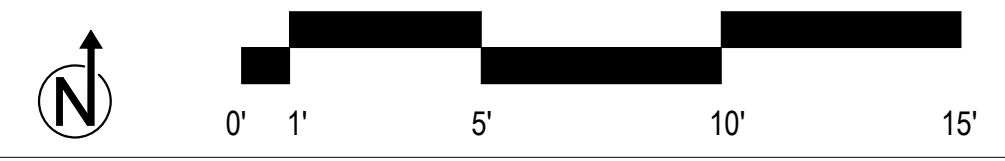
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JAN. 13, 2023

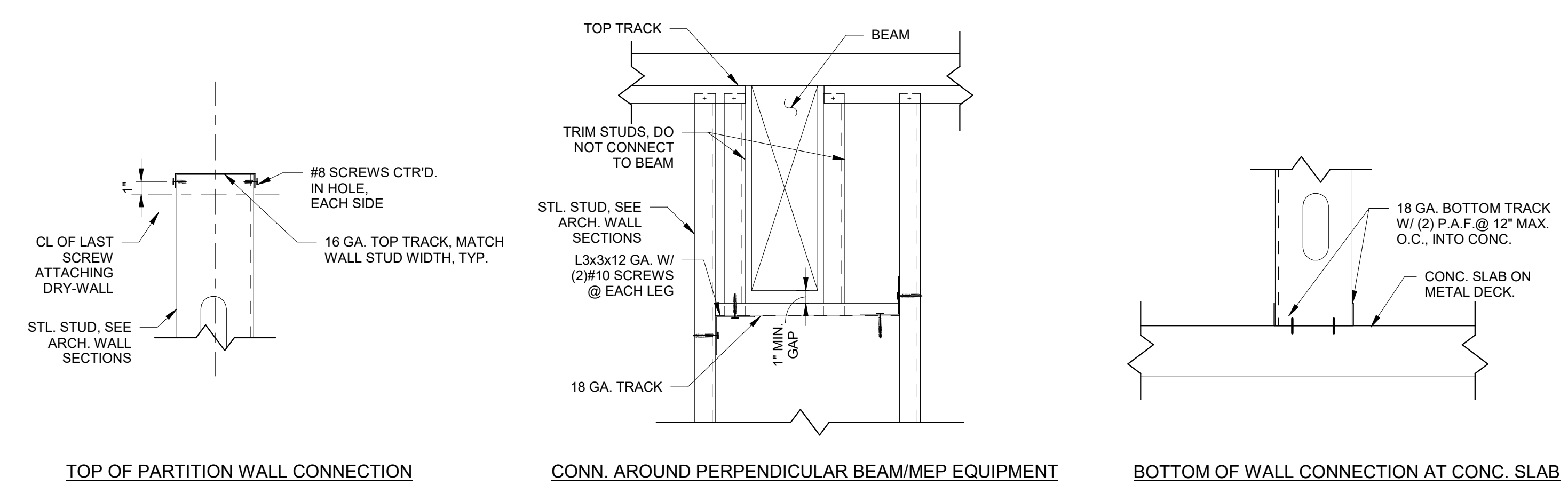
PLAN NOTES

- PROJECT DATUM ELEVATION = 100' - 0" AT TOP OF SLAB-ON-GRADE. ALL SPOT ELEVATIONS ARE IN REFERENCE TO THE DATUM ELEVATION.
- REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
- REFER TO THE DRAWING ANNOTATIONS & SYMBOLS FOR EXPLANATION OF DRAWING CONVENTIONS.
- REFER TO SHEETS S700 AND S701 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE NOT NECESSARILY REFERENCED BY CALLOUTS ON PLAN; IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE REQUIREMENTS OF THE DETAILS AT THE LOCATION AT WHICH THEY OCCUR.
- COORDINATE THE FOLLOWING ITEMS WITH DRAWINGS OF OTHER DISCIPLINES:
 - SIZES AND LOCATIONS OF OPENINGS AND PENETRATIONS THROUGH WALLS AND FLOORS; SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
 - EXTENT OF AND REQUIREMENTS FOR MASONRY VENEER; SEE ARCHITECTURAL DRAWINGS.
 - LOCATIONS AND REQUIREMENTS FOR NON-BEARING / NON-STRUCTURAL PARTITION WALLS; SEE ARCHITECTURAL DRAWINGS.
 - WINDOW AND DOOR LOCATIONS AND ROUGH OPENING SIZES IN WALLS; SEE ARCHITECTURAL DRAWINGS.
 - LOCATION, SIZE, AND ANCHORAGE OF ELECTRICAL, MECHANICAL, AND PLUMBING EQUIPMENT; SEE ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
 - ROUTING OF DUCTS AND UTILITIES THROUGH WEBS OF TRUSSES OR JOISTS; SEE MECHANICAL AND PLUMBING DRAWINGS.
- 3 5/8" NON-BEARING INTERIOR STEEL STUD WALLS ARE TO BE 362S200-43 (33 ksi) STUDS AT 16" O.C. (MAX.)

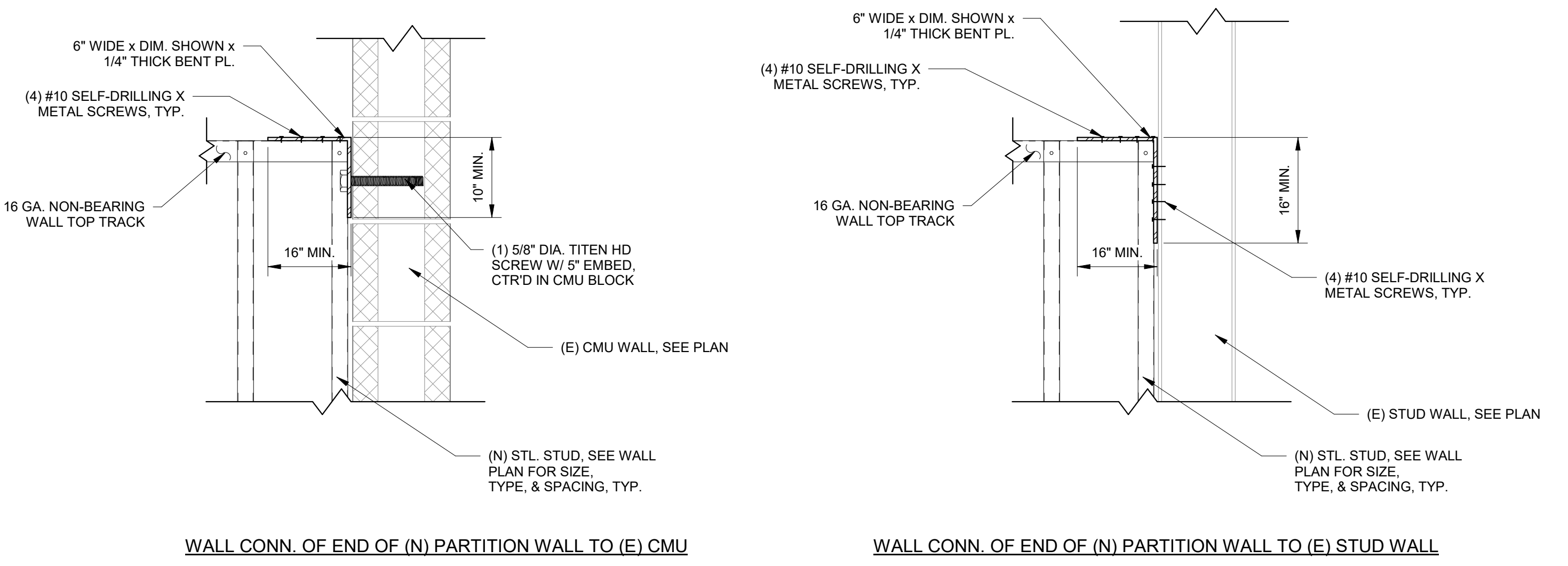


1 STRUCTURAL MAIN FLOOR NEW CONSTRUCTION
1/4" = 1'-0"

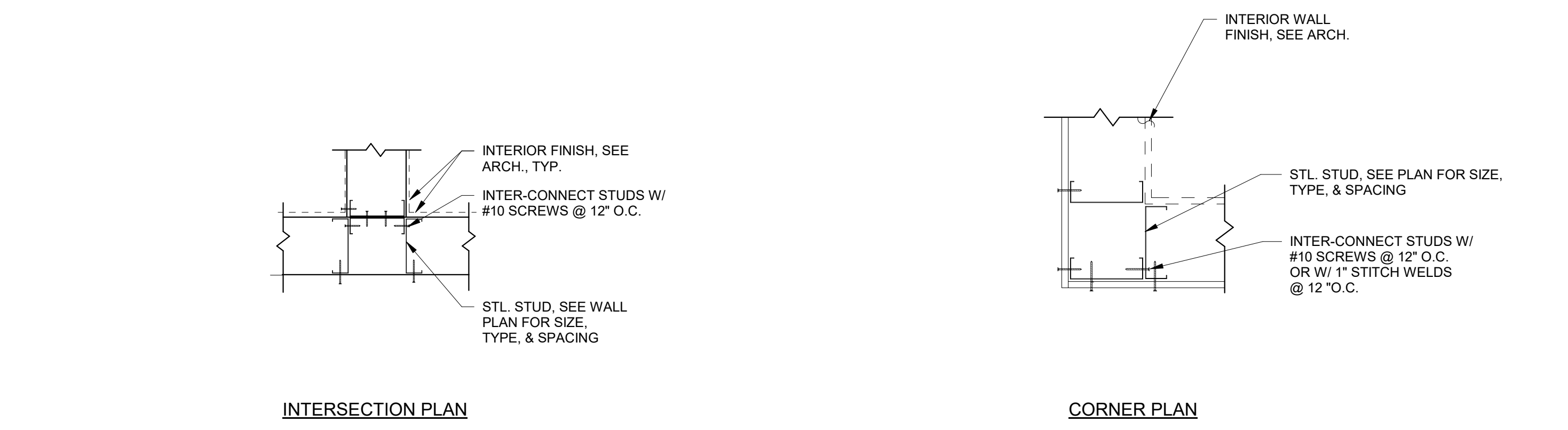




1 STEEL STUD CONNECTION DETAILS
NTS

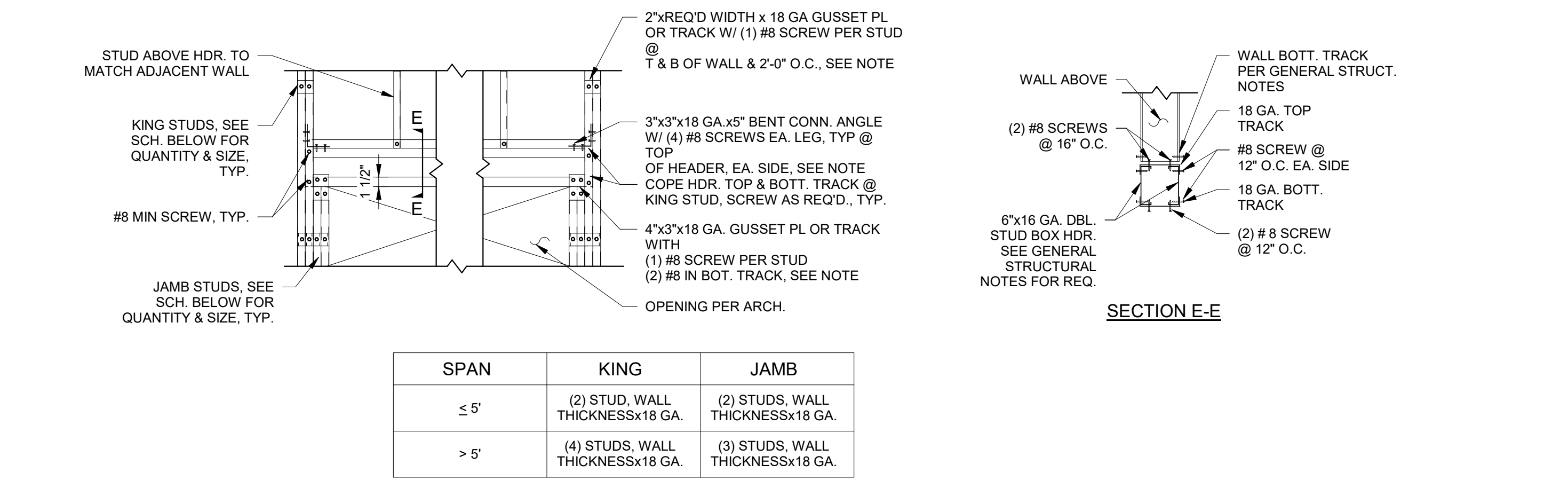


2 PARTITION WALL - END WALL CONNECTIONS
NTS

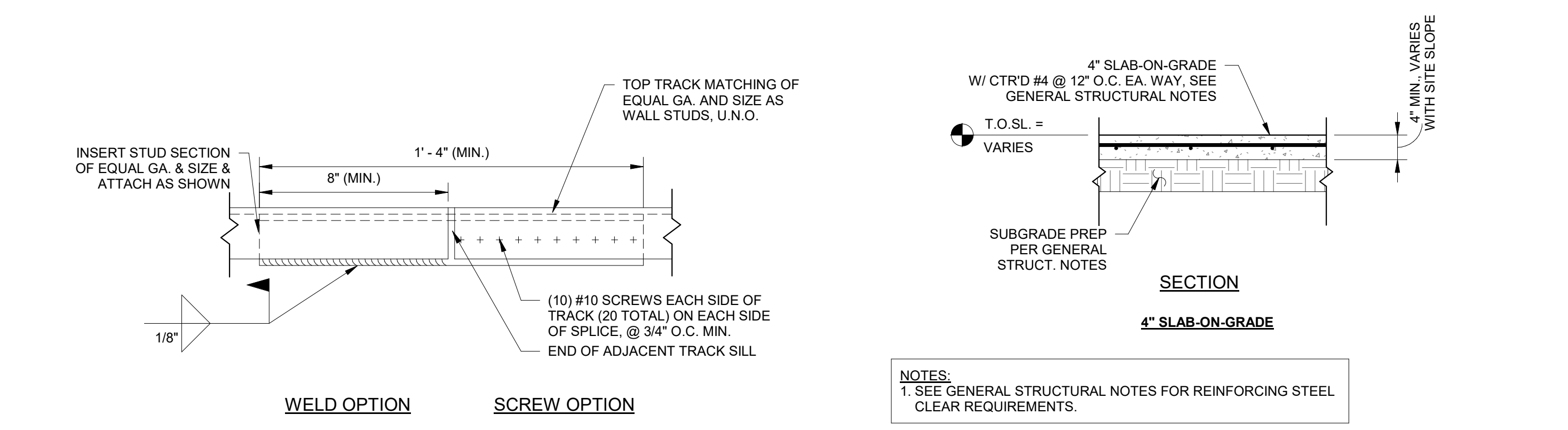


3 WALL INTERSECTION PLAN
NTS

4 WALL CORNER PLAN
NTS

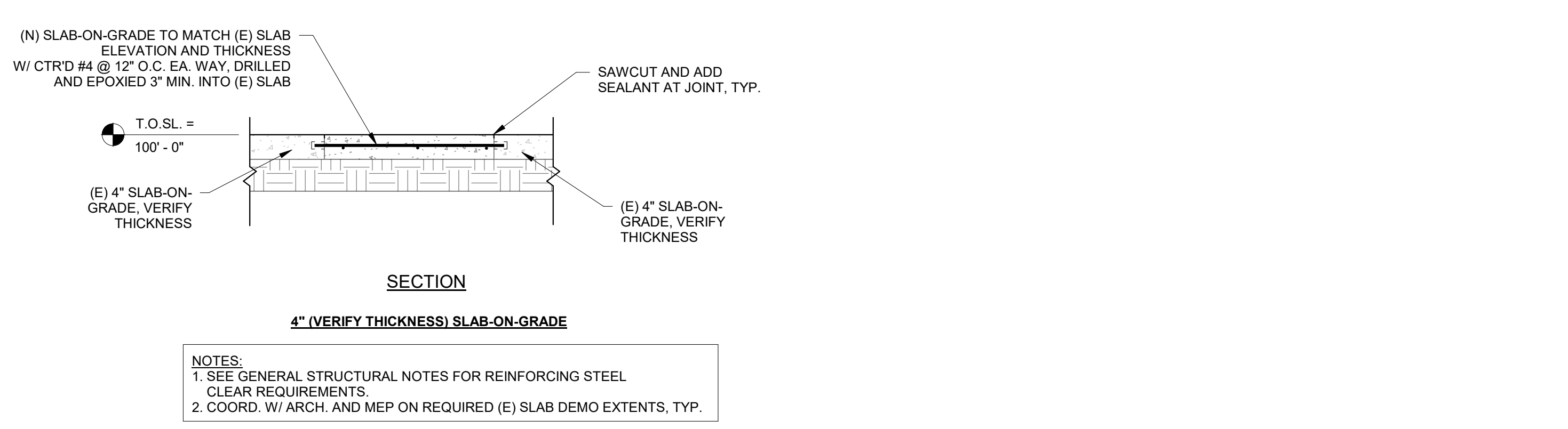


5 HEADER DETAIL AND SCHEDULE
NTS



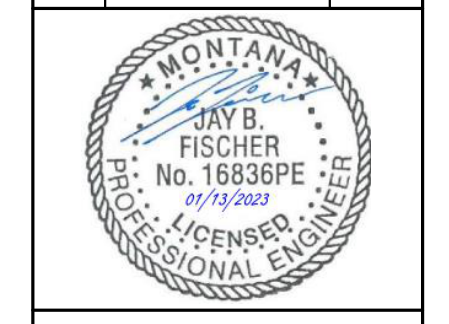
6 STL. STUD WALL TOP TRACK SPLICE
NTS

7 EXTERIOR SLAB ON GRADE
NTS



8 FLOOR FILL DETAIL
NTS

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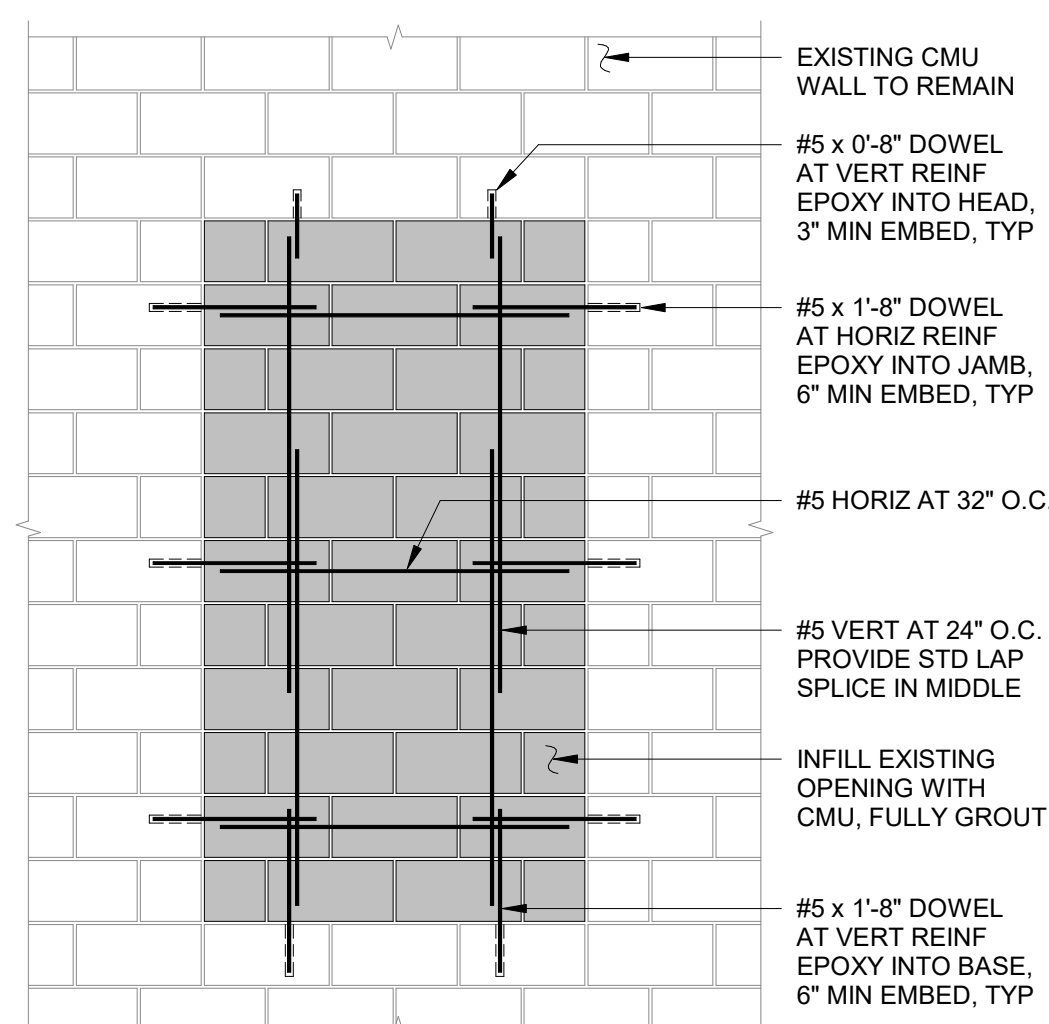
2042

SHEET TITLE
TYPICAL DETAILS

SHEET
S700

DATE
JAN. 13, 2023

BID / PERMIT DRAWINGS



EXISTING CMU WALL TO REMAIN

#5 x 0'-8" DOWEL AT VERT REINF EPOXY INTO HEAD, 3" MIN EMBED, TYP

#5 x 1'-8" DOWEL AT HORIZ REINF EPOXY INTO JAMB, 6" MIN EMBED, TYP

#5 HORIZ AT 32" O.C.

