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4600 Giant Spring RD
Great Falls, MT 59405
Kevin Harrington
e. Kevin.Harrington@mt.gov
t. 406.841.4003

ARCHITECT:
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ELECTRICAL ENGINEER:
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Great Falls, MT 59401
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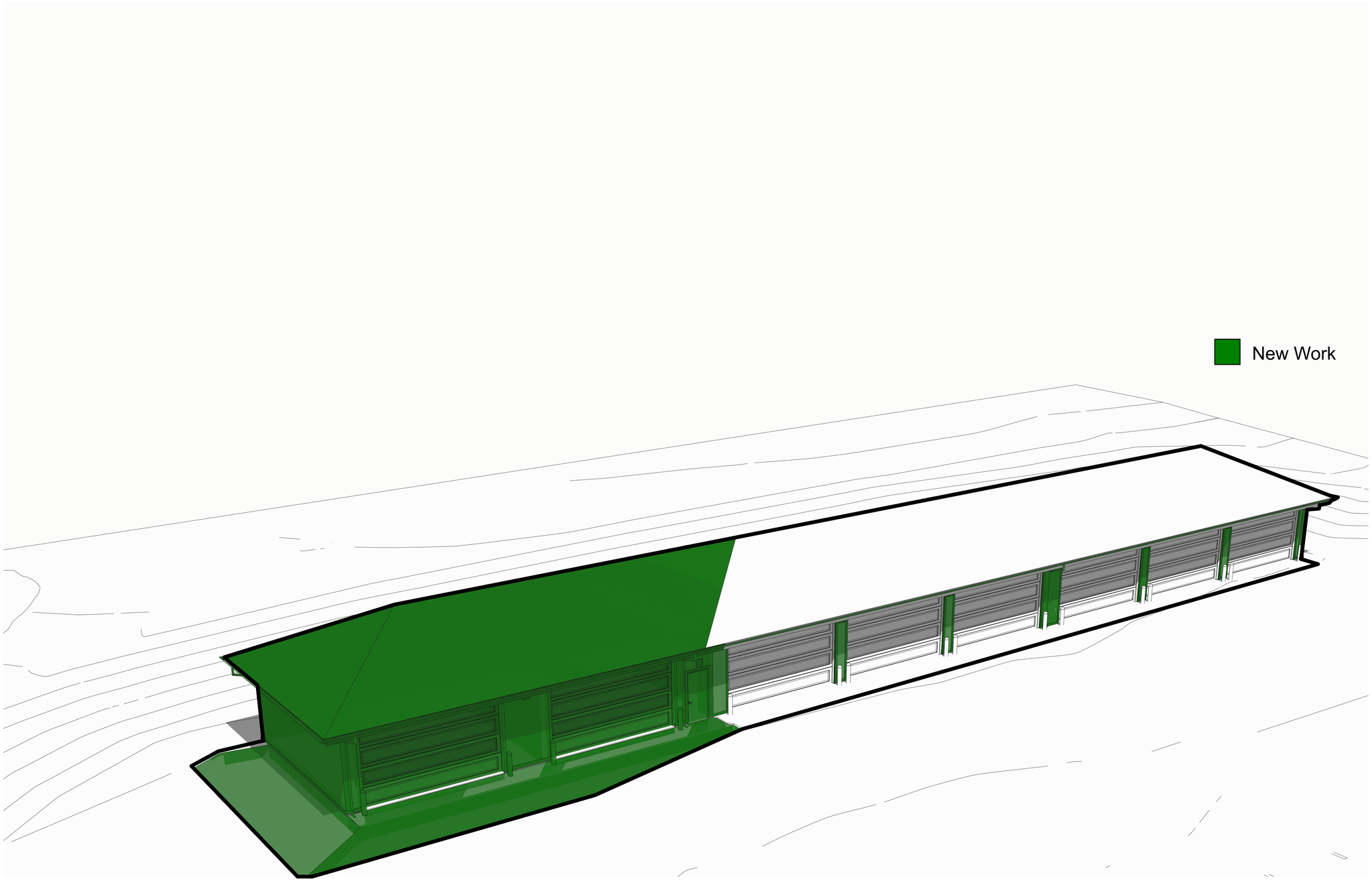

ARCHITECTURE
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REGION 4 HEADQUARTERS GARAGE ADDITION

4600 GIANT SPRING RD, GREAT FALLS, MT, 59405

PROJECT NUMBER: 24048

LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
STATE OF MONTANA
02.24.2025

PHASE
Building Permit Set

SHEET ISSUE DATE
02.24.2025

DRAWN BY: AM & IB APPROVED BY: KB

SHEET TITLE
Cover Sheet

SHEET NUMBER
G.000

2 **Vicinity Map**
NOT TO SCALE

CODE ANALYSIS

MEANS OF EGRESS

MEANS OF EGRESS HAZARD CATEGORIES (IEBC TABLE 1011.5)

EXISTING RELATIVE HAZARD: 5
PROPOSED RELATIVE HAZARD: 5

OCC. LOAD FACTOR:

		AREA SQ.FT.	OCC FACTOR	OCC
MAIN LEVEL				
PARKING GARAGES	S-2	1550.00	200.00	8.00
PARKING GARAGES	S-2	1556.00	200.00	8.00
PARKING GARAGES	S-2	1276.00	200.00	7.00
				23.00

MEANS OF EGRESS

TABLE 1006.2.1 SPACES WITH ONE EXIT IR EXIT ACCESS DOORWAY.

OCCUPANCY

MAX OCC : 29
PROPOSED OCC: 23

MAX COMMON PATH OF EGRESS TRAVEL DISTANCE: 100'

REQUIRED EGRESS WIDTH (PER IBC 1005.3.2)
23 OCC X 0.2"/OCC= 4.6" MIN

PROVIDED EGRESS WIDTH (PER IBC 1005.3)

TWO EXITS PROVIDED
DOOR 101 A =35" CLEAR WIDTH
DOOR 106 A =35" CLEAR WIDTH

TABLE 1017.2 | 200' MAX EXIT ACCESS TRAVEL DISTANCE

1. 79'-0" TRAVEL DISTANCE < 100'.
2. 79'-9" TRAVEL DISTANCE < 100'.

CODE PLAN LEGEND

- COMMON PATH OF TRAVEL
- EXIT ACCESS
- EXIT ACCESS
- EXIT DISCHARGE
- EXIT SEPARATION DISTANCE IS GREATER THAN 1/3 DIAGONAL PER IBC 1007.1.1. (DIM)
- BUILDING DIAGONAL DISTANCE. (DIM)
- WALL-MOUNTED FIRE EXTINGUISHER. (FE)
- FIRE EXTINGUISHER RECESSED CABINET. (FEC)
- FIRE EXTINGUISHER SEMI-RECESSED CABINET. (FEC)
- EXIT SIGN

APPLICABLE CODES AND STANDARDS

2021 INTERNATIONAL BUILDING CODE - IBC
2021 INTERNATIONAL RESIDENTIAL CODE - IRC
2021 INTERNATIONAL MECHANICAL CODE - IMC
2021 INTERNATIONAL FUEL GAS CODE - IFGC
2021 INTERNATIONAL EXISTING BUILDING CODE - IEBC
2021 UNIFORM PLUMBING CODE - UPC
2020 NATIONAL ELECTRICAL CODE - NEC (NFPA 70)
2021 INTERNATIONAL ENERGY CONSERVATION CODE - IECC
2021 INTERNATIONAL FIRE CODE - IFC
2017 ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
ADMINISTRATIVE RULES OF MONTANA

GOVERNING AUTHORITY
CASCADE COUNTY

OCCUPANCY CLASSIFICATION & BUILDING LIMITATIONS

OCCUPANCY GROUP: (E) S-2 (LOW-HAZARD STORAGE)
NO CHANGE PROPOSED

CONSTRUCTION TYPE: **V B NS**

FIRE SPRINKLERS: NONE EXISTING - NONE REQUIRED

ALLOWABLE AREA: S-2 (LOW-HAZARD STORAGE) -
13,500 SF ALLOWABLE AREA (TABLE 506.2)

PROPOSED BLDG AREA:

Existing	3,321
New	1,361
	4,682 ft²

ALLOWABLE BLDG HEIGHT: 40' (TABLE 504.3)
2 STORIES (TABLE 504.3)

PROPOSED BLDG HEIGHT: (E) ± 19'-10"
(E) 1 LEVEL

CLASSIFICATION OF WORK (IEBC CHAPTER 6) ADDITION

FIRE SEPARATION: NO SEPARATION REQUIRED I

FIRE PROTECTION AND LIFE SAFETY SYSTEMS

AUTOMATIC SPRINKLER SYSTEMS

903.2.9 GROUP S-2:

AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT ALL BUILDINGS CLASSIFIED AS PARKING GARAGES WHERE ANY OF THE FOLLOWING CONDITIONS EXISTS:

WHERE THE FIRE AREA OF THE ENCLOSED PARKING GARAGE IN ACCORDANCE WITH SECTION 406.6 EXCEEDS 12,000 SQUARE FEET - NA

WHERE THE ENCLOSED PARKING GARAGE IN ACCORDANCE WITH SECTION 406.6 IS LOCATED BENEATH OTHER GROUPS - NA

WHERE THERE AREA OF THE OPEN PARKING GARAGE IN ACCORDANCE WITH SECTION 406.5 EXCEEDS 48,000 SQUARE FEET - NA

NONE OF THE ITEMS LISTED ABOVE TRIGGERS THE REQUIREMENT FOR THE INSTALLATION OF AN AUTOMATIC FIRE SPRINKLER SYSTEM.

FIRE-RESISTIVE REQUIREMENTS (TABLE 601 & 705.5)

STRUCTURAL FRAME:	NO REQUIREMENTS.
BEARING WALLS | EXTERIOR:	1 HOURS LESS THAN 5 FEET. 1 HOUR GREATER THAN 5 FEET BUT LESS THAN 10 FEET. 0 HOUR GREATER THAN OR EQUAL TO 10 FEET.
BEARING WALLS | INTERIOR:	NO REQUIREMENTS.
NONBEARING WALLS | EXTERIOR:	1 HOUR LESS THAN 5 FEET. 1 HOUR GREATER THAN 5 FEET BUT LESS THAN 10 FEET. 0 HOUR GREATER THAN OR EQUAL TO 10 FEET.
NONBEARING WALLS | INTERIOR:	NO REQUIREMENTS.
FLOOR CONSTRUCTION:	NO REQUIREMENTS.
ROOF CONSTRUCTION:	NO REQUIREMENTS.
CORRIDOR WALLS:	1 HOUR PER TABLE 1020.1.

PROJECT ADDRESS

4600 GIANT SPRING RD,
GREAT FALLS,MT 59405

LEGAL DESCRIPTION

S33, T21 N, R04 E, 3266, PARCEL N/A, IN S/2N/2 & N/2S/2
MK S HERITAGE STATE PARK

SCOPE OF WORK

THE PROJECT INVOLVES THE ADDITION OF TWO NEW GARAGE BAYS TO THE EAST SIDE OF THE EXISTING GARAGE BUILDING. THIS ADDITION WILL CONNECT DIRECTLY TO AN EXISTING DOOR.

IN ADDITION TO THE GARAGE EXPANSION, IMPROVEMENTS TO THE EXISTING BUILDING ARE INCLUDED. EXTERIOR FACADE UPGRADE: THE CURRENT EIFS WILL BE REPLACED WITH A BOARD-AND-BATTEN METAL SIDING, AND EXISTING INTERIOR AND EXTERIOR LIGHT FIXTURES WILL BE REPLACED WITH UPDATED, ENERGY-EFFICIENT MODELS.

THE EXTERIOR SITE WORK WILL INCLUDE GRADING THE TERRAIN SURROUNDING THE NEW ADDITION AND THE ADDITION OF 4 BOLLARDS.

ENERGY CODE ANALYSIS

CLIMATE ZONE: **6B**

GARAGE | UNCONDITIONED SPACE

C402.1.1 LOW-ENERGY BUILDINGS AND GREENHOUSES.

THE FOLLOWING LOW-ENERGY BUILDINGS, OR PORTIONS THEREOF SEPARATED FROM THE REMAINDER OF THE BUILDING BY BUILDING THERMAL ENVELOPE ASSEMBLIES COMPLYING WITH THIS SECTION, SHALL BE EXEMPT FROM THE BUILDING THERMAL ENVELOPE PROVISIONS OF SECTION C402.

2. THOSE THAT DO NOT CONTAIN CONDITIONED SPACE.

SHEET INDEX

	SHEET NAME	BP	2	3	4
General					
G.000	Cover Sheet	X			
G.001	Project Information & Code Analysis	X			
G.002	Architectural Information & General Notes	X			
Civil					
C1.0	Notes , Legends & Abbreviation	X			
C2.0	Existing Conditions & Demolition.	X			
C3.0	Layout & Grading	X			
C4.0	Details	X			
Demolition Plans					
AD.101	Demolition Plan | Main Level & Exterior Elevations	X			
Site Plan					
AS.101	Site Plan	X			
Plans					
A101	Floor Plan & Foundation Plan	X			
A102	Roof Plan & RCP Plan	X			
Elevations					
A201	Exterior Elevation	X			
Building Sections					
A301	Building Sections	X			
Exterior Details					
A.501	Exterior Details	X			
Schedules					
A601	Door & Hardware Schedules & Details	X			
Structural					
S1.0	General Structural Notes	X			
S1.1	General Structural Notes	X			
S1.2	General Structural Notes	X			
S1.3	Typical Details	X			
S1.4	Typical Details	X			
S1.5	Typical Details	X			
S1.6	Typical Details	X			
S1.7	Wood Fastening Schedule	X			
S2.0	Foundation & Roof Plans	X			
S3.0	Building Sections	X			
S4.0	Foundation Details	X			
S5.0	Framing Details	X			
Electrical					
E.100	Electrical Basic Requirements & Legend.	X			
E.101	Electrical Demo Plan & Revised Electrical Plan	X			

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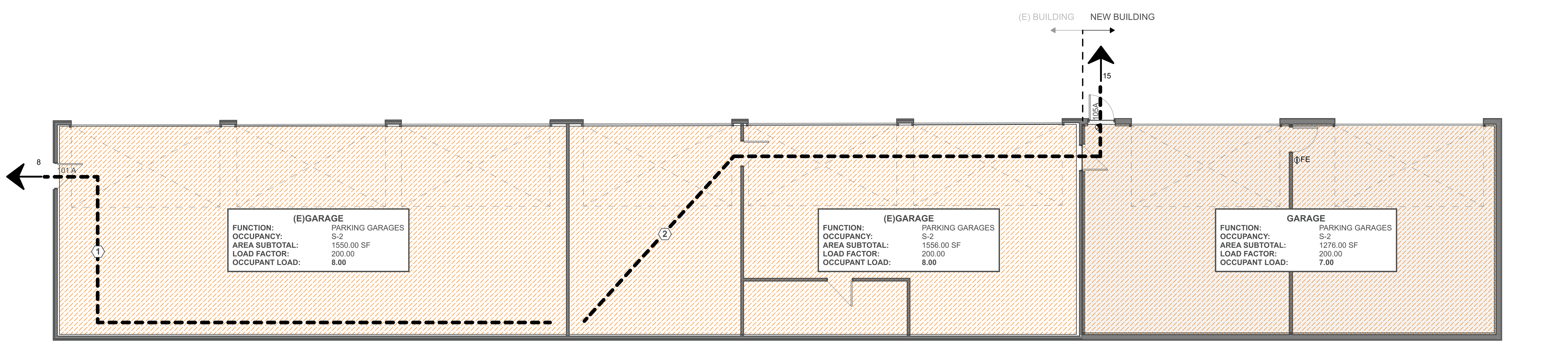
www.bsparkarch.com

REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD,
GREAT FALLS, MT, 59405
PROJECT NUMBER:
24048



1 **Code Plan | Main Floor**
SCALE: 1/8" = 1'-0"

LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
STATE OF MONTANA
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

PHASE:
Building Permit Set

SHEET ISSUE DATE:
02.24.2025

DRAWN BY: **AM & IB** APPROVED BY: **KB**

SHEET TITLE
Project Information & Code Analysis

SHEET NUMBER
G.001

GENERAL NOTES

1. THE APPROXIMATE LOCATION OF ALL KNOWN UNDERGROUND UTILITIES AND SERVICE LINES ARE SHOWN ON THE PLANS. THE PRESENTATION OF EXISTING UTILITIES IS NOT WARRANTED TO BE EITHER COMPLETE OR EXACT IN HORIZONTAL POSITION OR ELEVATION. THE CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATES, BOTH PRIVATE AND PUBLIC, PRIOR TO THE START OF CONSTRUCTION.
2. ALL POWER, TELEPHONE AND OTHER UTILITIES WHICH INTERFERE WITH THE CONSTRUCTION SHALL BE REMOVED OR RELOCATED. CONTRACTOR TO COORDINATE WITH THE UTILITY COMPANY.
3. ALL SITE CIVIL WORK SHALL BE CONDUCTED IN CONFORMANCE WITH CITY OF GREAT FALLS STANDARDS FOR DESIGN AND CONSTRUCTION, REVISION 2, THE SEVENTH EDITION OF THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), AND TD&H MODIFICATIONS TO MPWSS.
4. PERMITTING AND FEES SHALL BE PAID BY CONTRACTOR AND COORDINATED WITH CITY OF GREAT FALLS PUBLIC WORKS AND PLANNING DEPARTMENTS.
5. IF REQUIRED, SECURE MPDES STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY PERMIT FROM THE MONTANA DEPT. OF ENVIRONMENTAL QUALITY PRIOR TO THE START OF CONSTRUCTION.
6. PREPARE A DUST CONTROL PLAN FOR CITY APPROVAL AND PROVIDE AND MAINTAIN DUST CONTROL THROUGHOUT CONSTRUCTION.
7. ELECTRONIC DESIGN FILES IN CIVIL 3D VERSION 2018 ARE AVAILABLE FOR CONSTRUCTION STAKING UPON REQUEST AND EXECUTION OF THE TD&H "ELECTRONIC MEDIA WAIVER OF RESPONSIBILITY" FORM. ANY OTHER FORMAT OR SOFTWARE WILL REQUIRE PAYMENT FOR CONVERSION.
8. ALL SPOT ELEVATIONS SHOWN ON THE GRADING PLAN REFERENCE FINISH GRADES.
9. PROTECT ALL EXISTING SURVEY MONUMENTATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY DISTURBED MONUMENTATION.
10. CONTRACTOR SHALL REMOVE ANY OBSTACLE (FENCES, CONCRETE SLABS, ETC.) THAT INTERFERES WITH CONSTRUCTION UPON APPROVAL OF PROJECT ENGINEER.
11. CONSTRUCTION MATERIALS TESTING MUST BE PERFORMED BY AN AASHTO ACCREDITED TESTING LABORATORY.
12. ANY EXISTING UTILITIES, OR SITE FEATURES THAT ARE NOT SPECIFICALLY CALLED FOR DEMOLITION, BUT THAT ARE REQUIRED TO BE REMOVED OR RELOCATED TO FACILITATE NEW CONSTRUCTION, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
13. QUANTITIES PROVIDED IN THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO BIDDING.

GRADING NOTES

1. EXCESS TOPSOIL AND EXCAVATED SOIL IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. RETURN ALL DISTURBED AREAS OUTSIDE THE IMPROVEMENT AREA TO PRE-CONSTRUCTION CONDITION OR BETTER.

LEGEND

NEW	EXISTING	DESCRIPTION
		ASPHALT PAVEMENT
		BARRIER POST
	BH-X ELXXXX	BORE HOLE (NUM & EL. OPTIONAL)
		BUILDING BOUNDARY
		BUSH (SIZE VARIES)
		CENTERLINE MONUMENT
		CLEANOUT (SANITARY SEWER, STORM, ROOF DRAIN, SUB DRAIN)
		CONCRETE
3345	3345	CONTOUR MAJOR
3345	3345	CONTOUR MINOR
	CP-X	CONTROL POINT (WITH NUMBER)
		CURB BOX/STOP
		CURB & GUTTER (SCALE VARIES)
		CULVERT
		DELINEATOR POST
		DITCH
		GRAVEL (RIPRAP DENOTED BY LARGER HATCH)
		ELECTRICAL BOX (DIMENSIONS VARY)
	EB	ELECTRICAL BOX (FLUSH)
	EL	ELECTRICAL MANHOLE
		ELECTRICAL OUTLET OR CONDUIT
	OE	ELECTRIC (OVERHEAD)
	UE	ELECTRIC (UNDERGROUND)
		FENCE CHAIN LINK
	UFO	FIBER OPTIC (UNDERGROUND)
		FIRE HYDRANT
	FO	FUEL OIL
	G	GAS
		GAS METER
		GAS VALVE
		GATE
		GUY WIRE
		HEDGEROW
	HTHW	
		INLET (DIMENSIONS VARY)
		IRRIGATION SPRINKLER
		IRRIGATION VALVE
		LIGHT POLE
		MAIL BOX
		PAINT STRIPE
		PARKING BLOCKS
		POWER POLE
	P/L	PROPERTY LINE
		PROPERTY PIN (FOUND)
		RAILROAD TRACKS
		ROOF DRAIN
	SS	SANITARY SEWER MAIN
	SS	SANITARY SEWER MANHOLE (RIM)
		SATELITE DISH
1000.00	TC 1000.00	E 1000.00 SPOT ELEVATIONS (SEE ABBREVIATIONS)
	SD	STORM DRAIN MAIN
	SD	STORM DRAIN MANHOLE
	T	TELEPHONE MANHOLE
	T	TELEPHONE RISER
	T	TELEPHONE RISER (FLUSH)
	OT	
	UT	
TEMP.X EL.XX		TEMPORARY BENCHMARK (NUM & EL OPTIONAL)
		TEST PIT (NUM OPTIONAL)

LEGEND

NEW	EXISTING	DESCRIPTION
		TRAFFIC SIGN
		CONIFEROUS TREE (SIZE VARIES)
		DECIDUOUS TREE (SIZE VARIES)
		TREE STUMP
		TREELINE
		WALL HYDRANT
		WALL LIGHT
	W	WATER MAIN
		WATER MANHOLE
		WATER METER
		WATER VALVE
		WATER WELL
	WL	WETLAND BOUNDARY

NOTE:

SYMBOLOGY SIZE AND SPACING MAY VARY DUE TO SCALE AND PRESENTATION FACTORS.