#5 VERT AT 24" O.C. PROVIDE STD LAP SPLICE IN MIDDLE

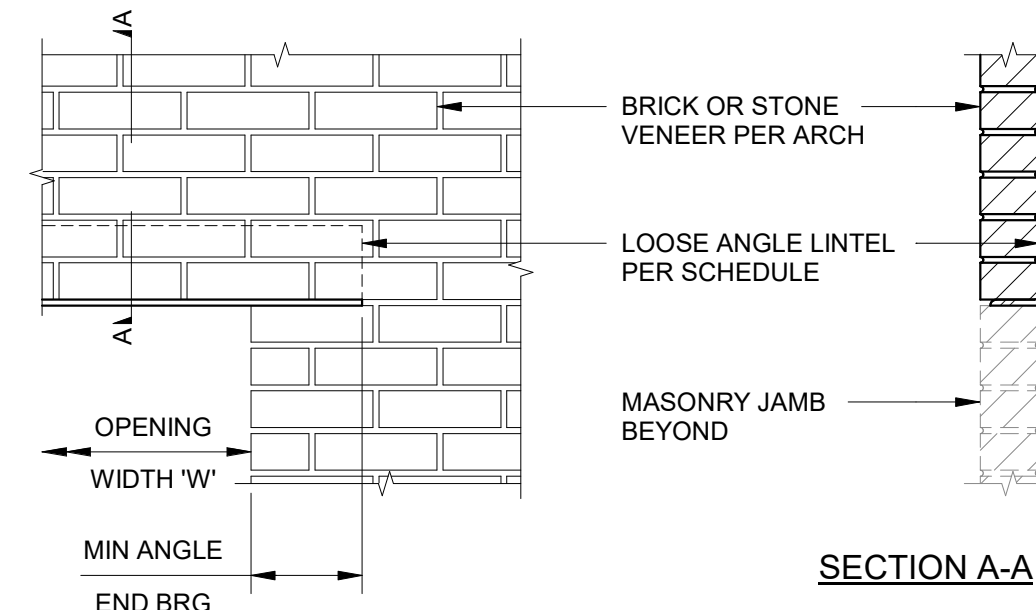
INFILL EXISTING OPENING WITH CMU, FULLY GROUT

#5 x 1'-8" DOWEL AT VERT REINF EPOXY INTO BASE, 6" MIN EMBED, TYP

NOTE:

1. CMU INFILL TO MATCH WIDTH OF EXISTING CMU UNO.
2. PROVIDE SCREEN TUBES WHEN EXISTING CMU IS HOLLOW.
3. LAP BAR: MAX OF REQD LAP LENGTH OR OPENING LENGHT/WIDTH

1 TYPICAL MASONRY INFILL WALL
NTS

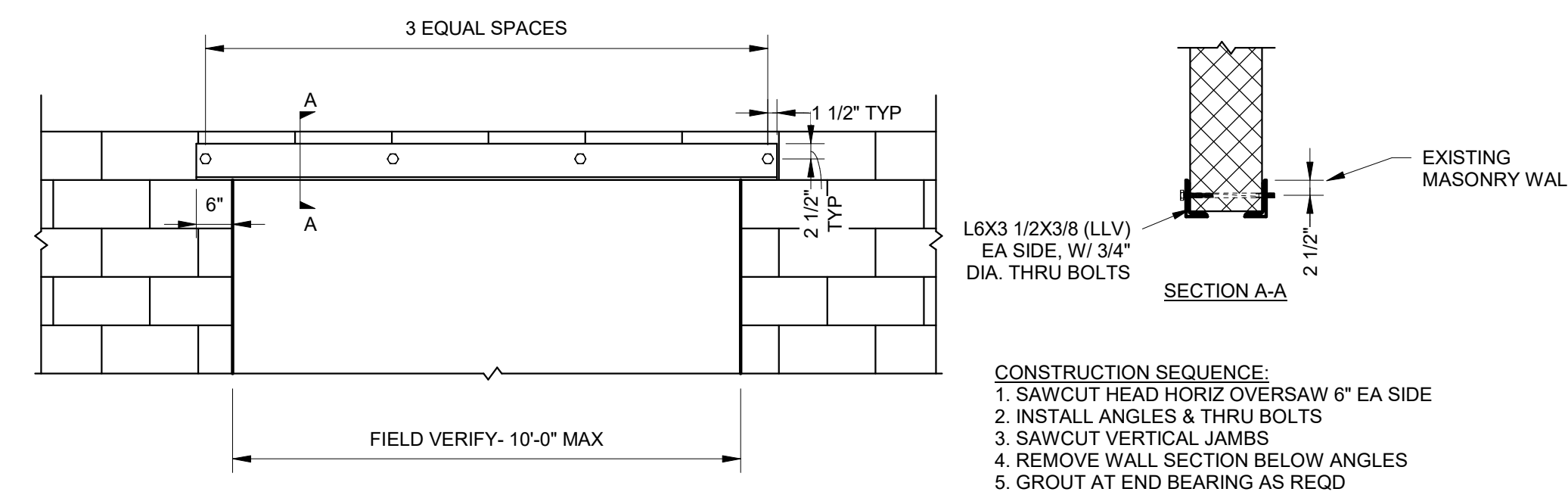


VENEER LOOSE LINTEL SCHEDULE		
OPNG WIDTH OR MARK	ANGLE LINTEL SIZE	MIN ANGLE END BRG
W ≤ 3'-4"	L3-1/2x3x1/4 LLH	4"
3'-4" < W ≤ 6'-8"	L4x3-1/2x1/4 LLV	6"

NOTE:

1. FOR USE WITH 4" NOMINAL VENEER ONLY
2. FIELD VERIFY VENEER IS ADEQUATELY TIED BACK TO (E) WALL, TYP.

2 MASONRY VENEER LOOSE LINTEL
NTS

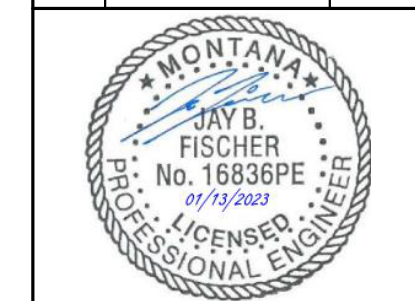


CONSTRUCTION SEQUENCE:

1. SAWCUT HEAD HORIZ OVERSAW 6" EA SIDE
2. INSTALL ANGLES & THRU BOLTS
3. SAWCUT VERTICAL JAMBS
4. REMOVE WALL SECTION BELOW ANGLES
5. GROUT AT END BEARING AS REQD

3 TYP STEEL BEAM HEADER ON CMU WALL
NTS

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SHEET TITLE
TYPICAL DETAILS

SHEET
S701

DATE
JAN. 13, 2023

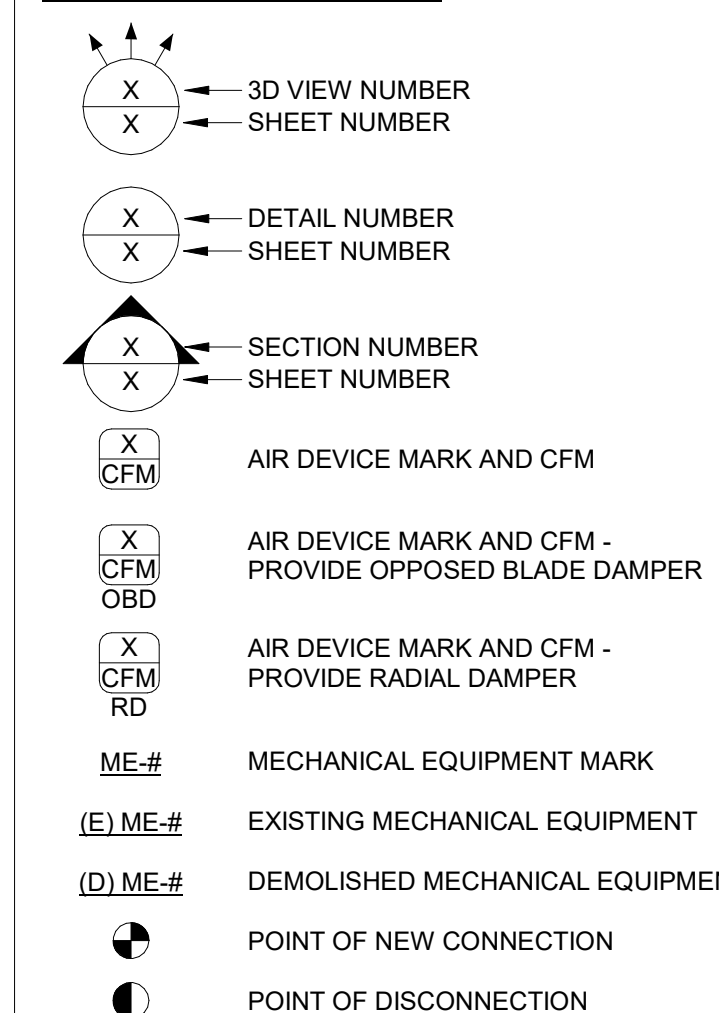
BID / PERMIT DRAWINGS

ABBREVIATIONS

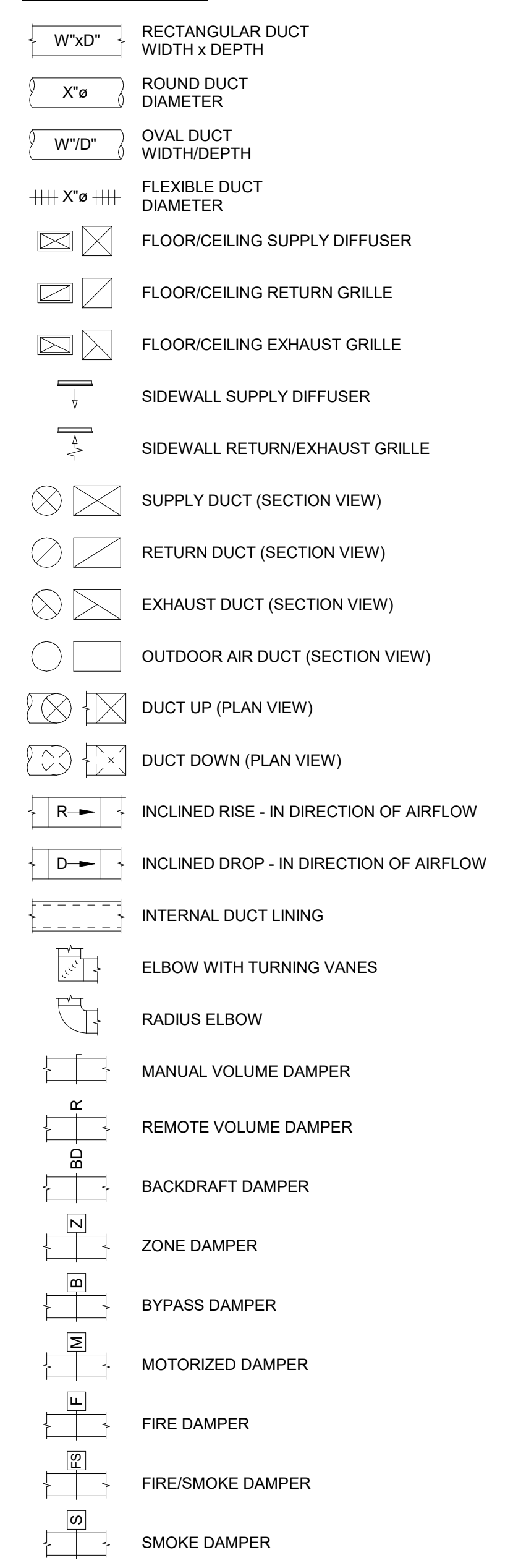
ACC	AIR COOLED CONDENSER	ID	INSIDE DIAMETER
ACU	AIR CONDITIONING UNIT	IFB	INTEGRAL FACE & BYPASS
AD	ACCESS DOOR	IGV	INLET GUIDE VANES
ADJ	ADJUSTABLE	IPS	IRON PIPE SIZE
AF	AIR FOIL	IU	INDUCTION UNIT
AFF	ABOVE FINISHED FLOOR	KW	KILOWATTS
AFG	ABOVE FINISHED GRADE	KWH	KILOWATT HOUR
AFR	ABOVE FINISHED ROOF		
AFS	AIR FLOW STATION	LAT	LEAVING AIR TEMPERATURE (°F)
AHU	AIR HANDLING UNIT	LF	LINEAR FEET
AP	ACCESS PANEL	LWT	LEAVING WATER TEMPERATURE (°F)
ATC	AUTOMATIC TEMPERATURE CONTROL		
ATM	ATMOSPHERE	M	MOTOR OPERATED
AWG	AMERICAN WIRE GAUGE	MAU	MAKEUP AIR UNIT
		MB	MIXING BOX
B	BOILER	MBH	1000 BTU/HR
BB	BASEBOARD	MC	MECHANICAL CONTRACTOR
BC	BACKWARD CURVED	MFR	MANUFACTURER
BD	BACKDRAFT DAMPER	MS	MINI-SPLIT
BF	BOILER FEED		
BHP	BRAKE HORSEPOWER	NC	NOISE CRITERIA
BI	BACKWARD INCLINED	NC	NORMALLY CLOSED
BMS	BUILDING MANAGEMENT SYSTEM	NI	NOT IN CONTRACT
BOD	BOTTOM OF DUCT	NO	NORMALLY OPEN
BOJ	BOTTOM OF JOIST	NPS	NOMINAL PIPE SIZE
BOS	BOTTOM OF STEEL		
BTU	BRITISH THERMAL UNIT	OA	OUTSIDE AIR
		OAD	OUTSIDE AIR DAMPER
C	COMMON	OBD	OPPOSED BLADE DAMPER
CAV	CONSTANT AIR VOLUME		
CC	COOLING COIL	P	PUMP
CCW	COUNTER CLOCKWISE	PC	PLUMBING CONTRACTOR
CFM	CUBIC FEET PER MINUTE	PD	PRESSURE DROP
CH	CHILLER	PH	PHASE
CBI	CONTROLS & INSTRUMENTATION	PHC	PREHEAT COIL
CLG	CEILING	PPM	PART PER MILLION
CMU	CONCRETE MASONRY UNIT	PROP	PROPELLER
CND	CONDENSATE	PRV	PRESSURE REDUCING VALVE
CONT	CONTINUATION	PSIA	PSI, ABSOLUTE
CORR	CORRIDOR	PSIG	PSI, GAUGE
CT	COOLING TOWER		
CU	CONDENSING UNIT	QTY	QUANTITY
CH	CABINET HEATER		
CV	CONTROL VALVE	R	REGISTER
CVS	CONTROL VALVE STATION	RA	RETURN AIR
CW	CLOCKWISE	RD	RADIAL DAMPER
		RF	RETURN/RELIEF AIR FAN
dB	DECIBEL	RH	RELATIVE HUMIDITY
DB	DRY BULB TEMPERATURE (°F)	RHC	REHEAT COIL
DDC	DIRECT DIGITAL CONTROL		
DH	DUCT HEATER	SA	SUPPLY AIR
DP	DEW POINT TEMPERATURE (°F)	SAF	SUPPLY AIR FAN
DX	DIRECT EXPANSION	SC	SENSIBLE COOLER
		SCFM	CFM, STANDARD CONDITIONS
E	EXHAUST	SD	SMOKE DETECTOR
EA	EXHAUST AIR	SEER	SEASONAL ENERGY EFFICIENCY RATIO
EAT	ENTERING AIR TEMPERATURE (°F)	SENS	SENSIBLE
EC	ELECTRICAL CONTRACTOR	SP	STATIC PRESSURE
EDR	EQUIVALENT DIRECT RADIATION	SPS	STATIC PRESSURE SENSOR
EER	ENERGY EFFICIENCY RATIO	SS	STAINLESS STEEL
EF	EXHAUST FAN		
EFF	EFFICIENCY	T	THERMOSTAT
ELEV	ELEVATION	TA	TRANSFER AIR
ERV	ENERGY RECOVERY VENTILATOR	TA	TEMPERATURE CONTROL CONTRACTOR
ESP	EXTERNAL STATIC PRESSURE	TCP	TEMPERATURE CONTROL PANEL
ET	EXPANSION TANK	TG	TRANSFER GRILL
EWT	ENTERING WATER TEMPERATURE (°F)	TOD	TOP OF DUCT
		TOP	TOP OF PIPE
F&T	FLOAT & THERMOSTATIC	TOS	TOP OF STEEL
FA	FACE AREA	TSP	TOTAL STATIC PRESSURE
FC	FORWARD CURVED	TYP	TYPICAL
FC	FAN COIL		
FP	FIRE PROTECTION	UH	UNIT HEATER
FPM	FEET PER MINUTE	UNC	UNDERCUT
FT	FEET	UV	UNIT VENTILATOR
		VA	VOLT-AMPERE
GA	GAUGE OR GAGE	VAV	VARIABLE AIR VOLUME
GC	GENERAL CONTRACTOR	VD	VOLUME DAMPER
GEN	GENERATOR	VEL	VELOCITY
GH	GRAVITY HOOD	VFD	VARIABLE FREQUENCY DRIVE
GPD	GALLONS PER DAY	VRF	VARIABLE REFRIGERANT FLOW
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE	WB	WET BULB TEMPERATURE (°F)
		WC	WATER COLUMN
H	HUMIDIFIER	WG	WATER GAUGE
HC	HEATING COIL	WSHP	WATER SOURCE HEAT PUMP
HG	MERCURY		
HQA	HAND-OFF-AUTOMATIC	ΔT	TEMPERATURE DIFFERENCE (°F)
HP	HORSEPOWER		
HR	HOUR		
HX	HEAT EXCHANGER		

MECHANICAL LEGEND

ANNOTATION SYMBOLS



HVAC DUCTWORK



NOTE: THIS IS A STANDARD LEGEND. NOT ALL PIPE TYPES AND SYMBOLS ARE NECESSARILY UTILIZED IN THE DRAWINGS.

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.
 C. INSTALL EQUIPMENT, DUCTWORK, AND PIPING SO AS TO MAINTAIN CODE REQUIRED CLEARANCES FOR ELECTRICAL AND TELECOMMUNICATION EQUIPMENT.
 D. 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.

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.
 C. 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.

ELECTRICAL COORDINATION:
 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.

HVAC SHEET INDEX

NUMBER	SHEET NAME
M001	MECH. LEGENDS AND NOTES
M002	MECH. SCHED. & DETAILS
MD101	MECH. DEMO. PLAN
M101	HVAC NEW CONSTRUCTION

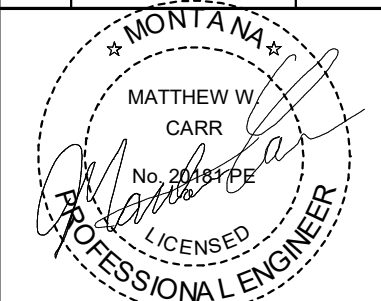


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REVIEWED BY: MWC
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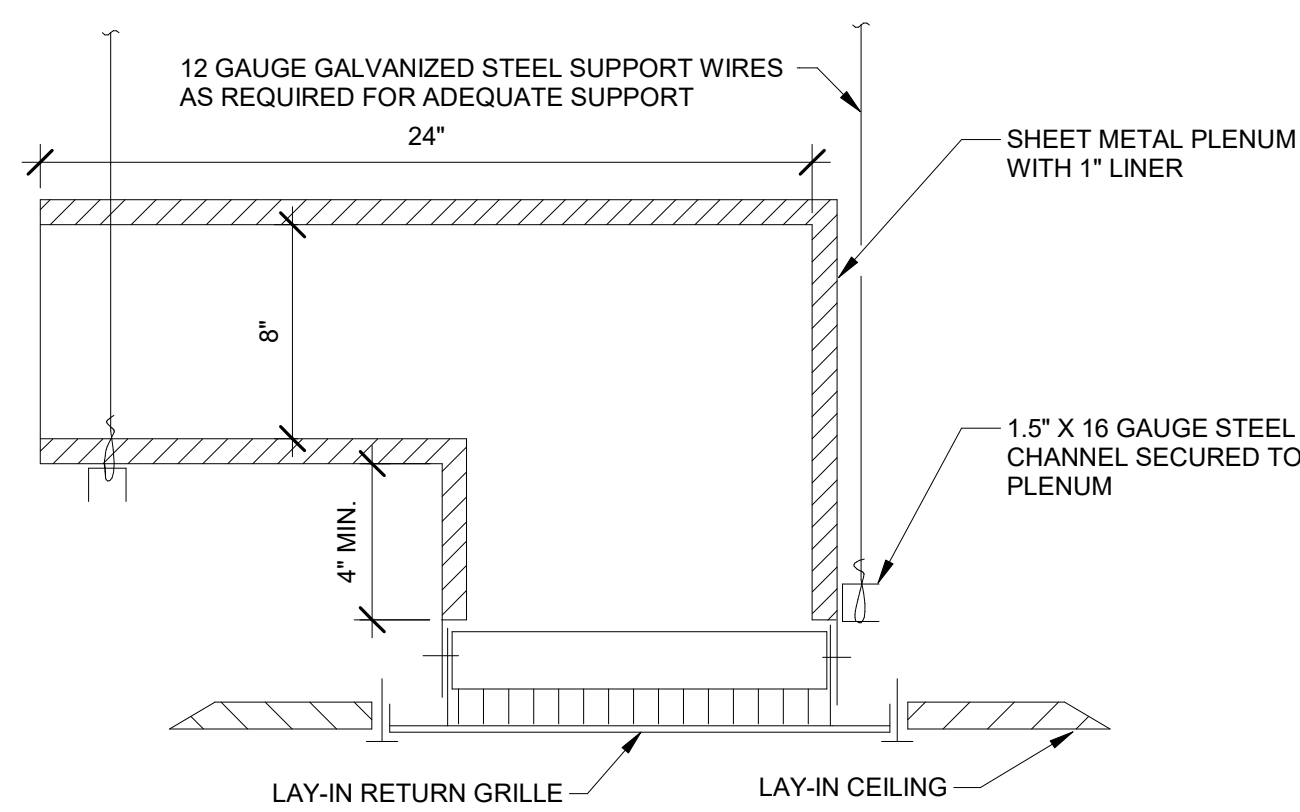
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SHEET TITLE
 MECH. LEGENDS AND NOTES

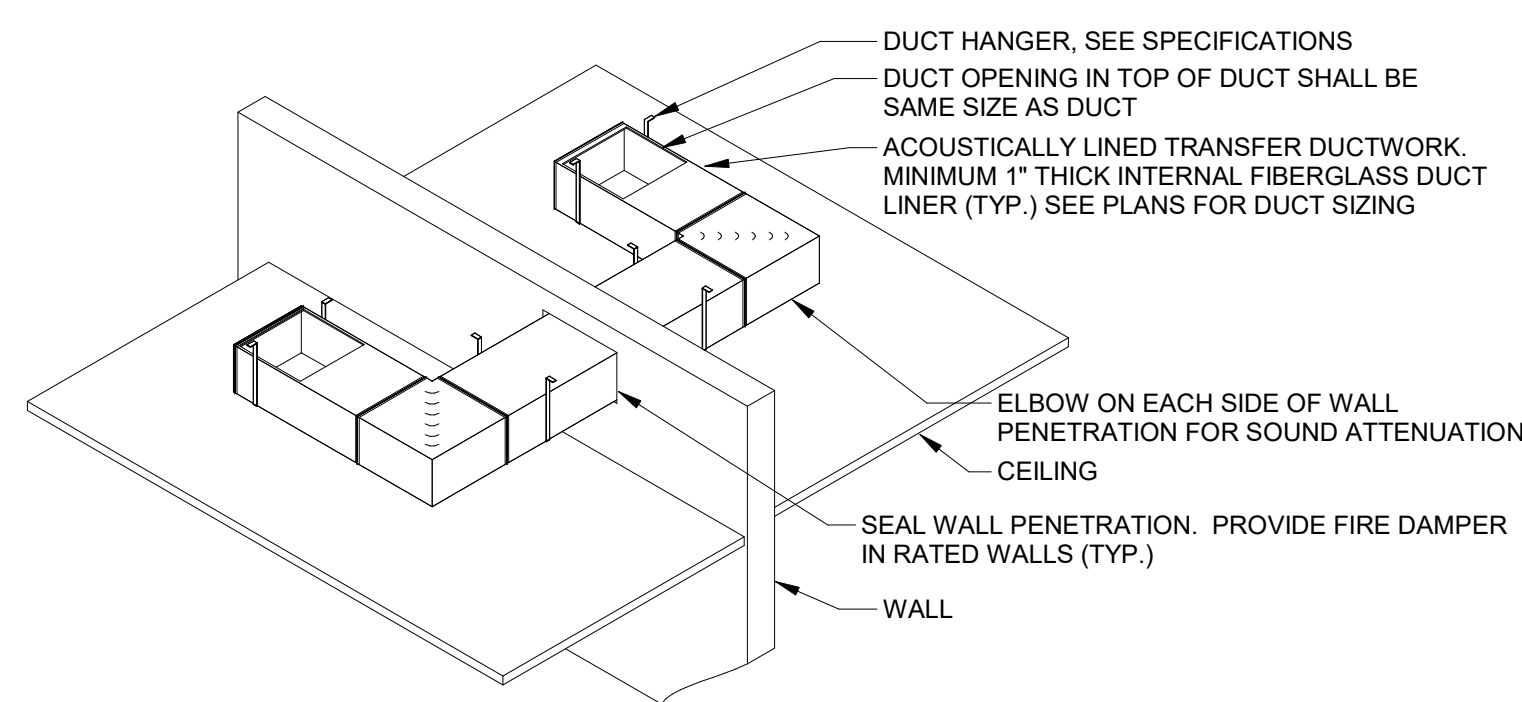
SHEET
M001

DATE
JAN. 13, 2023

BID / PERMIT DRAWINGS



1 RETURN GRILLE DETAIL
N.T.S.



2 TRANSFER DUCT DETAIL
N.T.S.

MECHANICAL SPECIFICATIONS

GENERAL

1. THE MECHANICAL CONTRACTOR SHALL INCLUDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS AND METHODS LISTED, MENTIONED, OR SCHEDULED IN THESE SPECIFICATIONS AND THE ACCOMPANYING DRAWINGS. ALL MATERIAL, EQUIPMENT, AND LABOR SHALL BE FURNISHED TOGETHER WITH ALL INCIDENTAL ITEMS REQUIRED BY GOOD PRACTICE TO PROVIDE THE COMPLETE SYSTEMS DESCRIBED.
2. EXAMINE AND REFER TO ALL ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, UTILITY, LANDSCAPE AND MECHANICAL DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION CONDITIONS WHICH MAY AFFECT THE MECHANICAL WORK. INSPECT THE BUILDING SITE AND EXISTING FACILITIES FOR VERIFICATION OF PRESENT CONDITIONS. MAKE PROPER PROVISIONS FOR THESE CONDITIONS IN PERFORMANCE OF THE WORK AND COST THEREOF.
3. ALL WORK ON THE PROJECT SHALL CONFORM TO ALL ADOPTED CITY, STATE, AND NATIONAL CODES & REGULATIONS. SUCH CODES & REGULATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE IBC, IMC, IECC, UPC, NFPA, NEC, SERVICING UTILITY COMPANIES AND THE AUTHORITY HAVING JURISDICTION.
4. THE MECHANICAL AND ELECTRICAL CONTRACTORS SHALL BE RESPONSIBLE FOR AND PAY FOR ALL FEES AND PERMITS REQUIRED FOR WORK UNDER THEIR CONTRACT AND UNDER THEIR SUPERVISION BY SUBCONTRACT.
5. ALL USAGE CONTRACTS BETWEEN THE OWNER AND THE SERVING UTILITIES COMPANY, SUCH AS MEMBERSHIP AND USAGE CHARGES OR FEES, ETC., FOR THE PURPOSE OF OBTAINING THE SERVICES FOR THE UTILITY COMPANY SHALL BE APPLIED FOR AND PAID FOR BY THE OWNER.