ABBREVIATIONS

&	AND
@	AT
℄	CENTER LINE
C.O. OR CO	CLEANOUT
CONC.	CONCRETE
CF OR CU. FT.	CUBIC FEET
DEMO	DEMOLITION
ø OR DIA.	DIAMETER
EA	EACH
E	EAST/EASTING
EL OR ELEV	ELEVATION
EOA	EDGE OF ASPHALT
EX OR EXIST	EXISTING
FF	FINISH FLOOR
FL	FLOW LINE
INV	INVERT
LF	LINEAR FEET
LONG.	LONGINTUDINAL
MAFB	MALMSTROM AIR FORCE BASE
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH/NORTHING
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
# OR NO.	NUMBER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OC	ON CENTER
PVC	POLYVINYL CHLORIDE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
SCH.	SCHEDULE
SW	SIDEWALK (ELEVATION)
SF	SQUARE FEET
SY	SQUARE YARDS
STA	STATION
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TC	TOP OF CURB
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
SWTS	SUBSURFACE WASTEWATER TREATMENT SYSTEM
W/	WITH

SCALING NOTE

DRAWING SHEETS PRINTED FROM ADOBE PDF ELECTRONIC FILES ARE USUALLY NOT TO SCALE. VERIFY PRINTED SHEET SCALES FROM THE BAR SCALES LOCATED ON THE PLAN SHEETS.

PAVEMENT NOTES

1. ALL CONCRETE AND ASPHALT PAVEMENT SHALL CONFORM TO SPECIFICATIONS.
2. ASPHALT PAVEMENT OVER 3" THICK SHALL BE PLACED IN 2 LIFTS.

UTILITY LOCATION

THE LOCATIONS OF UNDERGROUND UTILITIES REPRESENTED ON THIS DRAWING HAVE BEEN DETERMINED FROM A FIELD SURVEY AND FROM RECORDS OBTAINED FROM THE VARIOUS UTILITY COMPANIES. THE NUMBER AND LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATION TO OBTAIN THE EXACT INFORMATION NECESSARY TO PROTECT OR ACCESS ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL THE FOLLOWING NUMBER FOR ASSISTANCE : 406-755-8344 OR 800-551-8344.

"CALL BEFORE YOU DIG"

BUILDING PERMIT SET

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FWP DISTRICT 4 GARAGE

PROJECT LOCATION:
4500 GIANT SPRINGS RD
GREAT FALLS, MT

PROJECT NUMBER:

MONTANA
RYAN C. BUFFINGTON
27039PE
REGISTERED PROFESSIONAL ENGINEER

REVISIONS:

DATE	ISSUANCE

PHASE:
BUILDING PERMIT SET

SHEET ISSUE DATE: 01.31.2025
TASK/JOB NUMBER: 24-134

DRAWN BY: JEM
APPROVED BY: RCB

SHEET TITLE:
NOTES, LEGEND, & ABBREVIATIONS

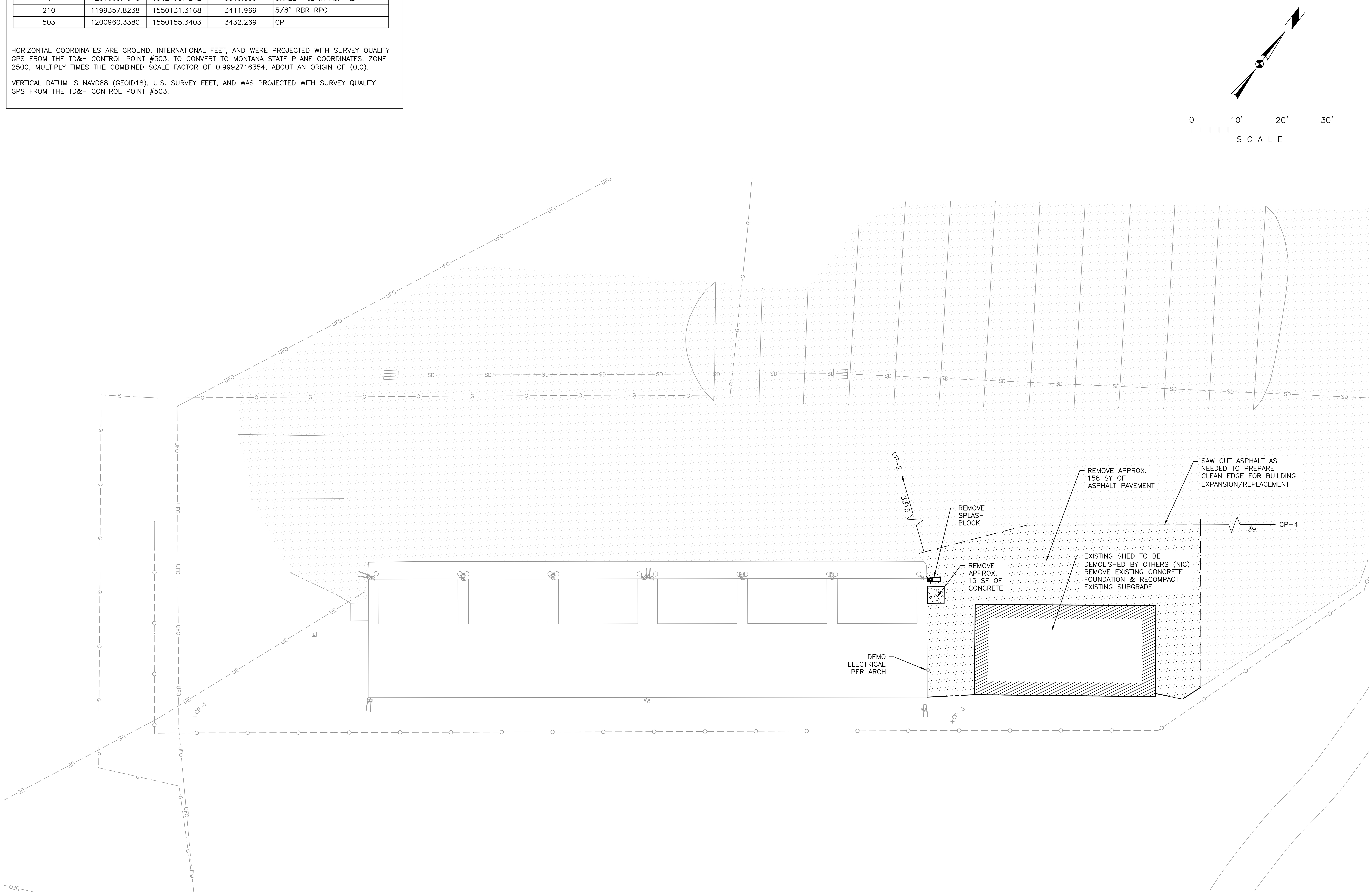
SHEET NUMBER:
C1.0

SURVEY CONTROL POINTS

POINT NAME	NORTHING	EASTING	ELEVATION	REMARKS
1	1201470.4035	1542317.7657	3319.725	RPC 5/8" RBR
2	1201668.6289	1542326.5571	3314.540	RPC 5/8" RBR
3	1201573.2124	1542451.1928	3312.882	5/8" RBR RPC
4	1201665.7948	1542498.4212	3313.833	SMALL NAIL IN ASPHALT
210	1199357.8238	1550131.3168	3411.969	5/8" RBR RPC
503	1200960.3380	1550155.3403	3432.269	CP

HORIZONTAL COORDINATES ARE GROUND, INTERNATIONAL FEET, AND WERE PROJECTED WITH SURVEY QUALITY GPS FROM THE TD&H CONTROL POINT #503. TO CONVERT TO MONTANA STATE PLANE COORDINATES, ZONE 2500, MULTIPLY TIMES THE COMBINED SCALE FACTOR OF 0.9992716354, ABOUT AN ORIGIN OF (0,0).

VERTICAL DATUM IS NAVD88 (GEOID18), U.S. SURVEY FEET, AND WAS PROJECTED WITH SURVEY QUALITY GPS FROM THE TD&H CONTROL POINT #503.



BUILDING PERMIT SET

PRINTED 7/8/24, BY RYAN BUFFINGTON, I:\2024\GTF\24-134 FWP REGION 4 GARAGE\06_CADD\CIVIL\24-134 EX COND.DWG

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FWP DISTRICT 4 GARAGE

ADDRESS:
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GREAT FALLS, MT

PROJECT NUMBER:

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27039PE
REGISTERED
PROFESSIONAL ENGINEER

REVISIONS:
DATE ISSUANCE

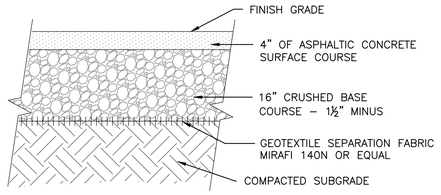
PHASE:
BUILDING PERMIT SET

SHEET ISSUE DATE: 01.31.2025
TD&H JOB NUMBER: 24-134

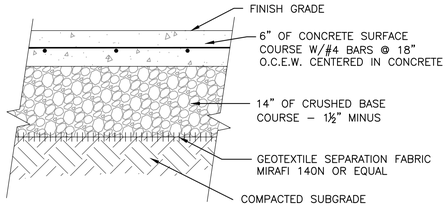
DRAWN BY: **JEM** APPROVED BY: **RCB**

SHEET TITLE
EXISTING CONDITIONS & DEMOLITION PLAN

SHEET NUMBER
C2.0

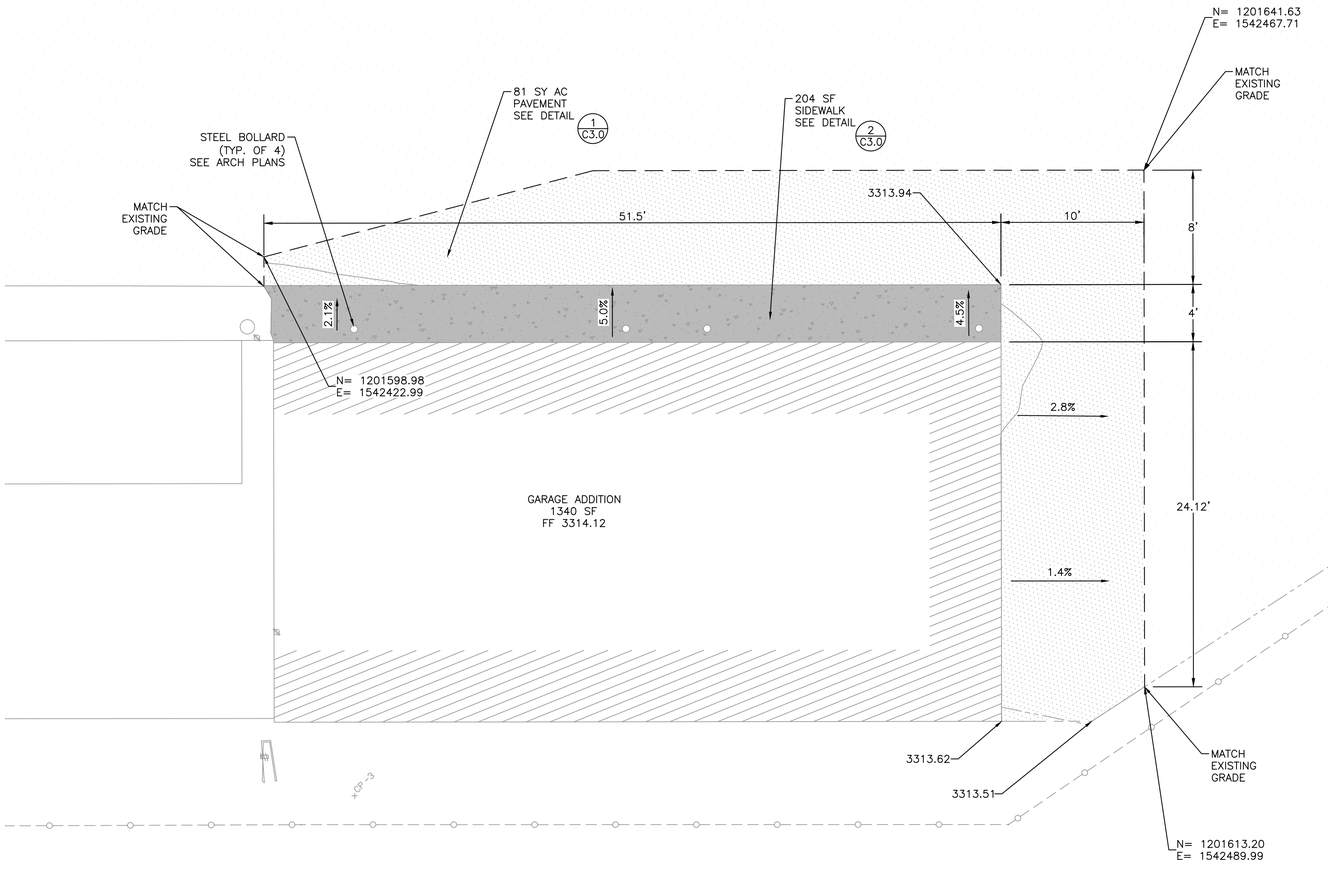


TYPICAL ASPHALT SECTION 1 C3.0



NOTES:
1. CONTRACTION JOINTS AT 8' O.C.E.W.
2. EXPANSION JOINTS AT OBSTRUCTIONS AND ADJOINING SIDEWALKS.

TYPICAL 6" CONCRETE PAVEMENT SECTION 2 C3.0



BUILDING PERMIT SET

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FWP DISTRICT 4 GARAGE

PROJECT:
4500 GIANT SPRINGS RD
GREAT FALLS, MT

PROJECT NUMBER:

REVISIONS:
DATE ISSUANCE

PHASE:
BUILDING PERMIT SET

SHEET ISSUE DATE: 01.31.2025
TSMT JOB NUMBER: 24-134

DRAWN BY: JEM APPROVED BY: RCB

SHEET TITLE:
LAYOUT, GRADING, AND DETAILS

SHEET NUMBER
C3.0

MATERIAL TYPE LEGEND

#	POUND OR NUMBER
&	AND
@	AT
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ACT	ACOUSTIC CEILING TILE
AD	AREA DRAIN
AFF	ABOVE FINISH FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALUM	ALUMINUM
ANOD	ANODIZED
ASD	ALTERNATE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BD	BOARD
BLK	BLOCK
BM	BEAM
B.O.	BOTTOM OF
BOT	BOTTOM
BRG	BEARING
BRKT	BRACKET
BSMT	BASEMENT
BLDG	BUILDING
BYND	BEYOND
CAB	CABINET
CER	CERAMIC
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMPR	COMPRESSIBLE
CONC	CONCRETE
CONST JT	CONSTRUCTION JOINT
CONT	CONTINUOUS
CPT	CARPET TILE
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
DBL	DOUBLE
DEMO	DEMOLISH OR DEMOLITION
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DN	DOWN
DR	DOOR
DWG	DRAWING
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR OR ELEVATION
EPDM	ETHYLENE PROPYLENE DIENE MCLASS (ROOFING)
EQ	EQUAL
ES	EACH SIDE
EXIST.	EXISTING
EXP BLT	EXPANSION BOLT
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FD	FLOOR DRAIN OR FIRE DEPARTMENT
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FM	FILLED METAL
FND	FOUNDATION
F.O.	FACE OF
FT	FOOT OR FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GP	GUSSET PLATE
GR	GRADE
GYP	GYPSUM
HC	HOLLOW CORE
HDR	HEADER
HEF	HORIZONTAL EACH FACE
HI	HIGH
HIF	HORIZONTAL INSIDE FACE
HM	HOLLOW METAL
HOF	HORIZONTAL OUTSIDE FACE
HOR	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HS	HIGH STRENGTH
HT	HEIGHT
FD	FLOOR DRAIN OR FIRE DEPARTMENT
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FM	FILLED METAL
FND	FOUNDATION
F.O.M.	FACE OF MASONRY
FT	FOOT OR FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GP	GUSSET PLATE
GR	GRADE
GYP	GYPSUM
HC	HOLLOW CORE
HDR	HEADER
HEF	HORIZONTAL EACH FACE
HI	HIGH
HIF	HORIZONTAL INSIDE FACE
HM	HOLLOW METAL
HOF	HORIZONTAL OUTSIDE FACE
HOR	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HS	HIGH STRENGTH
HT	HEIGHT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
ID	INSIDE DIAMETER
ILO	IN LIEU OF
IN	INCH
INCL	INCLUDE
INSUL	INSULATED OR INSULATION
INT	INTERIOR
INV	INVERT
IRGWB	IMPACT RESISTANT GYPSUM WALL BOARD
JST	JOIST
JT	JOINT
K	KIP (1000 POUNDS)
LLV	LONG LEG VERTICAL
LP	LOW POINT
LVL	LEVEL
LW	LIGHT WEIGHT
LWC	LIGHT WEIGHT CONCRETE
MAS	MASONRY
MAX	MAXIMUM
MCB	METAL CORNER BEAD
MECH	MECHANICAL
MEMBR	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURED
MIN	MINIMUM
M.O.	MASONRY OPENING
MRGWB	MOISTURE-RESISTANT GYPSUM WALL BOARD
MTL	METAL
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
OPNG	OPENING
OZ	OUNCE
P	PAINT
PC	PILE CAP
PCC	PRE-CAST CONCRETEE
PL	PLATE
P.LAM	PLASTIC LAMINATE
PLUMB	PLUMBING
PLY	PLYWOOD
PORC	PORCELAIN
PNL	PANEL
PNT	PAINT OR PAINTED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PT	POINT
PR	PAIR
PROP	PROPERTY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RB	RUBBER BASE
RBT	RUBBER TILE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REINF	REINFORCED
REF	REFERENCE
REQD	REQUIRED
RET	RETURN
RM	ROOM
R.O.	ROUGH OPENING
ROW	RIGHT OF WAY
SC	SOLID CORE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SPLICE LENGTH
SLC	SEALED CONCRETE
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SPEC	SPECIFIED OR SPECIFICATION
SPK	SPRINKLER OR SPEAKER
SQ	SQUARE
SSTL	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STAIR
STRUCT	STRUCTURE OR STRUCTURAL
SUP	SUPPORT
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TBD	TO BE DETERMINED
T/D	TELEPHONE/DATA
TEL	TELEPHONE
TEMP	TEMPERATURE
THK	THICK OR THICKNESS
TLT	TOILET
T.O.	TOP OF
T.O.C	TOP OF CONCRETE
T.O.F	TOP OF FRAMING
T.O.S	TOP OF STEEL/STUD
T.O.W	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TYP	TYPICAL
U/S	UNDERSIDE
UNO	UNLESS NOTED OTHERWISE
US	UNDERSIDE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITE TILE
VEF	VERTICAL EACH FACE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VWC	VINYL WALL COVERING
W/	WITH
WD	WOOD
WDW	WINDOW
WP	WORKING POINT
WRB	WEATHER RESISTANT BARRIER
WWF	WELDED WIRE FABRIC

SECTION | MATERIAL TYPE LEGEND

- GRAVEL
- EARTHWORK, COMPACTED FILL
- EARTH - GRADE
- BRICK WALL
- CONCRETE MASONRY UNIT
- STONE
- STRUCTURAL CONCRETE
- NON STRUCTURAL CONCRETE
- BATT INSULATION
- RIGID INSULATION
- EIFS
- STRUCTURAL METAL
- NON STRUCTURAL METAL
- PLYWOOD SHEATHING
- WOOD FRAMING, CONTINUOUS
- WOOD BLOCKING OR SHIM
- WOOD FINISH
- PLASTER OR GYPSUM BOARD
- CARPET

ELEVATION | MATERIAL TYPE LEGEND

- BRICK WALL
- CONCRETE MASONRY UNIT
- STONE
- BATT AND BOARD SIDING
- METAL ROOFING
- PLASTER OR GYPSUM BOARD
- WOOD FINISH

SYMBOL TYPE LEGEND

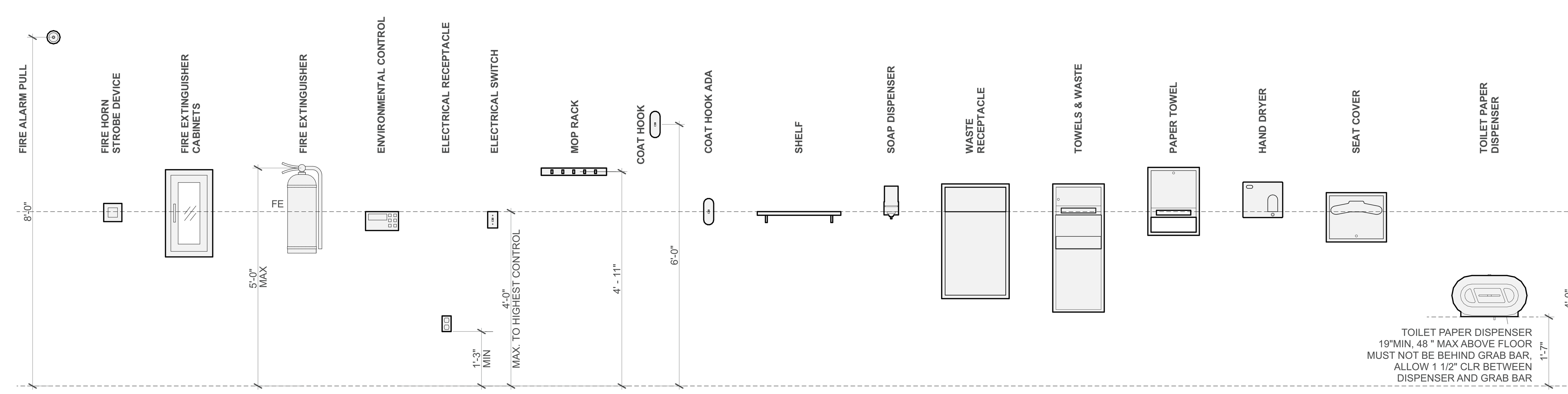
SYMBOL IMAGE	SYMBOL NAME
A — A	GRID LINE
A — A	EXISTING GRID LINE
DRAWING # / SHEET #	EXTERIOR ELEVATION INDICATOR
DRAWING # / SHEET #	BUILDING SECTION INDICATOR
DRAWING # / SHEET #	DETAIL INDICATOR
DRAWING # / SHEET #	INTERIOR ELEVATION INDICATOR
ROOM NAME / ROOM NUMBER	ROOM NAME
T.O. LEVEL EL. 100'-0"	ELEVATION DATUM
108B	DOOR IDENTIFIER
W1	WALL / PARTITION TYPE
A	WINDOW IDENTIFIER
N	NORTH INDICATOR
ENTRY	ENTRY
1	KEYNOTE INDICATOR

GENERAL NOTES

1. ALL WORK SHALL BE EXECUTED IN ACCORDANCE w/ THE 2021 IBC AND ALL FEDERAL, STATE, AND LOCAL CODES AND AGENCIES HAVING JURISDICTION. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND RESPECTIVE SUB-CONTRACTORS TO BUILD TO SATISFY THESE CODES AND CALL FOR ALL NECESSARY INSPECTIONS.
2. THE CONTRACTOR SHALL CAREFULLY STUDY THE CONTRACT DOCUMENTS PRIOR TO CONSTRUCTION AND SHALL REPORT TO THE ARCHITECT WITHOUT DELAY ANY ERRORS INCONSISTENCIES OR OMISSIONS HE/SHE MAY DISCOVER AND SHALL NOT PROCEED WITH THE WORK UNTIL THE INTENT OF THE DOCUMENTS IS CONFIRMED BY THE ARCHITECT.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN ALL TRADES. WHERE DISCREPANCIES EXIST BETWEEN DRAWINGS BY VARIOUS TRADES, THE CONTRACTOR SHALL CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK- UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE BEST POSSIBLE INSTALLATION OF ALL TOILET ROOM ACCESSORIES, AND ALL WALL MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL, OR MISCELLANEOUS EQUIPMENT.
5. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED INSTALLED, CONNECTED, ERECTED, USED, CLEANED, AND CONDITIONED IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS UNLESS HEREINAFTER SPECIFIED TO THE CONTRARY.
6. THE PLANS SHOW CONDITIONS AS THEY ARE SUPPOSED OR BELIEVED TO EXIST, BUT IT IS NOT INTENDED OR INFERRED THAT THE CONDITIONS AS SHOWN CONSTITUTE A REPRESENTATION OR WARRANTY EXPRESSED OR IMPLIED, THAT SUCH CONDITIONS ACTUALLY EXIST.
7. THE DOCUMENTS ARE BASED UPON PHOTOGRAPHS AND SOME EXISTING DRAWINGS. THERE ARE AREAS OF THE BUILDING WHICH HAVE NOT BEEN OBSERVED OR FIELD MEASURED FOR TECHNICAL ACCURACY. CONTRACTOR SHALL VERIFY THE ACCURACY OF EXISTING CONDITIONS PRIOR TO SUBMITTING A BID FOR THE WORK, AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN THE ACTUAL EXISTING CONDITIONS AND DRAWINGS OF THE EXISTING CONDITIONS.
8. THE DOCUMENTS NOTE AREAS FOR WHICH THE EXISTING CONDITIONS ARE UNKNOWN, AND WHERE THE EXISTING CONDITIONS MIGHT ALSO IMPACT THE ARCHITECTURAL DRAWING DESIGN OR DETAILS. THESE AREAS ARE NOTED AS "VERIFY", "VIF" OR "CONTRACTOR TO VERIFY" ON THE DRAWINGS.
9. CONTRACTORS AND SUBCONTRACTORS ARE TO VERIFY ALL DIMENSIONS, GRADE ELEVATIONS, UTILITY LOCATIONS, AND RELATED INFORMATION. ALL WORK IS TO BE IN COMPLIANCE WITH THE STATE, CITY, AND FEDERAL REQUIREMENTS AS WELL AS THE PLANS AND SPECIFICATIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL CONDITIONS, DIMENSIONS, AND MATERIAL IN THE FIELD FOR ACCURACY PRIOR TO CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION ISSUES THE CONTRACTOR SHALL SUBMIT THEM IN WRITING TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK IN QUESTION OR RELATED WORK, CLARIFY ALL DISCREPANCIES RELATIVE TO CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND FIELD CONDITIONS PRIOR TO SUBMITTING BIDS AND COMMENCING WORK.
11. DETAILS NOT SHOWN ARE SIMILAR IN NATURE TO THOSE DETAILED, WHERE CONDITIONS ARE SIMILAR. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CAN NOT BE DETERMINED, CONSULT ARCHITECT BEFORE PROCEEDING WITH THE WORK. TYPICAL DETAILS OCCUR AT ALL SIMILAR CONDITIONS, WHETHER REFERENCED OR NOT.
12. ALL WORK PERFORMED SHALL COMPLY WITH ALL NOTES IN THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE INTENT OF ALL NOTES IN THE DRAWINGS, SPECIFICATIONS, AND OTHER PROJECT DOCUMENTS, INCLUDING STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL PLUMBING, AND OTHER TRADES INDICATED IN CONTRACT DOCUMENTS.
13. ITEMS NOT LOCATED BY DIMENSIONS (DOORS, WINDOWS, EQUIPMENT, ETC. MAY BE MOVED SLIGHTLY TO ACCOMMODATE CONSTRUCTION.
14. DO NOT SCALE DRAWINGS. DIMENSIONS SHALL GOVERN UNLESS OTHERWISE NOTED.
15. IT IS INTENDED THAT THE CONTRACTOR PROVIDE A COMPLETE JOB AND ANY OMISSIONS IN THESE OR IN THE OUTLINE OF WORK SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM THE RESPONSIBILITIES IMPLIED BY THE SCOPE OF WORK EXCEPT AS NOTED.
16. PROVIDE STRICT CONTROL OF JOB CLEANING AND PREVENT DUST AND DEBRIS FROM EMANATING FROM THE CONSTRUCTION AREA.
17. ALL WORK SHALL BE AT THE MINIMUM THE BEST PRACTICES OF EACH TRADE.

LINE TYPE LEGEND

- GRID LINE
- EXISTING TO REMAIN
- DEMOLITION
- FEATURES ABOVE
- CENTER LINE
- PROPERTY LINE
- DASHED
- HIDDEN
- INSULATION
- FENCE LINE
- HOT WATER (HW)
- COLD WATER (CW)
- REVISION BUBBLE



TYPICAL PUBLIC ACCESSORY MOUNTING

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REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD, GREAT FALLS, MT, 59405

PROJECT NUMBER:
24048

LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
STATE OF MONTANA
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

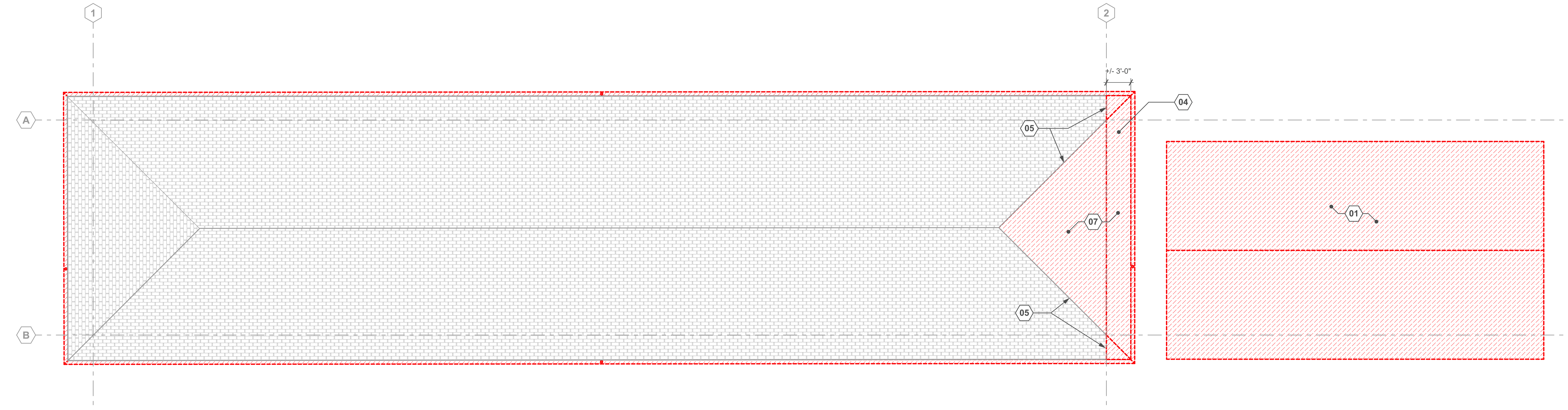
PHASE:
Building Permit Set

SHEET ISSUE DATE:
02.24.2025

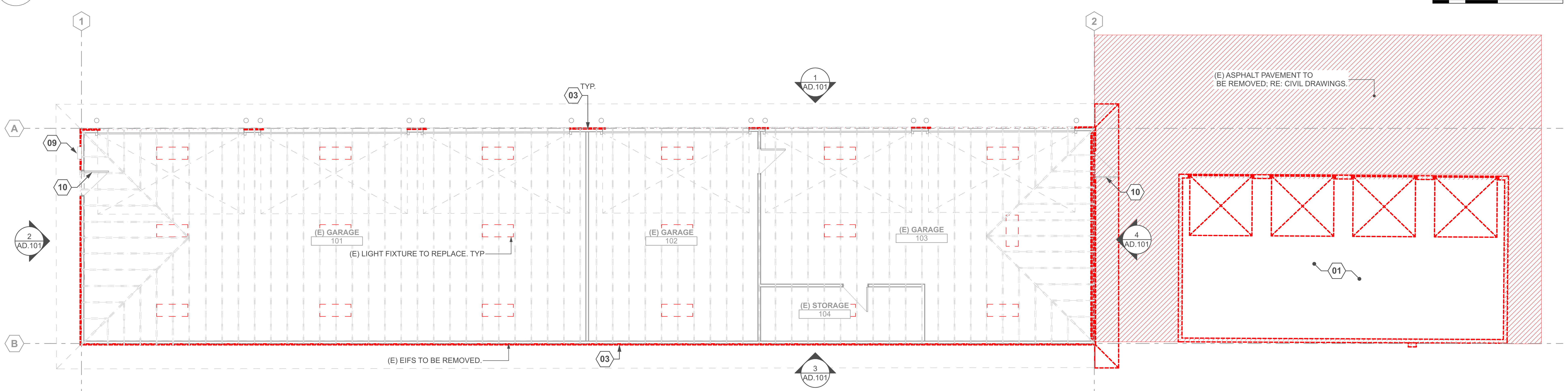
DRAWN BY: **AM & IB** APPROVED BY: **KB**

SHEET TITLE
Architectural Information & General Notes

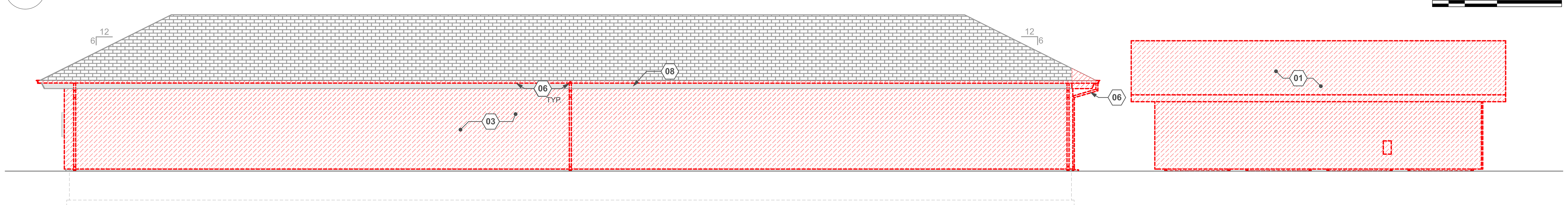
SHEET NUMBER
G.002



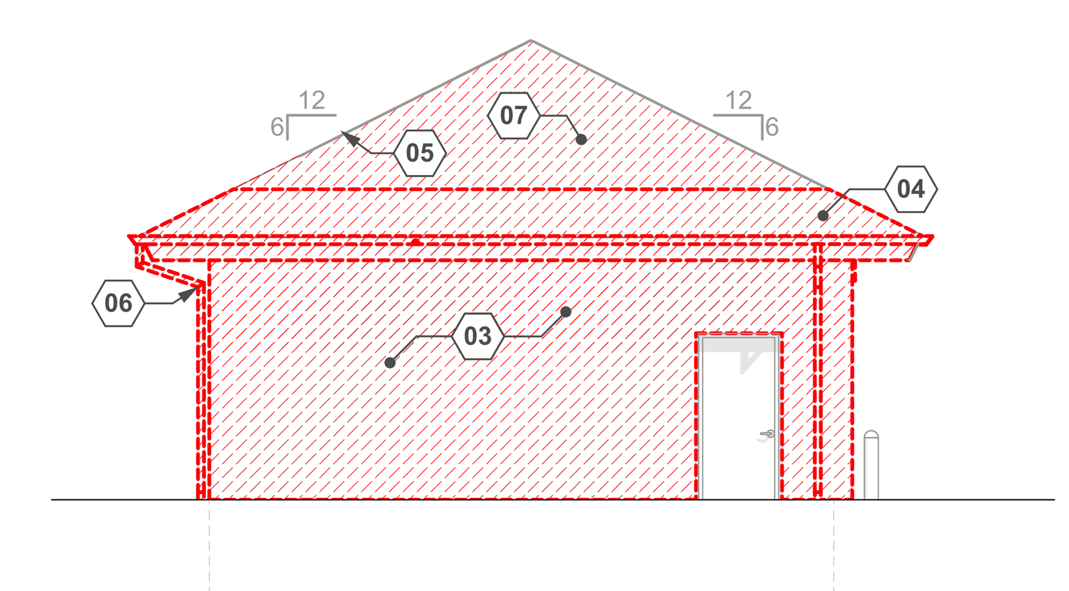
6 **Demolition Plan | Roof Plan**
SCALE: 1/8" = 1'-0"



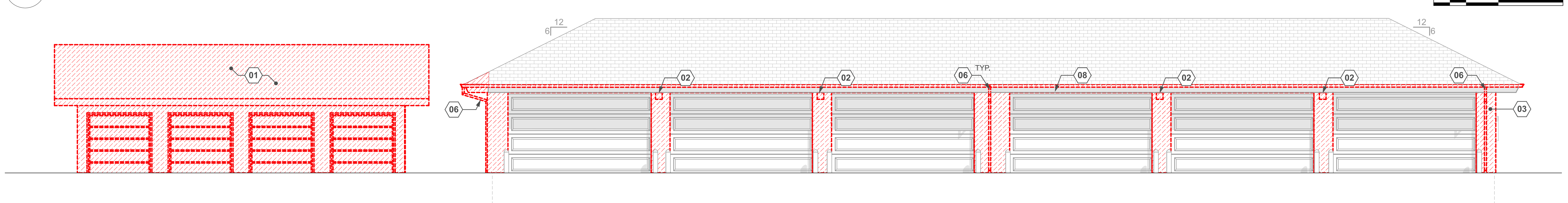
5 **Demolition Plan | Main Level**
SCALE: 1/8" = 1'-0"



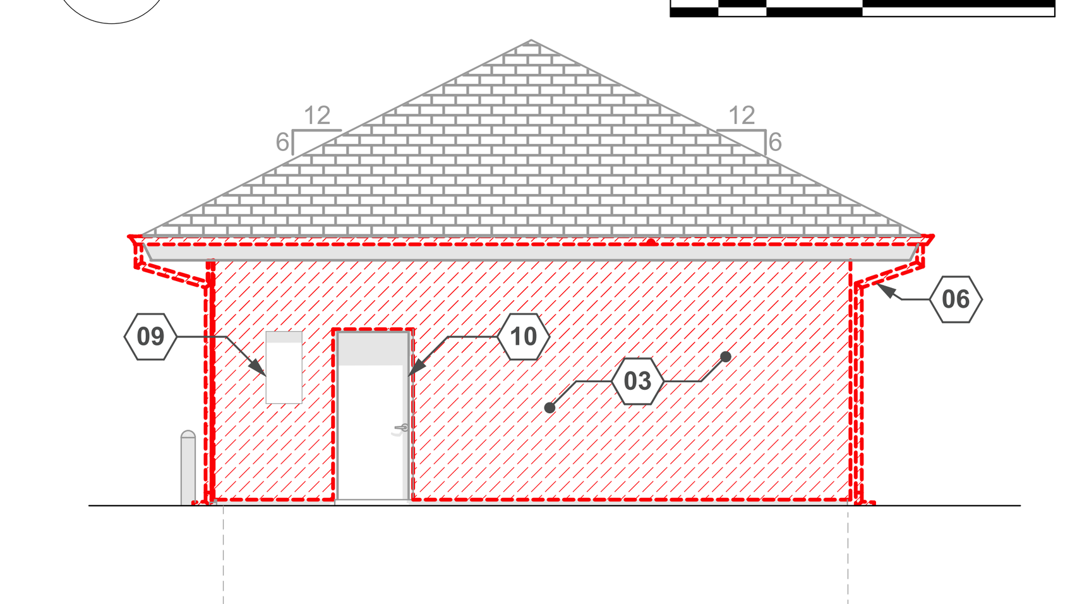
3 **(E) South Elevation**
SCALE: 1/8" = 1'-0"



4 **(E) East Elevation**
SCALE: 1/8" = 1'-0"



1 **(E) North Elevation**
SCALE: 1/8" = 1'-0"

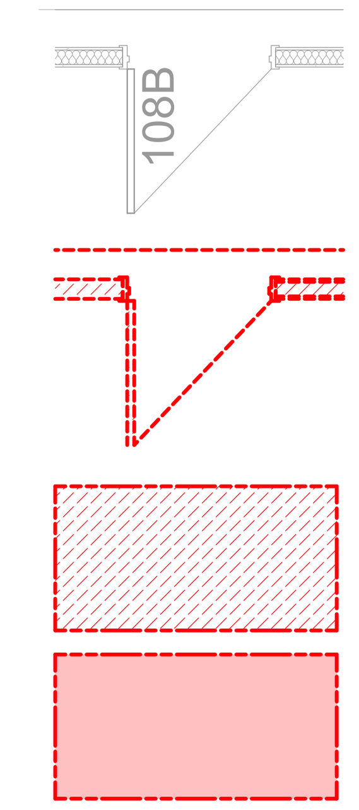


2 **(E) West Elevation**
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES

1. VERIFY WITH THE OWNER ALL ITEMS TO BE SALVAGED PRIOR TO DEMOLITION.
2. THE DOCUMENTS ARE BASED ON PHOTOGRAPHS AND SOME EXISTING DRAWINGS. THERE ARE AREAS OF THE BUILDING WHICH HAVE NOT BEEN OBSERVED OR FIELD MEASURED FOR TECHNICAL ACCURACY. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF EXISTING CONDITIONS PRIOR TO SUBMITTING A BID FOR THE WORK, AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE ACTUAL EXISTING CONDITIONS AND DRAWINGS OF THE EXISTING CONDITIONS.
3. IF THE CONTRACTOR BECOMES AWARE OF ANY LOAD BEARING POINTS WITHIN DEMOLITION NOT NOTED ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT / ENGINEER PRIOR TO DEMOLITION OCCURRING.
4. CONTRACTOR TO PROVIDE DUST AND SOUND BARRIERS DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP COST FOR DUST AND DEBRIS WHICH MIGRATE INTO EXISTING, ADJACENT SPACES.
5. CONDUCT DEMOLITION ACTIVITIES CLEAN, COMPLETE, AND IN A MANNER SUITABLE FOR NEW FINISHES.
6. PATCH ALL WALL, FLOOR, AND CEILING PENETRATION RESULTING FROM THE REMOVAL OF EXISTING WALLS, DUCTWORK, PIPING, ELECTRICAL RACEWAYS, CEILINGS, ETC.
7. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION WORK.

DEMOLITION PLAN LEGEND



EXISTING CONSTRUCTION TO REMAIN
EXISTING DOOR TO REMAIN
EXISTING CONSTRUCTION TO BE REMOVED OR RELOCATED.
EXISTING DOOOR TO BE REMOVED OR RELOCATED
EXISTING CONSTRUCTION TO BE REMOVED.
EXISTING FINISH FLOOR TO BE REMOVED. PREPARE (E) SURFACE FOR NEW FINISHES.

DEMOLITION EXTERIOR ELEVATIONS KEYNOTES

01	(E) SLAB AND FOUNDATION TO BE DEMOLISHED. COMPLETE. (E) BUILDING TO BE DEMOLISHED BY OWNER.
02	(E) LIGHT FIXTURES TO BE REPLACED.
03	(E) EIFS TO BE REMOVED, PATCH ALL WALLS, AND PREPARE SURFACE FOR NEW SIDING SYSTEM.
04	SECTION OF (E) OVERHANG TO BE DEMOLISHED.
05	REPLACE (E) ASPHALT SHINGLES AS NEEDED TO ACCOMODATE NEW CONSTRUCTION.
06	(E) GUTTERS AND DOWNSPOUTS TO BE REPLACED.
07	STRIP ALL ROOF MATERIALS TO CLEAN SHEATHING . PREPTO RECEIVE OVER-BUILD TRUSSES PER STRUCTURAL.
08	REMOVE/REPLACE SOFFIT AND FASCIA TO MATCH (E) DETAILS.
09	ELEC. SVC. BOX TO REMAIN.
10	(E) DOOR TO REMAIN-REPAINT.

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REGION 4 HEADQUARTERS GARAGE ADDITION

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PROJECT NUMBER:
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LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

PHASE:
Building Permit Set
SHEET ISSUE DATE:
02.24.2025
DRAWN BY: **AM & IB** APPROVED BY: **KB**
SHEET TITLE
Demolition Plan | Main Level & Exterior Elevations
SHEET NUMBER
AD.101

SITE PLAN NOTES

1. ALL SITE WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES AND REGULATIONS.
2. SITE PLAN INDICATES GENERAL DESIGN INTENT OF ARCHITECTURAL SITE WORK.
3. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING ANY SITE WORK. REPORT ANY CONFLICTING UTILITY LOCATIONS TO THE ARCHITECT.
4. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE AND BUILDING CONDITIONS PRIOR TO COMMENCING WITH EXCAVATION WORK.
5. TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE PUBLIC AND WORKERS ON THE JOB AND TO PREVENT ACCIDENTS OR INJURY TO ANY PERSON ON, ABOUT, OR ADJACENT TO THE PREMISES. CONTRACTORS ARE TO FOLLOW APPROPRIATE OSHA REGULATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR PROTECTING SURROUNDING AREAS AND STRUCTURES DURING EXCAVATION, LANDSCAPING, AND OTHER SITE WORK.
7. REMOVE ALL TRASH AND DEBRIS FROM THE PREMISES AND DISPOSE OF IN ACCORDANCE WITH LOCAL REGULATIONS.
8. GENERAL CONTRACT IS RESPONSIBLE FOR COORDINATING SITE WORK WITH ALL NEW WORK.
9. VERIFY VERTICAL AND HORIZONTAL LOCATIONS OF ALL POTENTIAL CONFLICTING UTILITIES PRIOR TO CONSTRUCTION.