RESPONSIBILITY

1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF A SATISFACTORY AND COMPLETE SYSTEM IN ACCORDANCE WITH THE INTENT OF THE DRAWING AND SPECIFICATIONS. PROVIDE, AT NO EXTRA COST, ALL INCIDENTAL ITEMS, MATERIALS, ACCESSORIES AND LABOR REQUIRED FOR COMPLETION OF THE WORK EVEN THOUGH THEY ARE NOT SPECIFICALLY MENTIONED OR INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
2. THE DRAWINGS DO NOT ATTEMPT TO SHOW COMPLETE DETAILS OF THE BUILDING CONSTRUCTION WHICH AFFECT THE MECHANICAL INSTALLATION; AND REFERENCE IS THEREFORE REQUIRED TO THE ARCHITECTURAL, CIVIL, STRUCTURAL, LANDSCAPE AND ELECTRICAL DRAWINGS AND SPECIFICATIONS AND TO SHOP DRAWINGS OF ALL TRADES FOR ADDITIONAL DETAILS WHICH AFFECT THE INSTALLATION OF THE WORK COVERED UNDER THIS DIVISION OF THE CONTRACT.
3. LOCATION OF MECHANICAL SYSTEM COMPONENTS SHALL BE CHECKED FOR CONFLICTS WITH OPENINGS, STRUCTURAL MEMBERS AND COMPONENTS OF OTHER SYSTEMS HAVING FIXED LOCATIONS. IN THE EVENT OF ANY CONFLICTS, THE ARCHITECT/ENGINEER SHALL BE CONSULTED AND THEIR DECISION SHALL GOVERN. NECESSARY CHANGES SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
4. DO NOT INSTALL EQUIPMENT UNTIL COMPLETE SHOP DRAWINGS OF SUCH EQUIPMENT HAVE BEEN APPROVED BY THE ARCHITECT/ENGINEER. ANY WORK INSTALLED BY THE CONTRACTOR, PRIOR TO APPROVAL OF SHOP DRAWINGS, WILL BE AT THE CONTRACTOR'S RISK.
5. MODIFICATIONS AND CHANGES REQUIRED DUE TO INSTALLATION OF EQUIPMENT OTHER THAN THE EQUIPMENT SCHEDULED AND SPECIFIED SHALL BE MADE AT THE CONTRACTOR'S EXPENSE. THIS INCLUDES WORK BY OTHER TRADES. IF THE INSTALLATION OF EQUIPMENT OTHER THAN THE SCHEDULED AND SPECIFIED EQUIPMENT REQUIRES MODIFICATIONS TO STRUCTURE, ELECTRICAL SYSTEMS, PLUMBING SYSTEMS, FIRE PROTECTION OR FIRE ALARM SYSTEMS, ANY AND ALL CHANGES SHALL BE MADE AT THE MECHANICAL CONTRACTORS EXPENSE.
6. ALL WORK TO BE PERFORMED SHALL FIRST BE SCHEDULED AND SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR ACCEPTANCE.
7. THE CONTRACTOR SHALL BE CAREFUL NOT TO BLOCK ANY PATHS OF EGRESS WHILE PERFORMING THE WORK SPECIFIED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ALL MATERIALS RESULTING FROM HIS/HER WORK. CLEANUP SHALL BE PERFORMED TO THE LEVEL OF ACCEPTANCE OF THE OWNER'S REPRESENTATIVE & THE ENGINEER.
9. THE CONTRACTOR SHALL GUARANTEE THAT ALL WORK EXECUTED UNDER THEIR CONTRACT SHALL BE FREE OF DEFECTS OF MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.

INTENT OF DRAWINGS

1. THE DRAWINGS ARE PARTLY DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EXACT LOCATION OF PIPING AND DUCTWORK UNLESS SPECIFICALLY DIMENSIONED. RISER AND OTHER DIAGRAMS ARE SCHEMATIC AND DO NOT NECESSARILY SHOW THE PHYSICAL ARRANGEMENT OF THE EQUIPMENT. THEY SHALL NOT BE USED FOR OBTAINING LINEAL RUNS OF PIPING OR DUCTWORK, NOR SHALL THEY BE USED FOR SHOP DRAWINGS FOR PIPING AND DUCTWORK FABRICATION OR ORDERING. DISCREPANCIES SHOWN ON DIFFERENT PLANS, OR BETWEEN PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION.

MATERIALS AND EQUIPMENT

1. MANUFACTURER'S TRADE NAMES AND CATALOG NUMBERS ARE LISTED TO INDICATE THE QUALITY OF EQUIPMENT OR MATERIALS DESIRED FOR INSTALLATION. ALTERNATIVE EQUIPMENT OR MATERIALS MAY BE SUBMITTED FOR PRIOR APPROVAL BEFORE BIDDING THE PROJECT. NO SUBSTITUTIONS WILL BE ALLOWED AFTER BIDDING.
2. WRITTEN PRIOR APPROVAL FOR SUBSTITUTIONS MUST BE SUBMITTED TO AND RECEIVED BY THE ARCHITECT/ENGINEER SEVEN (7) DAYS PRIOR TO BID OPENING. REQUESTS FOR SUBSTITUTION ARE TO BE SUBMITTED SUFFICIENTLY AHEAD OF THE DEADLINE TO GIVE AMPLE TIME FOR EXAMINATION. PRIOR APPROVAL REQUEST FOR SUBSTITUTION MUST INDICATE THE SPECIFIC ITEM OR ITEMS TO BE FURNISHED IN LIEU OF THOSE SCHEDULED, TOGETHER WITH COMPLETE TECHNICAL AND COMPARATIVE DATA ON SCHEDULED ITEMS AND ITEMS PROPOSED FOR SUBSTITUTION.
3. HIGH ALTITUDE OPERATION: CAPACITY OF ALL EQUIPMENT IS TO BE SIZED AND MANUFACTURED TO PERFORM AT THE ELEVATION OF THE PROJECT SITE. IF NOT SPECIFICALLY INDICATED IN THE EQUIPMENT SCHEDULE OR IN THE SPECIFICATIONS PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR PROPER OPERATION AT ELEVATION OF THE PROJECT SITE.
4. STORE MATERIALS AND EQUIPMENT INDOORS AT THE JOB SITE OR, IF THIS IS NOT POSSIBLE, STORE ON RAISED PLATFORMS AND PROTECT FROM THE WEATHER BY MEANS OF WATERPROOF COVERS. COVERINGS SHALL PERMIT CIRCULATION OF AIR AROUND THE MATERIALS TO PREVENT CONDENSATION OF MOISTURE. SCREEN OR CAP OPENINGS IN EQUIPMENT TO PREVENT THE ENTRY OF VERMIN.
5. ALL NEW PIPING SHALL BE IDENTIFIED WITH SETON SET MARK PIPE MARKERS. LETTERED TO MATCH EXISTING - IF APPLICABLE - AND MARKED AT A MAXIMUM OF EVERY 25 FT. ALL NEW VALVES SHALL BE IDENTIFIED WITH BRASS OR ALUMINUM VALVE TAGS.

MATERIALS AND EQUIPMENT (CONT.)

6. SEE THE DUCTWORK SCHEDULE AND MECHANICAL PIPING SCHEDULE ON THE DRAWINGS FOR MATERIAL AND INSULATION REQUIREMENTS.
7. COORDINATE THE INSTALLATION OF GRILLES, REGISTERS AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS AND THE ELECTRICAL LIGHTING PLANS.
8. VERIFY THE LOCATION OF THERMOSTATS AND SENSORS WITH THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION. INSTALL THERMOSTATS 48" ABOVE FINISHED FLOOR PER ADA REQUIREMENTS.
9. PROVIDE AND INSTALL SEISMIC BRACING FOR ALL EQUIPMENT, DUCTWORK AND PIPING PER THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE.
10. FLEXIBLE DUCTWORK BETWEEN BRANCH DUCTS AND GRILLES, REGISTERS OR DIFFUSERS SHALL BE LIMITED TO 5FT.
11. INSTALL ACCESSIBLE PLUMBING FIXTURES IN COMPLIANCE WITH ADA REQUIREMENTS. INSULATE ALL EXPOSED PIPING BELOW ADA ACCESSIBLE FIXTURES.
12. INSTALL FLOOR DRAIN STRAINERS AND CLEANOUT COVERS FLUSH AND LEVEL WITH FINISHED FLOOR.
13. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE-CAULKING ALL FIRE-RATED AND SMOKE-RATED WALL PENETRATIONS OF PIPING, DUCTWORK, ETC.
14. PROVIDE ACCESS DOORS TO ALLOW SERVICE AND INSPECTION OF EQUIPMENT, VALVES, DAMPERS AND DEVICES INSTALLED ABOVE NON-REMOVABLE CEILINGS.

SHOP DRAWINGS AND SUBMITTALS

1. WITHIN 30 DAYS OF AWARDED OF THE CONTRACT, THE MECHANICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR SUBMITTALS FOR ALL SCHEDULED EQUIPMENT AND MATERIALS INCLUDED IN THE CONSTRUCTION DOCUMENTS.
2. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE IN THE FORM OF ELECTRONICALLY TRANSMITTED PDFS. SHOP DRAWINGS AND SUBMITTALS SHALL INCLUDE SHOP DRAWINGS AND LITERATURE SHOWING ITEMS TO BE USED, SIZE, DIMENSIONS, CAPACITY, ROUGH-IN, AND ANY OTHER INFORMATION NECESSARY FOR A COMPLETE REVIEW. MANUFACTURER'S LITERATURE SHOWING MORE THAN ONE ITEM SHALL BE CLEARLY MARKED AS TO WHICH ITEM IS BEING FURNISHED OR IT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
3. EACH SUBMITTED ITEM MUST BE CLEARLY MARKED WITH THE PROJECT NAME, DATE, BRANCH OF WORK, SUBMITTING PARTY, REVISION NUMBER, AND ASSOCIATED SCHEDULE. SUBMITTALS NOT IDENTIFIED AS DESCRIBED ABOVE WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
4. PRIOR TO THEIR SUBMISSION, EACH SUBMITTAL SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR COMPLIANCE WITH THE CONTRACT DOCUMENT REQUIREMENTS. EACH SUBMITTAL SHALL THEN BEAR A STAMP EVIDENCING SUCH CHECKING AND SHALL SHOW CORRECTIONS MADE. IF ANY SUBMITTALS REQUIRING EXTENSIVE CORRECTIONS SHALL BE REVISED BEFORE SUBMISSION TO THE ENGINEER. EACH SUBMITTAL NOT STAMPED AND SIGNED BY THE CONTRACTOR EVIDENCING SUCH CHECKING WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
5. REVIEW OF THE SHOP DRAWINGS AND LITERATURE BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FOR RESPONSIBILITY FOR DEVIATIONS FOR THE DRAWINGS OR SPECIFICATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN THE SHOP DRAWINGS OR LITERATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE MATERIALS AND EQUIPMENT WHICH MEET THE SPECIFICATIONS AND JOB REQUIREMENTS.

REVIEW & SITE INSPECTIONS

1. ALL WORK AND MATERIAL IS SUBJECT TO REVIEW AT ANY TIME BY THE ARCHITECT/ENGINEER OR THEIR REPRESENTATIVE. IF THE ARCHITECT/ENGINEER OR THEIR REPRESENTATIVE FINDS MATERIAL THAT DOES NOT CONFORM TO THESE SPECIFICATIONS OR THAT IS NOT PROPERLY INSTALLED OR FINISHED, CORRECT THE DEFICIENCIES IN A MANNER SATISFACTORY TO THE ARCHITECT/ENGINEER AT THE CONTRACTOR'S EXPENSE.

STARTUP, TESTING AND OWNER TRAINING - COORDINATE REQUIREMENTS LISTED WITH MSU DIVISION 01 SPECIFICATIONS

NOTE: WHERE DISCREPANCIES BETWEEN THE FOLLOWING NOTES AND MSU DIVISION 01 SPECIFICATIONS OCCUR, MSU DIVISION 01 SPECIFICATIONS SHALL TAKE PRECEDENCE.

1. ENGAGE A FACTORY AUTHORIZED REPRESENTATIVE TO CONDUCT AN INSPECTION OF THE INSTALLATION OF THEIR COMPANIES EQUIPMENT PRIOR TO START-UP OF ANY EQUIPMENT. THE REPRESENTATIVE SHALL SUBMIT A REPORT IDENTIFYING ANY DEFICIENCIES TO THE ARCHITECT, ENGINEER AND CONSTRUCTION MANAGER. ANY DEFICIENCIES IDENTIFIED SHALL BE ADDRESSED PRIOR TO START-UP. START-UP SHALL BE CONDUCTED BY A FACTORY AUTHORIZED REPRESENTATIVE. STARTUP REPORTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER ONCE COMPLETED.
2. NEW AIR AND WATER SYSTEMS SHALL BE BALANCED IN THEIR ENTIRETY TO THE SATISFACTION OF THE ENGINEER IN ACCORDANCE WITH NEBB STANDARDS. APPROVED TEST AND BALANCE CONTRACTORS ARE: AIR COMMANDER, TEST COMM, RGO INC., AND PRECISION
3. THE MECHANICAL CONTRACTOR SHALL PROVIDE 4 HRS OF TRAINING TO THE OWNER TO ENSURE THE OWNER KNOWS HOW TO OPERATE THE SYSTEMS INSTALLED UNDER THE MECHANICAL CONTRACT. PROVIDE AN ADDITIONAL 4 HRS OF ADDITIONAL SERVICE THROUGH THE FIRST YEAR OF OPERATION TO ADDRESS QUESTIONS THAT MAY ARISE.

PROJECT CLOSEOUT - COORDINATE REQUIREMENTS LISTED WITH MSU DIVISION 01 SPECIFICATIONS

NOTE: WHERE DISCREPANCIES BETWEEN THE FOLLOWING NOTES AND MSU DIVISION 01 SPECIFICATIONS OCCUR, MSU DIVISION 01 SPECIFICATIONS SHALL TAKE PRECEDENCE.

1. THE MECHANICAL CONTRACTOR SHALL MAINTAIN AT THE PROJECT SITE, A "RECORD SET OF DRAWINGS" SHOWING FIELD CHANGES, AS-BUILT ELEVATIONS, UNUSUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION, AND SUCH OTHER DATA AS REQUIRED TO PROVIDE THE OWNER WITH AN ACCURATE "AS CONSTRUCTED" SET OF RECORD DRAWINGS. THE CONTRACTOR SHALL FURNISH THIS "RECORD SET" TO THE ENGINEER FOLLOWING THE FINAL INSPECTION OF THE PROJECT.
2. THE MECHANICAL CONTRACTOR SHALL PROVIDE AN "OPERATION AND MAINTENANCE MANUAL" (O&M MANUAL) PRIOR TO THE COMMENCEMENT OF OWNER TRAINING. THE O&M MANUAL SHALL BE PROVIDED IN DIGITAL OR THREE PAPER COPIES (BOUND & LABELED) FORMAT AS REQUESTED BY THE ENGINEER OR OWNER. THE O&M MANUAL SHALL CONSIST OF A TITLE PAGE, TABLE OF CONTENTS, AND MANUAL CONTENTS. THE MANUAL CONTENTS SHALL CONSIST OF PRODUCT DATA INFORMATION, PRODUCT SERVICE/MAINTENANCE MANUAL, AND EXECUTED WARRANTY FOR EACH AND ALL EQUIPMENT AND PRODUCTS INSTALLED UNDER THE SCOPE OF THIS PROJECT.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

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
R-1	PRICE	80	EGG CRATE RETURN GRILLE 24" X 12"	RETURN	1260	18	-	0.013	-	-	ALUMINUM	BY ARCH	SEE NOTES

NOTES: PROVIDE MANUAL BALANCING DAMPER AT LOCATIONS WHERE A SPECIFIED AIR VOLUME IS REQUIRED. COORDINATE GRAME AND MOUNTING TYPE WITH CEILING TYPES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FITTINGS AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION. SCHEDULED NC VALUES ARE VALID FOR SCHEDULED AIRFLOW ONLY AND REPRESENT A MAXIMUM ACCEPTABLE NC VALUE. SUBSTITUTED EQUIPMENT SHALL HAVE NC VALUE EQUAL TO OR BELOW THE SCHEDULED NC AT THE AIRFLOW LISTED ON THE PLANS.

ELECTRIC WALL HEATER SCHEDULE

MARK	MFGR.	MODEL	SERVES	BTU/HR	ELECTRICAL DATA				REMARKS
					VOLTAGE	PHASE	WATTS	AMPS	
EW-H-1	QMARK	CWH1201DSAF	VESTIBULE 214	6143	120	1	1800	15	SEE NOTES

NOTES: PROVIDE UNIT COMPLETE WITH INTEGRAL THERMOSTAT, FACTORY MOUNTED DISCONNECT, RECESSED MOUNTING FRAME AND ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.



MSU-CPDC
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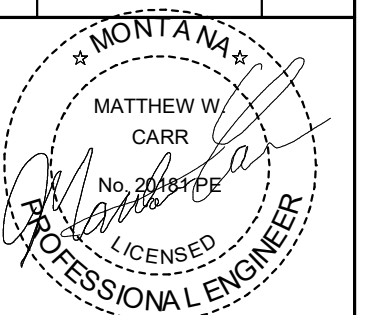
BRICK BREEDEN AAC
BOZEMAN, MONTANA

BID / PERMIT DRAWINGS



DRAWN BY: CMS
REVIEWED BY: MWC

REV.	DESCRIPTION	DATE



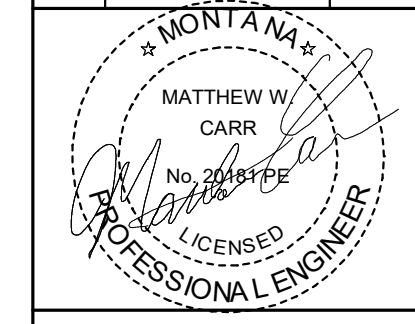
PPA#19-0117
A/E#00-00-00

2042
SHEET TITLE
MECH. SCHED. & DETAILS

SHEET
M002

DATE
JAN. 13, 2023

REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00

2042

SHEET TITLE
MECH. DEMO. PLAN

SHEET
MD101

DATE
JAN. 13, 2023

KEY NOTES:

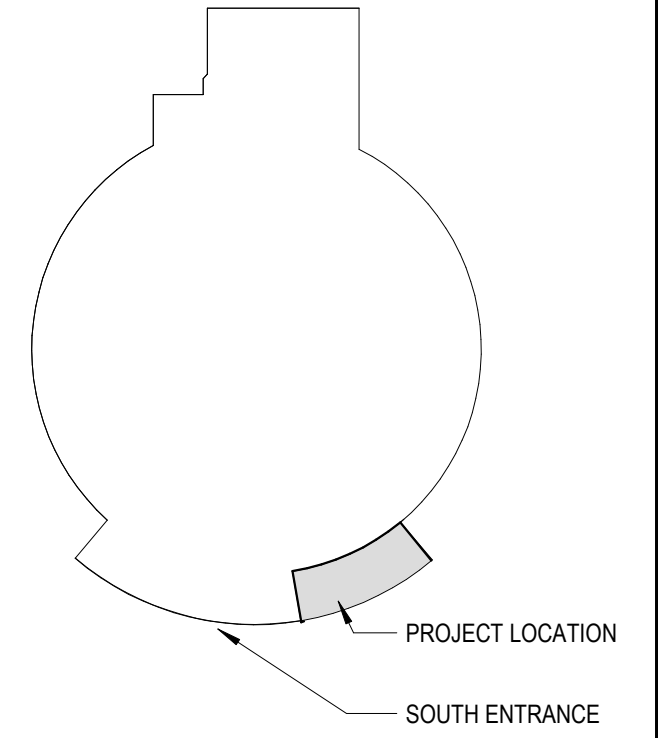
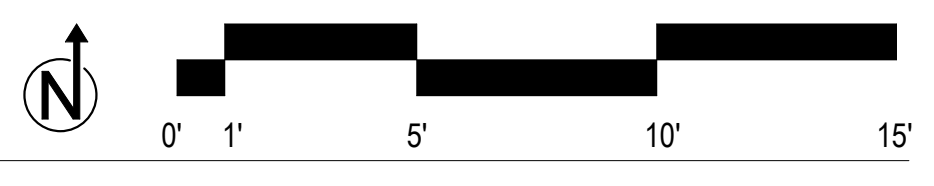
- DEMOLISH DOMESTIC COLD AND DOMESTIC HOT WATER, VENT AND WASTE PIPING BACK TO NEAREST MAIN AND CAP.
- VERIFY MAX AIRFLOW OF DIFFUSER PRIOR TO DEMOLITION.

MECHANICAL DEMO NOTES

- 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.
- EXISTING MECHANICAL AND PLUMBING EQUIPMENT, PLUMBING FIXTURES, DUCTWORK, AND PIPING SHOWN AS DARK AND DASHED SHALL BE DEMOLISHED. EXISTING MECHANICAL AND PLUMBING EQUIPMENT, PLUMBING FIXTURES, DUCTWORK, AND PIPING SHOWN LIGHT SHALL REMAIN UNCHANGED.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE SALVAGE OF REMOVED EQUIPMENT IN GOOD CONDITION WITH THE OWNER. THE MECHANICAL CONTRACTOR SHALL DISPOSE OF UNWANTED EQUIPMENT.
- 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 AND PLUMBING SYSTEMS.
- PROTECT EXISTING BUILDING ELEMENTS DURING DEMOLITION WORK. COORDINATE WITH OTHER TRADES TO ENSURE NO EXISTING EQUIPMENT / PIPING TO REMAIN IS DAMAGED DURING THE DEMOLITION WORK.