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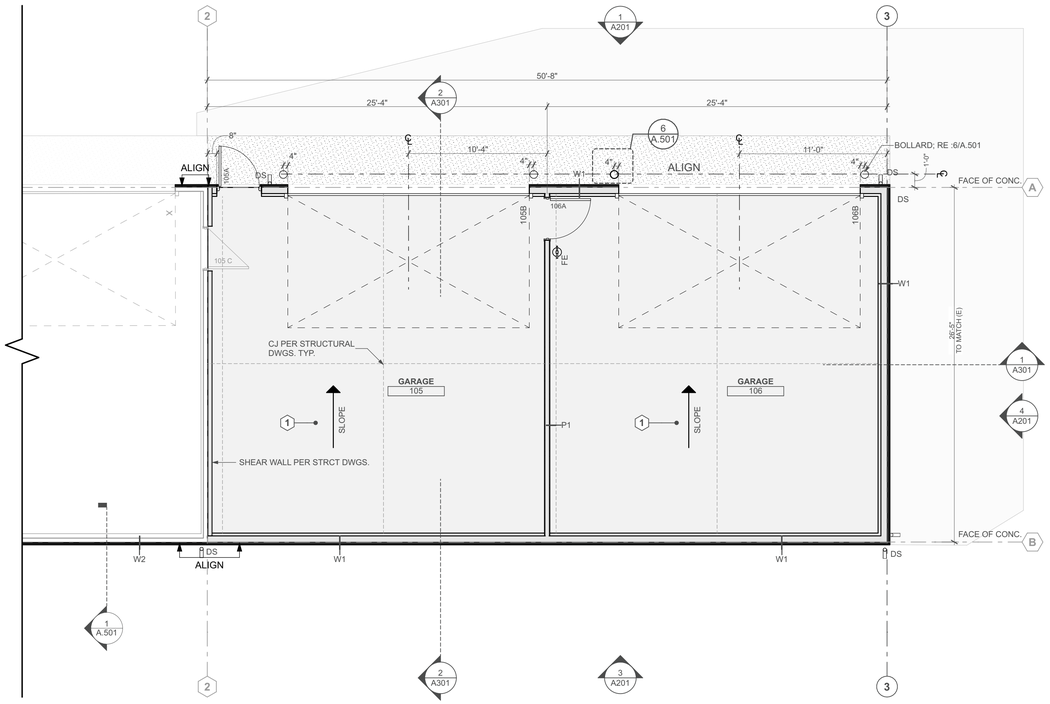
PHASE:
Building Permit Set
SHEET ISSUE DATE:
02.24.2025
DRAWN BY: AM & IB APPROVED BY: KB
SHEET TITLE
Site Plan

SHEET NUMBER
AS.101

1 **Site Plan**
SCALE: 1" = 20'

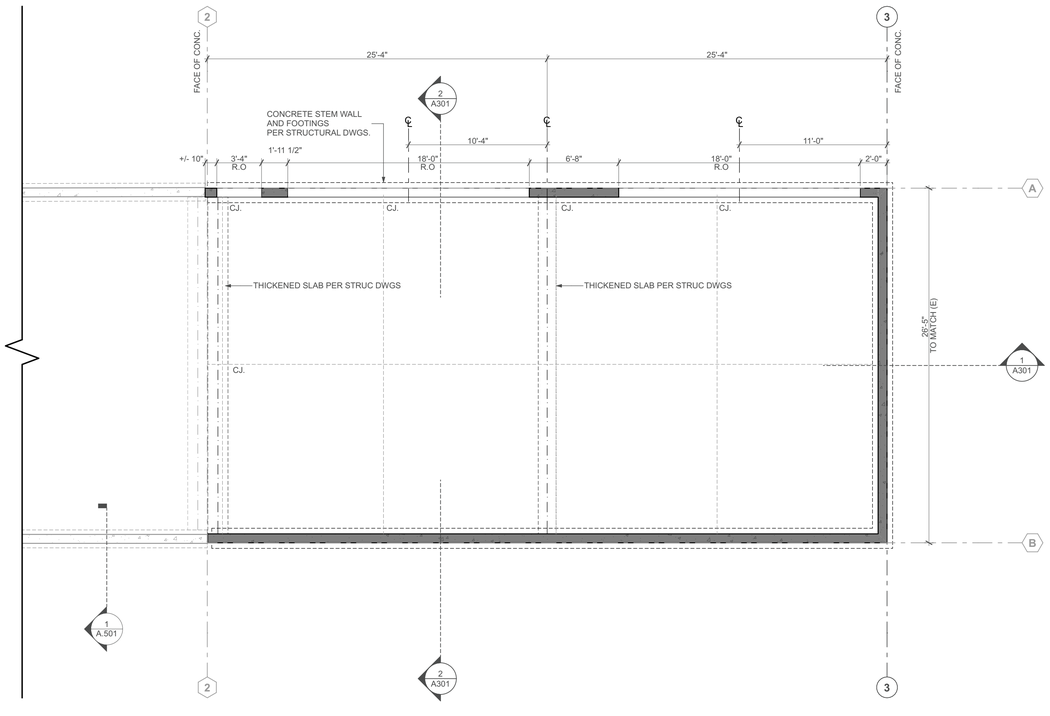


N

2 Floor Plan | Main Level

SCALE: 3/16" = 1'-0"

0 4' 8' 12'



N

1 Foundation Plan

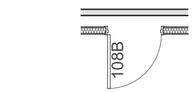
SCALE: 3/16" = 1'-0"

0 4' 8' 12'

FLOOR PLAN NOTES

1. ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE LOCATED 5" FROM THE FINISHED WALL OR PARTITION TO OUTSIDE FACE OF FINISHED JAMB.
3. G.C RESPONSIBLE FOR VERIFYING ALL DIMENSIONS. NOTIFY ARCHITECT OF ANY CONDITIONS NOT MATCHING THE DESIGN INTENT OF THE DRAWINGS.
4. G.C RESPONSIBLE FOR VERIFYING OWNER PROVIDED EQUIPMENT & LOCATING BLOCKING IN WALLS.
5. ALL WORK SHALL BE IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES, REGULATIONS ORDINANCES, AND STANDARDS.
6. CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING IN WALLS FOR SUPPORT OF ALL EQUIPMENT, SHELVING, ACCESSORIES, AND OTHER DEVICES REQUIRED
7. DRAWINGS SHALL NOT BE SCALED. WRITTEN DIMENSIONS SHALL BE FOLLOWED.
8. G.C. SHALL COORDINATE ALL NECESSARY INSPECTIONS BY AUTHORITIES HAVING JURISDICTION PRIOR TO CONCEALMENT OF WORK TO BE INSPECTED BY OTHER TRADES.
9. A SET OF BUILDING PLANS AND SPECIFICATIONS APPROVED BY AUTHORITIES HAVING JURISDICTION AND MARKED "FIELD COPY" SHALL BE KEPT ON THE PROJECT DURING CONSTRUCTION UNTIL FINAL INSPECTION AND APPROVAL HAS BEEN MADE.
10. FOR AREAS ADJACENT TO CONSTRUCTION AND FOR ALL ELEMENTS TO REMAIN, CONTRACTOR SHALL PROVIDE PROTECTION FROM DAMAGE AND DEBRIS.

FLOOR PLAN LEGEND



NEW CONSTRUCTION

NEW DOOR AS SCHEDULED

EXISTING CONSTRUCTION TO REMAIN

EXISTING DOOR TO REMAIN

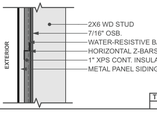
FS	FLOOR SINK
FD	FLOOR DRAIN
DSN	RAINWATER OVERFLOW DOWNSPOUT NOZZLE WITH SCREEN
DS	DOWNSPOUT
FE	WALL-MOUNTED FIRE EXTINGUISHER.
FEC	FIRE EXTINGUISHER RECESSED CABINET.
FEC	FIRE EXTINGUISHER SEMI-RECESSED CABINET.

1 SLOPED SLAB 1/8":12" MIN. FROM SOUTH WALL TOWARDS O.H. DOOR, TYP.

FLOOR PLAN KEYNOTES

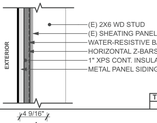
WALL & PARTITION ASSEMBLIES

W1



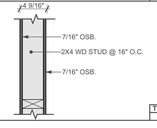
TESTED ASSEMBLY	FIRE RATING	STC
- -	- -	- -

W2

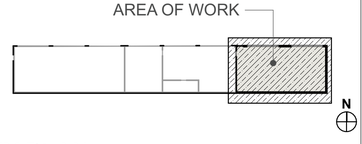


TESTED ASSEMBLY	FIRE RATING	STC
- -	- -	- -

P2



TESTED ASSEMBLY	FIRE RATING	STC
- -	- -	- -

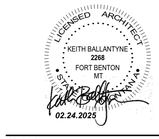


KEY PLAN

BSPARK ARCHITECTURE
410 Central Ave, Suite 506, Great Falls, MT 59401
t. 406.452.0001 f. 406.727.1788
www.bsparkarch.com

REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD,
GREAT FALLS, MT, 59405
PROJECT NUMBER:
24048

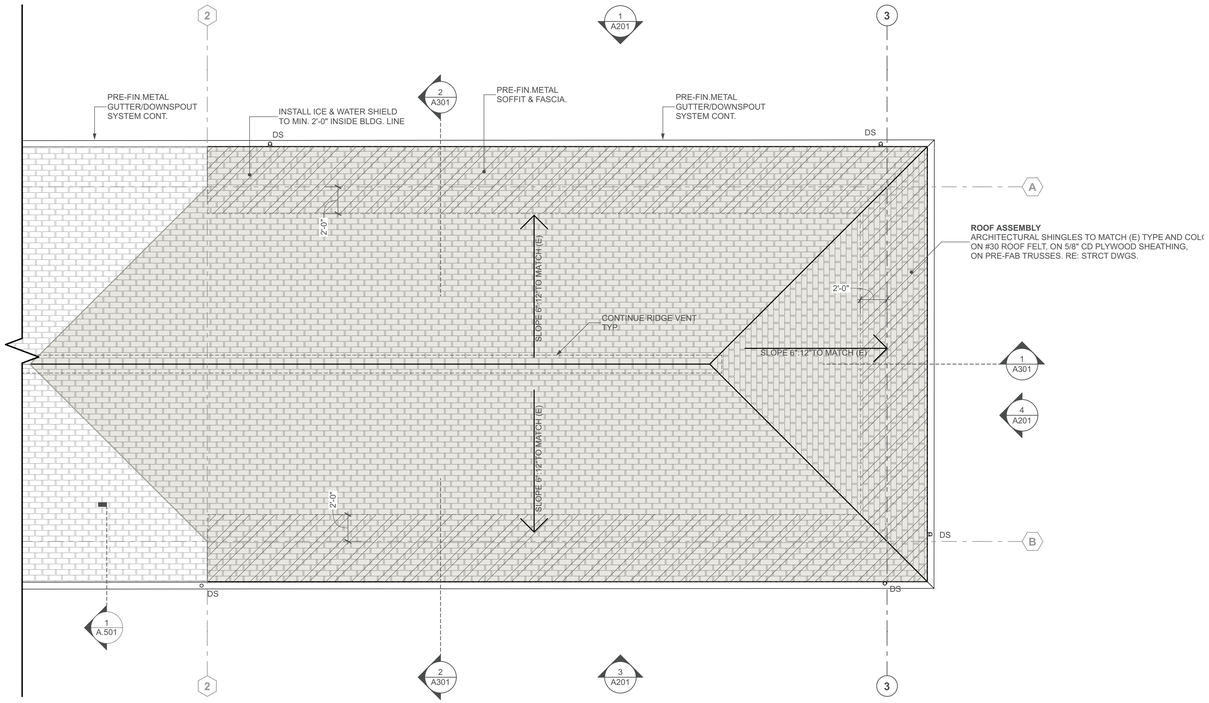


REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

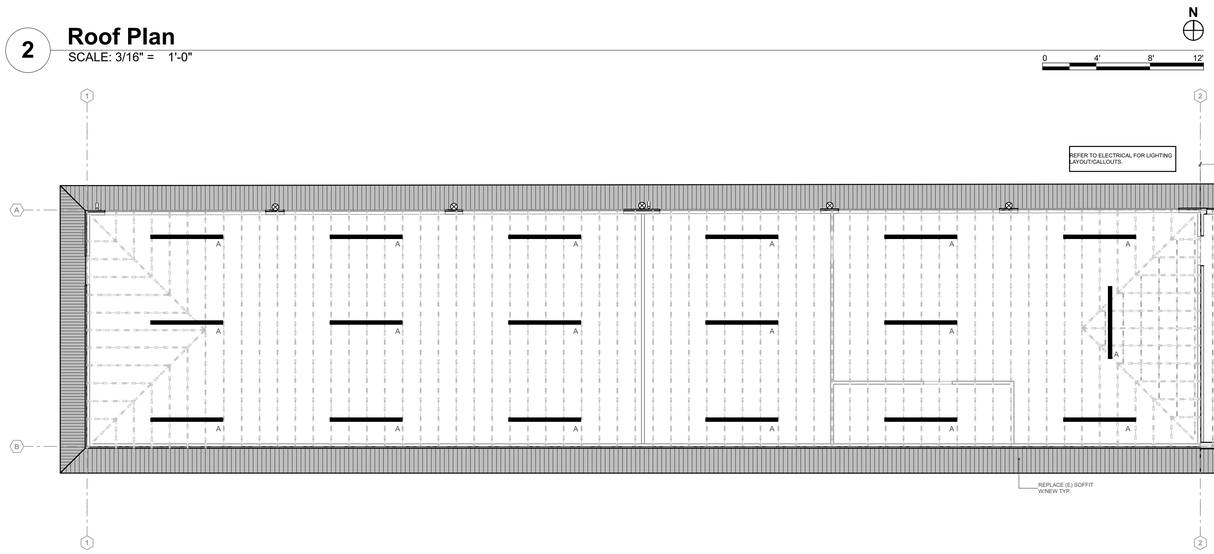
PHASE:
Building Permit Set
SHEET ISSUE DATE:
02.24.2025
DRAWN BY: AM & IB APPROVED BY: KB
SHEET TITLE
Floor Plan & Foundation Plan

SHEET NUMBER
A101



2 Roof Plan

SCALE: 3/16" = 1'-0"



1 RCP Plan | Main Level

SCALE: 1/8" = 1'-0"

ROOF PLAN NOTES

1. ROOF DETAILS (RE:) ARE PROVIDED TO INDICATE DESIGN INTENT ONLY. ALL ROOFING DETAILS ARE TO BE APPROVED BY THE ROOFING MFR. DETAILS BY THE ARCHITECT DO NOT OVERRIDE THE INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.

ROOF PLAN LEGEND

ASPHALT SHINGLES TO MATCH (E) COLOR.

REFLECTED CEILING PLAN NOTES

1. ALL DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED. CLEAR DIMENSIONS (NOTED AS "CLR ") ARE MEASURED TO FACE OF FINISH. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN.
2. EMERGENCY LIGHTING SHALL REMAIN FUNCTIONAL DURING AND AFTER CONSTRUCTION.
3. COORDINATE WITH ELECTRICAL DWGS FOR FIXTURES.

REFLECTED CEILING PLAN LEGEND (SEE ELECT.)

WALL MOUNT LED FIXTURE

EXIT SIGN

LED STRIP FIXTURE
A

RCP PLAN KEYNOTES

1 OPEN TO STRUCTURE

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410 Central Ave, Suite 505, Great Falls, MT 59401
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REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD,
GREAT FALLS, MT, 59405
PROJECT NUMBER:
24048

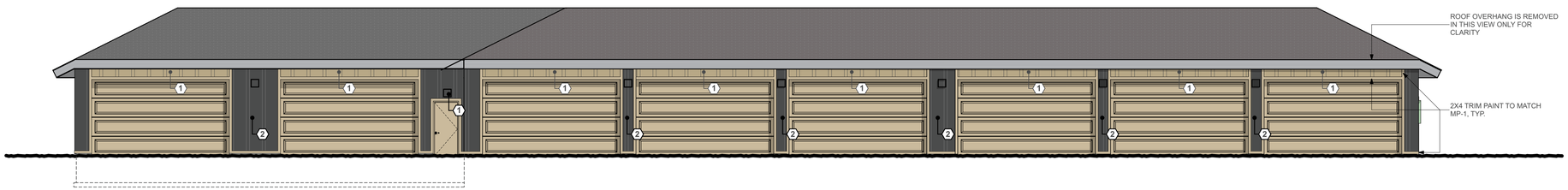
LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

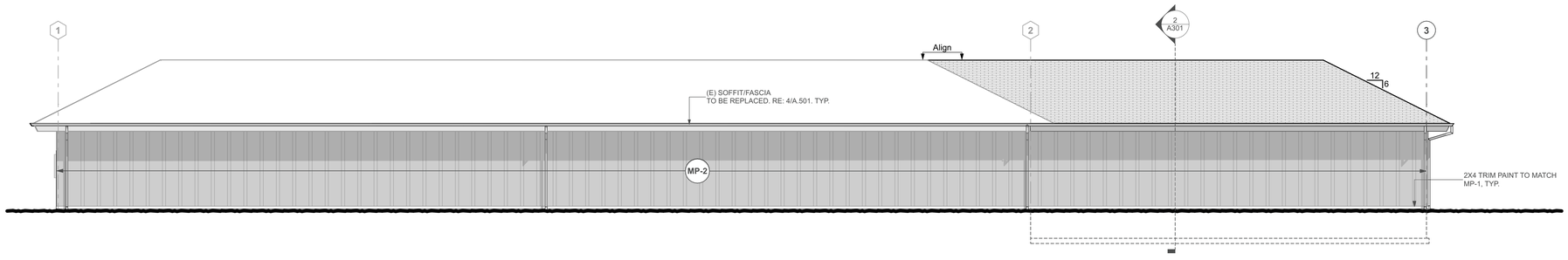
PHASE:
Building Permit Set
SHEET ISSUE DATE:
02.24.2025
DRAWN BY: AM & IB APPROVED BY: KB
SHEET TITLE:
Roof Plan & RCP Plan

SHEET NUMBER
A102



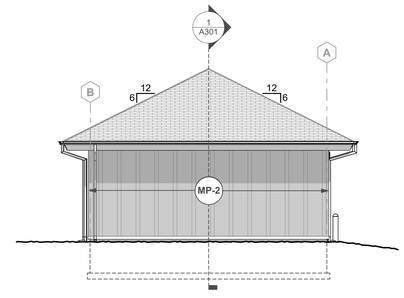
5 North Elevation Full View
SCALE: 1/8" = 1'-0"

0 4' 8' 16'



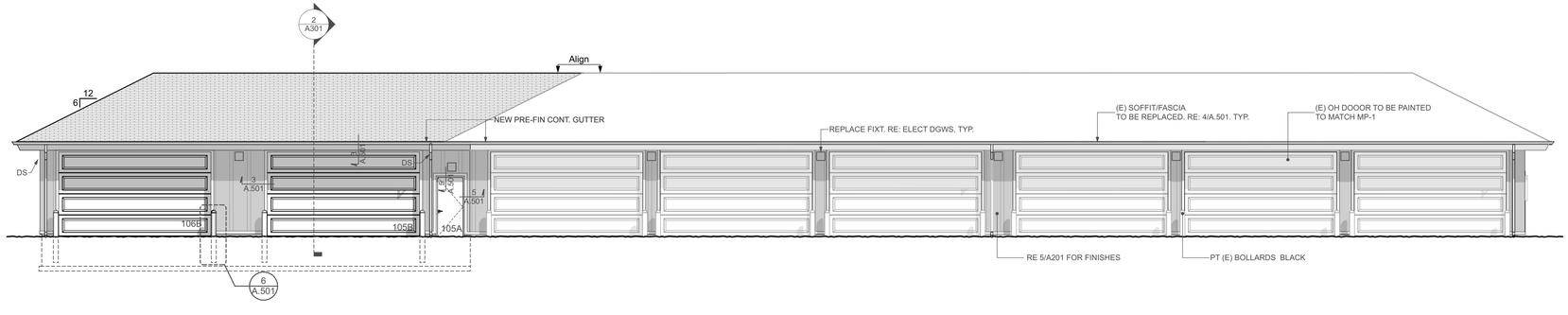
3 South Elevation
SCALE: 1/8" = 1'-0"

0 4' 8' 16'



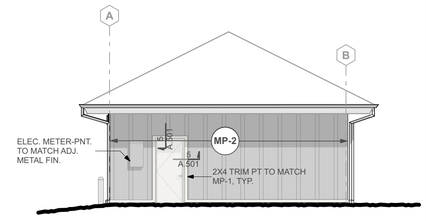
4 East Elevation
SCALE: 1/8" = 1'-0"

0 4' 8' 16'



1 North Elevation
SCALE: 1/8" = 1'-0"

0 4' 8' 16'



2 West Elevattion
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

EXTERIOR ELEVATION NOTES

1. ALL MATERIALS, PRODUCTS, AND COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S WRITTEN INSTRUCTIONS, AND SHALL BE INSTALLED AS THE PRODUCT IS INTENDED TO BE USED, AS PER HE MANUFACTURER'S RECOMMENDATIONS.
2. ALL EXTERIOR WALLS WITHOUT A DESIGNATED FINISH ARE TO BE PAINTED (**PT-3**), UNO.
3. ALL EXTERIOR SIGNAGE FOR REVIEW UNDER A SEPARATE PERMIT, NO PART OF THIS PERMIT SET.
4. ALL EXPOSED PIPING AND CONDUIT SHALL BE PAINTED TO MATCH ADJACENT WALL MATERIAL.
5. PROVIDE SOLID BLOCKING WALL FOR BUILDING MOUNTED FIXTURES AND SIGNAGE AS REQUIRED.

EXTERIOR FINISHES

PT-4 **PAINT**
MANUFACTURER: SHERWIN WILLIAMS.
COLOR: TBD BY ARCHITECT.
STYLE/FINISH: LOW VOC; EMERALD INTERIOR ACRYLIC LATEX MATTE.
PREMIER: MULTI-PURPOSE LATEX PRIMER SEALER.
NOTES:

MP-1 **BOARD AND BATTEN METAL SIDING BB-20**
MANUFACTURER: WESTERN STATES METAL ROOFING.
COLOR: TO MATCH JAMES HARDIE AUTUMN TAN.
NOTES: PANEL WIDTH 20", 26 GAUGE STEEL.

MP-2 **BOARD AND BATTEN METAL SIDING BB-20**
MANUFACTURER: WESTERN STATES METAL ROOFING.
COLOR: TO MATCH JAMES HARDIE ESPRESSO.
NOTES: PANEL WIDTH 20", 26 GAUGE STEEL.

EXTERIOR ELEVATION KEYNOTES

1 INSTALLATION STARTS WITH A BOARD AT THE CENTER OF THE DOOR TYP.

2 INSTALLATION STARTS WITH A BOARD AT CENTER TYP.

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REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD,
GREAT FALLS, MT, 59405
PROJECT NUMBER:
24048

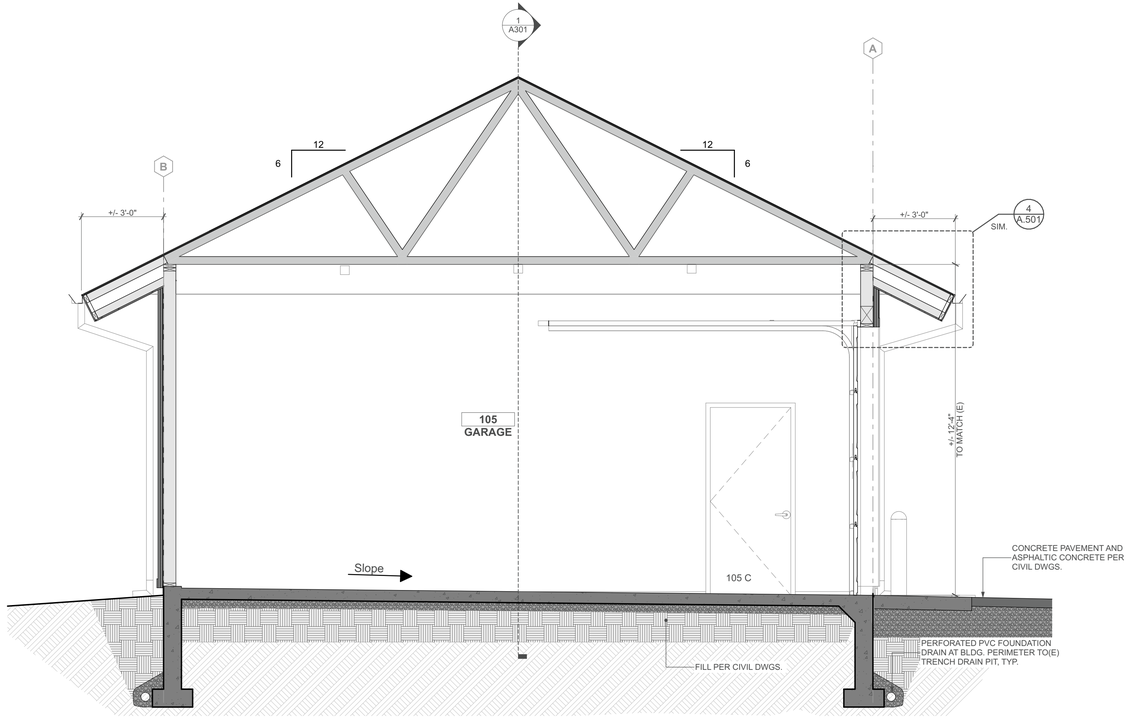
LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

PHASE:
Building Permit Set
SHEET ISSUE DATE:
02.24.2025
DRAWN BY: AM & IB APPROVED BY: KB
SHEET TITLE
Exterior Elevation

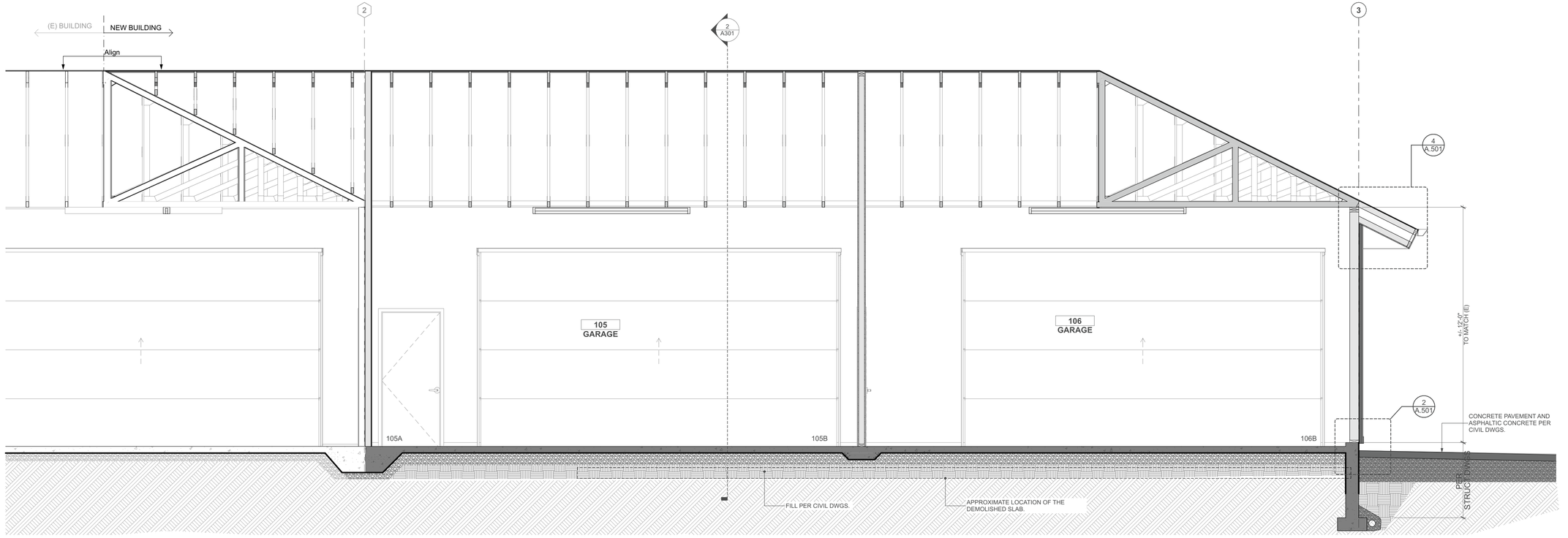
SHEET NUMBER
A201



2 Building Section

SCALE: 3/8" = 1'-0"

0 2' 4' 6'



1 Building Section

SCALE: 3/8" = 1'-0"

0 2' 4' 6'

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REGION 4 HEADQUARTERS GARAGE ADDITION

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GREAT FALLS, MT. 59405

PROJECT NUMBER:
24048

LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

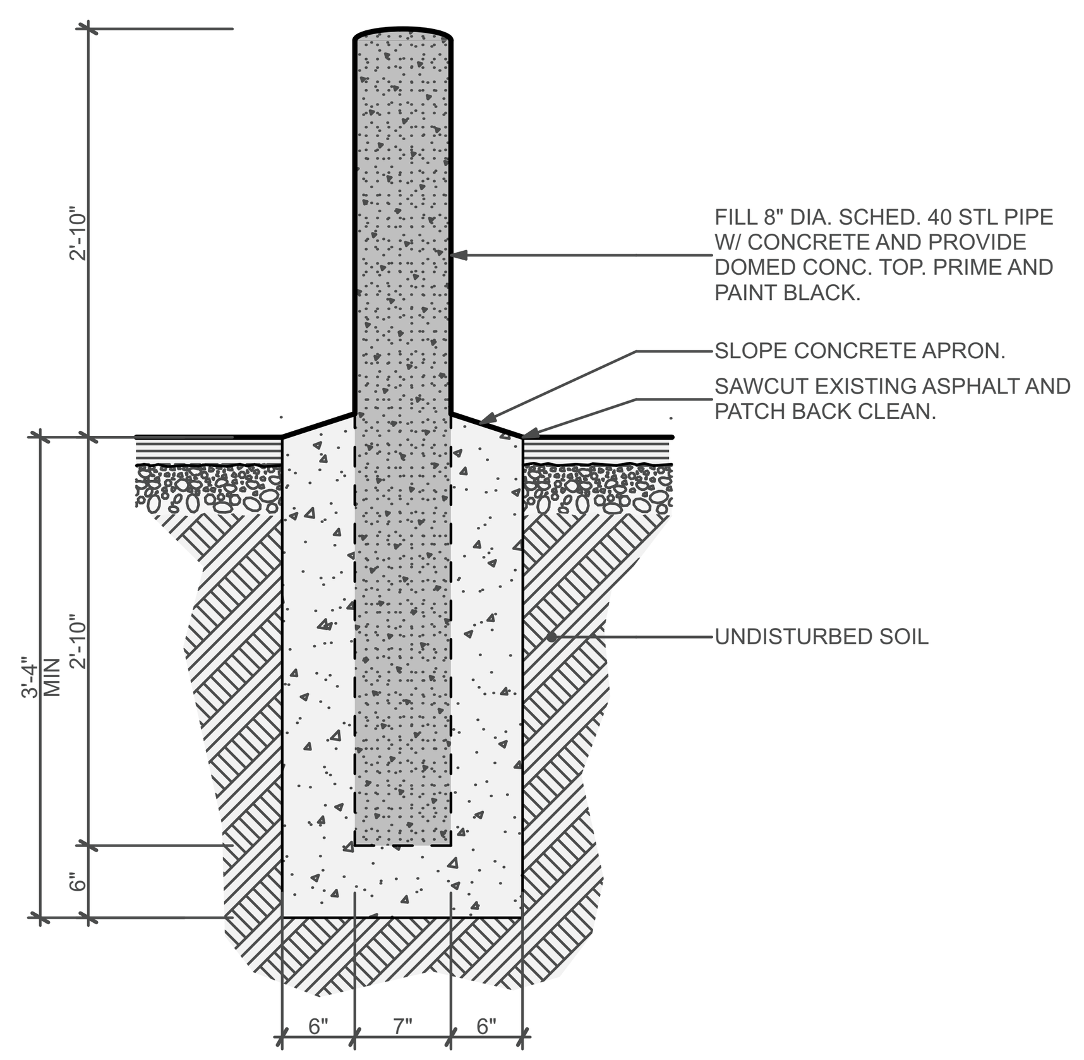
PHASE:
Building Permit Set

SHEET ISSUE DATE:
02.24.2025

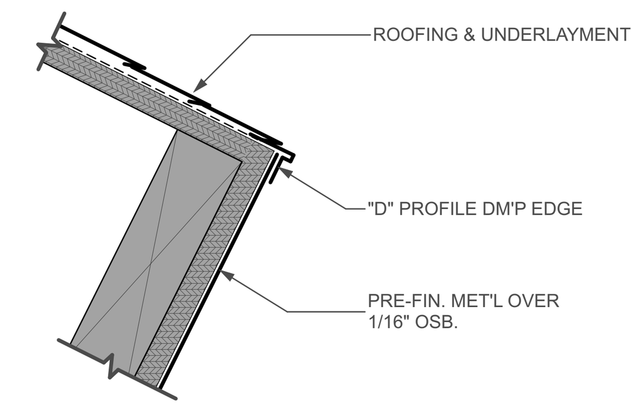
DRAWN BY: AM & IB APPROVED BY: KB

SHEET TITLE:
Building Sections

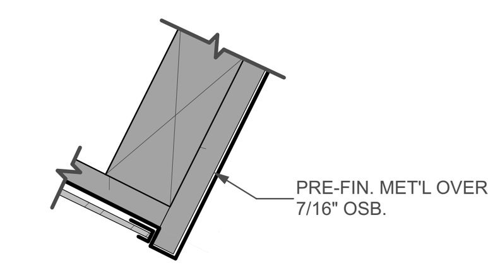
SHEET NUMBER:
A301



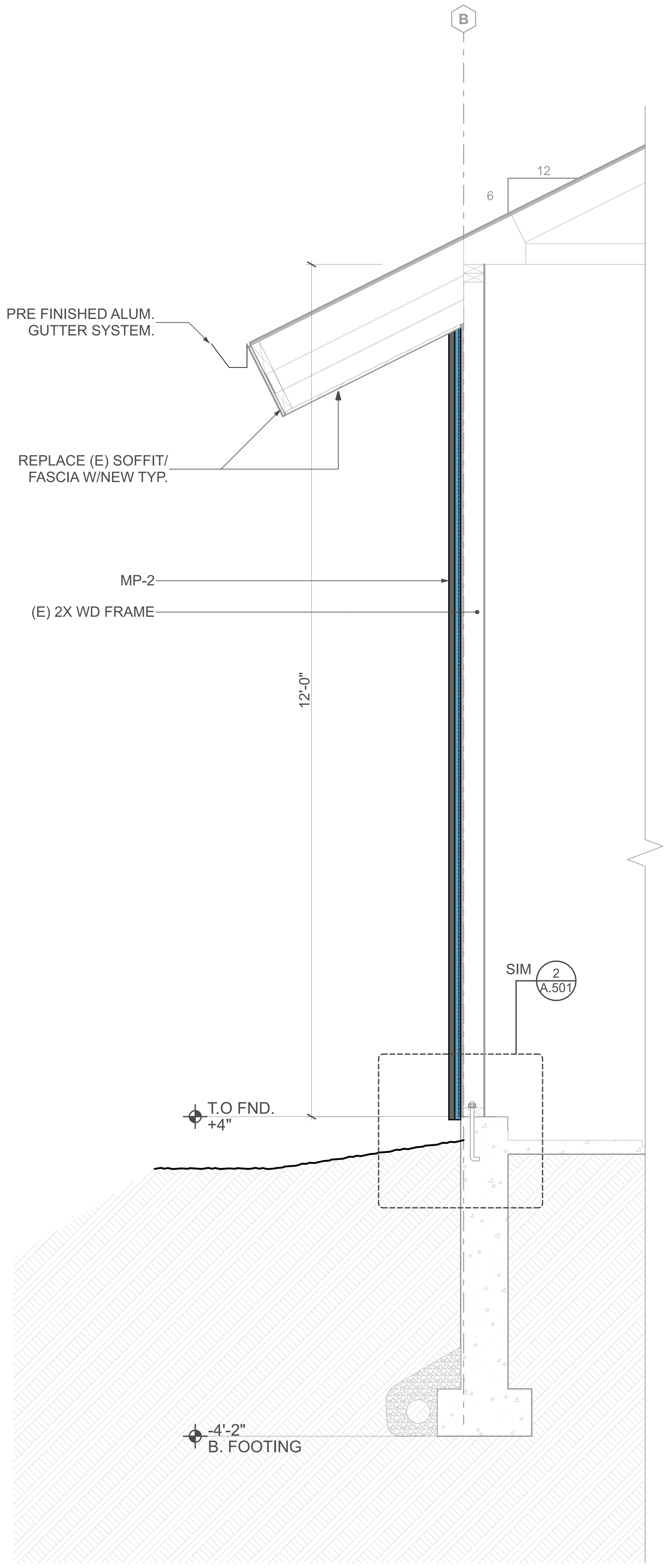
6 Bollard Detail
SCALE: 3/4" = 1'-0"



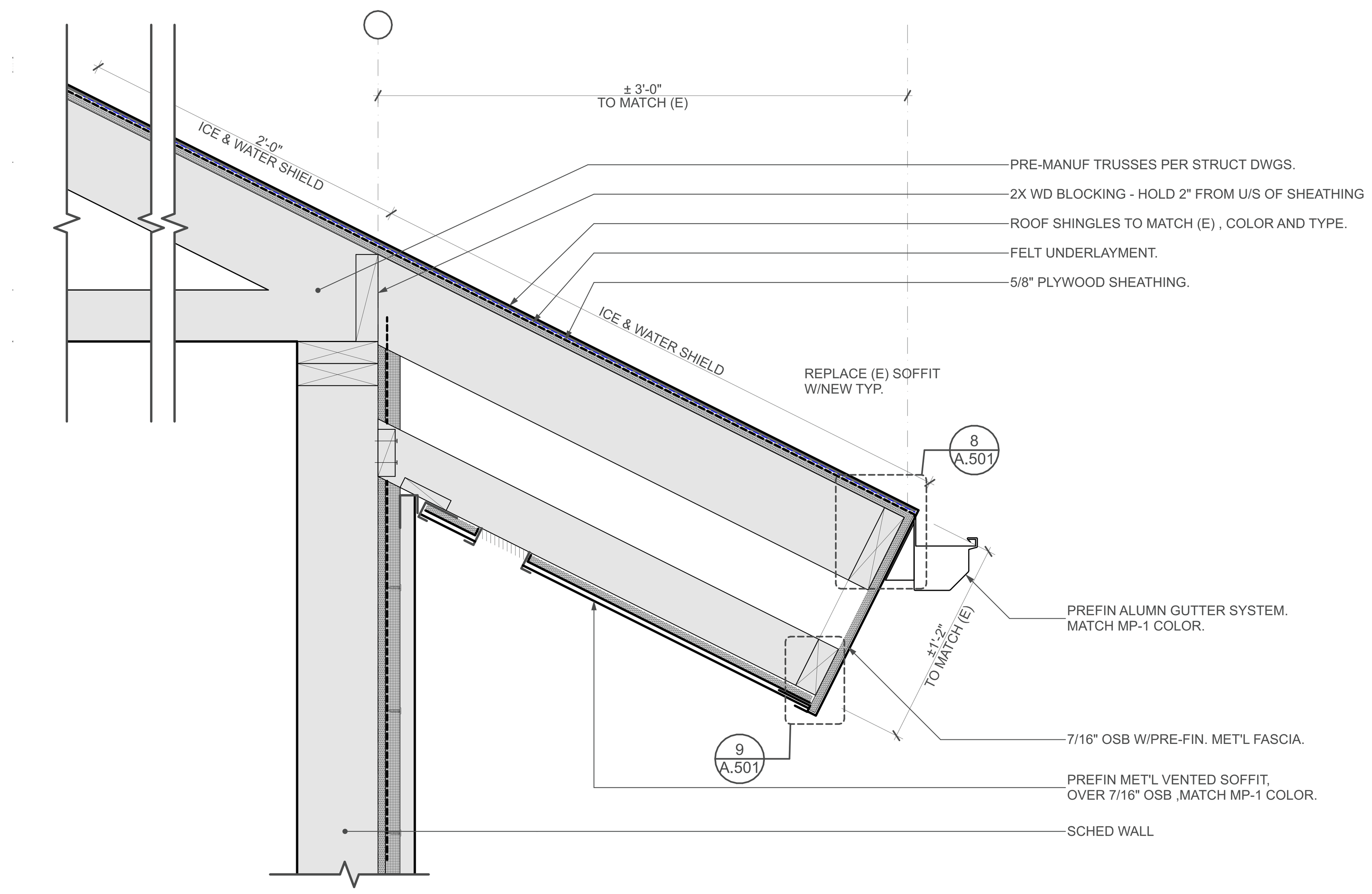
8 Detail
SCALE: 3" = 1'-0"



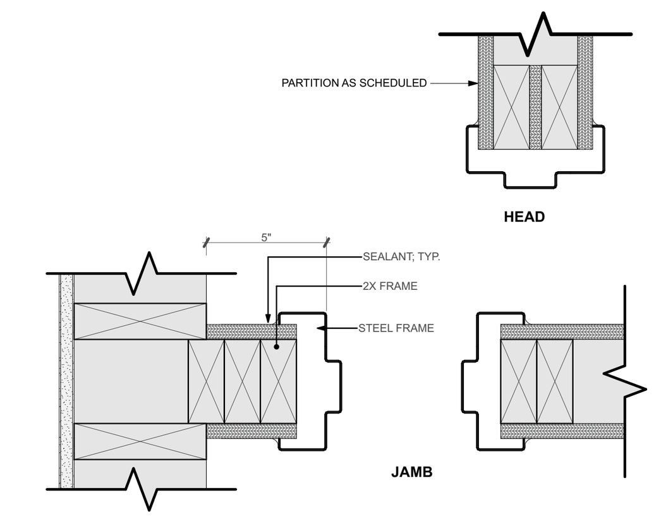
9 DETAIL
SCALE: 3" = 1'-0"



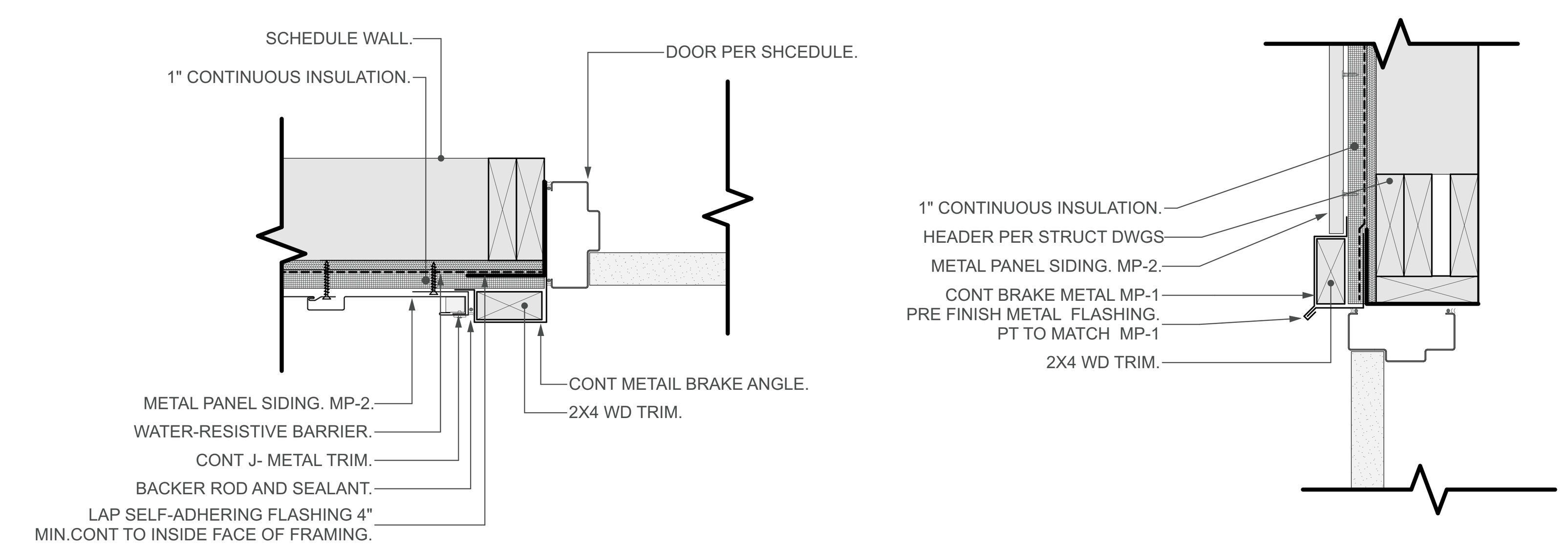
1 Wall Section @ (E) South
SCALE: 3/4" = 1'-0"