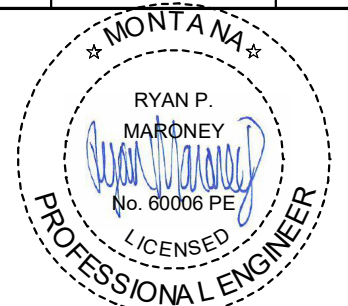


1 MECHANICAL DEMOLITION
 1/4" = 1'-0"



BUILDING KEY PLAN
 NTS

REV.	DESCRIPTION	DATE



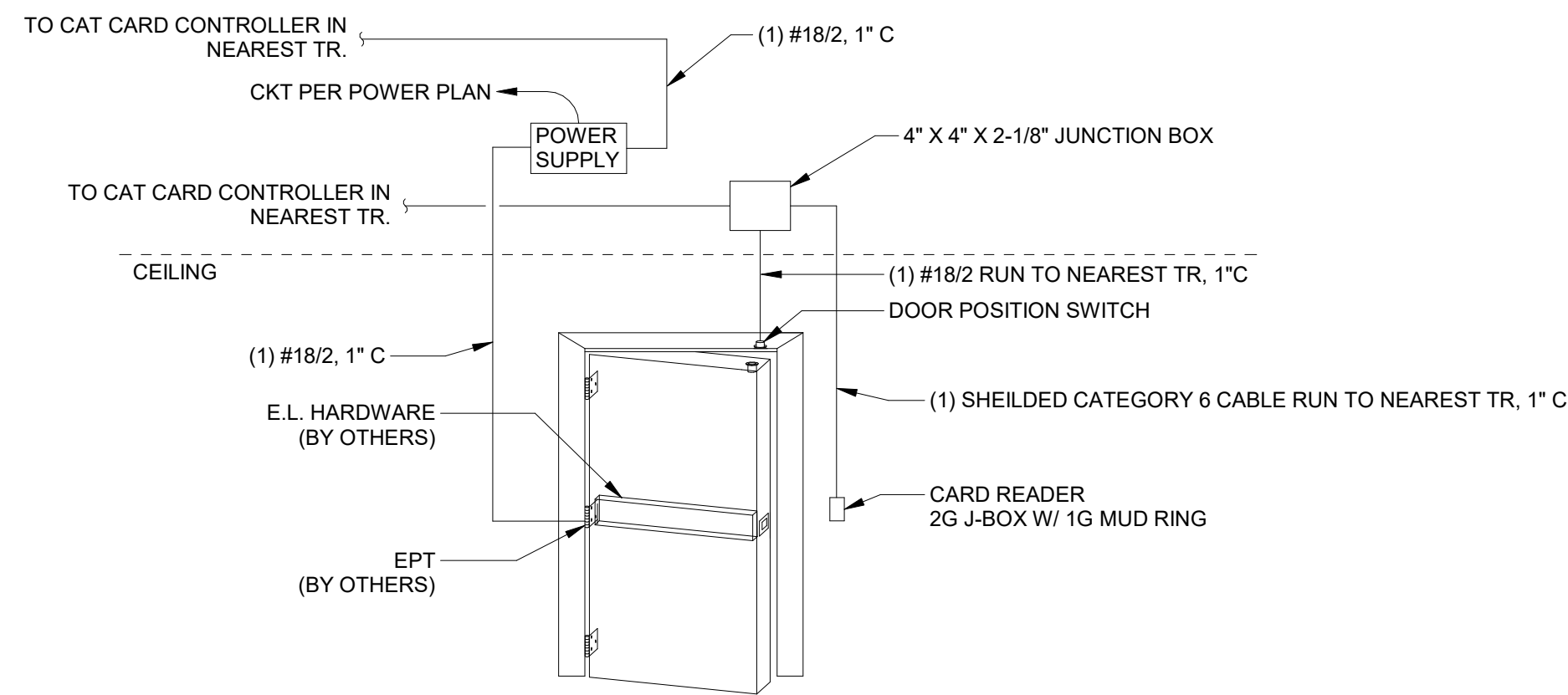
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2042

SHEET TITLE
ELECTRICAL DETAILS
AND SCHEDULES

SHEET
E001

DATE
JAN. 13, 2023



- NOTES:
- COORDINATE DOOR HARDWARE WITH ARCHITECT.
 - VERIFY REQUIREMENTS WITH MSU PRIOR TO BID.
 - VERIFY REQUIREMENTS WITH OWNER AND MSU PRIOR TO ROUGH-IN.
 - E.C. PROVIDE ALL 120V POWER CIRCUITING, LOW VOLTAGE SIGNAL WIRING, AND ROUGH-IN FOR SIGNAL WIRING DEVICES BY MSU.

1 ACCESS CONTROL INFRASTRUCTURE DETAIL - CAT CARD DOOR
N.T.S.

LUMINAIRE SCHEDULE											
TYPE	LAMPS	LOAD (W)	OUTPUT (LM, NOMINAL)	CCT (K)	DESCRIPTION	MFR	CATALOG NO. OR SERIES	MOUNTING	VOLTAGE	NOTES	
E1	LED	15 W	1,800	3000	LED WALL PACK W/ INTEGRAL PHOTOCCELL	LITHONIA	WDGE1 LED P1 30K 80CRI VW MVOLT PBBW PE DNAXD	WALL	277 V	1,10	

NOTES:

- PRIOR SUBMITTAL NOT REQUIRED. ALL ALTERNATE FIXTURE SHOP DRAWINGS WILL BE REVIEWED AFTER THE PROJECT IS AWARDED.
- PRIOR SUBMITTAL IS REQUIRED.
- ALTERNATE FIXTURE IS NOT ACCEPTED FOR SUBSTITUTIONS.
- PROVIDE 0-10V DIMMING, DOWN TO 10% LUMEN OUTPUT, MINIMUM.
- PROVIDE FUSING.
- VERIFY FINISH WITH ARCHITECT.
- PROVIDE WITH REMOTE 12V STEP-DOWN TRANSFORMER.
- CIRCUIT VIA TYPE EM INVERTER.
- LAMP DATA IS FOR 4\"/>

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.

Branch Panel: CLA													
Location: WORK AREA 212					Volts: 120/208 Wye				A.I.C. Rating: EXISTING				
Supply From: EXISTING					Phases: 3				Mains Type: MLO				
Mounting: Recessed					Wires: 4				Mains Rating: 225 A				
Enclosure: Type 1													
Notes: EXISTING PANEL													
CKT	Circuit Description	Load Classification	Trip	Poles	A	B	C	Poles	Trip	Load Classification	Circuit Description	CKT	
1	EXISTING	--	20 A	1	0	0		1	20 A	--	EXISTING	2	
3	EXISTING	--	20 A	1		0	0	1	20 A	--	EXISTING	4	
5	EXISTING	--	20 A	1			0	0	1	20 A	--	EXISTING	6
7	EXISTING	--	20 A	1	0	0		1	20 A	--	EXISTING	8	
9	EXISTING	--	20 A	1		0	0	1	20 A	--	EXISTING	10	
11	EXISTING	--	20 A	1			0	0	1	20 A	--	EXISTING	12
13	EXISTING	--	20 A	1	0	0		1	20 A	--	EXISTING	14	
15	EXISTING	--	20 A	1		0	0	1	20 A	--	EXISTING	16	
17	EXISTING	--	20 A	1			0	0	1	20 A	--	EXISTING	18
19	EXISTING	--	20 A	1	0	0		1	20 A	--	EXISTING	20	
21	EXISTING	--	20 A	1		0	0	1	20 A	--	EXISTING	22	
23	EXISTING	--	20 A	1			0	0	1	20 A	--	EXISTING	24
25	EXISTING	--	20 A	1	0	0		1	20 A	--	EXISTING	26	
27	EXISTING	--	20 A	1		0	0	1	20 A	--	EXISTING	28	
29	EXISTING	--	20 A	1			0	0	1	20 A	--	EXISTING	30
31	EXISTING	--	20 A	1	0	0		1	20 A	--	EXISTING	32	
33	EXISTING	--	20 A	1		0	0	1	20 A	--	EXISTING	34	
35	EXISTING	--	20 A	1			0	0	1	20 A	--	EXISTING	36
37	<1>RCPT-MEETING ROOM 224 & 225	Receptacle	20 A	1	540	180		1	20 A	Receptacle	<1>RCPT-WORK AREA 212	38	
39	<1>RCPT-WORK AREA 212	Receptacle	20 A	1			1440	500	1	20 A	Power	<1>ACCESS CONTROL POWER SUPPLY	40
41	<1>EWH-1	Heating	20 A	1				1800	--	--	SPACE	42	
Total Load:					720 VA	1940 VA	1800 VA						
Total Amps:					6 A	18 A	16 A						
Legend: <1> PROVIDE NEW CIRCUIT BREAKER													
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals									
Heating	1800 VA	100.00%	1800 VA										
Power	500 VA	100.00%	500 VA										
Receptacle	2160 VA	100.00%	2160 VA										
				Total Conn. Load: 4460 VA									
				Total Est. Demand: 4460 VA									
				Total Conn.: 12 A									
				Total Est. Demand: 12 A									
Notes: EXISTING PANEL MANUFACTURER IS GE.													

BID / PERMIT DRAWINGS

260010 - GENERAL REQUIREMENTS OF ELECTRICAL

A. SUMMARY

- 1. THE REQUIREMENTS LISTED IN THIS SECTION ARE SUPPLEMENTAL TO THE DIVISION 01 GENERAL REQUIREMENTS.
2. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS TO EXAMINE AND REFER TO ALL ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING AND LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION CONDITIONS WHICH MAY AFFECT THE SCOPE OF ELECTRICAL, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY WORK. INSPECT THE BUILDING SITE AND EXISTING FACILITIES FOR VERIFICATION OF PRESENT CONDITIONS. MAKE PROPER PROVISIONS FOR THESE CONDITIONS IN PERFORMANCE OF THE WORK AND COST THEREOF.
3. ELECTRICAL, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY WORK FOR THIS PROJECT SHALL INCLUDE ALL ITEMS, ARTICLES, MATERIALS AND THE ASSOCIATED LABOR MENTIONED, SCHEDULES OR SHOWN IN THESE SPECIFICATIONS AND IN THE ACCOMPANYING DRAWINGS.
4. FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS AND ANY REQUIRED INCIDENTAL ITEMS REQUIRED BY GOOD PRACTICE TO COMPLETE THE SYSTEMS DESCRIBED HEREIN.
5. REFER TO DIVISION 01 FOR ALL LISTED ALTERNATES AND PROVIDE SEPARATE PRICING AND WORK AS INDICATED IN DIVISION 01 AND CONTRACT DOCUMENTS.

B. DEFINITIONS - THROUGHOUT CONTRACT DOCUMENTS THESE WORDS AND PHRASES ARE USED:

- 1. CONTRACT DOCUMENTS - ALL DRAWINGS, SPECIFICATIONS, ADDENDA AND CHANGE ORDERS THAT DOCUMENT WORK TO BE DONE.
2. DEMOLITION - CAREFULLY DISCONNECT AND REMOVE ITEMS. ALL REASONABLE CAUTION SHALL BE TAKEN TO AVOID DAMAGING REMOVED EQUIPMENT AND TO RETAIN ITS OPERABILITY.
3. REMOVE BACK TO SOURCE - REMOVE ALL CONDUIT AND WIRE BACK TO PANELBOARD OR LAST LIVE DEVICE.
4. EQUIVALENT OR EQUAL - PRODUCT OF LIKE TYPE AND FUNCTION THAT COMPLIES WITH ALL APPLICABLE PROVISIONS OF DRAWINGS AND SPECIFICATIONS AND WHICH HAS BEEN APPROVED AS SUBSTITUTE FOR SPECIFIED ITEM.
5. PURCHASE MATERIAL AS SHOWN OR SPECIFIED AND PLACE MATERIAL TO APPROVED LOCATION ON SITE OR ELSEWHERE AS NOTED OR AGREED UPON.
6. INSTALL - SET IN PLACE AND CONNECT, READY FOR USE AND IN COMPLETE AND PROPERLY OPERATING FINISHED CONDITION.
7. PROVIDE - FURNISH WITH ALL PRODUCTS, LABOR, SUB-CONTRACTS, AND ADJUSTMENTS REQUIRED FOR A COMPLETE AND PROPERLY OPERATING, FINISHED CONDITION.
8. ROUGH-IN - PROVIDE CONDUIT RACEWAY SYSTEM WITH JUNCTION BOXES, FITTINGS, STRAPS, BUSHINGS, ETC., FOR FUTURE INSTALLATION OF WIRING. PATCHES, DISCONNECTS AND BREAKERS PROVIDED SHALL BE MADE IN PANELBOARDS (HARDWARE, ETC.) FOR FUTURE INSTALLATION OF BREAKERS.
9. SERVICEABLE - ARRANGED SO THAT COMPONENT OR PRODUCT IN QUESTION MAY BE PROPERLY REMOVED AND REPLACED WITHOUT DISASSEMBLY, DESTRUCTION OR DAMAGE TO SURROUNDING INSTALLATION.

C. CODES

- 1. CODES - PERFORM TO STRICT ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, INCLUDING, BUT NOT LIMITED TO LATEST LEGALLY ENACTED EDITIONS OF FOLLOWING CODES:
a. NFPA 70, NATIONAL ELECTRIC CODE - NEC
b. NFPA 72, NATIONAL FIRE ALARM CODE
c. ANSI-C22, NATIONAL ELECTRICAL SAFETY CODE - NESC
d. INTERNATIONAL BUILDING CODE - IBC
e. INTERNATIONAL FIRE CODE - IFC
f. INTERNATIONAL ENERGY CONSERVATION CODE - IECC
2. STANDARDS - REFERENCE TO STANDARDS INFERS THAT INSTALLATION, EQUIPMENT AND MATERIAL SHALL BE WITHIN LIMITS FOR WHICH IT WAS DESIGNED, TESTED AND APPROVED, IN CONFORMANCE WITH CURRENT PUBLICATIONS AND STANDARDS OF FOLLOWING ORGANIZATIONS:
a. AMERICAN NATIONAL STANDARDS INSTITUTE - ANSI
b. AMERICAN SOCIETY FOR TESTING AND MATERIALS - ASTM
c. AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS - ASHRAE (STANDARD 90.75)
d. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS - IEEE
e. INSULATED CABLE ENGINEERS ASSOCIATION - ICEA
f. NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION - NECA
g. NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION - NEMA
h. NATIONAL FIRE PROTECTION ASSOCIATION - NFPA
i. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION - OSHA
j. UNDERWRITERS' LABORATORIES, INC. - UL
k. RULES AND REGULATIONS OF THE STATE/LOCAL FIRE MARSHAL
l. STANDARDS AND REQUIREMENTS OF THE SERVING UTILITIES
m. STATE AND LOCAL ORDINANCES
3. REGULATIONS - DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH APPLICABLE REGULATIONS AND GUIDELINES NOTED BELOW. CONTRACTOR SHALL CAREFULLY APPLY THESE REGULATIONS AND BRING ANY DISCREPANCIES TO IMMEDIATE ATTENTION TO ARCHITECT/ENGINEER.
a. AMERICANS WITH DISABILITIES ACT - ADA

D. FEES AND PERMITS

- 1. ELECTRICAL CONTRACTOR SHALL PAY FOR ALL PERMITS OR FEES IN CONNECTION WITH ELECTRICAL WORK. FEES SHALL INCLUDE ANY OR ALL USER FEES, GOVERNMENT, O&M, SYSTEM DEVELOPMENT FEES, CONNECTION FEES OR OTHER FEES THAT ARE REQUIRED TO BE PAID BEFORE SYSTEMS CAN BE CONNECTED OR USED.
2. SCHEDULE ALL REQUIRED ELECTRICAL INSPECTIONS WITH LOCAL ELECTRICAL INSPECTOR. NOTIFY ENGINEER OF ALL ITEMS OF DISCREPANCY NOTED BY ELECTRICAL INSPECTOR IF THOSE ITEMS AFFECT COST OR FUNCTION OF SYSTEM, OR IF THEY CONFLICT WITH ELECTRICAL DRAWINGS AND SPECIFICATIONS.
3. ALL UTILITY COST AND FEES FROM THE UTILITY WORK SHALL BE THE RESPONSIBILITY OF THE OWNER. CONTRACTOR TO COORDINATE ALL UTILITY REQUIREMENTS, STANDARDS AND RESPONSIBILITIES WITH SERVING UTILITY FOR A COMPLETE SCOPE OF WORK PRIOR TO BID.
4. DELIVER ALL INSPECTION CERTIFICATES TO ARCHITECT/ENGINEER PRIOR TO FINAL ACCEPTANCE OF WORK.

E. INTENT OF SPECIFICATIONS AND DRAWINGS

- 1. PLANS AND SPECIFICATIONS ARE INTENDED TO RESULT IN COMPLETE ELECTRICAL INSTALLATION IN FULL COMPLIANCE WITH ALL APPLICABLE CODES, STANDARDS AND ORDINANCES.
2. PLANS AND SPECIFICATIONS ARE TO SUPPLEMENT EACH OTHER AND ANY DETAILS CONTAINED IN ONE SHALL BE INCLUDED AS IF CONTAINED IN BOTH.
3. ELECTRICAL DRAWINGS SHALL SERVE AS WORKING DRAWINGS, BUT ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE IF ANY DIMENSIONAL DISCREPANCIES EXIST.
4. DRAWINGS ARE PARTLY DIAGRAMMATIC AND DO NOT SHOW ROUTING OF CONDUITS, EXACT LOCATION OF PRODUCTS, OR INSTALLATION FEATURES IN EXACT DETAIL. LOCATIONS OF DEVICES, FIXTURES AND EQUIPMENT ARE APPROXIMATE UNLESS OTHERWISE NOTED.
5. RISER DIAGRAMS AND CONTROL SCHEMATICS ARE NOT TO SCALE AND DO NOT SHOW PHYSICAL ARRANGEMENT OF EQUIPMENT. DO NOT USE RISER DIAGRAMS OR SCHEMATICS TO OBTAIN LINEAL CONDUIT AND CABLING DISTANCES.
6. ITEMS ARE SHOWN ON DRAWINGS IN LOCATIONS TO MINIMIZE INTERFERENCE WITH OTHER EQUIPMENT, STRUCTURAL MEMBERS, ETC. EXACT FINISH LOCATIONS ARE NOT INDICATED, HOWEVER, AND ALL WORK SHALL BE DONE TO AVOID INTERFERENCE. PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.
7. IN EVENT THAT DISCREPANCIES OF ANY KIND EXIST OR REQUIRED ITEMS/DETAILS HAVE BEEN OMITTED, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IN WRITING OF SUCH DISCREPANCY OR OMISSION AT LEAST TEN DAYS PRIOR TO BID DATE. FAILURE TO DO SO SHALL BE CONSTRUED AS WILLINGNESS OF CONTRACTOR TO SUPPLY ALL NECESSARY MATERIALS AND LABOR REQUIRED FOR PROPER COMPLETION OF WORK.

F. CONTRACTOR'S RESPONSIBILITY - CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF COMPLETE AND FUNCTIONAL PIECE OF WORK IN ACCORDANCE WITH TRUE INTENT OF CONTRACT DOCUMENTS. PROVIDE ALL INCIDENTAL ITEMS REQUIRED FOR COMPLETE INSTALLATION AND SATISFACTORY OPERATION OF ALL EQUIPMENT, WHETHER OR NOT SPECIFICALLY NOTED IN CONTRACT DOCUMENTS.

1. QUALIFICATIONS

- a. CONTRACTOR SHALL EMPLOY ON THIS PROJECT, CAPABLE, EXPERIENCED AND RELIABLE FOREMAN AND SUCH SKILLED WORKMEN AS MAY BE REQUIRED FOR VARIOUS CLASSES OF WORK TO BE PERFORMED.
b. WHERE SPECIAL SKILLS AND CERTIFICATION ARE REQUIRED, CONTRACTOR SHALL ENSURE THAT WORK IS PERFORMED BY INDIVIDUALS WITH REQUIRED EXPERIENCE, SKILL AND CERTIFICATION.
c. IF, IN ENGINEER'S OPINION, CONTRACTOR'S EMPLOYEES DO NOT POSSESS NECESSARY QUALIFICATIONS TO PERFORM SPECIALTY WORK, CONTRACTOR WILL BE REQUIRED TO OBTAIN SERVICES OF WORKMEN WHO ARE APPROVED BY MANUFACTURER AND CERTIFIED BY APPLICABLE AGENCY OR GROUP. THESE WORKMEN, IF REQUIRED, SHALL BE PROVIDED AT NO ADDITIONAL EXPENSE.
d. REFER TO OTHER SPECIFICATION SECTIONS FOR ADDITIONAL REQUIRED CONTRACTOR QUALIFICATIONS AND CERTIFICATION.
2. LICENSING AND CERTIFICATION - ALL DIVISION 26 WORK SHALL BE DONE, CERTIFIED AS REQUIRED, AND SKILLED IN THEIR CRAFT. ELECTRICIAN MAY ELECT TO HIRE SUBCONTRACTORS FOR PORTIONS OF WORK (SUCH AS SYSTEMS DESCRIBED IN DIVISIONS 27 AND 28) WHO ARE NOT LICENSED ELECTRICIANS, BUT HAVE REQUIRED CERTIFICATES AND ARE LICENSED IN THEIR DISCIPLINE BY STATE IN WHICH WORK IS BEING DONE.

3. COORDINATION

- a. CONTRACTOR SHALL CONSULT ALL CONTRACT DOCUMENTS, SHOP DRAWINGS OF OTHER TRADES, AND ACTUAL BUILDING DIMENSIONS TO DETERMINE THAT HIS WORK AND EQUIPMENT WILL FIT AS PLANNED. DO NOT SCALE DRAWINGS FOR FABRICATION. NO EXTRA PAYMENT WILL BE ISSUED FOR MATERIALS OR ITEMS WHICH DO NOT FIT BECAUSE OF CONTRACTOR'S FAILURE TO VERIFY AS-BUILT BUILDING DIMENSIONS. CONTRACTOR SHALL CHECK LOCATION OF FIXTURES, OUTLETS, EQUIPMENT, CONDUIT, ETC., TO DETERMINE THEY CLEAR ALL OPENINGS, STRUCTURAL MEMBERS, PIPING, DUCTS AND MISCELLANEOUS EQUIPMENT HAVING FIXED LOCATIONS.
b. CONTRACTOR SHALL VERIFY AS-BUILT BUILDING DIMENSIONS. CONTRACTOR SHALL CHECK LOCATION OF FIXTURES, OUTLETS, EQUIPMENT, CONDUIT, ETC., TO DETERMINE THEY CLEAR ALL OPENINGS, STRUCTURAL MEMBERS, PIPING, DUCTS AND MISCELLANEOUS EQUIPMENT HAVING FIXED LOCATIONS.
c. CHANGES IN LOCATION OF ELECTRICAL WORK, NECESSARY DUE TO OBSTACLES OR INSTALLATION OF OTHER TRADES SHOWN ON CONTRACT DOCUMENTS, SHALL BE MADE BY ELECTRICAL CONTRACTOR AT NO EXTRA COST.
d. CONTRACTOR SHALL COORDINATE WITH PLUMBING AND MECHANICAL CONTRACTORS TO AVOID INSTALLATION OF PIPING AND DUCTWORK ABOVE OR BELOW PANELBOARDS IN VIOLATION OF NATIONAL ELECTRICAL CODE.
e. LAY OUT ALL WORK IN ADVANCE AND AVOID CONFLICT WITH OTHER WORK IN PROGRESS. PHYSICAL DIMENSIONS SHALL BE DETERMINED FROM ARCHITECTURAL AND STRUCTURAL PLANS. VERIFY LOCATIONS FOR JUNCTION BOXES, DISCONNECT SWITCHES, TUB-UPS, ETC., FOR CONNECTION TO EQUIPMENT FURNISHED BY OTHERS, OR IN OTHER DIVISIONS OF THIS WORK.
f. CONTRACTOR SHALL COORDINATE AND PLAN WORK TO PROCEED WITH WORK OF OTHER TRADES.
g. CONTRACTOR SHALL INFORM GENERAL CONTRACTOR OF ALL REQUIRED OPENINGS IN BUILDING STRUCTURE FOR INSTALLATION OF ELECTRICAL EQUIPMENT.
h. CONTRACTOR SHALL CHECK DIMENSIONS OF ALL ELECTRICAL EQUIPMENT INSTALLED, PROVIDED BY HIMSELF OR BY OTHERS, SO CORRECT OR REPAIR BEFORE CONNECTIONS CAN BE MADE.
i. CONSULTING ALL CONTRACT DOCUMENTS AND SHOP DRAWINGS OF OTHER TRADES, CONTRACTOR SHALL DETERMINE WHERE ELECTRICAL JUNCTION/PULL BOXES AND EQUIPMENT CAN BE INSTALLED TO MAINTAIN PROPER ACCESSIBILITY, WHERE ACCESSIBILITY CANNOT BE MAINTAINED BY JUDICIOUS PLACEMENT OF BOXES, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE, FABRICATE, INSTALL, ADJUST, PAINT, ETC. ACCESS DOORS THROUGH NON-ACCESSIBLE FLOOR, WALL, AND CEILING FINISHES TO ALLOW ACCESS TO ALL ELECTRICAL JUNCTION AND PULL BOXES, ELECTRICAL DEVICES, ELECTRICAL EQUIPMENT, ETC. AT ALL RELEVANT LOCATIONS WHETHER SHOWN OR NOT SHOWN ON PLANS. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING SIZE AND LOCATION OF THE ACCESS DOORS. REPORT ANY CONFLICTS TO ARCHITECT/ENGINEER.

G. REVIEW - ALL WORK AND MATERIAL IS SUBJECT TO REVIEW AT ANY TIME BY THE ARCHITECT/ENGINEER OR HIS REPRESENTATIVE. IF THE ARCHITECT/ENGINEER OR HIS REPRESENTATIVE FINDS MATERIAL THAT DOES NOT CONFORM TO THESE SPECIFICATIONS OR THAT IS NOT PROPERLY INSTALLED OR FINISHED, CORRECT THE DEFICIENCIES IN A MANNER SATISFACTORY TO THE ARCHITECT/ENGINEER AT THE CONTRACTOR'S EXPENSE.