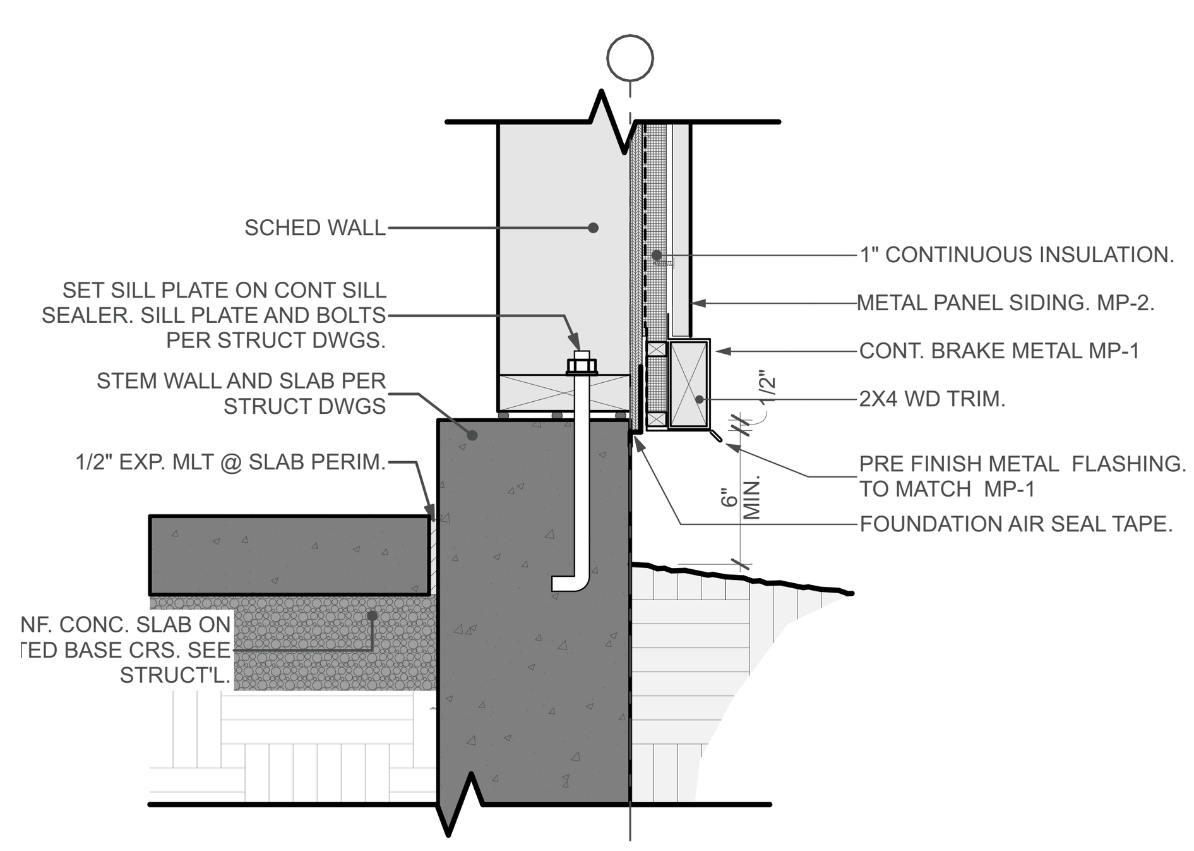
4 Roof Eave Detail
SCALE: 1 1/2"= 1'-0"



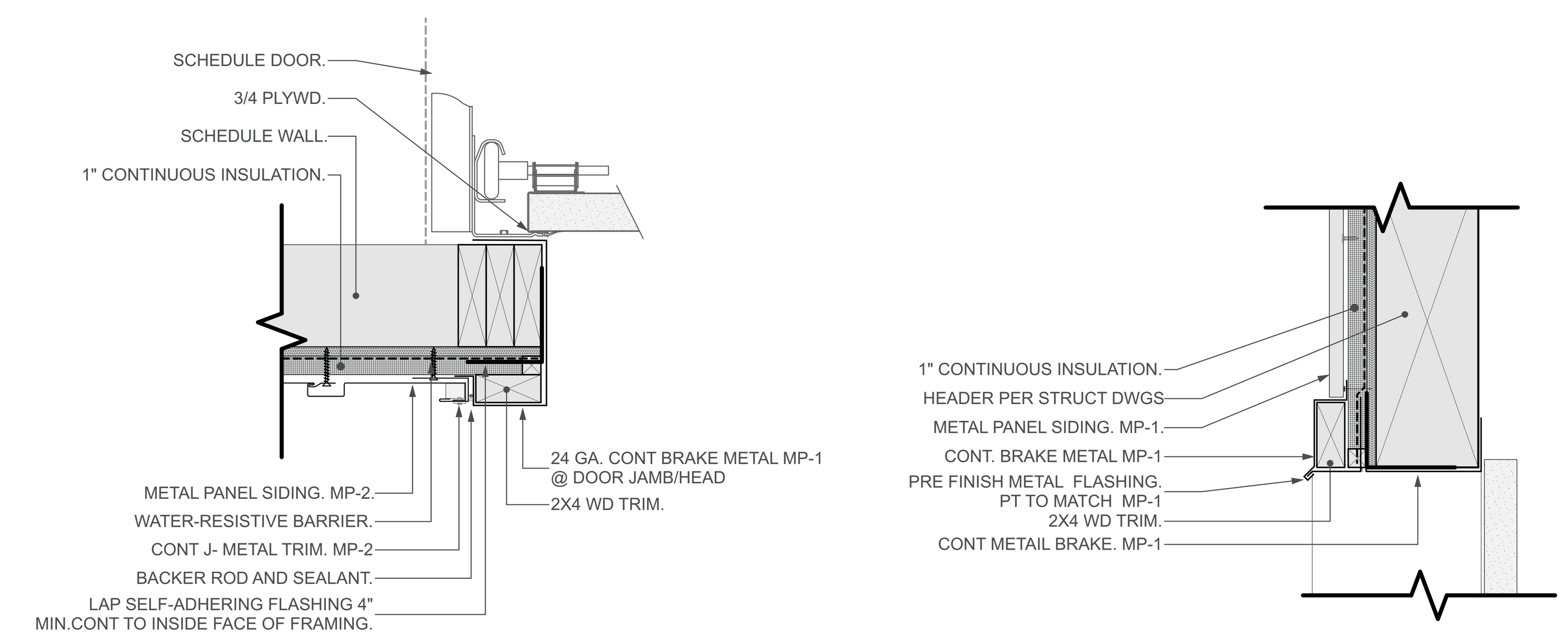
7 HM INTERIOR DOOR JAMB & HEAD
SCALE: 1 1/2"= 1'-0"



5 HM DOOR JAMB & HEAD
SCALE: 1 1/2"= 1'-0"



2 Detail Foundation
SCALE: 1 1/2"= 1'-0"



3 OH DOOR JAMB & HEAD
SCALE: 1 1/2"= 1'-0"

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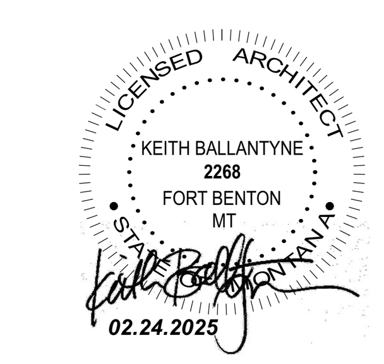
REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD,
GREAT FALLS, MT, 59405
PROJECT NUMBER:
24048



REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

PHASE:
Building Permit Set
SHEET ISSUE DATE:
02.24.2025
DRAWN BY: AM & IB APPROVED BY: KB
SHEET TITLE
Exterior Details
SHEET NUMBER
A.501

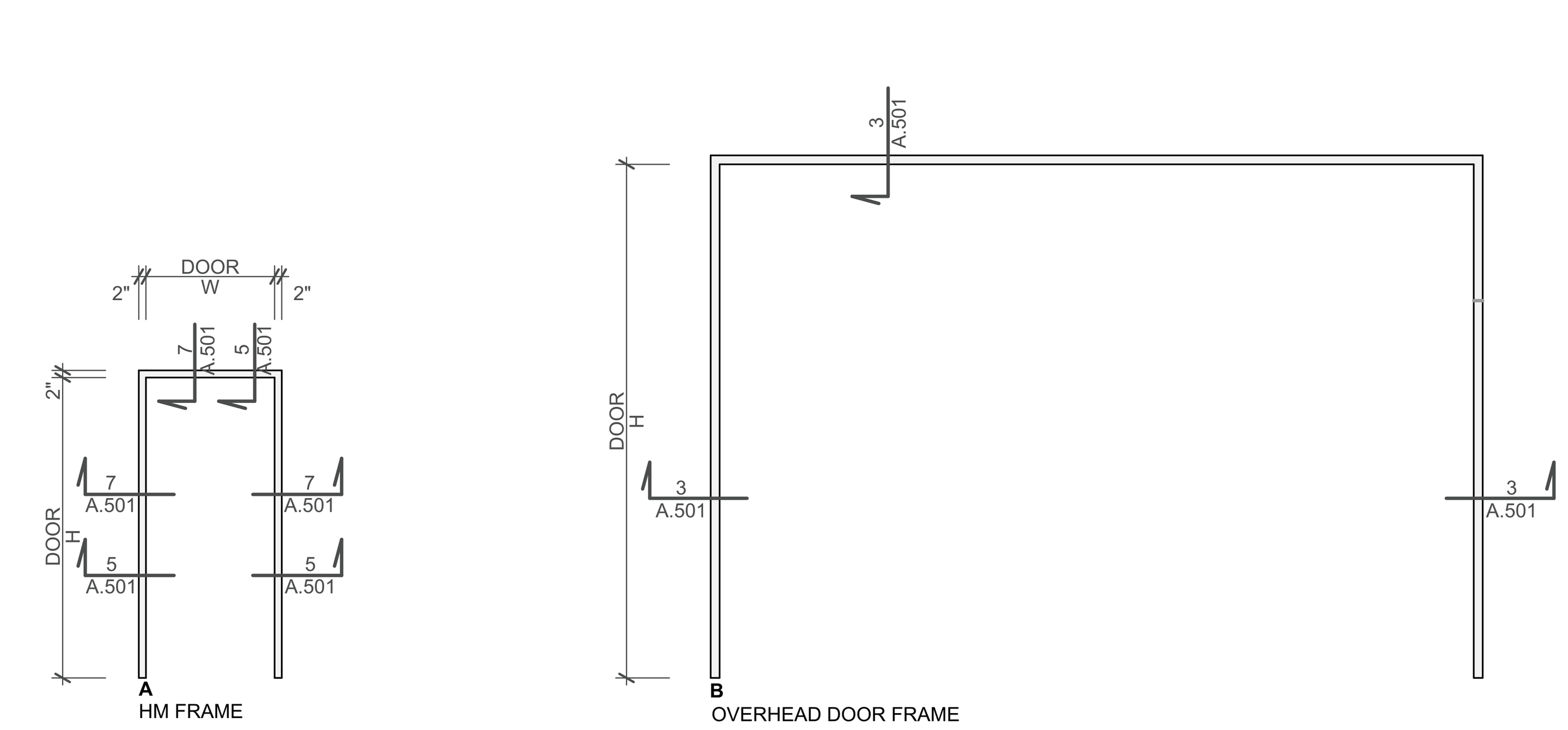
DOOR SCHEDULE

ID	STATUS	W X H	DOOR			FRAME			FR	STC	HRW	NOTES
			TYPE	MAT	FIN	TYPE	MAT	FIN				
101 A	Existing	3'-0"×7'-0"	A	HM	PT	A	HM	PT	--		N/A	1,2,3,4,5
101B	Existing	18'-0"×10'-0"	B	MFR	MFR	B	MFR	MFR	--		N/A	5
101B	Existing	18'-0"×10'-0"	B	MFR	MFR	B	MFR	MFR	--		N/A	5
101C	Existing	18'-0"×10'-0"	B	MFR	MFR	B	MFR	MFR	--		N/A	5
102	Existing	18'-0"×10'-0"	B	MFR	MFR	B	MFR	MFR	--		N/A	5
103A	Existing	18'-0"×10'-0"	B	MFR	MFR	B	MFR	MFR	--		N/A	5
103B	Existing	18'-0"×10'-0"	B	MFR	MFR	B	MFR	MFR	--		N/A	5
103C	Existing	3'-0"×7'-0"	A	--	--	A	--	-	--		N/A	5
103D	Existing	3'-0"×7'-0"	A	--	--	A	--	-	--		N/A	5
105 C	Existing	3'-0"×7'-0"	A	HM	BLACK	A	HM	BLACK	--		N/A	1,2,3,5
105A	New	3'-0"×7'-0"	A	HM	PT	A	HM	PT	--		HW.01	4,5
105B	New	18'-0"×10'-0"	B	MFR	PT	B	MFR	MFR	--		N/A	4,5
106A	New	3'-0"×7'-0"	A	HM	PT	A	HM	PT	--		HW.02	4,5
106B	New	18'-0"×10'-0"	B	MFR	PT	B	MFR	MFR	--		N/A	4,5

NOTES:

1. REFURBISH DOOR AND FRAME FINISHES.
2. VERIFY (E) DOOR HARDWARE IS WORKING PROPERLY.
3. "DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS" TO BE POSTED WITH 1" LETTERS.
4. PT TO MATCH MP-1
5. INSTALL KEYPAD.

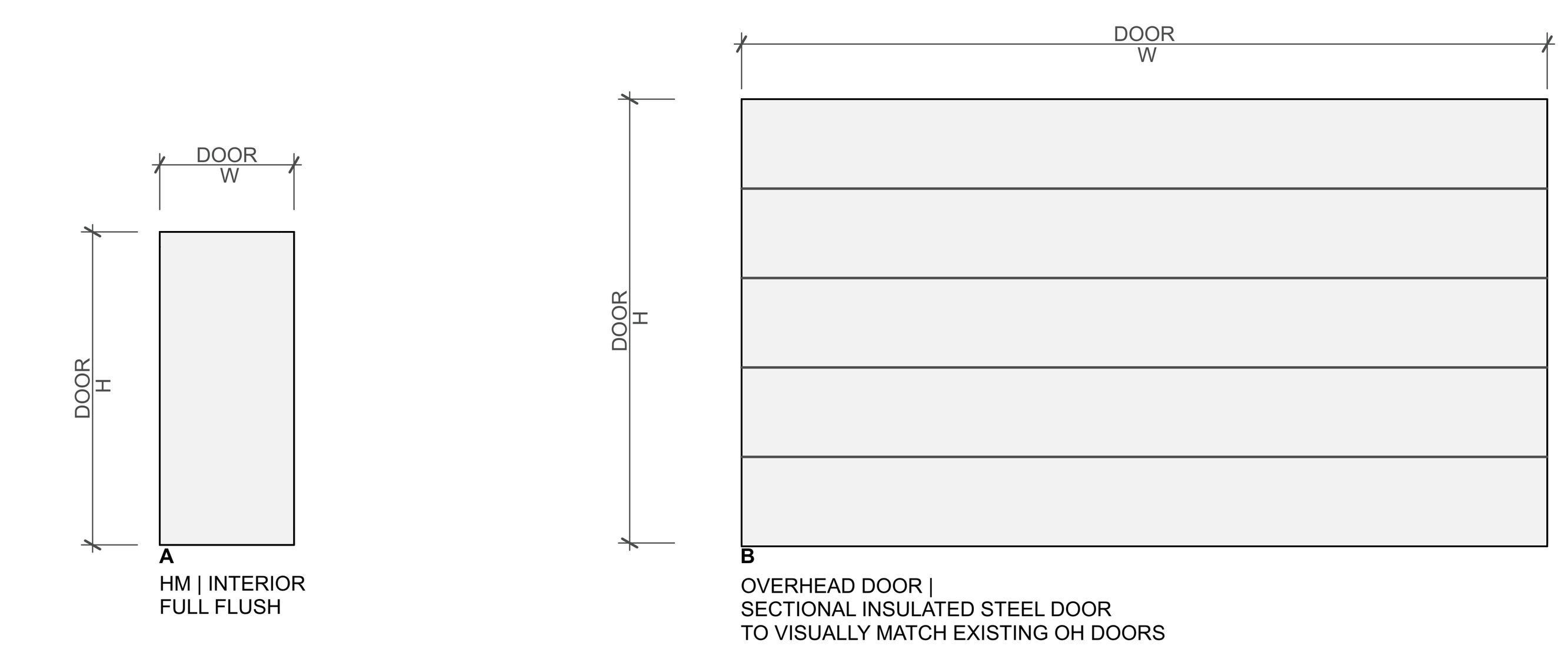
DOOR FRAME ELEVATIONS



A
HM FRAME

B
OVERHEAD DOOR FRAME

DOOR PANEL ELEVATIONS



A
HM | INTERIOR
FULL FLUSH

B
OVERHEAD DOOR |
SECTIONAL INSULATED STEEL DOOR
TO VISUALLY MATCH EXISTING OH DOORS

DOOR SCHEDULE | GENERAL NOTES

1. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
2. ALL DOOR HARDWARE SHALL BE ADA COMPLIANT. DOOR HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE.
3. MAXIMUM EFFORT TO OPERATE EXTERIOR OR INTERIOR DOORS WITH CLOSERS SHALL NOT EXCEED 5 POUNDS AND 15 PONDS FOR FIRE-RATED DOORS.
4. INSTALLATION OF ALL FRAMES TO BE PER MANUFACTURER'S SPECIFICATIONS.
5. FRAMES SHALL HAVE THREE SILENCERS PER STRIKE JAMB OR TWO PER HEAD ON DOUBLE DOOR OPENINGS.
6. REINFORCE FRAMES FOR HARDWARE PER MANUFACTURER'S RECOMMENDATIONS.
7. ALL DOORS SHALL BE 1 3/4" THICK U.N.O.

ABBREVIATIONS

ALUM	ALUMINUM
ANOD	ANODIZED
ASF	ALUMINUM STOREFRONT
HM	HOLLOW METAL
OH	OVERHEAD DOOR
STL	STEEL
WD	WOOD
MED	MATCH EXISTING DOOR SIZE
MEF	MATCH EXISTING FINISH
VIF	VERIFY IN FIELD
ST	STAIN
PT	PAINT
PR	PAIR
MK	MCKINNEY
SU	SECURITRON
RO	ROCKWOOD
SC	SCHLAGE
RF	RIXSON
LC	LCN CLOSERS
PE	PEMKO
OT	OTHER

DOOR HARDWARE SETS

HW.01 D:105 A

(3)	HINGE,FULL MORTISE HVY WT.	T4A3386 (NRP)	MK
(1)	KEY PAD CYLIDRICAL LOCK	KP10XG77 LL	SA
(1)	SURFACE CLOSER	CPS7500	NO
(1)	KICK PLATE	K1050 10"x2" LDW CSK BEV	RO
(1)	GASKETING	2891APK	PE
(1)	RAINGUARD	346C	PE
(1)	SWEEP	315CN	PE
(1)	THRESHOLD	271A x FHSL14	PE

HW.02 D: 106A

(3)	HINGE,FULL MORTISE HVY WT.	T4A3386 (NRP)	MK
(1)	STOREROOM/CLOSET LOCK	10XG04 LL	SA
(1)	SURFACE CLOSER	(PS)2800ST	NO
(1)	KICK PLATE	K1050 10"x2" LDW CSK BEV	RO
(1)	WALLSTOP	409/441 AS REQ'D	RO
(1)	GASKETING	2891APK	PE

HW.03 D:105B, 106B

(1)	HARDWARE	BY DOOR MANUFACTURER	OT

HW.04 D:101B, 101C, 102, 103A, 103B

(1)	KEY PAD	KP-400	AK

HW.05 D:105 C (EXISTING)

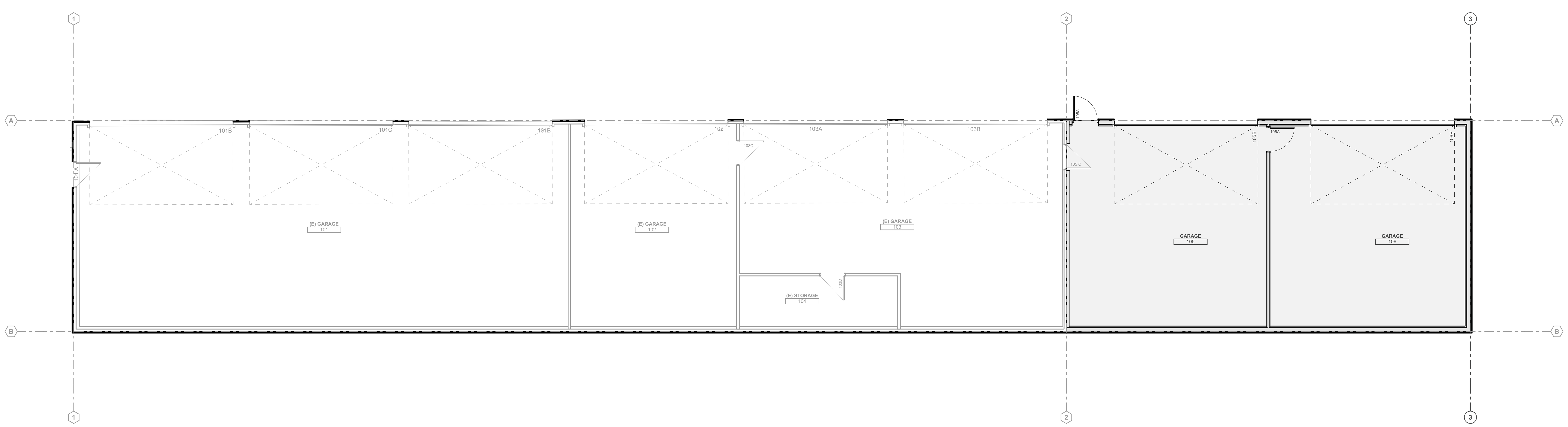
(1)	KEY PAD CYLIDRICAL LOCK	KP10XG77 LL	SA
(1)	SURFACE CLOSER	CPS7500T	NO
(1)	KICK PLATE	K1050 10"x2" LDW CSK BEV	RO

HW.06 D:101 A (EXISTING)

(1)	KEY PAD CYLIDRICAL LOCK	KP10XG77 LL	SA
(1)	SURFACE CLOSER	(PS)2800ST	NO
(1)	KICK PLATE	K1050 10"x2" LDW CSK BEV	RO
(1)	WALLSTOP	409/441 AS REQ'D	RO

NOTES

1. REFURBISH DOOR AND FRAME FINISHES.
2. VERIFY (E) DOOR HARDWARE IS WORKING ACCORDINGLY.
3. "DOORS TO REMAIN UNLOCKED DURING BUSINESS HOURS" TO BE POSTED WITH 1" LETTERS.
4. DOOR PROVIDED WITH WALK-IN REFRIGERATION UNIT.
5. INSTALL KEYPAD.