H. TEMPORARY FACILITIES

- 1. ELECTRICAL UTILITIES
a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION LIGHTING AS DIRECTED BY THE GENERAL CONTRACTOR TO PROVIDE A SAFE WORKING ENVIRONMENT.
b. ALL TEMPORARY SERVICES ARE TO BE REMOVED IN THEIR ENTIRETY PRIOR TO OCCUPANCY AS DIRECTED BY THE GENERAL CONTRACTOR.
2. OFFICES
a. THE ELECTRICAL CONTRACTOR MUST HAVE THE PERMISSION OF THE OWNER AND GENERAL CONTRACTOR OR CONSTRUCTION MANAGER TO INSTALL A TEMPORARY OFFICE/JOB TRAILER ON THE PROJECT SITE.
b. CONTRACTOR SHALL COMPLETELY REMOVE HIS TEMPORARY INSTALLATIONS WHEN NO LONGER NEEDED AND THE PREMISES SHALL BE COMPLETELY CLEAN, DISINFECTED, PATCHED, AND REFINISHED TO MATCH ADJACENT AREAS.
3. LADDERS AND SCAFFOLDS - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE THEIR OWN LADDERS, SCAFFOLDS, ETC. OF SUBSTANTIAL CONSTRUCTION FOR ACCESS TO THEIR WORK IN VARIOUS PORTIONS OF THE BUILDING AS MAY BE REQUIRED, WHEN NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR.
4. PROTECTION DEVICES - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE AND MAINTAIN THEIR OWN NECESSARY BARRICADES, FENCES, SIGNAL LIGHTS, ETC., REQUIRED BY ALL GOVERNING AUTHORITIES OR SHOWN ON THE DRAWINGS, WHEN NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR.
5. TEMPORARY FIRE PROTECTION - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE ALL NECESSARY FIRST AID HAND FIRE EXTINGUISHERS FOR CLASS A, B, C AND SPECIAL HAZARDS AS MAY EXIST IN HIS OWN WORK AREA ONLY IN ACCORDANCE WITH GOOD AND SAFE PRACTICE AND AS REQUIRED BY JURISDICTIONAL SAFETY AUTHORITY.

I. RECORD DOCUMENTS (AS-BUILT DRAWINGS)

- 1. SEE REQUIREMENTS REGARDING RECORD DOCUMENTS IN GENERAL DIVISION 1 AND DIVISION 1.
2. AT BEGINNING OF WORK, CONTRACTOR SHALL SET ASIDE ONE COMPLETE SET OF DRAWINGS WHICH SHALL BE MAINTAINED AS COMPLETE "AS-BUILT" SET. DRAWINGS SHALL BE UPDATED DAILY IN NEAT AND LEGIBLE MANNER AND SHALL NOT BE USED FOR ANY OTHER PURPOSE. DRAWINGS, SPECIFICATION, ADDENDA, CHANGE ORDERS, ETC. SHALL BE MAINTAINED AT JOB SITE AND AVAILABLE FOR REVIEW AT ANY TIME.
3. SHOW DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK THAT WILL BECOME PERMANENTLY CONCEALED, CAST IN CONCRETE OR BURIED UNDERGROUND.
4. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO SYSTEMS SHOWN.
5. SHOW PROVISIONS FOR FUTURE CONNECTION, REFERENCED TO BUILDING LINES M, OR APPROVED BENCH MARKS.

6. PROVIDE WIRING DIAGRAMS FOR ALL INDIVIDUAL COMMUNICATIONS SYSTEMS AS INSTALLED. IDENTIFY ALL COMPONENTS AND SHOW ALL WIRE AND TERMINAL NUMBERS AND CONNECTIONS.

7. AT COMPLETION OF PROJECT, DELIVER DRAWINGS TO ENGINEER FOR REVIEW. WARRANTY

- 1. THE CONTRACTOR SHALL GUARANTEE THAT ALL MATERIALS AND LABOR INSTALLED ARE NEW AND OF FIRST QUALITY AND THAT ANY MATERIAL OR LABOR FOUND DEFECTIVE SHALL BE REPLACED WITHOUT COST TO THE OWNER WITHIN ONE (1) YEAR AFTER SUBSTANTIAL COMPLETION OF THE CONTRACT OR ONE (1) FULL SEASON OF HEATING AND COOLING OPERATION, WHICHEVER IS THE GREATER. THE GUARANTEE SHALL LIST THE DATE OF THE BEGINNING OF THE ONE (1) YEAR PERIOD, WHICH SHALL BE THE DATE THAT THE SUBSTANTIAL COMPLETION CERTIFICATE IS ISSUED.
2. ANY DAMAGE TO THE BUILDING, CAUSED BY DEFECTIVE WORK OR MATERIAL OF THE CONTRACTOR WITHIN THE ABOVE-MENTIONED PERIOD, SHALL BE SATISFACTORILY REPAIRED WITHOUT COST TO THE OWNER.
3. THE GUARANTEE DOES NOT INCLUDE MAINTENANCE OF EQUIPMENT, THE OWNER SHALL ACCEPT FULL RESPONSIBILITY FOR PROPER OPERATION AND MAINTENANCE OF EQUIPMENT IMMEDIATELY UPON SUBSTANTIAL COMPLETION AND OCCUPANCY OF THE BUILDING.
4. FINAL ACCEPTANCE BY THE OWNER WILL NOT OCCUR UNTIL ALL CHOICE INSTRUCTIONS ARE MOUNTED IN EQUIPMENT ROOMS AND OPERATING PERSONNEL THOROUGHLY INDOCTRINATED IN THE OPERATION OF ALL ELECTRICAL EQUIPMENT BY THE CONTRACTOR.
5. NO EQUIPMENT INSTALLED AS PART OF THIS PROJECT SHALL BE USED FOR TEMPORARY HEAT DURING CONSTRUCTION.

K. MATERIALS AND EQUIPMENT

- 1. MANUFACTURER'S TRADE NAMES AND CATALOG NUMBERS LISTED ARE INTENDED TO INDICATE THE QUALITY OF EQUIPMENT OR MATERIALS DESIRED. MANUFACTURERS NOT LISTED IN THE SPECIFICATION WILL BE CONSIDERED SUBSTITUTIONS AND MUST HAVE PRIOR APPROVAL.
2. SEE DIVISION 01 FOR SUBSTITUTIONS PROCEDURES. REQUESTS FOR SUBSTITUTION ARE TO BE SUBMITTED SUFFICIENTLY AHEAD OF THE DEADLINE, TO GIVE AMPLE TIME FOR EXAMINATION. PRIOR APPROVAL REQUEST FOR SUBSTITUTION MUST INDICATE THE SPECIFIC ITEM OR ITEMS TO BE FURNISHED IN LIEU OF THOSE SCHEDULED, TOGETHER WITH COMPLETE TECHNICAL AND COMPARATIVE DATA ON SCHEDULED ITEMS AND ITEMS PROPOSED FOR SUBSTITUTION.
3. IF THE ENGINEER APPROVES ANY PROPOSED SUBSTITUTION, THE APPROVED PRODUCT WILL BE LISTED IN AN ADDENDUM. BIDDERS SHALL NOT RELY ON APPROVAL MADE IN ANY OTHER MANNER.
4. ELECTRICAL EQUIPMENT MAY BE INSTALLED WITH MANUFACTURER'S STANDARD FINISH OR FINISH EXCEPT WHERE SPECIFIC COLOR, FINISH OR CHOICE IS INDICATED. IF THE MANUFACTURER HAS NO STANDARD FINISH, EQUIPMENT SHALL HAVE A PRIME COAT AND TWO FINISH COATS OF GRAY ENAMEL.
5. HIGH ALTITUDE OPERATION: CAPACITY OF ALL EQUIPMENT IS TO BE SIZED AND MANUFACTURED TO PERFORM AT THE ELEVATION OF THE PROJECT SITE. IF NOT SPECIFICALLY INDICATED IN THE EQUIPMENT SCHEDULE OR IN THE SPECIFICATIONS, PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR PROPER OPERATION AT ELEVATION OF THE PROJECT SITE.
6. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROTECTION OF MATERIALS AND EQUIPMENT OF OTHERS FROM DAMAGE AS A RESULT OF HIS WORK.
7. MANUFACTURED MATERIAL AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY MANUFACTURER UNLESS HEREIN SPECIFIED TO THE CONTRARY.
8. THIS CONTRACTOR SHALL MAKE THE REQUIRED ARRANGEMENT WITH GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR THE INTRODUCTION INTO THE BUILDING OF EQUIPMENT TOO LARGE TO PASS THROUGH FINISHED OPENINGS.
9. STORE MATERIALS AND EQUIPMENT INDOORS AT THE JOB SITE OR, IF THIS IS NOT POSSIBLE, STORE ON RAISED PLATFORMS AND PROTECT FROM THE WEATHER BY MEANS OF WATERPROOF COVERS. COVERINGS SHALL PERMIT AIR TO FLOW UNDER AND AROUND MATERIALS TO PREVENT CONDENSATION OF MOISTURE. SCREEN OR CAP OPENINGS IN EQUIPMENT TO PREVENT THE ENTRY OF VERMIN.
L. SUBSTITUTION OF MATERIALS - WHERE SUBSTITUTED EQUIPMENT REQUIRES STRUCTURAL, ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK THAT DIFFERS FROM ORIGINAL DESIGN, COST OF ALL CHANGES, INCLUDING RE-DESIGN, SHALL BE RESPONSIBILITY OF CONTRACTOR USING SUBSTITUTION.

1. APPROVED MANUFACTURERS

- a. IN GENERAL, ONE PARTICULAR MANUFACTURER AND PART NUMBER OR SERIES IS LISTED TO DESCRIBE EQUIPMENT. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS LISTED FOR THAT ITEM MAY BE SUBSTITUTED WITHOUT PRIOR APPROVAL. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ITEM USED FOR BIDDING PURPOSES IS TRULY EQUIVALENT TO THAT SPECIFIED. IF IT IS NOT EQUIVALENT, IT WILL BE REJECTED AT SHOP DRAWING REVIEW AND CONTRACTOR SHALL SUPPLY SPECIFIED ITEM AT HIS OWN COST.
b. IT IS UNDERSTOOD THAT MANUFACTURERS LISTED MAY NOT ACTUALLY HAVE EQUIVALENT PRODUCT TO THAT SPECIFIED. IF CONTRACTOR/DISTRIBUTOR HAS ANY QUESTIONS REGARDING DESIRED PRODUCT CHARACTERISTICS AND SUITABILITY OF PROPOSED SUBSTITUTION, HE IS ENCOURAGED TO SUBMIT FOR PRIOR APPROVAL. ALSO, ANY MANUFACTURER NOT LISTED SHALL BE SUBMITTED FOR PRIOR APPROVAL.

2. PRIOR APPROVALS

- a. MANUFACTURERS NOT LISTED IN SPECIFICATION OR ON SCHEDULE FOR A PARTICULAR ITEM ARE OPEN FOR SUBSTITUTION PRIOR TO BID OPENING ONLY.
b. MANUFACTURERS DESIRING APPROVAL SHALL SUBMIT CATALOG CUTS THAT DEFINE QUALITY OF PRODUCT AND ABILITY TO PERFORM AS SPECIFIED. IT IS UNDERSTOOD THAT NO TWO MANUFACTURES USE IDENTICAL METHODS OR MAKE IDENTICAL PRODUCTS. ANY AND ALL DEVIATIONS FROM THAT SPECIFIED SHALL BE CLEARLY NOTED.
c. SUBMITTALS SHALL ARRIVE AT ENGINEER AT LEAST TEN (10) DAYS PRIOR TO BID OPENING. ALL APPROVALS WILL BE LISTED IN LAST ADDENDUM AS BEING APPROVED TO BID. ITEMS SUBSTITUTED, BUT NOT LISTED IN CONTRACT DOCUMENTS, WILL NOT BE CONSIDERED IF SUBMITTED ON SHOP DRAWINGS.
d. APPROVAL OF SUBSTITUTE EQUIPMENT IS ON BASIS OF QUALITY ONLY. MATERIALS SUPPLIER SHALL BE RESPONSIBLE FOR HIS QUOTATION REFLECTING PROPER SELECTION OF HIS PARTICULAR EQUIPMENT WITH REGARD TO PROPER CAPACITIES, PHYSICAL DIMENSIONS, REQUIREMENTS, INTENDED FUNCTION, FINISH, COLOR, ETC. ENGINEER WILL NOT GIVE APPROVAL TO SPECIFIC MODEL NUMBERS OR CHECK CAPACITIES.
e. PRIOR APPROVAL SHALL BE OBTAINED FROM ENGINEER AND NO OTHER ENTITY (ARCHITECT, OWNER, ETC.) IS AUTHORIZED TO GIVE SUCH APPROVAL.

3. SAMPLES

- a. WHERE, IN ENGINEER/ARCHITECT'S OPINION, PRODUCT SAMPLE IS REQUIRED IN ORDER TO DETERMINE APPEARANCE, QUALITY, WORKMANSHIP OR OPERATION, CONTRACTOR SHALL SUBMIT ACTUAL PRODUCTION SAMPLES OF ITEM IN QUESTION.
b. SAMPLES WILL BE RETURNED TO CONTRACTOR. APPROVED SAMPLES MAY BE USED FOR ANY OTHER PURPOSE.
c. ALL COSTS INCURRED IN PROVIDING AND RETURNING SAMPLES WILL BE CONTRACTOR'S RESPONSIBILITY.

PRODUCT AND SYSTEM SUBMITTALS

- 1. SUBMITTALS WILL BE REQUIRED FOR EACH PIECE OF EQUIPMENT, MATERIAL OR PRODUCT. ALL SUBMITTALS SHALL BE SUBMITTED, REVIEWED AND ALL DISCREPANCIES ADDRESSED PRIOR TO ORDERING EQUIPMENT OR STARTING WORK. ANY EQUIPMENT ORDERED WITHOUT HAVING FIRST COMPLETED THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR. ANY WORK PERFORMED PRIOR TO COMPLETING THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR.
2. SUBMITTAL DEFINITIONS
a. PRODUCT DATA: PROVIDE MANUFACTURERS CUT SHEETS THAT INCLUDE GENERAL PRODUCT INFORMATION INCLUDING BUT NOT LIMITED TO: MODEL NUMBER, PHYSICAL DATA, NOMINAL CAPACITIES, ROUGH-IN REQUIREMENTS,

- a. PERFORMANCE DATA: PROVIDE DETAILED PERFORMANCE AND CAPACITIES BASED ON PROJECT SPECIFIC REQUIREMENTS INCLUDING BUT NOT LIMITED TO: VOLTAGE, PHASE, AMPERAGE, OVERCURRENT PROTECTION, CONDUCTOR SIZE, CONDUCTOR MATERIAL, CONDUIT SIZE, COLOR, TEMPERATURE, COLOR RENDERING INDEX, LIFE EXPECTANCE, EFFICACY, EFFICIENCY, IP RATINGS, LIGHT DISTRIBUTION TYPES AND LIGHTING CONTROL.
b. SHOP DRAWINGS: PROVIDE DETAILED DRAWINGS OF THE EQUIPMENT SHOWING OVERALL DIMENSIONS, LOCATION OF ELECTRICAL CONNECTION, LOCATION OF ANCHORAGE POINTS, LOCATION OF ELECTRICAL AND CONTROL PANELS, AND ALL OPERATING, SERVICE AND MAINTENANCE CLEARANCES.
c. DELEGATED DESIGN: PROVIDE DETAILED DRAWINGS PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER THAT DETAIL PERTINENT DESIGN CRITERIA. THE MATERIALS AND PRODUCTS TO BE INSTALLED AND THE REQUIRED INSTALLATION LOCATIONS.
d. WIRING DIAGRAM: PROVIDE DIAGRAMS THAT IDENTIFY AND DETAIL REQUIRED FIELD WIRING.
e. COLOR CHART: PROVIDE A PHYSICAL COLOR CHART OF MATERIAL SAMPLES REQUIRED FOR SELECTION OF EQUIPMENT COLORS.
f. SUSTAINABILITY COMPLIANCE: PROVIDE LITERATURE THAT INDICATED A PRODUCTS COMPLIANCE WITH LEED OR GREEN GLOBES. SEE DIVISION 01 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

3. SUBMITTAL FORMATS

- a. INCLUDE THE FOLLOWING INFORMATION WITH EACH SUBMITTAL:
• PROJECT NAME
• SUBMITTAL DATE
• NAME OF ARCHITECT
• NAME OF ENGINEER
• NAME OF GENERAL CONTRACTOR OR CONSTRUCTION MANAGER
• NAME OF SUB-CONTRACTOR
• NAME OF FIRM OR ENTITY THAT PREPARED THE SUBMITTAL
• UNIQUE SUBMITTAL NUMBER
• TYPE OF SUBMITTAL
• LOCATION OF INSTALLATION
• NAME OR MARK OF EQUIPMENT OR MATERIAL AND DETAIL OR DRAWINGS REFERENCE.
b. ALL SUBMITTAL WITH THE EXCEPTION OF COLOR CHARTS OR MATERIAL SAMPLES SHALL BE ELECTRONICALLY TRANSMITTED PDF'S. ALL SUBMITTALS DEMONSTRATED IN PRESENCE OF ARCHITECT/ENGINEER AND ACCESS GRANTED THROUGH EMAIL WITH FOLDER'S LINK FOR DOWNLOAD.
4. SUBMITTAL REQUIREMENTS
a. SUBMITTALS SHALL BE SUBMITTED AS A COMPLETE SPECIFICATION SECTION. THE SUBMITTAL MUST INCLUDE ALL MATERIALS AND EQUIPMENT FOR THAT SPECIFICATION SECTION. SUBMITTALS FOR INDIVIDUAL MATERIALS OF EQUIPMENT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
b. SUBMITTALS SHALL BE COMPLETE, CLEARLY SHOWN ITEM USED, SIZE, DIMENSIONS, CAPACITY, ROUGH IN, ETC., AS REQUIRED FOR COMPLETE CHECK AND INSTALLATION. MANUFACTURER'S LITERATURE SHOWING MORE THAN ONE ITEM SHALL BE CLEARLY MARKED AS TO WHICH ITEM IS BEING SUBMITTED. IT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
c. EACH SUBMITTAL SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR COMPLIANCE WITH THE CONTRACT DOCUMENT REQUIREMENTS, ACCURACY OF DIMENSIONS, RELATIONSHIP TO THE WORK OF OTHER TRADES, AND CONFORMANCE WITH SOUND, SAFE PRACTICES AS TO ERECTION AND INSTALLATION. EACH SUBMITTAL SHALL THEN BEAR A STAMP EVIDENCING SUCH CHECKING AND SHALL SHOW CORRECTIONS MADE, IF ANY. SUBMITTALS REQUIRING EXTENSIVE CORRECTIONS SHALL BE REVISED BEFORE SUBMISSION. EACH SUBMITTAL NOT STAMPED AND SIGNED BY THE GENERAL AND ELECTRICAL CONTRACTORS EVIDENCING SUCH CHECKING WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
d. ON EACH SUBMITTAL, CLEARLY INDICATE DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS, INCLUDING MINOR VARIATIONS AND LIMITATIONS; INCLUDE RELEVANT ADDITIONAL INFORMATION AND REVISIONS, OTHER THAN THOSE REQUESTED ON PREVIOUS SUBMITTALS. INDICATE BY CHECKING ON EACH SUBMITTAL OR NOTING ON ATTACHED SEPARATE SHEET.
e. REVIEW OF THE SHOP DRAWINGS AND LITERATURE BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FOR RESPONSIBILITY FOR DEVIATIONS FOR THE DRAWINGS OR SPECIFICATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN THE SHOP DRAWINGS OR LITERATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE MATERIALS AND EQUIPMENT WHICH MEET THE SPECIFICATIONS AND JOB REQUIREMENTS.
f. LUMINAIRE SUBMITTALS SHALL INCLUDE DIMENSIONS, QUALITY, DISTRIBUTION, COLOR RENDERING INDEX, COLOR TEMPERATURE, OPTICS, DISTANCE, METRIC, ALL LISTINGS (UL, DUL, ENERGY STAR, MADE IN AMERICA, ETC.), IP RATINGS, VOLTAGE, WATTAGE, WARRANTY, INSTALLATION METHODS, CONTROL METHODS, EFFICACY, EFFICIENCY, DIFFUSER OPTIONS, EMERGENCY OPERATION AND ANY REQUIRED ACCESSORIES. PROVIDE IES AND PREVIEW FILES UPON REQUEST.

5. ENGINEER'S REVIEW

- 1. SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE CONTRACTOR FROM ANY REQUIREMENTS OF CONTRACT DOCUMENTS. SUBMITTALS WILL NOT BE CHECKED FOR QUANTITY, DIMENSION, FIT OR PROPER TECHNICAL DESIGN OF MANUFACTURED EQUIPMENT. THEREFORE PRODUCT SITE SYSTEM PERFORMANCE DEVIATIONS HAVE NOT BEEN SPECIFICALLY NOTED IN SUBMITTAL BY CONTRACTOR. ENGINEER'S REVIEW WILL NOT RELIEVE CONTRACTOR'S RESPONSIBILITY TO PROVIDE COMPLETE AND SATISFACTORY WORKING INSTALLATION OF EQUAL QUALITY AND PERFORMANCE TO SPECIFIED SYSTEM, ORDERING, MANUFACTURE, SHIPMENT OR INSTALLATION OF EQUIPMENT PRIOR TO REVIEW OF SUBMITTALS. WRITTEN REVIEW STRICTLY AT CONTRACTOR'S RISK AND ALL COSTS ASSOCIATED WITH SHIPPING, CHANGES, REPLACEMENT OR RESTOCKING SHALL BE CONTRACTOR'S RESPONSIBILITY.
N. SUB-CONTRACTORS - WITH SHOP DRAWING SUBMITTALS, CONTRACTOR SHALL SUBMIT LIST OF ALL SUB-CONTRACTORS TO BE USED FOR THE PROJECT.
O. OPERATION AND MAINTENANCE MANUALS
1. OPERATION AND MAINTENANCE MANUALS (O&M MANUALS) SHALL CONTAIN:
a. NAMES AND CONTACT INFORMATION FOR THE PROJECT ARCHITECT, PROJECT ENGINEER.
b. NAMES AND CONTACT INFORMATION FOR THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER.
c. NAMES AND CONTACT INFORMATION FOR SUB-CONTRACTORS.
d. INSTALLATION, MAINTENANCE AND OPERATING INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT.
e. PARTS LISTS
f. WIRING DIAGRAMS
g. EQUIPMENT START-UP AND INSPECTION CERTIFICATES
h. TEST AND BALANCE REPORTS
i. COMMISSIONING REPORTS
j. COPIES OF EQUIPMENT WARRANTIES
k. COPIES OF SUBMITTALS
l. RECORD DRAWINGS.
m. TRAINING DVD'S
2. PRIOR TO SUBSTANTIAL COMPLETION SUBMIT AN ELECTRONIC COPY OF THE O&M MANUAL IN PDF FORMAT TO THE ARCHITECT, ENGINEER AND OWNER FOR REVIEW AND APPROVAL. THE PDF SHALL BE ONE FILE WITH AN INDEX AND HYPERLINKS TO EACH SECTION. INDIVIDUAL BOUND PDFS WITHOUT AUTOMATED NAVIGATION WILL BE REJECTED. ALL O&M DATA SHALL BE GROUPED BY THE EQUIPMENT TYPE AND ORDERED BY THE SPECIFICATION NUMBERING.
P. PRIOR TO FINAL PAYMENT A FINAL ELECTRONIC COPY OF THE O&M MANUAL ON AN ARCHIVAL CD/DVD SHALL BE SUBMITTED. REVIEWED AND ALL DISCREPANCIES ADDRESSED PRIOR TO ORDERING EQUIPMENT OR STARTING WORK. ANY EQUIPMENT ORDERED WITHOUT HAVING FIRST COMPLETED THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR. ANY WORK PERFORMED PRIOR TO COMPLETING THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR.

Q. CUTTING AND PATCHING

- 1. OBTAIN WRITTEN PERMISSION OF ARCHITECT/ENGINEER BEFORE CUTTING OR PIERCING STRUCTURAL MEMBERS.
2. SLEEVES THROUGH FLOORS AND WALLS SHALL BE BLACK IRON PIPE, FLUSH WITH WALLS, CEILINGS OR FINISHED FLOORS, SIZED TO ACCOMMODATE RACEWAY, GROUT ALL PENETRATIONS THROUGH CONCRETE WALLS OR FLOORS. HOLES THROUGH EXISTING CONCRETE AND CONCRETE BLOCK (CMU) SHALL BE CORE DRILLED.
R. CLEAN-UP AND COMMISSIONING
1. DURING CONSTRUCTION - THROUGHOUT CONSTRUCTION, KEEP WORK AREA REASONABLY NEAT AND ORDERLY BY PERIODIC CLEAN-UPS.
2. COMMISSIONING - AS INDEPENDENT PARTS OF CONSTRUCTION ARE COMPLETED, THEY MAY BE COMMISSIONED AND UTILIZED DURING CONSTRUCTION. SEE VARIOUS SECTIONS FOR RESTRICTIONS.
3. AT COMPLETION OF WORK
a. CLEAN EQUIPMENT OF DIRT AND DEBRIS, INCLUDING INTERIOR OF PANELS, OUTLET BOXES, ETC. REMOVE LABELS FROM AND CLEAN ALL FIXTURE LENSES.
b. REMOVE MATERIALS, SCRAPS, ETC., RELATIVE TO THIS WORK AND LEAVE PREMISES IN CLEAN AND ORDERLY CONDITION. THIS INCLUDES ALL TUNNELS, ATTICS, CEILING AND CRAWL SPACES.
c. REMOVE ALL TEMPORARY FACILITIES AND RESTORE TO CONDITIONS PRESENT PRIOR TO WORK.
S. PROJECT COMPLETION AND DEMONSTRATION
1. TESTING
a. PRIOR TO FINAL TEST, ALL SWITCHES, PANELBOARDS, DEVICES, AND FIXTURES SHALL BE IN PLACE.
b. AT COMPLETION OF WORK, OR UPON REQUEST FROM ARCHITECT/ENGINEER, PLACE ENTIRE ELECTRICAL INSTALLATION, AND/OR ANY PORTION THEREOF, IN OPERATION TO DEMONSTRATE SATISFACTORY OPERATION.
c. ALL ELECTRICAL SYSTEMS SHALL BE FREE FROM SHORT CIRCUITS AND UNINTENTIONAL GROUNDS.
d. FURNISH ONE (1) COPY OF CERTIFIED TEST RESULTS TO ARCHITECT/ENGINEER PRIOR TO FINAL INSPECTION AND INCLUDE ONE (1) COPY IN EACH BROCHURE OF EQUIPMENT.
2. ADJUSTMENT AND BALANCE
a. MAKE ALL CHANGES NECESSARY TO BALANCE CONNECTED ELECTRICAL LOADS ON COMPLETE SYSTEM. ARRANGE FOR BALANCED CONDITIONS OF CIRCUITS UNDER CONNECTED LOAD DEMANDS, AS CONTEMPLATED BY NORMAL WORKING CONDITIONS. FINAL LOAD AND BALANCE TEST SHALL BE DEMONSTRATED IN PRESENCE OF ARCHITECT/ENGINEER.
b. IMMEDIATELY CORRECT ALL DEFICIENCIES WHICH ARE EVIDENCED DURING TESTS AND REPEAT TESTS UNTIL SYSTEM IS APPROVED. DO NOT COVER OR CONCEAL ELECTRICAL INSTALLATIONS UNTIL SATISFACTORY TESTS ARE MADE AND APPROVED.
3. FINAL INSPECTION
a. CONDUCT OPERATING TESTS DURING FINAL INSPECTION. DEMONSTRATE INSTALLATION TO OPERATE SATISFACTORYLY IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS. SHOULD ANY PORTION OF INSTALLATION FAIL TO MEET REQUIREMENTS OF CONTRACT DOCUMENTS, REPAIR OR REPLACE ITEMS FAILING TO MEET REQUIREMENTS UNTIL ITEMS CAN BE DEMONSTRATED TO COMPLY.
b. HAVE INSTRUMENTS AVAILABLE FOR MEASURING LIGHT INTENSITIES, VOLTAGE AND CURRENT VALUES AND FOR DEMONSTRATION OF CONTINUITY, GROUNDS, OR OPEN CIRCUIT CONDITIONS.
c. FURNISH PERSONNEL TO ASSIST IN TAKING MEASUREMENTS AND MAKING TESTS. IN EVENT THAT TESTS ARE NOT COMPLETE AND FULLY OPERATIONAL AT TIME OF FINAL INSPECTION, ALL COSTS OF ANY SUBSEQUENT INSPECTIONS SHALL BE BORNE BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
T. OWNER ORIENTATION AND TRAINING
1. GENERAL
a. THE SYSTEM TRAINING IS INTENDED TO FAMILIARIZE THE OWNER'S OPERATING AND MAINTENANCE STAFF WITH ALL SYSTEMS REQUIRING MAINTENANCE. TRAINING IS TO BE PROVIDED AFTER THE SYSTEMS ARE IN PLACE AND OPERATIONAL, AFTER ISSUES NOTED DURING COMMISSIONING HAVE BEEN RESOLVED, AND BEFORE FINAL ACCEPTANCE.
b. PROVIDE SECOND SET OF TRAINING SESSIONS FOR AUTOMATIC CONTROL SYSTEMS ABOUT 6-9 MONTHS AFTER THE FIRST SESSIONS.
c. ALL TRAINING SHALL BE VIDEO TAPED, REPRODUCED ON DVD'S AND GIVEN TO THE OWNER. PROVIDE A COPY FOR EACH O&M MANUAL PRODUCED.
d. PREPARE ADDITIONAL SPECIFICATION SECTIONS FOR ADDITIONAL TRAINING REQUIREMENTS.
2. ATTENDANCE - TRAINING IS TO BE PROVIDED BY CONTRACTOR'S REPRESENTATIVES THAT ARE FAMILIAR WITH THE SYSTEM'S OPERATION AND MAINTENANCE REQUIREMENTS. INDIVIDUAL TRAINING SESSIONS (MODULES) ARE TO BE PROVIDED FOR EACH TYPE OR GROUP OF SYSTEMS, SEPARATED ROUGHLY BY TRADE GROUP THAT WILL BE PERFORMING MAINTENANCE ON THE SYSTEM.
3. SCHEDULE - DUPLICATE TRAINING SESSIONS ARE TO BE PROVIDED FOR EACH TRAINING MODULE, SO THAT OWNER'S OPERATING PERSONNEL CAN BE SPLIT INTO TWO GROUPS DURING TRAINING. DUPLICATE TRAINING SESSIONS TO BE SCHEDULED ON DIFFERENT DAYS. LENGTH OF TRAINING SESSIONS WILL BE DETERMINED BY SCOPE OF TRAINING INDICATED BELOW AND AS COORDINATED WITH OWNER AFTER DRAFT COPY OF TRAINING DOCUMENTS HAVE BEEN REVIEWED.
4. TRAINING DOCUMENTATION
a. CONTRACTOR TO SUBMIT DRAFT COPY OF AGENDA AND TRAINING DOCUMENTS TO OWNER FOR REVIEW AT LEAST TWO WEEKS PRIOR TO TRAINING DATE.
b. PROVIDE A COPY OF THE FOLLOWING ITEMS FOR EACH PERSON THAT WILL BE ATTENDING THE TRAINING SESSIONS. COORDINATE REQUIRED NUMBER WITH THE OWNER.
• TRAINING AGENDA
• SUMMARY OF NEW SYSTEMS AND EXISTING SYSTEMS AFFECTED BY THIS PROJECT.
• SUMMARY OF WORK PERFORMED UNDER THIS PROJECT.
• CONTROL SYSTEM DRAWINGS AND SEQUENCES OF OPERATION.
• LIST OF IMPORTANT MAINTENANCE AND TROUBLE-SHOOTING OPERATIONS FOR ALL SYSTEMS.
c. PROVIDE MINIMUM OF 2 COPIES OF CONTRACT DOCUMENTS INCLUDING ALL DRAWINGS, SPECIFICATIONS, ADDENDUMS, AND CHANGE ORDERS.
5. TRAINING SESSIONS
a. ASSEMBLE AT LOCATION TO BE DETERMINED BY THE OWNER.
b. DISTRIBUTE TRAINING DOCUMENTATION AS INDICATED ABOVE.
c. PROVIDE CLASSROOM STYLE TRAINING IF REQUIRED FOR ORIENTATION, DISCUSSION OF NEW SYSTEMS AND EXISTING SYSTEMS AFFECTED BY THIS PROJECT, AND OTHER ISSUES APPROPRIATE FOR A CLASSROOM FORMAT.
d. VISIT SITE AND REVIEW LOCATIONS, AND PERFORM DETAILED REVIEW OF OPERATION AND MAINTENANCE REQUIREMENTS FOR CURRENT SYSTEMS.
e. ALL TRAINING SESSION SHALL BE VIDEO RECORDED AND DISTRIBUTED TO THE OWNER UPON COMPLETION IN DVD FORMAT, OR OWNER DESIRED FORMAT. INCLUDE ALL TRAINING VIDEOS IN THE O&M MANUAL.



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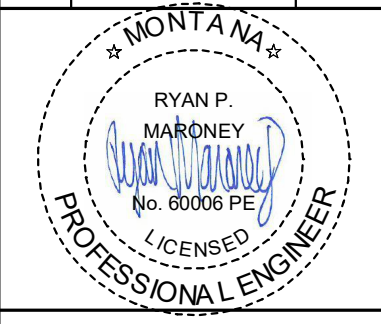
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BID / PERMIT DRAWINGS



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REVIEWED BY: RM

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2042

SHEET TITLE
ELECTRICAL SPECIFICATIONS

SHEET
E002

DATE
JAN. 13, 2023

260505 - SELECTIVE DEMOLITION OF ELECTRICAL SYSTEMS

- A. NOT ALL REMOVAL AND REVISION WORK REQUIRED AS PART OF THE DEMOLITION WORK IS SHOWN ON THE PLANS. THE PLANS ARE INTENDED TO INDICATE AREAS WHERE DEMOLITION WILL OCCUR AND TO ESTABLISH THE INTENT OF THE DEMOLITION WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXISTING ELECTRICAL RACEWAYS, WIRES, DEVICES AND EQUIPMENT THAT FALL WITHIN THE AREA AFFECTED BY DEMOLITION OF THE STRUCTURE.
- B. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH WORK AND LOCAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. USING ORIGINAL DESIGN DRAWINGS AND WALK-THROUGH INSPECTIONS, A CONCERTED EFFORT WAS MADE TO PLACE PERTINENT INFORMATION ON THE CONTRACT DRAWINGS. HOWEVER, DUE TO THE NATURE OF DEMO/REMODEL WORK, THE CONTRACTOR MUST BEAR IN MIND THAT UNFORESEEN CONDITIONS MAY EXIST, AND SHALL THOROUGHLY INSPECT THE WORK AREA PRIOR TO HIS BID. THE CONTRACTOR SHALL INCLUDE IN HIS BID ANY/ALL INCIDENTAL ITEMS WHICH MAY BE REQUIRED TO PROVIDE COMPLETE DEMOLITION AND REWORK ASSOCIATED SYSTEMS IN ADJACENT AREAS WHERE NO DEMOLITION IS OCCURRING.
- C. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS AND FOLLOW THE SAFE WORKING PRACTICE REQUIREMENTS OF NFPA 70E.
- D. INVENTORY AND RECORD, BY USE OF PRECONSTRUCTION PHOTOGRAPHS OR VIDEO, THE CONDITION OF ITEMS TO BE REMOVED AND SALVAGED. PROVIDE PHOTOGRAPHS OR VIDEO OF CONDITIONS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY SALVAGE OPERATIONS.
- E. MAKE PROVISIONS TO MAINTAIN EXISTING ELECTRICAL SERVICE ENERGIZED UNTIL NEW SYSTEM IS COMPLETE AND READY FOR USE. OBTAIN PERMISSION FROM THE OWNER AND THE ARCHITECT/ENGINEER AT LEAST [48] HOURS PRIOR TO PARTIALLY OR COMPLETELY DISABLING THE SYSTEM. MINIMIZE THE DURATION OF ANY OUTAGES. IF REQUIRED, MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO THE DEMOLITION WORK AREA.
- F. REMOVE ALL ELECTRICAL DEVICES FROM WALLS, FLOORS AND CEILINGS THAT ARE TO BE DEMOLISHED OR MOVED. REMOVE ABANDONED OUTLETS IF CONDUIT AND WIRING SERVICING THEM IS ABANDONED AND REMOVED. PROVIDE BLANK COVER FOR ANY ABANDONED BOXES WHICH ARE NOTED ON THE PLANS AS NOT REMOVED. REMOVE CONDUIT TO POINT WHERE IT NO LONGER INTERFERES WITH CONSTRUCTION AND IS CONCEALED. FOR CONDUIT BURIED IN CONCRETE OR CMU WALLS, CUT CONDUIT OFF FLUSH WITH FLOOR AND PLUG CONDUIT. REMOVE ALL CONDUCTORS BACK TO SOURCE (PANELBOARD OR LAST LIVE DEVICE).
- G. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS THAT REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS REQUIRED.
- H. PROVIDE REVISED TYPED CIRCUIT DIRECTORY IN PANELBOARDS THAT HAVE CIRCUITS REMOVED.
- I. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK.
- J. EQUIPMENT TO BE RELOCATED SHALL BE SERVICED, MODIFIED AND REPAIRED AS NECESSARY TO PLACE IT IN GOOD WORKING ORDER AND TO THE SATISFACTION OF ARCHITECT/ENGINEER. PROTECT ITEMS FROM DAMAGE DURING TRANSPORT AND STORAGE. ANY LOST, STOLEN OR DAMAGED ITEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPLACED WITH NEW ITEMS THAT MATCH THE ORIGINAL. REINSTALL ITEMS IN LOCATIONS INDICATED. COMPLY WITH INSTALLATION REQUIREMENTS FOR NEW MATERIALS AND EQUIPMENT. PROVIDE CONNECTIONS, SUPPORTS, AND MISCELLANEOUS MATERIALS NECESSARY TO MAKE THE ITEM FUNCTIONAL FOR USE AT THE NEW LOCATION. EQUIPMENT SHALL BE TESTED IN THE NEW LOCATION AND PROPER FUNCTION DEMONSTRATED.
- K. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE RECYCLED, REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
- L. HANDLING OF BALLASTS WITH PCBs - GENERALLY, ALL HIGH POWER FACTOR FLUORESCENT LIGHTING BALLASTS, AND SOME HID BALLASTS, THAT WERE MANUFACTURED BEFORE 1978 CONTAIN POLYCHLORINATED BIPHENYL (PCB) COMPOUNDS IN THEIR CAPACITORS. FOR BALLASTS OF THIS VINTAGE, IF THE PCB CONTENT IS NOT STATED ON THE BALLAST LABEL, THE BALLAST SHALL BE HANDLED AS A PCB BALLAST. SUCH BALLASTS SHALL BE HANDLED PER EPA AND DNR PCB REGULATIONS.
- M. MAINTAIN EXISTING FIRE ALARM SYSTEM IN SERVICE AT ALL TIMES.
- N. COORDINATE WITH FACILITY IT PERSONNEL AND REMOVE ALL ABANDONED COMMUNICATIONS AND SECURITY SYSTEMS CABLE FROM ORIGIN TO DESTINATION IN ACCORDANCE WITH NEC 800.25. DO NOT ABANDON IN PLACE UNLESS SPECIFICALLY NOTE AS BEING LEFT FOR FUTURE USE. IDENTIFY FOR FUTURE USE IN ACCORDANCE WITH NEC 800.25

260519 - CONDUCTORS

- A. FEEDERS: COPPER, TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.
- B. BRANCH CIRCUITS: COPPER, TYPE THHN/THWN-2, SOLID FOR NO. 10 AWG AND SMALLER; STRANDED FOR NO. 8 AWG AND LARGER. SINGLE CONDUCTORS IN RACEWAY.
- C. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, CORD WITH STAINLESS-STEEL WIRE-MESH, STRAIN RELIEF DEVICE AT TERMINATIONS.
- D. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120 V BRANCH CIRCUIT.

260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

- A. MINIMUM RACEWAY SIZE: 1 INCH TRADE SIZE FOR TELECOM/DATA AND 3/4 INCH TRADE SIZE FOR ALL OTHER APPLICATIONS.
- B. INSTALL NONMETALLIC CONDUIT OR TUBING FOR PROTECTING BARE GROUNDING CONDUCTORS.
- C. DO NOT INSTALL RACEWAYS OR ELECTRICAL ITEMS ON ANY "EXPLOSION-RELIEF" WALLS OR ROTATING EQUIPMENT.
- D. DO NOT FASTEN CONDUITS ONTO THE BOTTOM SIDE OF A METAL DECK ROOF.
- E. KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES AND STEAM OR HOT-WATER PIPES. INSTALL HORIZONTAL RACEWAY RUNS ABOVE WATER AND STEAM PIPING.
- F. ARRANGE STUB-UPS SO CURVED PORTIONS OF BENDS ARE NOT VISIBLE ABOVE FINISHED SLAB.
- G. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR CONTROL WIRING CONDUITS, FOR WHICH FEWER BENDS ARE ALLOWED. SUPPORT WITHIN 12 INCHES OF CHANGES IN DIRECTION; SUPPORT CONDUIT WITHIN 12 INCHES OF ENCLOSURES TO WHICH IT IS ATTACHED.
- H. UNLESS BURIED, INSTALL ALL CONDUITS PARALLEL OR PERPENDICULAR TO BUILDING LINES.
- I. INSTALL RACEWAYS SQUARE TO THE ENCLOSURE AND TERMINATE AT ENCLOSURES WITH LOCKNUTS. INSTALL LOCKNUTS HAND TIGHT PLUS 1/4 TURN MORE. DO NOT RELY ON LOCKNUTS TO PENETRATE NONCONDUCTIVE COATINGS ON ENCLOSURES. REMOVE COATINGS IN THE LOCKNUT AREA PRIOR TO ASSEMBLING CONDUIT TO ENCLOSURE TO ENSURE A CONTINUOUS GROUND PATH.
- J. RACEWAYS MAY BE INSTALLED UNDER THE CONCRETE SLAB, BUT NO CONDUITS SHALL BE EMBEDDED WITHIN THE SLAB. DIRECT BURIED CONDUIT - INSTALL MANUFACTURED RIGID STEEL CONDUIT ELBOWS FOR STUB-UPS AT POLES AND EQUIPMENT AND AT BUILDING ENTRANCES THROUGH FLOOR. ANY METALLIC CONDUIT THAT DOES OR MAY COME INTO CONTACT WITH SOIL SHALL BE COATED WITH TWO COATS OF BITUMASTIC OR TWO LAYERS OF 10 MIL. CORROSION PROTECTION TAPE.
- K. INSTALL FIRESTOPPING AT PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES.
- L. INSTALL SLEEVES AND SLEEVE SEALS AT PENETRATIONS OF EXTERIOR FLOOR AND WALL ASSEMBLIES. INCLUDE CAST-IRON PIPE SLEEVES SIZED TO ALLOW FOR 1-INCH ANNUAL CLEAR SPACE BETWEEN RACEWAY OR CABLE AND SLEEVE FOR INSTALLING SLEEVE-SEAL SYSTEM WHICH INCLUDES MANUFACTURED EPDM RUBBER INTERLOCKING LINKS SHAPED TO FIT SURFACE OF PIPE AND WITH NUMBER REQUIRED FOR PIPE MATERIAL AND SIZE OF PIPE. INCLUDE STAINLESS STEEL PRESSURE PLATES AND CONNECTING BOLTS AND NUTS.
- M. INDOOR RACEWAYS:
 - 1. EXPOSED, NOT SUBJECT TO PHYSICAL DAMAGE: EMT.
 - 2. EXPOSED AND SUBJECT TO SEVERE PHYSICAL DAMAGE: RIGID STEEL CONDUIT.
 - 3. CONCEALED IN NEW CEILINGS AND INTERIOR WALLS AND PARTITIONS: EMT.
 - 4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): FMC, EXCEPT USE LFMC IN DAMP OR WET LOCATIONS.
 - 5. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT.
 - 6. BOXES AND ENCLOSURES: NEMA 250, TYPE 1, EXCEPT USE NEMA 250, TYPE 3R, NONMETALLIC IN DAMP OR WET LOCATIONS.
 - 7. RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS AND SUITABLE FOR USE AND LOCATION.
 - 8. RIGID AND INTERMEDIATE STEEL CONDUIT: USE THREADED RIGID STEEL CONDUIT FITTINGS, UNLESS NOTED OTHERWISE.
 - 9. INSTALL SURFACE RACEWAYS ONLY WHERE SPECIFICALLY INDICATED ON DRAWINGS. INSTALL SURFACE RACEWAY WITH A MINIMUM 2-INCH RADIUS CONTROL AT BEND POINTS.
 - 10. FLEXIBLE CONDUIT CONNECTIONS: MAXIMUM OF 72 INCHES OF FLEXIBLE CONDUIT FOR RECESSED AND SEMI-RECESSED LUMINAIRES, EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT; AND FOR TRANSFORMERS AND MOTORS. USE LFMC IN DAMP OR WET LOCATIONS SUBJECT TO SEVERE PHYSICAL DAMAGE. USE LFMC OR LFNC IN DAMP OR WET LOCATIONS NOT SUBJECT TO SEVERE PHYSICAL DAMAGE.
- N. OUTDOOR RACEWAYS:
 - 1. EXPOSED CONDUIT: RIGID STEEL CONDUIT.
 - 2. CONCEALED CONDUIT, ABOVE GROUND: EMT.
 - 3. UNDERGROUND CONDUIT: RNC, TYPE EPC-40-PVC, DIRECT BURIED. USE TYPE EPC-80-PVC UNDER PAVED SURFACES.
 - 4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFNC.
 - 5. BOXES AND ENCLOSURES, ABOVE GROUND: NEMA250, TYPE 3R.
- O. ENCLOSURES - BOXES AND ENCLOSURES FOR PANELBOARD, DISCONNECT SWITCH AND MOTOR CONTROL UNITS, ETC. BASED ON THE INSTALLATION LOCATIONS/ENVIRONMENTS.
 - 1. INDOOR, DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1.
 - 2. OUTDOOR LOCATIONS: NEMA 250, TYPE 3R.
 - 3. KITCHEN/WASH-DOWN AREAS: NEMA 250, TYPE 4X, STAINLESS STEEL.
 - 4. OTHER WET OR DAMP, INDOOR LOCATIONS: NEMA 250, TYPE 4.
 - 5. INDOOR LOCATIONS SUBJECT TO DUST, FALLING DIRT, AND DRIPPING NONCORROSIVE LIQUIDS: NEMA 250, TYPE 12.
 - 6. HAZARDOUS AREAS INDICATED ON DRAWINGS: NEMA 250, TYPE 7/TYPE 9 WITH COVER ATTACHED BY TYPE 316 STAINLESS STEEL BOLTS.
- P. GENERAL BOX MOUNTING
 - 1. MOUNT BOXES AT HEIGHTS INDICATED ON DRAWINGS. IF MOUNTING HEIGHTS OF BOXES ARE NOT INDIVIDUALLY INDICATED, GIVE PRIORITY TO ADA REQUIREMENTS. INSTALL BOXES WITH HEIGHT MEASURED TO CENTER OF BOX UNLESS OTHERWISE INDICATED.
 - 2. HORIZONTALLY SEPARATE BOXES MOUNTED ON OPPOSITE SIDES OF WALL SO THEY ARE NOT IN THE SAME VERTICAL CHANNEL.
 - 3. LOCATE BOXES SO THAT COVER OR PLATE WILL NOT SPAN DIFFERENT BUILDING FINISHES.
 - 4. FASTEN JUNCTION AND PULL BOXES TO OR SUPPORT FROM BUILDING STRUCTURE. DO NOT SUPPORT BOXES BY CONDUITS.
 - 5. SET METAL FLOOR BOXES LEVEL AND FLUSH WITH FINISHED FLOOR SURFACE.