Key Plan | Door Location

BSPARK ARCHITECTURE
410 Central Ave, Suite 506, Great Falls, MT 59401
t. 406.453.0001 f. 406.760.1788
www.bsparkarch.com

REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD,
GREAT FALLS, MT, 59405

PROJECT NUMBER:
24048

LICENSED ARCHITECT
KEITH BALLANTYNE
2268
FORT BENTON
MT
02.24.2025

REVISIONS:

DATE	ISSUANCE
1/31/25	BUILDING PERMIT SET

PHASE:
Building Permit Set

SHEET ISSUE DATE:
02.24.2025

DRAWN BY: AM & IB APPROVED BY: KB

SHEET TITLE:
Door & Hardware Schedules & Details

SHEET NUMBER:
A601

GENERAL NOTES

CODES & STANDARDS

1. INTERNATIONAL BUILDING CODE - 2021 IBC
2. AMERICAN SOCIETY OF CIVIL ENGINEERS - ASCE 7-16
3. AMERICAN CONCRETE INSTITUTE - ACI 318-19
4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION - AISC 360-16
5. SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS - AISC 341-16
6. AMERICAN WELDING SOCIETY - AWS D1.4/D1.4M-2018
7. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION - NDS 2018
8. INTERNATIONAL MASONRY INSTITUTE - TMS 402-16/TMS 602-16
9. ASTM STANDARDS FOR THE MATERIALS SPECIFIED
10. AMERICAN WOOD COUNCIL - SDPWS 2021

DESIGN & STRUCTURAL CRITERIA

1. PROJECT LOCATION/LOCAL JURISDICTION: GREAT FALLS, MT
2. RISK CATEGORY: CATEGORY II - FOR DETERMINATION OF LOADING, IMPORTANCE & OTHER STRUCTURAL ENGINEERING DESIGN FACTORS.
3. SOIL DESIGN CRITERIA
   - 3.1. FROST DEPTH: 48 INCHES
   - 3.2. ALLOWABLE BEARING PRESSURE: 3000 PSF
   - 3.3. COEFFICIENT OF FRICTION: 0.25
   - 3.4. ACTIVE EARTH PRESSURE: 60 PSF/FT
   - 3.5. AT-REST EARTH PRESSURE: 80 PSF/FT
   - 3.6. PASSIVE EARTH PRESSURE: 150 PSF/FT PER ITEM 11 OF GEOTECHNICAL REPORT
4. DEAD LOADS
   - 4.1. ROOF DEAD LOAD: 20 PSF
   - 4.2. INTERIOR WALL DEAD LOAD: 6 PSF
5. LIVE LOADS
   - 5.1. ROOF LIVE LOAD: 20 PSF
6. WIND DESIGN CRITERIA
   - 6.1. BASIC WIND SPEED, V: 107 MPH
   - 6.2. ALLOWABLE STRESS WIND SPEED, Vasd: 83 MPH
   - 6.3. EXPOSURE C
   - 6.4. INTERNAL PRESSURE COEFFICIENT: ±0.18
7. SEISMIC DESIGN CRITERIA
   - 7.1. Ss = 0.210g, S1 = 0.077g
   - 7.2. SITE SOIL CLASSIFICATION: D
   - 7.3. SDS = 0.140g, SD1 = 0.051g
   - 7.4. SEISMIC DESIGN CATEGORY B
   - 7.5. SEISMIC DESIGN RESPONSE COEFFICIENT: Cs = ??
   - 7.6. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
   - 7.7. LATERAL FORCE RESISTING SYSTEM = LIGHT FRAMED WALLS (WOOD) SHEATHED W/ WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE, R = 6.5
8. SNOW DESIGN CRITERIA
   - 8.1. GROUND SNOW LOAD (Pg): 32 PSF
   - 8.2. DESIGN ROOF SNOW LOAD (Pf): 30 PSF
   - 8.3. EXPOSURE FACTOR, Ce: 1.0
   - 8.4. THERMAL FACTOR, Ct: 1.2
   - 8.5. IMPORTANCE FACTOR, Is: 1.0
   - 8.6. ROOF SLOPE FACTOR, Cs: 1.0
   - 8.7. EXPOSURE C
   - 8.8. DRIFTING: PER CODE
   - 8.9. UNBALANCED: PER CODE
9. DEFLECTION
   - 9.1. ROOF TOTAL LOAD: L/240
   - 9.2. ROOF LIVE LOAD: L/360
   - 9.3. FLOOR TOTAL LOAD: L/240
   - 9.4. FLOOR LIVE LOAD: L/360
   - 9.5. LATERAL SYSTEMS: L/180

MISCELLANEOUS

1. REFERENCE CIVIL DRAWINGS FOR EQUIPMENT LOCATION AND ORIENTATION ON THE SITE. THE CONTRACTOR AND SUB-TRADES SHALL FURNISH ALL REQUIRED MATERIAL, LABOR, EQUIPMENT AND PERFORM ALL WORK AS NECESSARY, AS INDICATED ON THE PROJECT DOCUMENTS, OR AS REASONABLY INFERRED TO EXECUTE THE SCOPE OF WORK FOR A PROPERLY FINISHED, COMPLETE JOB.
2. THE QUALITY OF WORKMANSHIP SHOULD BE SET AND SUPERVISED BY THE CONTRACTOR TO PASS BUILDING DEPT. OR ENGINEER INSPECTION FOR ROUGH CONSTRUCTION. THE LEVEL OF QUALITY AND TOLERANCE SHOULD BE APPROPRIATE FOR THE INSTALLED ELEMENT TO RECEIVE THE NEXT IN-LINE FINISH ASPECT OF CONSTRUCTION.
3. THE PURPOSE OF PROJECT DRAWINGS IS TO DEPICT THE OVERALL SCOPE OF THE PROJECT. THE PROJECT DRAWINGS HAVE BEEN DEVELOPED TO SHOW A LEVEL OF DETAIL WITH THE OBJECTIVE OF PLAN CHECK APPROVAL AND ISSUANCE OF A BUILDING PERMIT. THIS MODERATE LEVEL OF DETAIL SHOULD ALLOW FOR A VARIETY OF STANDARD CONSTRUCTION METHODS AND SEQUENCES. THE PROJECT DRAWINGS ARE INTENDED TO COMPLY WITH THE ORDINANCES, RULES AND REGULATIONS OF THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
4. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNOLOGIES, SEQUENCES AND PROCEDURES.
5. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
6. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
7. OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. THEY SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF THEY CHOOSE AN OPTION AND THEY SHALL COORDINATE ALL DETAILS.
8. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
9. TYPICAL DETAILS ARE NOT CUT ON DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.
10. IN THE CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, PLANS/DETAILS OR REFERENCE STANDARDS, THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK. SHOULD ANY DISCREPANCY BE FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING THE WORK, UNLESS PRIOR TO THE SUBMISSION OF THE PRICE, THE CONTRACTOR ASKS FOR A DECISION FROM THE ARCHITECT AS TO WHICH SHALL GOVERN. ACCORDINGLY, ANY CONFLICT IN OR BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN THE CONTRACT PRICE.
11. VISITS TO THE JOBSITE BY THE ENGINEER TO OBSERVE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT THEY ARE THE GUARANTORS OF THE CONTRACTOR'S WORK, NOR SUPERVISION, NOR SAFETY AT THE JOBSITE.
12. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW OF SUCH SHOP DRAWINGS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR CORRECTNESS OF DIMENSIONS, FABRICATION DETAILS, SPACE REQUIREMENTS, AND ERRORS IN THE SHOP DRAWINGS, OR FOR DEVIATIONS FROM THE CONTRACT DRAWINGS OR SPECIFICATIONS UNLESS THE CONTRACTOR HAS SPECIFICALLY CALLED ATTENTION TO SUCH DEVIATIONS IN WRITING BY A LETTER ACCOMPANYING THE SHOP DRAWINGS AND THE ENGINEER APPROVES SUCH CHANGE OR DEVIATION IN WRITING.
13. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK THAT CONFORMS TO THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY.
14. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.
15. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
16. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. NOTED SCALES ARE INTENDED FOR FULL SIZE PLANS. DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS ONLY.

CONCRETE

1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE". ALL REINFORCING SHALL CONFORM TO THE CRSI SPECIFICATIONS & HANDBOOK. CONCRETE PLACEMENT SHALL MEET ALL COLD WEATHER AND HOT WEATHER REQUIREMENTS OUTLINED IN ACI 306 & 305 RESPECTIVELY.
2. ADDITION OF WATER TO THE BATCH FOR MATERIAL WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, UNLESS THE SUPPLIER HAS SPECIFICALLY WITHHELD WATER FROM THE BATCH AT THE PLANT. IN SUCH CASE THE MIX DESIGN AND TRUCK TICKET MUST CLEARLY STATE THE MAXIMUM AMOUNT OF WATER THAT CAN BE ADDED TO THE BATCH ON SITE. IN NO CASE SHALL THE DESIGN WATER TO CEMENTITIOUS MATERIAL RATIO BE EXCEEDED.
3. CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP OF 4" +/- 1", TO BE FIELD VERIFIED, PRIOR TO ADDING ADMIXTURE, AND NOT EXCEEDING 8" AT PLACEMENT.
4. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, INCLUDING SLABS ON GRADE AT 2'-0" O.C. AROUND UNDER-FLOOR DUCTS AND SLAB EDGES, REINFORCING, KEYS, ETC. MECHANICALLY VIBRATE ONLY THE TOP 5 FEET OF CAISSON CONCRETE. REVIBRATE TOP OF CAISSON 15 MINUTES AFTER PLACING CONCRETE.
5. IF CONCRETE IS PLACED BY THE PUMP METHOD, SUPPORTS SHALL BE PRODUCED FOR THE HOSE. THE HOSE SHALL NOT BE ALLOWED TO CONTACT THE REBAR OR TENDONS. THIS REQUIREMENT IS MANDATORY. DISCHARGE SHALL BE DIRECTED SO AS TO PREVENT DISPLACEMENT OF REBAR, TENDONS, OR ACCESSORIES.
6. REINFORCING SHALL BE CONTINUOUS AROUND ALL CORNERS AND THROUGH CONSTRUCTION JOINTS UNLESS SHOWN OTHERWISE.
7. ALL HOOKS ON ALL BARS SHALL BE STANDARD 90 DEGREE HOOKS UNLESS SHOWN OTHERWISE.
8. REINFORCING STEEL SHALL NOT BE BENT OR STRAIGHTENED IN A MANNER INJURIOUS TO THE CONCRETE OR STEEL.
9. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.
10. ALL CONDUITS, GROUND WIRES, DRAINS, ANCHOR BOLTS, OTHER EMBEDDED ITEMS, ETC. SHALL BE IN PLACE BEFORE CONCRETE PLACEMENT.
11. REINFORCING LAP SPLICES IN CONCRETE SHALL BE PER TYPICAL DETAIL UNLESS NOTED OTHERWISE. ALL SPLICE LOCATIONS ARE SUBJECT TO APPROVAL. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS.
12. ALL FIELD BENDING OF REINFORCING SHALL BE STANDARD 90 DEGREE HOOKS AS DEFINED IN CURRENT ACI 318 UNLESS NOTED OR DETAILED OTHERWISE.
13. WHEN TOTAL NUMBER OF REINFORCING BARS IS SHOWN ON DESIGN DRAWINGS AND SPACING IS NOT SPECIFIED, BARS SHALL BE EQUALLY SPACED.
14. DETAILS OF REINFORCING NOT SHOWN IN THESE PLANS SHALL BE DONE IN ACCORDANCE WITH ACI 315 AND ACI 318.
15. DRILLED PIER CONCRETE SHALL BE CHANNELED TO FREE FALL DOWN THE SHAFT WITHOUT STRIKING THE REINFORCING OR THE SIDES OF THE SHAFT. MAXIMUM HEIGHT OF FREE-FALL IS 10'-0".
16. ALL SLABS-ON-GRADE SHALL HAVE CONTROL JOINTS CUT IN CONCRETE WITHIN 8 HOURS OF PLACEMENT AT A SPACING NO GREATER THAN 10' O.C.E.W. (U.N.O. ON PLANS).
17. CONCRETE PROPERTIES (SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS):

CAST-IN-PLACE PROPERTIES		
	FOOTINGS/ FOUNDATION WALLS	SLABS ON GRADE/ SLABS ON METAL DECK
MINIMUM 28-DAY COMPRESSIVE STRENGTH	4000 PSI	4500 PSI
MAXIMUM WATER-CEMENT RATIO (BY WT)	0.45	0.43
MAXIMUM AGGREGATE SIZE	3/4"	3/4"
PERCENT AIR CONTENT	4.5% - 7.5%	4.5% - 7.5%
MAXIMUM SLUMP	4" **	3" **

* AIR CONTENT OF SLABS-ON-GRADE MAY BE REDUCED TO 2% MIN IF THE SLAB WILL BE PROTECTED FROM FREEZE/THAW CYCLES DURING AND AFTER CONSTRUCTION.

** MAXIMUM SLUMP MAY BE INCREASED TO 8" WITH THE USE OF WATER-REDUCING ADMIXTURES TO MAINTAIN THE SPECIFIED W/C RATIO.

MATERIALS

STRUCTURAL STEEL	W & WT	ASTM A992, Fy = 50 KSI
	CHANNEL & ANGLE	ASTM A36, Fy = 36 KSI
	PLATES	ASTM A36, Fy = 36 KSI
	HSS SQ OR RECT	ASTM A500, GR C, Fy = 50 KSI
	HSS ROUND	ASTM A500. GR C, Fy = 46 KSI
CONCRETE	ALL (U.N.O.)	PORTLAND CEMENT ASTM C150 TYPE II W/C RATIO = 0.45 MAXIMUM 28 DAY f'c = 4,000 PSI SLUMP RANGE = 3-5 INCHES AIR CONTENT = 4.5 - 7.5% 3/4" MAXIMUM NORMAL WEIGHT AGGREGATE
REINFORCING BARS		ASTM A615, GRADE 60 (NON-WELDABLE) ASTM A706, GRADE 60 (WELDABLE) ASTM A-185 (WELDED WIRE FABRIC)
ANCHOR RODS		ASTM F1554, GRADE 36
HIGH STRENGTH BOLTS		ASTM A325N
BOLTS		ASTM A307, GALVANIZED PER ASTM A153 (ONLY WHERE NOTED ON PLANS)
HEADED STUD ANCHORS		ASTM A108
WELD METAL		E70XX ELECTRODE
ADHESIVE ANCHORS	MASONRY	HILTI HIT HY 270 OR SIMPSON STRONG-TIE SET ANCHORING ADHESIVE
	CONCRETE	HILTI HIT RE 500v3
	ALL	ASTM A36 ALL-THREAD WITH CHISEL POINT
WOOD		2x4 STUDS, D.F. STUD 2x6 STUDS AND LARGER, D.F. #2 6x6 POSTS AND LARGER, D.F. #1 SIMPLE SPAN GLU-LAMINATED BEAMS, 24F-V4 CONTINUOUS SPAN GLU-LAMINATED BEAMS, 24F-V8. WALL SHEATHING, 24/16 OSB, EXPOSURE 1. ROOF AND FLOOR SHEATHING, 48/24 CDX PLYWOOD
COLD FORMED STEEL		STEEL STUDS, ASTM A653, 18 GA. Fy = 33 KSI U.N.O.
MASONRY		CMU BLOCK: NORMAL WEIGHT, F'c = 1900 PSI MORTAR: PORTLAND CEMENT/LIME, TYPE M OR S GROUT: F'c = 2000 PSI (28 DAYS) WALL COMPRESSIVE STRENGTH = F'M = 2000 PSI (28 DAYS)

FOUNDATION AND SOIL PREPARATION

SITE GRADING AND EXCAVATIONS

1. FOUNDATIONS HAVE BEEN DESIGNED BASED ON RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL EVALUATION BY TD&H ENGINEERING DATED AUGUST 2024. THE FOLLOWING NOTES ARE TYPICAL AND SHALL NOT GOVERN SITE SPECIFIC REQUIREMENTS AS OUTLINED IN THIS REPORT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THIS REPORT AND FOLLOWING THOSE RECOMMENDATIONS.
2. CONFORM TO IBC CHAPTER 18 "SOILS AND FOUNDATIONS".
3. ALL TOPSOIL, ORGANIC MATERIALS, EXISTING FILL, ASPHALT PAVEMENT, CONCRETE, AND CONSTRUCTION DEBRIS ASSOCIATED WITH THE DEMOLITION OF THE EXISTING SHED AND ITS FOUNDATION SHALL BE REMOVED FROM THE PROPOSED BUILDING AREA AND ANY AREAS TO RECEIVE SITE GRADING FILL.
4. ALL FILL AND BACKFILL SHALL BE NON-EXPANSIVE, FREE OF ORGANICS AND DEBRIS AND SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER. ALL FILL SHALL BE PLACED IN UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS FOR FINE-GRAINED SOILS AND NOT EXCEEDING 12 INCHES FOR GRANULAR SOILS. ALL FILL AND BACKFILL SHALL BE COMPACTED TO THE FOLLOWING PERCENTAGES OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 OR EQUIVALENT (E.G. ASTM D4253-D4254).
   - 4.1. BELOW FOUNDATIONS OR SPREAD FOOTINGS..... 98%
   - 4.2. BELOW SLAB-ON-GRADE CONSTRUCTION..... 98%
   - 4.3. EXTERIOR FOUNDATION BACKFILL 95%
   - 4.4. GENERAL LANDSCAPING OR NONSTRUCTURAL AREAS..... 92%

SPREAD FOOTING FOUNDATIONS

1. BOTH INTERIOR AND EXTERIOR FOOTINGS SHALL BEAR ON THE PROPERLY COMPACTED NATIVE SOILS.
2. SOILS DISTURBED BELOW THE PLANNED DEPTHS OF FOOTING EXCAVATIONS SHALL EITHER BE RECOMPACTED OR BE REPLACED WITH PROPERLY COMPACTED NATIVE SOILS UNLESS ALTERNATIVE MATERIALS ARE APPROVED BY THE GEOTECHNICAL ENGINEER.
3. A REPRESENTATIVE OF THE PROJECT GEOTECHNICAL ENGINEER SHALL OBSERVE ALL FOOTING EXCAVATIONS AND BACKFILL PHASES PRIOR TO THE PLACEMENT OF CONCRETE FORMWORK.

FLOOR SLABS AND EXTERIOR FLATWORK

1. FOR NORMALLY LOADED, SLAB-ON-GRADE CONSTRUCTION, A MINIMUM 8-INCH CUSHION COURSE CONSISTING OF FREE-DRAINING, CRUSHED GRAVEL SHOULD BE PLACED BENEATH THE SLABS AND COMPACTED TO A MINIMUM OF 98 PERCENT DENSITY PER ASTM D698 (OR EQUIVALENT PER ASTM D4253-D4254). THIS MATERIAL SHOULD CONFORM TO SECTION 02235 OF MPWSS AND INCORPORATE A MAXIMUM PARTICLES SIZE OF 3/4-INCH. PRIOR TO PLACING THE CUSHION COURSE, THE UPPER SIX INCHES OF SUBGRADE SHOULD BE COMPACTED TO 98 PERCENT OF MAXIMUM DENSITY PER ASTM D698.

WOOD

1. ALL WOOD TO BE CONSTRUCTED USING STANDARD PRACTICES. LATEST EDITION OF NATIONAL DESIGN SPECIFICATION (NDS) APPLIES.
2. PROVIDE ALL ACCESSORY ITEMS FOR ENGINEERED WOOD PRODUCTS (BLOCKS, CLIPS, STRAPS, STIFFENERS, ETC.) DESIGNED BY THE MANUFACTURER AS REQUIRED.
3. FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF ALL ENGINEERED WOOD PRODUCTS AND ALL FRAMING CONNECTORS, HANGERS AND ANCHORS.
4. PROVIDE FULL BEARING FOR ALL FRAMING MEMBERS UNLESS SHOWN OTHERWISE. ALL FRAMING TO BE DF #2 OR BETTER (UNO). ALL GLUE LAMINATED BEAMS (GLB) SHALL BE 24F-V4 (24F-V8 FOR CANTILEVER SPANS) AND AC V12 FOR EXPOSED APPLICATIONS UNLESS BEAM IS PROTECTED FROM WEATHER THEN 24F IS ACCEPTABLE.
5. WALLS TO HAVE 8d NAILS @ 6" OC AT EDGE AND 12" OC IN FIELD, FULLY BLOCKED. ALL OPENINGS TO HAVE 8d NAILS @ 3" OC ALL AROUND, UNO ON SHEAR WALL PLANS.
6. ROOF TRUSSES SHALL BE DESIGNED BY OTHERS AND BE SEALED BY A PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED.
7. ALL TRUSSES AND OVERHANGS TO BE CONNECTED TO WALLS WITH SIMPSON H1 CLIPS.
8. ROOF TRUSSES AND MONOTRUSSES SHALL BE PRESSED-PLATE LUMBER, DESIGNED BY OTHERS, IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE TPI 1, AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
9. INSTALL TEMPORARY AND PERMANENT TRUSS BRACING ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND IN ACCORDANCE WITH BCSI GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES, 2018 EDITION (UPDATED MARCH 2020).
10. CONTRACTOR TO PROVIDE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING IN ACCORDANCE WITH IBC 2303.4.1.2. CONTINUOUS LATERAL RESTRAINTS SHALL BE DIAGONALLY BRACED IN ACCORDANCE WITH BCSI-B3.
11. PLACE FLOOR AND ROOF SHEATHING WITH FACE GRAIN PERPENDICULAR TO THE SUPPORTS AND JOINTS STAGGERED OVER SUPPORTS. PLACE WALL SHEATHING WITH FACE GRAIN VERTICAL.
12. ALL TIMBER SHALL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS OUTLINED IN CHAPTER 23 OF THE 2021 IBC INCLUDING USING THE FASTENING SCHEDULE (TABLE 2304.10.2 OF 2021 IBC), EXCEPT AS NOTED DIFFERENTLY ON PLANS.
13. ALL ROOF AND FLOOR SHEATHING SHALL BE CDX PLYWOOD. ALL WALL SHEATHING SHALL BE ORIENTED STRAND BOARD. WALL SHEATHING SHALL EXTEND AND ATTACH TO (USING MIN 10d NAILS @ 4" OC, UNO) THE TOP AND BOTTOM OF THE WALL TOP AND BOTTOM HORIZONTAL PLATES (RESPECTIVELY). NO HORIZONTAL JOINT OF THE PLYWOOD CAN BE WITHIN 2' OF THE TOP OR BOTTOM PLATE.
14. TYPICAL SUB-FLOOR SHALL BE 3/4" TONGUE & GROOVE APA RATED STURD-I-FLOOR PLYWOOD NAILED W/ 10d @ 6" OC AT SHEET EDGES AND 12" OC FIELD. S.A.D. FOR GYPCRETE TOPPING, TYPICAL ROOF SHEATHING SHALL BE MIN 15/32" THICK APA SPAN RATED CD-X PLYWOOD NAILED W/ 10d @ 6" OC AT SHEET EDGES AND 12" OC FIELD.
15. ALL NAILS SHALL BE COMMON NAILS UNO.
16. ALL METAL FASTENERS AND CONNECTORS IN CONTACT WITH P.T. WOOD SHALL BE GALVANIZED.
17. ALL LUMBER IN CONTACT WITH GROUND, CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED. ALL METAL EXPOSED TO WEATHER OR IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE STAINLESS STEEL, HOT DIPPED GALVANIZED (MIN G180) OR OTHERWISE PROTECTED AGAINST CORROSION.
18. BRACE STUD WALLS UNTIL ALL PLYWOOD SUB-FLOOR, FLOOR TRUSSES, ROOF TRUSSES AND SHEAR PANELS ARE IN PLACE.