260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

- A. RACEWAYS AND CABLES CARRYING CIRCUITS WITHIN BUILDINGS. IDENTIFY THE COVERS OF EACH JUNCTION AND PULL BOX OF THE FOLLOWING SYSTEMS WITH PAINT AS FOLLOWS:
 - 1. BATTERY OR GENERATOR BACKED UP EMERGENCY SYSTEM: ORANGE
 - 2. FIRE DETECTION AND ALARM SYSTEM: RED
 - 3. SYSTEMS WITH VOLTAGE GREATER THAN 600V: YELLOW
- B. CONDUCTOR COLOR-CODING:
 - 1. 208Y/120V: PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE, NEUTRAL - WHITE.
 - 2. 480Y/277V: PHASE A - BROWN, PHASE B - ORANGE, PHASE C - YELLOW, NEUTRAL - GRAY.
 - 3. GROUNDS: BARE COPPER OR GREEN.
- C. ALL EQUIPMENT SHALL HAVE AN IDENTIFICATION LABEL, BLACK LETTERS ON A WHITE FIELD. LABEL INCLUDES UNIT NAME AND CIRCUIT THAT FEEDS IT.
 - 1. 1" MINIMUM HEIGHT LETTERS FOR SERVICE DISCONNECT AND EMERGENCY SHUT-OFF SWITCHES.
 - 2. 1/2" MINIMUM HEIGHT LETTERS FOR PANELBOARDS, SWITCHBOARDS, RELAY ENCLOSURES AND TRANSFORMERS.
 - 3. 1/4" MINIMUM HEIGHT LETTERS FOR DISCONNECT SWITCHES AND MOTOR STARTERS.
 - 4. 1/8" MINIMUM HEIGHT LETTERS FOR DEVICE COVERPLATES.
- D. PANELBOARDS/SWITCHBOARDS LABEL SHALL INCLUDE - PANEL NAME, VOLTAGE, AMPERAGE, NUMBER OF PHASES AND WIRES, SOURCE AND AVAILABLE FAULT CURRENT WITH DATE CALCULATED. INCLUDE TYPEWRITTEN DIRECTORY OF CIRCUITS IN THE LOCATION PROVIDED BY PANELBOARD MANUFACTURER. INDICATE CIRCUIT LOAD INCORPORATING OWNER'S FINAL ROOM DESIGNATIONS. SPACES SHALL BE FILLED IN BY HAND WITH PENCIL. ON MAIN DISTRIBUTION PANEL DOOR / SWITCHBOARD FRONT PROVIDE A LAMINATED ONE-LINE DIAGRAM OF THE ELECTRICAL SYSTEM AND ALL PANEL CONFIGURATIONS.
- E. RECEPTACLES: IDENTIFY PANELBOARD AND CIRCUIT NUMBER FROM WHICH THE DEVICE IS SERVED.
 - 1. MARK INSIDE OF BOX OR COVERPLATE WITH PERMANENT MARKER. TEST TO ENSURE THAT MARKER LINES ARE NOT VISIBLE ON OUTSIDE OF COVER WHEN IT IS INSTALLED.
 - 2. MARK OUTSIDE OF COVERPLATE USING LABELER SUCH AS BROTHER PT-90 TO PRODUCE 1/8" BLACK LETTERS (WHITE LETTERS IF COVER IS DARK) ON CLEAR TAPE.

262726 - WIRING DEVICES

- A. STRAIGHT-BLADE RECEPTACLES - DUPLEX CONVENIENCE RECEPTACLES, 125V, 20A: COMPLY WITH NEMA WD 1, NEMA WD 6 CONFIGURATION 5-20R, UL 498, AND FS W-C-596.
 - 1. COOPER: 5351 (SINGLE), 5362 (DUPLEX), TR5362 (TAMPER DUPLEX).
 - 2. HUBBELL: HBL5361 (SINGLE), HBL5362 (DUPLEX), HBL5362TR (TAMPER DUPLEX).
 - 3. LEVITON: 5361 (SINGLE), 5362 (DUPLEX), 5362-SG (TAMPER DUPLEX).
 - 4. P&S: 5351 (SINGLE), CR5362 (DUPLEX), TR5352 (TAMPER DUPLEX).
- B. GFCI RECEPTACLES - 125V, 20A, DUPLEX, STRAIGHT BLADE, NON-FEED-THROUGH TYPE. COMPLY WITH NEMA WD 1, NEMA WD 6 CONFIGURATION 5-20R, UL 498, UL 943 CLASS A, AND FS W-C-596. INCLUDE SELF-TESTING AND INDICATOR LIGHT THAT SHOWS WHEN THE GFCI HAS MALFUNCTIONED AND NO LONGER PROVIDES PROPER GFCI PROTECTION.
 - 1. COOPER: VGF20 (STANDARD), TRVGF20 (TAMPER), WRSGF20 (OUTDOOR).
 - 2. HUBBELL: GFR5352L (STANDARD), GFRTR520 (TAMPER), GFTWR520 (OUTDOOR).
 - 3. LEVITON: GFNT2 (STANDARD), GFTR2-KW (TAMPER), GFWR2 (OUTDOOR).
 - 4. P&S: 2097 (STANDARD), 2097TR (TAMPER), 2097TRWR (OUTDOOR).
- C. TOGGLE SWITCHES - 120/277V, 20A. COMPLY WITH NEMA WD 1, UL 20, AND FS W-S-896.
 - 1. COOPER: AH1221 (SINGLE-POLE), AH1222 (TWO-POLE), AH1223 (THREE-WAY), AH1224 (FOUR-WAY).
 - 2. HUBBELL: HBL1221 (SINGLE-POLE), HBL1222 (TWO-POLE), HBL1223 (THREE-WAY), HBL1224 (FOUR-WAY).
 - 3. LEVITON: 1221-2 (SINGLE-POLE), 1222-2 (TWO-POLE), 1223-2 (THREE-WAY), 1224-2 (FOUR-WAY).
 - 4. P&S: CSB20AC1 (SINGLE-POLE), CSB20AC2 (TWO-POLE), CSB20AC3 (THREE-WAY), CSB20AC4 (FOUR-WAY).
- D. DEVICE COLOR - AS SELECTED BY ARCHITECT UNLESS OTHERWISE INDICATED OR REQUIRED BY NFPA 70 OR DEVICE LISTING.
- E. WALL PLATES
 - 1. INDOOR FINISHED AREAS - SMOOTH, HIGH-IMPACT THERMOPLASTIC WITH COLOR TO MATCH CORRESPONDING WIRING DEVICES.
 - 2. INDOOR UNFINISHED AREAS - GALVANIZED STEEL.
 - 3. OUTSIDE AND WET LOCATIONS - NEMA 250, COMPLYING WITH TYPE 3R, WEATHERPROOF-IN-USE, DIE-CAST ALUMINUM WITH LOCKABLE COVER.
- F. IDENTIFICATION - IDENTIFY PANELBOARD AND CIRCUIT NUMBER FROM WHICH THE DEVICE IS SERVED.
 - 1. MARK INSIDE OF BOX OR COVERPLATE WITH PERMANENT MARKER. TEST TO ENSURE THAT MARKER LINES ARE NOT VISIBLE ON OUTSIDE OF COVER WHEN IT IS INSTALLED.
 - 2. MARK OUTSIDE OF COVERPLATE USING LABELER SUCH AS BROTHER PT-90 TO PRODUCE 1/8" BLACK LETTERS (WHITE LETTERS IF COVER IS DARK) ON CLEAR TAPE.
 - 3. WEATHER STRIPPING - BEHIND EXTERIOR WALL DEVICES INSTALL A PRECUT FOAM INSULATION PAD OVER THE FIXTURE AND REINSTALL THE COVER.



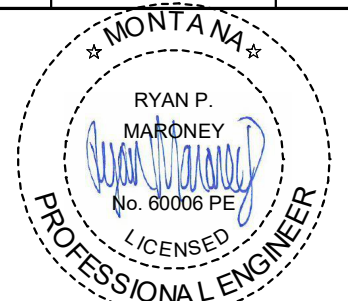
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2042

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ELECTRICAL
SPECIFICATIONS

SHEET
E003

DATE
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PPA#19-0117
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2042

SHEET TITLE
DEMO POWER AND
SIGNAL PLAN

SHEET
E101

DATE
JAN. 13, 2023

KEY NOTES:

- 1 DEMO EXISTING FLOOR BOX. REMOVE ALL DEVICES AND TRIM, FILL WITH GROUT, SAND FLUSH AND MATCH EXISTING FLOOR FINISH.
- 2 MODIFY EXISTING CONDUIT SERVING EXISTING DEVICES TO REMAIN AS NECESSARY TO ACCOMMODATE NEW WINDOW. ONCE CONDUIT IS RE-ROUTED, RE-PULL WIRE/CABLING AND RE-TERMINATE AS REQUIRED.

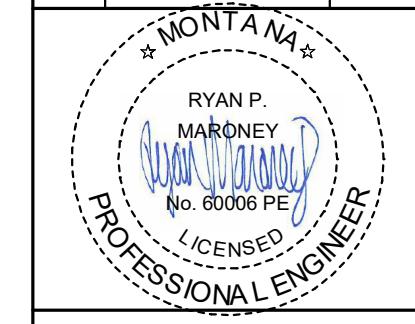
GENERAL ELECTRICAL DEMO NOTES

- A. 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 IS NOT LIMITED TO: ALL NECESSARY CONDUIT AND CONDUCTORS, MOUNTING ACCESSORIES AND LABOR, TO RESTORE SYSTEM TO INTENDED FUNCTION.
- B. 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 DRWINGS, PLEASE NOTIFY ENGINEER.
- C. ELECTRICAL DEVICES SHOWN IN GREY ARE EXISTING TO REMAIN. ELECTRICAL DEVICES SHOWN IN BLACK/DASHED WITH A 'D' ARE TO BE DEMOLISHED UNO. FOR DEVICES NOTED TO BE DEMOLISHED, ELECTRICAL CONTRACTOR SHALL REMOVE IN ENTIRETY, INCLUDING ASSOCIATED BRANCH CIRCUIT BACK TO SOURCE OR NEAREST UPSTREAM LIVE DEVICE, OR DISCONNECT UNUSED WIRING AND CAP-OFF IN ASSOCIATED J-BOX(ES) IN A SAFE AND CODE-COMPLIANT MANNER.
- D. PATCH/REPAIR ALL HOLES IN FLOOR, WALLS, AND DECK RESULTING FROM DEMOLITION WORK AS REQUIRED.



1 LEVEL 1 DEMOLITION POWER AND SIGNAL PLAN
1/4" = 1'-0"

REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00

2042

SHEET TITLE
DEMO LIGHTING PLAN

SHEET
E102

DATE
JAN. 13, 2023

KEY NOTES:

- 1 SALVAGE EXISTING LIGHT FIXTURE. SEE REMOEL PLANS FOR NEW LOCATION.
- 2 DEMO EXISTING LIGHT FIXTURE. OWNER HAS FIRST RIGHT OF REFUSAL, OTHERWISE PROPERLY DISPOSE PER SPECIFICATIONS.

GENERAL ELECTRICAL DEMO NOTES

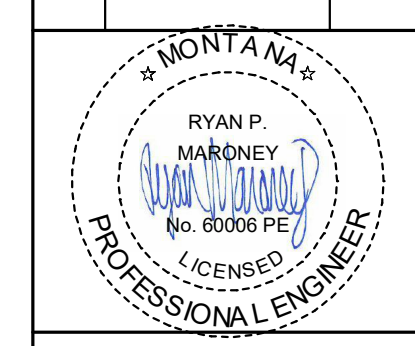
- A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY EXISTING CONDUIT OR FEEDER CIRCUITS THAT ARE INTENDED TO REMAIN, THAT ARE SAW-CUT, OR OTHERWISE DAMAGED AS PART OF THE DEMOLITION PROCESS. PROVISION FOR THIS WORK SHALL INCLUDE, BUT IS NOT LIMITED TO: ALL NECESSARY CONDUIT AND CONDUCTORS, MOUNTING ACCESSORIES AND LABOR, TO RESTORE SYSTEM TO INTENDED FUNCTION.
- B. ELECTRICAL DRAWINGS SHOWING EXISTING BUILDING CONDITIONS, SUCH AS DEMOLITION DRAWINGS, EXISTING PANEL SCHEDULES, ETC. ARE BASED ON RECORD DRAWINGS AND SITE VISITS. IF ACUTAL EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON DRWINGS, PLEASE NOTIFY ENGINEER.
- C. ELECTRICAL DEVICES SHOWN IN GREY ARE EXISTING TO REMAIN. ELECTRICAL DEVICES SHOWN IN BLACK/DASHED WITH A 'D' ARE TO BE DEMOLISHED UNO. FOR DEVICES NOTED TO BE DEMOLISHED, ELECTRICAL CONTRACTOR SHALL REMOVE IN ENTIRETY, INCLUDING ASSOCIATED BRANCH CIRCUIT BACK TO SOURCE OR NEAREST UPSTREAM LIVE DEVICE, OR DISCONNECT UNUSED WIRING AND CAP-OFF IN ASSOCIATED J-BOX(ES) IN A SAFE AND CODE-COMPLIANT MANNER.
- D. PATCH/REPAIR ALL HOLES IN FLOOR, WALLS, AND DECK RESULTING FROM DEMOLITION WORK AS REQUIRED.



1 LEVEL 1 DEMOLITION LIGHTING PLAN
 1/4" = 1'-0"

BUILDING KEY PLAN
 NTS

DRAWN BY:	JG	
REVIEWED BY:	RM	
REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00

2042

SHEET TITLE
POWER AND SIGNAL PLAN

SHEET
E201

DATE
JAN. 13, 2023

KEY NOTES:

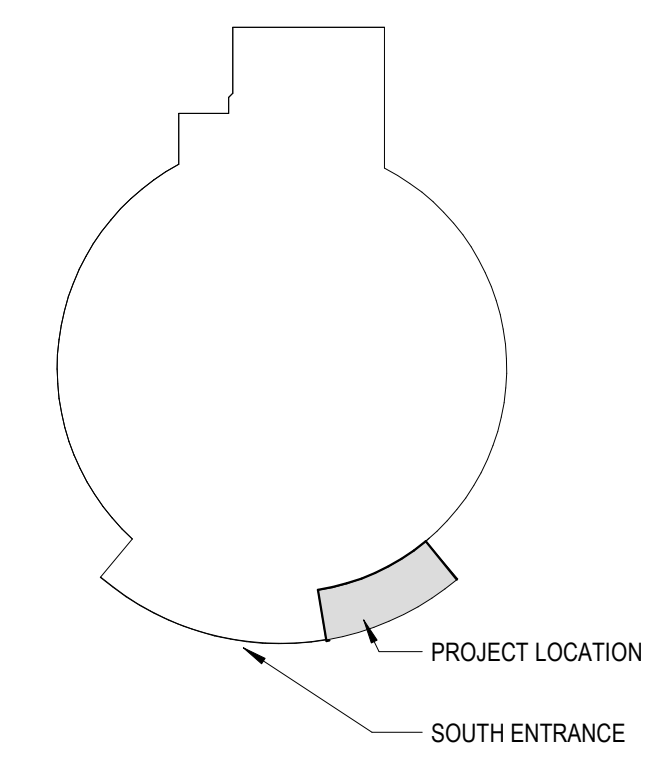
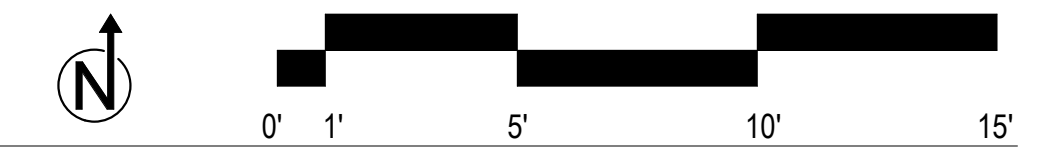
1 SEE DETAIL 1/E001 FOR ACCESS CONTROL ROUGH-IN DETAIL.
 2 COORDINATE EXACT LOCATION AND ROUGH-IN REQUIREMENTS FOR ACCESS CONTROL POWER SUPPLY WITH MSU.

GENERAL ELECTRICAL NOTES

A. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INVOLVED TO COORDINATE WITH EACH OTHER AND VERIFY THAT THERE ARE NO CONFLICTS IN LOCATION OF DUCTS, CONDUITS, DIFFUSERS, BOXES, AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
 B. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING OF FLOORS, WALLS, CEILINGS, AND ROOFS TO PERFORM THE REQUIRED WORK DEPICTED IN THESE DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL PATCHING OF HOLES TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.

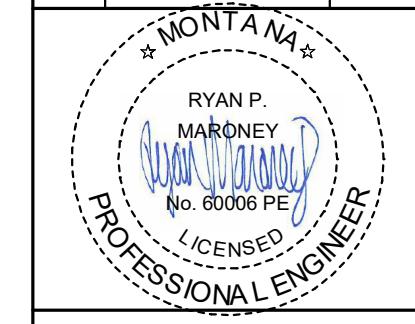


1 LEVEL 1 POWER AND SIGNAL PLAN
 1/4" = 1'-0"



BUILDING KEY PLAN
 NTS

REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00

2042

SHEET TITLE
LIGHTING PLAN

SHEET
E202

DATE
JAN. 13, 2023

- # KEY NOTES:**
- 1 RELOCATED SALVAGED LIGHT FIXTURE WITH DUAL SWITCHING. UTILIZE EXISTING LIGHTING CIRCUIT SERVING SPACE AND WIRE VIA NEW OR EXISTING CONTROLS AS SHOWN.
 - 2 PROVIDE NEW OCCUPANCY SENSOR SWITCH FOR EXISTING SINGLE BALLAST LIGHT FIXTURE. PULL NEW UN-SWITCHED HOT TO NEW SWITCH AS REQUIRED FOR NEW SEPARATE CONTROL OF ROOM.
 - 3 PROVIDE NEW OCCUPANCY SENSOR SWITCH FOR RELOCATED SALVAGED DUAL SWITCHING LIGHT FIXTURE. PULL NEW UN-SWITCHED HOT TO NEW SWITCH AS REQUIRED FOR NEW SEPARATE CONTROL OF ROOM. WIRE BOTH BALLASTS TO SAME SWITCH LEG.
 - 4 PROVIDE (2) SINGLE POLE SWITCHES FOR EXISTING DUAL SWITCHING LIGHT FIXTURE. PULL NEW UN-SWITCHED HOT TO NEW SWITCH AS REQUIRED FOR NEW SEPARATE CONTROL OF ROOM.
 - 5 CIRCUIT NEW EXTERIOR WALL PACK TO NEAREST UNSWITCHED 277V LIGHTING CIRCUIT.
 - 6 PULL NEW SWITCHED HOT TO FIXTURES FROM ADJACENT EXISTING LIGHT FIXTURE AS REQUIRED SO THESE TWO LIGHTS ARE CONTROLLED WITH REMAINDER OF EXISTING LIGHTING ZONE.
 - 7 CIRCUIT NEW SWITCH TO LIGHTING ZONE AS NOTED. PROVIDE NEW UN-SWITCHED HOT TO NEW SWITCH AND TRAVELERS AS REQUIRED TO TIE TO EXISTING 3-WAY SWITCH AND ACHIEVE INTENDED CONTROL FUNCTIONALITY.

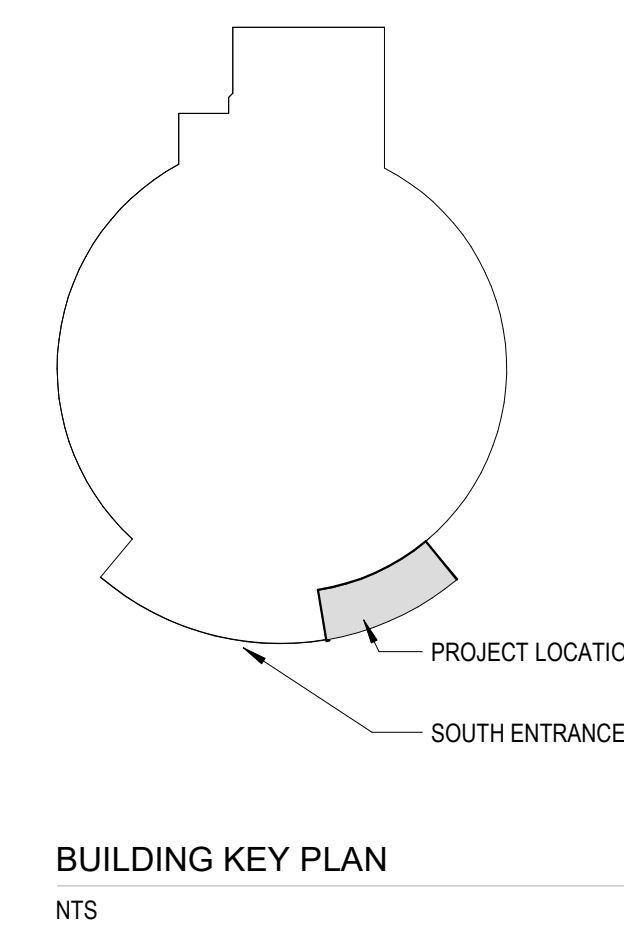
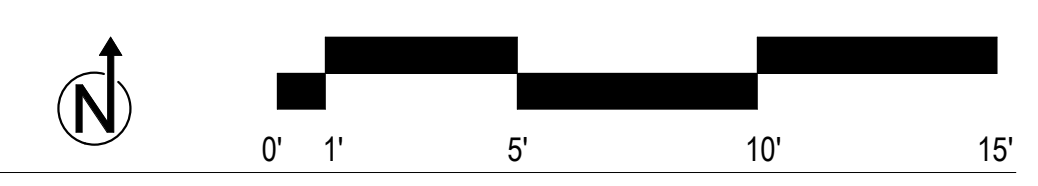
GENERAL ELECTRICAL NOTES

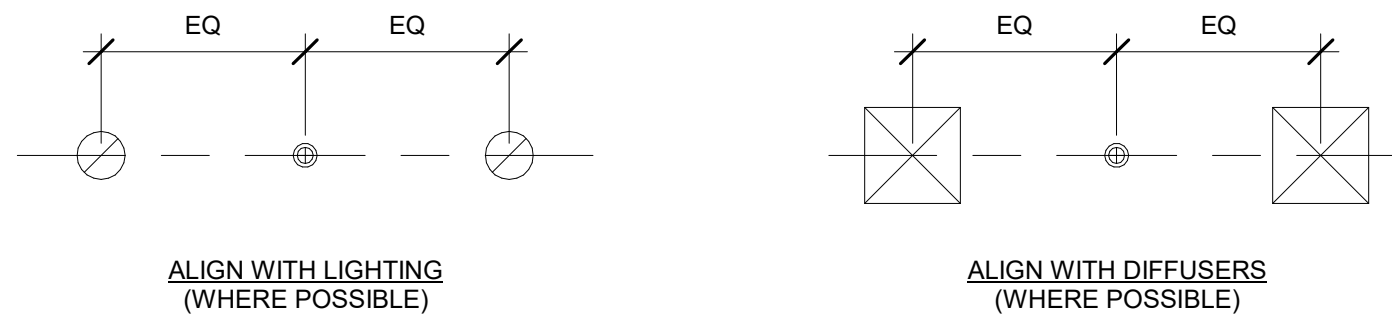
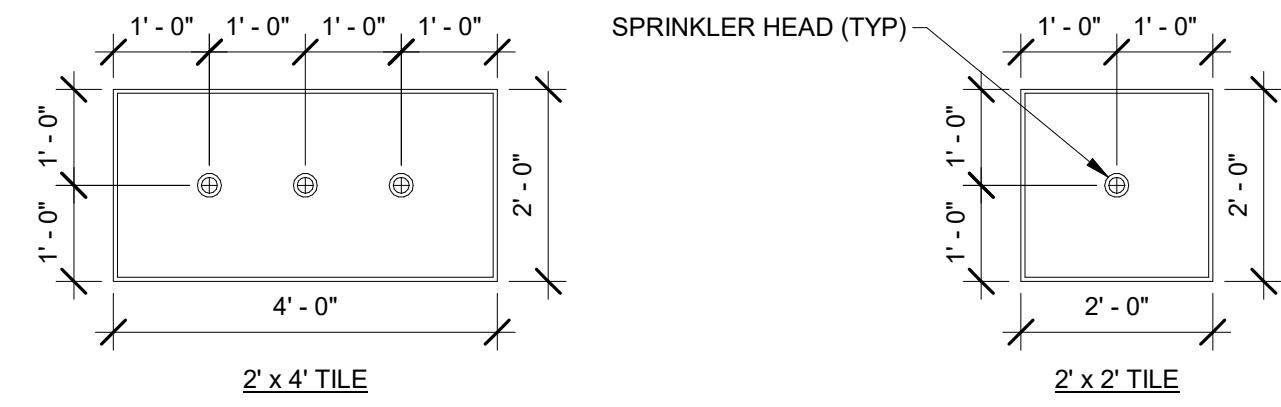
A. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INVOLVED TO COORDINATE WITH EACH OTHER AND VERIFY THAT THERE ARE NO CONFLICTS IN LOCATION OF DUCTS, CONDUITS, DIFFUSERS, BOXES, AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.

B. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING OF FLOORS, WALLS, CEILINGS, AND ROOFS TO PERFORM THE REQUIRED WORK DEPICTED IN THESE DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL PATCHING OF HOLES TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.



1 LEVEL 1 LIGHTING PLAN
 1/4" = 1'-0"





1 ACCEPTABLE SPRINKLER HEAD LOCATIONS
N.T.S.

2 DRY PENDENT SPRINKLER DETAIL
N.T.S.

INSTALLATION REQUIREMENTS

- PIPE HANGERS AND SUPPORTS:**
1. PROVIDE HANGERS, BRACKETS, SUPPORTS, ANCHORS, AND RELATED APPURTENANCES, AS REQUIRED, TO SUPPORT ALL PIPING AND EQUIPMENT PROVIDED UNDER THIS SECTION.
 2. INSTALL IN ACCORDANCE WITH NFPA 13 AND UL LISTING.
 3. INSTALL HANGERS TO PROVIDE MINIMUM 1/2 INCH (15MM) SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
 4. USE HANGERS WITH 1-1/2 INCH (40MM) MINIMUM VERTICAL ADJUSTMENT. DESIGN HANGERS FOR PIPE MOVEMENT WITHOUT DISENGAGEMENT OF SUPPORTED PIPE.
 5. SUPPORT VERTICAL PIPING AT EVERY FLOOR. SUPPORT RISER PIPING INDEPENDENTLY OF CONNECTED HORIZONTAL PIPING.
 6. WHERE SEVERAL PIPES CAN BE INSTALLED IN PARALLEL AND AT SAME ELEVATION, PROVIDE MULTIPLE OR TRAPEZE HANGERS.
 7. SEE DETAILS FOR HANGER SPACING REQUIREMENTS.

- JOINTS:**
1. JOINTS SHALL CONFORM TO NFPA 13. SHOP WELDED JOINTS WILL BE PERMITTED. FLANGED JOINTS OR MECHANICAL GROOVED COUPLINGS SHALL BE PROVIDED WHERE INDICATED OR REQUIRED BY NFPA 13. GROOVED PIPE AND FITTINGS SHALL BE PREPARED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST PUBLISHED SPECIFICATION ACCORDING TO PIPE MATERIAL, WALL THICKNESS AND SIZE. MECHANICAL COUPLINGS AND FITTINGS SHALL BE FROM THE SAME MANUFACTURER.
 2. THREADED JOINTS SHALL BE CUT WITH AN APPROVED THREAD-CUTTING OIL. JOINTS SHALL BE MADE TIGHT WITH A STIFF MIXTURE OF LITHARGE AND GLYCERIN OR OTHER APPROVED THREAD JOINT COMPOUND OR TAPE. NOT MORE THAN THREE THREADS SHALL SHOW AFTER THE JOINT IS MADE UP.
 3. FLANGED JOINTS SHALL BE FACED TRUE, PROVIDED WITH GASKETS AND MADE SQUARE AND TIGHT.
 4. MECHANICAL GROOVED PIPE JOINTS SHALL CONFORM TO AWWA C608. JOINTS SHALL BE MADE USING A UL-04 LISTED OR FM-7725 APPROVED COMBINATION OF FITTINGS, GASKETS, AND GROOVES. CUT OR ROLLED PIPE GROOVES SHALL BE DIMENSIONALLY COMPATIBLE WITH THE FITTINGS.
 5. MECHANICAL PIPE COUPLINGS SHALL BE OF THE BOLTED TYPE AND SHALL CONSIST OF A HOUSING FABRICATED IN ONE OR MORE PARTS, A SYNTHETIC RUBBER GASKET, AND NUTS AND BOLTS TO SECURE THE UNIT TOGETHER. GASKETS SHALL BE OF MOLDED SYNTHETIC RUBBER WITH CENTRAL CAVITY, PRESSURE RESPONSIVE CONFIGURATION AND SHALL CONFORM TO ASTM D2000.

- REDUCERS:**
1. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE PIECE REDUCING FITTINGS OR REDUCING COUPLINGS. REDUCING COUPLINGS SHALL NOT BE USED IN DRY SYSTEMS AND PREACTION SYSTEMS.

- PIPE SLEEVES:**
1. PIPES PASSING THROUGH CONCRETE OR MASONRY WALLS OR CONCRETE FLOORS SHALL BE PROVIDED WITH PIPE SLEEVES FITTED INTO PLACE AT THE TIME OF CONSTRUCTION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE WALL OR FLOOR, AND BE CUT FLUSH WITH EACH SURFACE. UNLESS OTHERWISE INDICATED, SLEEVES SHALL BE OF SUCH SIZE AS TO PROVIDE A MINIMUM OF 1/4 INCH ALL AROUND CLEARANCE BETWEEN THE PIPE AND SLEEVE. SLEEVES IN BEARING WALLS AND WET AREAS SHALL BE STEEL PIPE OR CAST IRON PIPE. SLEEVES IN NONBEARING WALLS, FLOORS, OR CEILINGS MAY BE STEEL PIPE, CAST IRON PIPE, OR GALVANIZED SHEET METAL WITH LOCK-TYPE LONGITUDINAL SEAM.
 2. WHERE PIPES PASS THROUGH FIRE WALLS, FIRE PARTITIONS, OR FLOORS, A FIRE SEAL OF FIRE RESISTANT CAULK SHALL BE PLACED BETWEEN THE PIPE AND SLEEVE.

- WALL/FLOOR/CEILING ESCUTCHEONS:**
1. ESCUTCHEONS SHALL BE PROVIDED AT ALL FINISHED SURFACES WHERE EXPOSED PIPING PASSES THROUGH FLOORS, WALLS, OR CEILINGS EXCEPT IN BOILER, UTILITY, OR EQUIPMENT ROOMS. WHERE THE RISER INTO UPPER LEVEL MECHANICAL ROOMS PENETRATES THE CONCRETE FLOOR, PROVIDE AND INSTALL A MECHANICAL SEAL.

- DRAINS AND DRIPS:**
1. MAIN DRAIN: PROVIDE MAIN DRAIN ON SPRINKLER SYSTEM APPROXIMATELY 4'-0" ABOVE FLOOR. DISCHARGE TO EXTERIOR OR APPROVED DRAIN LOCATION.
 2. ALL PIPING SHALL DRAIN BACK TO THE MAIN RISER. WHERE NOT POSSIBLE, PROVIDE AUXILIARY DRAINS DISCHARGING TO ARCHITECTURALLY APPROVED LOCATIONS.
 3. INSTALL AUXILIARY DRAINS AT ALL LOW POINTS IN SYSTEM. FIVE OR FEWER TRAPPED GALLONS WILL NOT REQUIRE A DRAIN VALVE IF IT CAN BE DRAINED THROUGH A SINGLE PENDENT SPRINKLER OR AN EASILY SEPARATED CONNECTION. DRAIN VALVES TO BE PIPED TO A SAFE PLACE OF DISCHARGE. VERIFY LOCATION OF DRAINS WITH OWNER'S REPRESENTATIVE. ANY DRAIN NOT DIRECTLY DISCHARGING TO A RECEPTACLE SHALL HAVE A 3/4 INCH HOSE LINE CONNECTION.
 4. IF MAIN DRAINS, AUXILIARY DRAINS, OR INSPECTOR'S TEST CONNECTIONS CANNOT BE SAFELY DISCHARGED WITHOUT CAUSING PROPERTY DAMAGE, PROVIDE 18"X18" CONCRETE SPLASH BLOCKS TO DEFLECT FLOW AND MINIMIZE DAMAGE.

- PIPE MAINTENANCE AND PROTECTION REQUIREMENTS:**
1. FLUSHING: FLUSHING ARRANGEMENTS SHALL BE PROVIDED BY NFPA 13 IN ACCESSIBLE LOCATIONS.
 2. FLUSHING CONNECTIONS: 1-1/4" NIPPLES WITH CAPS AT EXTREME ENDS OF ALL CROSS MAINS.

PIPING SPECIFICATIONS

- SPRINKLER PIPING, ABOVE GROUND (STEEL PIPE):**
1. THREADED PIPING: 1-INCH AND LARGER - ASTM A135 OR 795, GRADE A, SCHEDULE 40, WRW, BLACK STEEL PIPE.
 2. GROOVED PIPING: 1-1/4" AND LARGER - ASTM A135 OR 795, GRADE A SCHEDULE 10 OR SCHEDULE 40, WRW, BLACK STEEL PIPE, ROLL GROOVED ENDS.
 3. ALL PIPING USED IN DRY PIPE SPRINKLER SYSTEMS SHALL BE ASTM A135 OR 795, GRADE A, SCHEDULE 40, WRW, BLACK STEEL PIPE, THREADED OR ROLL GROOVED ENDS.
 4. ALL PIPING ON THE EXTERIOR OF THE BUILDING SHALL BE CORROSION RESISTANT.

- FITTINGS:**
1. CAST-IRON THREADED FITTINGS: ANSI B16.4, CLASS 125, STANDARD PATTERN. THREADS SHALL CONFORM TO ANSI B1.20.1.
 2. MALLEABLE-IRON THREADED FITTINGS: ANSI B16.3, CLASS 150, STANDARD PATTERN. THREADS SHALL CONFORM TO ANSI B1.20.1.
 3. DUCTILE-IRON THREADED FITTINGS: ANSI B16.42, CLASS 300, STANDARD PATTERN. THREADS SHALL CONFORM TO ANSI B1.20.1.
 4. STEEL FITTINGS: ASTM A234, SEAMLESS OR WELDED, FOR WELDED JOINTS.
 5. GROOVED MECHANICAL FITTINGS: ASTM A536, GRADE 65-45-12 DUCTILE IRON; ASTM A47 GRADE 32510 MALLEABLE IRON; OR ASTM A53, TYPE F OR TYPES E OR S, GRADE B FABRICATED STEEL FITTINGS WITH GROOVES OR SHOULDERS DESIGNED TO ACCEPT GROOVED END COUPLINGS.
 6. GROOVED MECHANICAL COUPLINGS: CONSIST OF DUCTILE OR MALLEABLE IRON HOUSING, A SYNTHETIC RUBBER GASKET OF A CENTRAL CAVITY PRESSURE-RESPONSIVE DESIGN WITH NUTS, BOLTS, LOCKING IN, LOCKING TOGGLE, OR LUGS TO SECURE ROLL-GROOVED PIPE AND FITTINGS. GROOVED MECHANICAL COUPLINGS INCLUDING GASKETS USED ON DRY-PIPE SYSTEMS SHALL BE LISTED FOR DRY-PIPE SERVICE.
 7. CAST-IRON FLANGES: ANSI B16.1, CLASS 125, RAISED GROUND FACE, BOLT HOLES SPOT FACED.
 8. CAST BRONZE FLANGES: ANSI B16.24, CLASS 150, RAISED GROUND FACE, BOLT HOLES SPOT FACED.
 9. UNIONS: ASME B16.39, MALLEABLE IRON, CLASS 150 HEXAGONAL STOCK, WITH BALL-AND-SOCKET JOINTS, METAL-TO-METAL BRONZE SEATING SURFACES, FEMALE THREADED ENDS. THREADS SHALL CONFORM TO ASME B1.20.1.
 10. DIELECTRIC UNIONS: THREADED, SOLDER, OR GROOVED-END CONNECTIONS AS REQUIRED TO SUIT APPLICATION CONSTRUCTED TO ISOLATE DISSIMILAR METALS, PREVENT GALVANIC ACTION, AND PREVENT CORROSION.
 11. FLANGE GASKETS: GASKETS SHALL BE NON-ASBESTOS COMPRESSED MATERIAL IN ACCORDANCE WITH ASME B16.21, 1/16 INCH THICKNESS, FULL FACE OR SELF-CENTERING FLAT RING TYPE. THE GASKETS SHALL CONTAIN ARAMID FIBERS BONDED WITH STYRENE BUTADIENE RUBBER (SBR) OR NITRILE BUTADIENE RUBBER (NBR).
 12. SQUAREHEAD BOLTS AND HEAVY HEXAGON NUTS: ASME B18.2.1 AND ASME B18.2.2, AND ASTM A 307, ASTM A575, OR ASTM A 576.
 13. SADDLE TYPE MECHANICAL TEES SHALL NOT BE ACCEPTABLE FOR NEW PIPING.
 14. PLAIN-END FITTINGS/JOINTS SHALL NOT BE ACCEPTABLE.

SCOPE OF WORK

1. REVISE EXISTING SPRINKLER SYSTEM TO ACCOMMODATE FOR THE REMOVAL OF EXISTING WALLS AND ADDITION OF NEW WALLS, REFER TO ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION AND REMODEL WORK.

CODES AND STANDARDS

- 2021 INTERNATIONAL BUILDING CODE-AS AMENDED
- 2021 INTERNATIONAL FIRE CODE-AS AMENDED
- 2019 NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.
- ALL LOCAL CODES AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW GENERAL ARRANGEMENT OF SYSTEM(S). FINAL SIZE AND LOCATION MUST MEET APPLICABLE CODES AND DESIGN REQUIREMENTS.
2. ALL DIMENSIONS AND EXACT UNIT LOCATIONS ARE TO BE FIELD VERIFIED. THESE DRAWINGS REPRESENT SCHEMATIC SYSTEMS.
3. DESIGN SHALL BE COMPLETED BY AN INDIVIDUAL WHO IS CERTIFIED AS A PROFESSIONAL ENGINEER OR A LEVEL III OR IV TECHNICIAN BY NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET) IN THE AUTOMATIC SPRINKLER SYSTEM LAYOUT SUBFIELD OF FIRE PROTECTION ENGINEERING TECHNOLOGY.
4. AUTOMATIC FIRE SPRINKLER SYSTEM(S) SHALL BE HYDRAULICALLY CALCULATED.
5. THE FIRE SPRINKLER CONTRACTOR SHALL CONDUCT A HYDRANT FLOW TEST IN ACCORDANCE WITH NFPA 291 PRIOR TO DESIGNING THE SPRINKLER SYSTEM.
6. PROVIDE A COMPLETE AUTOMATIC FIRE SPRINKLER SYSTEM THROUGHOUT ALL AREAS AND SUBMIT DRAWINGS AND ASSOCIATED CALCULATIONS TO THE ENGINEER FOR APPROVAL.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING SHOP DRAWINGS AND CALCULATIONS TO THE AHJ AND RECEIVING APPROVAL PRIOR TO STARTING CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY AND ASSOCIATED PERMITTING FEES.
9. CONTRACTOR TO PROVIDE A LISTED FIRESTOPPING SYSTEMS ASSEMBLY AT ALL PIPE AND THROUGH PENETRATIONS PASSING THROUGH RATED CONSTRUCTION (FIRE RATED WALLS, FLOORS, CEILINGS, ETC.)
10. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO STATE ADOPTED CODES AND REGULATIONS AS AMENDED.
11. COORDINATE AUTOMATIC FIRE SUPPRESSION SYSTEM DESIGN WITH ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. DESIGN SHALL INCLUDE ALL ROUTING, OFFSETS AND TRANSITIONS REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
12. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPE, FITTINGS, VALVES, AND OTHER INCIDENTAL DEVICES REQUIRED FOR A COMPLETE, FULL FUNCTIONING SYSTEM. ALL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
13. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEST CONNECTIONS/DRAINS AND PIPE DISCHARGE TO AN APPROVED SAFE POINT OUTSIDE OF THE BUILDING.
14. ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI OR AT 50 PSI ABOVE THE SYSTEM OPERATING PRESSURE, WHICHEVER IS GREATER AND WITNESSED BY OWNERS REPRESENTATIVE AND AHJ.
15. PROVIDE SYSTEM TESTING AND CERTIFICATION DOCUMENTATION TO BE INCLUDED IN THE PROJECT O&M MANUAL.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROVIDING ALL PIPE SLEEVES, CORE DRILLING, FLOOR/WALL/CEILING CUTTING AND PATCHING.
17. CONTRACTOR SHALL PROVIDE ALL REQUIRED SPARE SPRINKLER HEADS, HEAD CABINET(S), SIGNS, HYDRAULIC PLACARDS AND SYSTEM INFORMATION DISPLAYS AS SPECIFIED IN NFPA 13.
18. CONTRACTOR SHALL PROVIDE SPRINKLER GUARDS AT ALL HEADS SUBJECT TO DAMAGE.
19. HEAT COLLECTORS SHALL NOT BE USED AS A MEANS TO ASSIST THE ACTIVATION OF SPRINKLER HEADS PER NFPA 13.
20. SPRINKLER HEAD AND ESCUTCHEON FINISHES TO BE COORDINATED WITH ARCHITECT UNLESS OTHERWISE INDICATED.
21. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND CONTRACTOR RESPONSIBILITIES.

VALVES/HANGERS/SUPPORTS

- GATE VALVES:**
1. UP TO AND INCLUDING 2 INCHES (50MM): BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, INSIDE SCREW, SINGLE WEDGE OR DISC, TREADED ENDS.
 2. OVER 2 INCHES (50MM): IRON BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, OS&Y, SOLID WEDGE, FLANGED ENDS.

- GLOBE (OR ANGLE) VALVES:**
1. UP TO 2 INCHES (50MM): BRONZE BODY, BRONZE TRIM, RISING STEM AND HANDWHEEL, INSIDE SCREW, RENEWABLE COMPOSITION DISC, SCREWED ENDS, WITH BACKSEATING CAPACITY RE-PACKABLE UNDER PRESSURE.
 2. OVER 2 INCHES (50MM): IRON BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, OS&Y, PLUG-TYPE DISC, FLANGED ENDS, RENEWABLE SEAT AND DISC.

- BALL VALVES:**
1. UP TO AND INCLUDE 2 INCHES (50MM): BRONZE TWO-PIECE BODY, STAINLESS STEEL BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE, TREADED ENDS WITH UNION.

- BUTTERFLY VALVES:**
1. CAST OR DUCTILE IRON BODY, CHROME OR NICKEL PLATED DUCTILE IRON DISC, RESILIENT REPLACEABLE EPDM SEAT, WAFER OR LUG ENDS, EXTENDED NECK, HANDWHEEL AND GEAR DRIVE AND INTEGRAL INDICATING DEVICE.

- CHECK VALVES:**
1. UP TO AND INCLUDING 2 INCHES: BRONZE SWING DISC, SCREWED ENDS.
 2. OVER 2 INCHES (50MM): IRON BODY, BRONZE TRIM, SWING DISC, RENEWABLE DISC AND SEAT, FLANGED ENDS.
 3. IRON BODY, BRONZE TRIM, STAINLESS STEEL SPRING, RENEWABLE COMPOSITION DISC, SCREWED, WAFER OR FLANGED ENDS.

- DRAIN VALVES:**
1. BRONZE GLOBE VALVE WITH HOSE THREAD NIPPLE AND CAP.
 2. BRASS BALL VALVE WITH CAP, 3/4 INCH (19MM) HOSE THREAD.

- PIPE HANGERS AND SUPPORTS:**
1. CONFORM TO NFPA 13. HANGERS SHALL BE UL LISTED FOR USE IN SPRINKLER SYSTEMS.
 2. HANGERS FOR PIPE SIZES 1 INCH AND LARGER: STEEL, ADJUSTABLE SWIVEL, SPLIT RING.
 3. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS.
 4. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
 5. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP.
 6. VERTICAL SUPPORT: STEEL RISER CLAMP.
 7. FLOOR SUPPORT: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT.

FIRE PROTECTION SHEET INDEX

NUMBER	SHEET NAME
F001	FP COVER SHEET
F101	FP NEW CONSTRUCTION



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BRICK BREEDEN AAC
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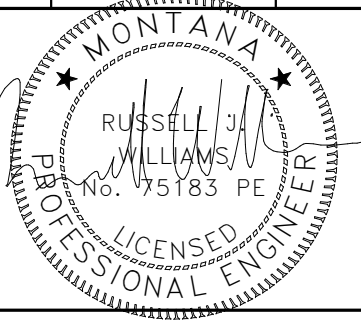
BID / PERMIT DRAWINGS



DRAWN BY: **TJP**

REVIEWED BY: **RJW**

REV.	DESCRIPTION	DATE



PPA#19-0117

A/E#00-00-00

2042

SHEET TITLE
FP COVER SHEET

SHEET
F001

DATE
JAN. 13, 2023

HAZARD CLASSIFICATION

AREA	HAZARD CLASS	MINIMUM DENSITY (GPM/FT ²)	MIN. HYDRAULIC DESIGN AREA (FT ²)	HOSE DEMAND (GPM)	DURATION (MINS)
	LIGHT HAZARD	0.10	1500	100	60

KEY NOTES:

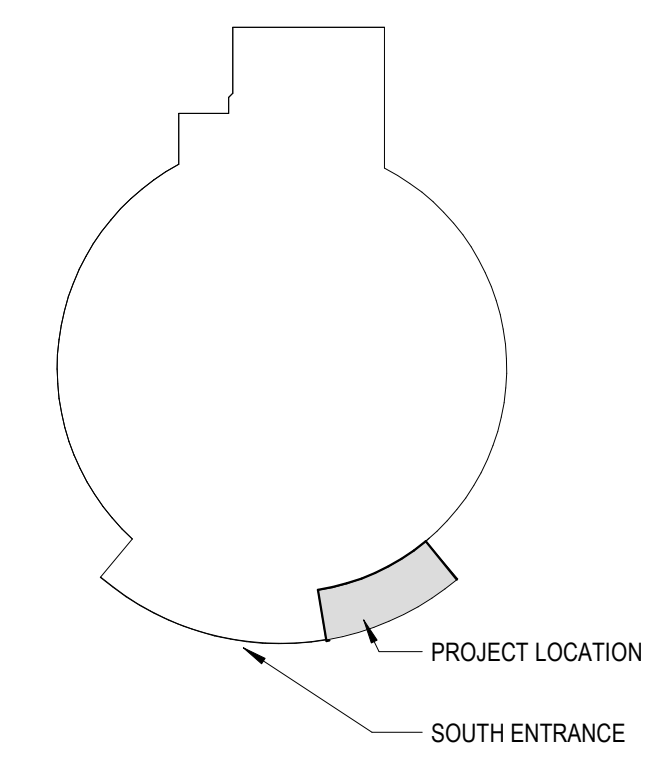
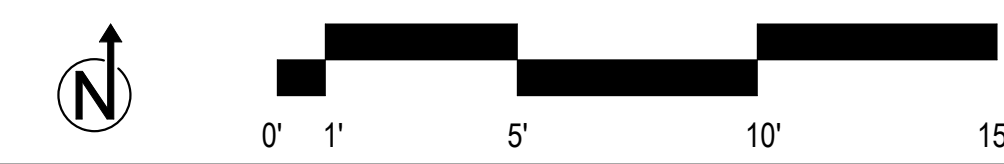
1. VERIFY SPRINKLER SPACING WITH ADDITION OF NEW WALL. ADJUST EXISTING SPRINKLER(S) AND ADD ADDITIONAL SPRINKLER(S) AS REQUIRED.
2. VERIFY SPRINKLER SPACING WITH REMOVAL OF EXISTING WALL. ADJUST EXISTING SPRINKLER(S) AS REQUIRED.
3. VERIFY SPRINKLER SPACING WITH REMOVAL OF EXISTING WALL AND ADDITION OF NEW WALL. ADJUST EXISTING SPRINKLER(S) AND ADD ADDITIONAL SPRINKLER(S) AS REQUIRED.
4. PROVIDE DRY PENDENT SPRINKLER IN VESTIBULE. SEE DETAIL 2/F001.

FIRE PROTECTION GENERAL NOTES:

1. NEW SPRINKLERS TO MATCH FINISH AND TYPE OF EXISTING SPRINKLERS



1 FIRE PROTECTION NEW CONSTRUCTION
1/4" = 1'-0"



BUILDING KEY PLAN
NTS



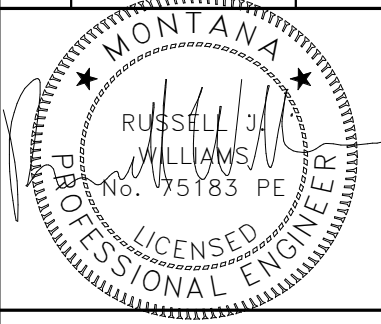
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BRICK BREEDEN AAC
BOZEMAN, MONTANA



DRAWN BY: **TJP**
REVIEWED BY: **RJW**

REV.	DESCRIPTION	DATE



PPA#19-0117
A/E#00-00-00
2042

SHEET TITLE
FP NEW CONSTRUCTION

SHEET
F101

DATE
JAN. 13, 2023

BID / PERMIT DRAWINGS