LEGEND AND ABBREVIATIONS

AB	ANCHOR BOLT	HORIZ	HORIZONTAL
ACI	AMERICAN CONCRETE INSTITUTE	HSA	HEADED STUD ANCHOR
		HSS	HOLLOW STRUCT STEEL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	IBC	INTERNATIONAL BUILDING CODE
ALT	ALTERNATE	INT	INTERIOR
APPROX	APPROXIMATE	L	STEEL ANGLE
ARCH	ARCHITECTURAL	LG	LIGHT GAUGE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIAL	LLV	LONG LEG VERTICAL
		LONG	LONGITUDINAL
AWS	AMERICAN WELDING SOCIETY	MAX	MAXIMUM
		MCJ	MASONRY CONTROL JOINT
@	AT	MECH	MECHANICAL
BLDG	BUILDING	MANUF OR MFR	MANUFACTURER
BLK'G	BLOCKING	MIN	MINIMUM
BM	BEAM	MISC	MISCELLANEOUS
BOC	BOTTOM OF CONCRETE	NO. OR #	NUMBER
BOF	BOTTOM OF FOOTING	(N)	NEW
BOS	BOTTOM OF STEEL/SLAB	NTS	NOT TO SCALE
BOT	BOTTOM OF	OC	ON CENTER
BRG	BEARING	OCEF	ON CENTER EACH FACE
BTB	BACK TO BACK	OCEW	ON CENTER EACH WAY
BTWN	BETWEEN	OPP	OPPOSITE
C	STEEL CHANNEL	OWJ	OPEN WEB JOIST
CFS	COLD FORMED STEEL	PEMB	PRE-ENGINEERED METAL BUILDING
CIP	CAST IN PLACE		
CJ	CONTROL JOINT	PLCS	PLACES
℄ OR CL	CENTER LINE	PL	PLATE
CLR	CLEAR	PREFAB	PREFABRICATED
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
COL	COLUMN	PT	PRESSURE TREATED
CONC	CONCRETE	REF	REFERENCE
CONN OR CXN	CONNECTION	REINF	REINFORCEMENT
CONT	CONTINUOUS	REQ'D	REQUIRED
DEMO	DEMOLISH	REV	REVISION/REVISED
DET	DETAIL	SCH OR SCHED	SCHEDULE
DF	DOUGLAS FIR	SFE	SUBFLOOR ELEVATION
ø OR DIA	DIAMETER	SHT	SHEET
DIM	DIMENSION	SIM	SIMILAR
DJ	DOUBLE JOIST	SOG	SLAB-ON-GRADE
DWG	DRAWING	SPCS OR SPA	SPACE(S)
EA	EACH	SPEC	SPECIFICATION(S)
EA WAY OR EW	EACH WAY	SQ	SQUARE
EF	EACH FACE	STD	STANDARD
EJ	EXPANSION JOINT	STRUCT	STRUCTURAL
EL OR ELEV	ELEVATION	SYM	SYMMETRICAL
EMBED	EMBEDMENT	T&B	TOP & BOTTOM
ENG	ENGINEER	T&G	TONGUE & GROOVE
EOR	ENGINEER OF RECORD	THRU	THROUGH
EQ	EQUAL	TOB	TOP OF BEAM
EXIST OR (E)	EXISTING	TOC	TOP OF CONCRETE
EXP	EXPANSION	TOF	TOP OF FOOTING
EXT	EXTERIOR	TOS	TOP OF STEEL/SLAB
FDT OR FND	FOUNDATION	TOW	TOP OF WALL
FF	FINISH FLOOR	TRANS	TRANSVERSE
FLR	FLOOR	TYP	TYPICAL
FTG	FOOTING	VIF	VERIFY IN FIELD
GA	GAUGE	VERT	VERTICAL
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
GEN	GENERAL	W/	WITH
GLB	GLULAM BEAM	WF	WIDE FLANGE
GR	GRADE	WP	WORKING POINT
		WT	WEIGHT

CONCRETE

CONCRETE MASONRY UNIT

STEEL IN SECTION

1 / S1.0 — SECTION OR DETAIL DESIGNATION SYMBOL; SHEET NUMBER WHERE SECTION OR DETAIL IS SHOWN

ELEVATION NOTED

X — FLAG NOTE

1 — REVISION SPECIFIED

STEEL LEGEND

UP OR DOWN — STAIR IDENTIFICATION

XXXX — INDICATES COLUMN

BPX — INDICATES BASE PLATE

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER AND MUST RECEIVE APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING MATERIALS:
   - 1.1. CONCRETE MIX DESIGN
   - 1.2. REBAR TYPE & LOCATION
   - 1.3. ALL TIMBER MATERIALS (MEMBERS, SHEATHING) AND THEIR USE FOR THIS PROJECT
   - 1.4. ROOF PLAN LAYOUT
   - 1.5. BOLTS AND ANCHOR BOLTS
   - 1.6. TIMBER CONNECTION ACCESSORIES
   - 1.7. PRE-ENGINEERED TIMBER TRUSS LAYOUT & CALCULATIONS WITH P.E. STAMP IN THE STATE IN WHICH THE PROJECT IS LOCATED
2. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.
3. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.
4. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.
5. ELECTRONIC FILES OF CONSTRUCTION DOCUMENTS WILL NOT BE MADE AVAILABLE FOR USE AS SHOP DRAWINGS.

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REGION 4
HEADQUARTERS
GARAGE ADDITION

ADDRESS:
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GREAT FALLS, MT 59405

PROJECT NUMBER:
24048 TDH JOB NO: 24-134

TD&H Engineering
tdhengineering.com

MONTANA — ROONEY LEE BLAKE — NO. 19168PE — REGISTERED PROFESSIONAL ENGINEER

REVISIONS:

DATE	ISSUANCE

PHASE:
BUILDING PERMIT SET

SHEET ISSUE DATE:
01.31.2025

DRAWN BY: RLT APPROVED BY: RRB

SHEET TITLE
GENERAL STRUCTURAL NOTES

SHEET NUMBER
S1.0

STATEMENT OF SPECIAL INSPECTIONS

1. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED BY THE OWNER IN ACCORDANCE WITH CHAPTER 17 OF THE 2021 IBC.
2. ALL SPECIAL INSPECTORS SHALL BE UNDER THE SUPERVISION OF A REGISTERED CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH THE WORK IS TO BE PERFORMED. ALL INSPECTIONS SHALL BE PERFORMED BY EXPERIENCED PERSONNEL MEETING THE REQUIREMENTS OF THE IBC AND AC291 "ACCREDITATION CRITERIA FOR SPECIAL INSPECTION AGENCIES" AND SHALL BE APPROVED BY THE LICENSED ENGINEER OF RECORD.
3. SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WORK OF A MINOR NATURE AS APPROVED BY THE BUILDING OFFICIAL, NOR ARE THEY REQUIRED FOR GROUP U OCCUPANCIES.
4. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND OR SEISMIC FORCE RESISTING SYSTEM SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK AS OUTLINED IN 1704.4 OF THE IBC.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY AT LEAST TWO WORKING DAYS PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT THE REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.
6. SPECIAL INSPECTIONS SHALL BE REQUIRED FOR PROPOSED WORK THAT IS, IN THE OPINION OF THE BUILDING OFFICIAL, UNUSUAL IN ITS NATURE, SUCH AS, BUT NOT LIMITED TO THE FOLLOWING EXAMPLES: CONSTRUCTION MATERIALS AND SYSTEMS THAT ARE ALTERNATIVES TO MATERIALS AND SYSTEMS PRESCRIBED BY THE IBC, UNUSUAL DESIGN APPLICATIONS OF MATERIALS PRESCRIBED IN THE IBC, AND MATERIALS AND SYSTEMS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH ADDITIONAL MANUFACTURER'S INSTRUCTIONS THAT PRESCRIBE REQUIREMENTS NOT CONTAINED IN THE IBC OR IN STANDARDS REFERENCED BY THE IBC.

TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

APPLIES	TYPE	CONT	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
	1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	-	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	-
X	2. REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706; b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND c. INSPECT ALL OTHER WELDS.	- X	X X 	AWS D1.4 ACI 318: 26.6.4	-
X	3. INSPECT ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 17.8.2	-
X	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS[b]. a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	 X -	 - X	 ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
X	5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2
X	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C31 ASTM C172 ACI 318: 26.5, 26.12	-
X	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	-
X	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3-26.5.5	-
	9. INSPECT PRESTRESSED CONCRETE FOR: a. APPLICATION OF PRESTRESSING FORCES; AND b. GROUTING OF BONDED PRESTRESSING TENDONS.	 X X	 - -	 ACI 318: 26.10	-
	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	ACI 318: 26.9	-
	11. FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT AT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY ELEMENTS (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F, INSPECT SUCH CONNECTIONS AND REINFORCEMENT IN THE FIELD FOR: a. INSTALLATION OF THE EMBEDDED PARTS b. COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS. c. COMPLETION OF CONNECTIONS IN THE FIELD.	 X X X	 - - -	ACI 318: 26.13.1.3 ACI 550.5	-
	12. INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5.	-	X	ACI 318: 26.13.1.3	-
X	13. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
X	14. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(b)	-

a. WHERE APPLICABLE, SEE SECTION 1705.13, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.
b. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

APPLIES	TYPE	CONT	PERIODIC
X	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
X	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
X	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
X	4. DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	-
X	5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

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PHASE:
BUILDING PERMIT SET

SHEET ISSUE DATE:
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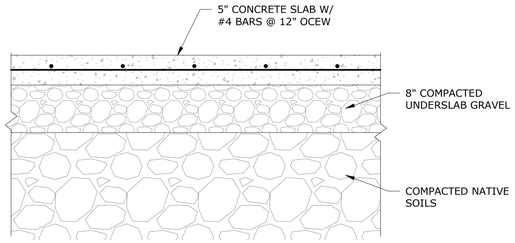
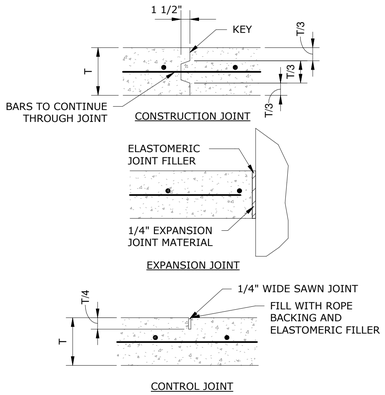
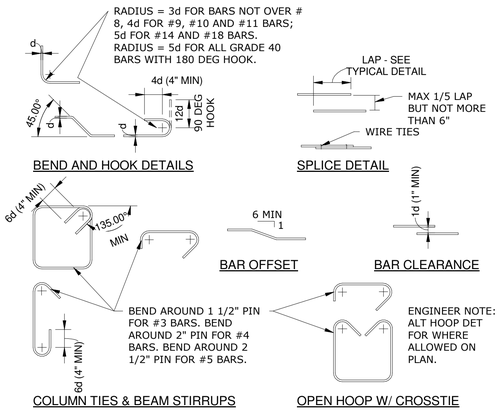
DRAWN BY: RLT APPROVED BY: RRB

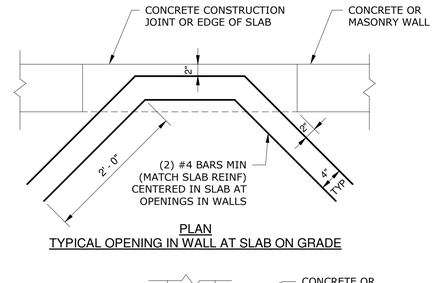
SHEET TITLE:
GENERAL
STRUCTURAL NOTES

SHEET NUMBER:
S1.1

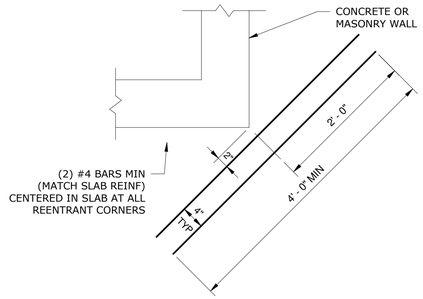




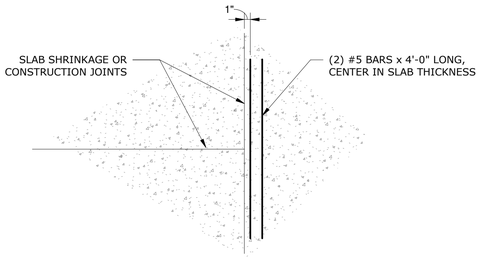




PLAN
TYPICAL OPENING IN WALL AT SLAB ON GRADE



PLAN
TYPICAL AT REENTRANT CORNER REINFORCING IN SLAB ON GRADE



PLAN
TYPICAL AT TERMINATED JOINTS REINFORCING IN SLAB ON GRADE

1 TYPICAL SLAB-ON-GRADE SECTION
NTS

CONCRETE	FINISH
FORMED SURFACES	
BEAM AND SLABS	POINT AND PATCH
EXTERIOR WALLS ABOVE GRADE	SACKED FINISH
EXTERIOR WALLS BELOW GRADE	ROUGH FORM FINISH
INTERIOR WALLS - EXPOSED	SACKED FINISH
INTERIOR WALLS - COVERED	POINT AND PATCH
UNFORMED SURFACES	
INTERIOR SLABS	TROWEL FINISH, HARDENED AND POLISHED
EXTERIOR SLABS ON GRADE	BROOM FINISH
EXTERIOR SLABS BELOW GRADE	FLOAT FINISH

2 SLAB JOINT DETAILS
NTS

CAST-IN-PLACE (NONPRESTRESSED) CONCRETE	CONCRETE COVER
CAST AGAINST & EXPOSED TO EARTH	3"
EXPOSED TO EARTH OR WEATHER No. 6 THROUGH No. 18 BARS No. 5 BAR, W31 OR D31 WIRE, AND SMALLER	 2" 1-1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, JOISTS No. 14 AND No. 18 BARS No. 11 BAR AND SMALLER BEAMS, COLUMNS PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS SHELLS, FOLDED PLATE MEMBERS No. 6 BAR AND LARGER No. 5 BAR, W31 OR D31 WIRE, AND SMALLER	 1-1/2" 3/4" 1-1/2" 3/4" 1/2"

3 TYP CONC REINF BAR DETAILS
NTS

BAR SIZE			CONCRETE	
IN-LB	SOFT METRIC	AREA (IN^2)	HORIZ & VERT	TOP
#3	#10	0.11	1'-7"	2'-1"
#4	#13	0.20	2'-1"	2'-9"
#5	#16	0.31	2'-7"	3'-5"
#6	#19	0.44	3'-1"	4'-1"
#7	#22	0.60	4'-6"	5'-11"
#8	#25	0.79	5'-2"	6'-9"
#9	#29	1.00	5'-10"	7'-7"
#10	#32	1.27	6'-7"	8'-6"

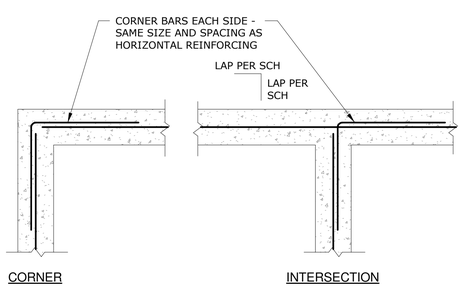
NOTES:
1. FOR REINFORCING WITH EPOXY COATING, MULTIPLY LAP LENGTH SHOWN BY 1.5.
2. CONCRETE LAP LENGTHS ARE CLASS "B" BASED ON F'C=4,000 PSI WITH COVER REQUIREMENTS INDICATED AND BAR SPACING AT LEAST TWO BAR DIAMETERS.
3. TOP BAR LAPS ARE HORIZONTAL LAPS WHERE MORE THAN 12" OF FRESH CONCRETE IS PLACED BELOW THE BARS.
4. TOP BAR LAP LENGTHS MAY BE USED AT ALL LOCATIONS IN CONCRETE AT THE CONTRACTOR'S DISCRETION.

8 TYPICAL REENTRANT CORNER REINFORCING IN SLAB-ON-GRADE
NTS

5 CONCRETE FINISH SCHEDULE
NTS

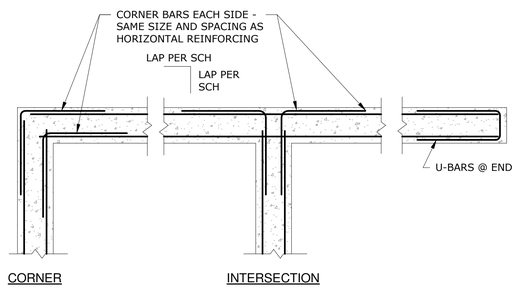
6 REINFORCING CONCRETE COVER
NTS

7 TYP. REINFORCING SPLICE LENGTHS
NTS



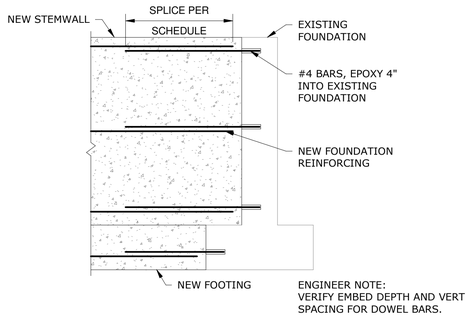
PLAN VIEW

9 CORNER AND INTERSECTION CONCRETE REINFORCING DETAIL
NTS



PLAN VIEW

10 CORNER AND INTERSECTION CONCRETE REINFORCING DETAIL
NTS



11 NEW TO EXISTING FOUNDATION WALL DETAIL
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SHEET ISSUE DATE:
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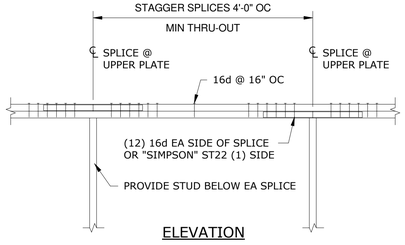
DRAWN BY: **RLT** APPROVED BY: **RRB**

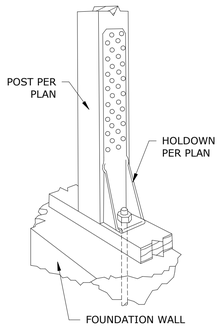
SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S1.2

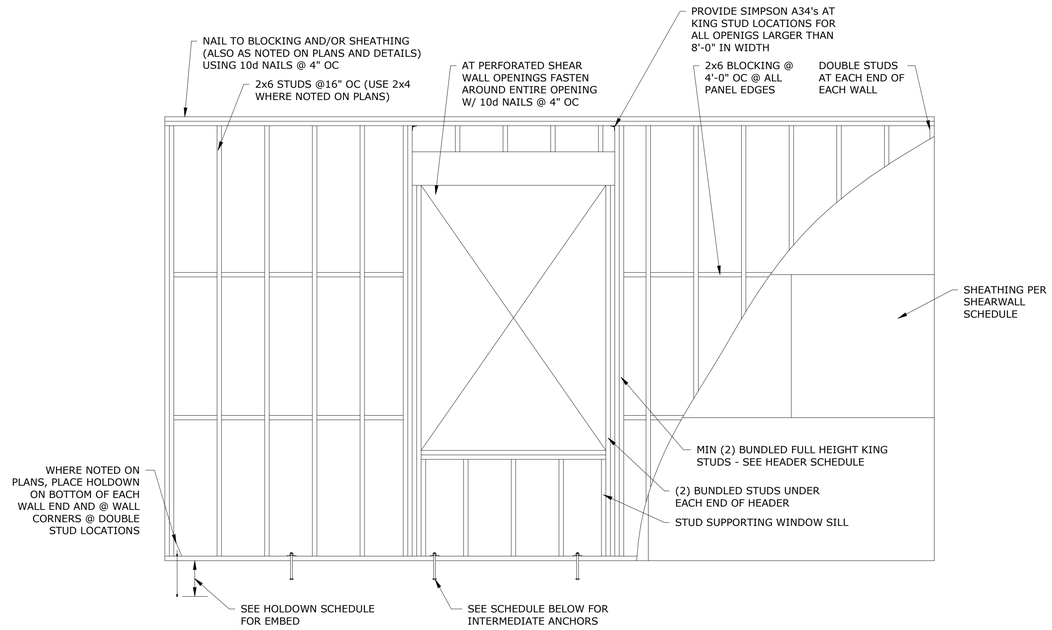


ELEVATION

1 TOP PLATE SPLICE DETAIL
NTS



2 HOLDOWN DETAIL
NTS

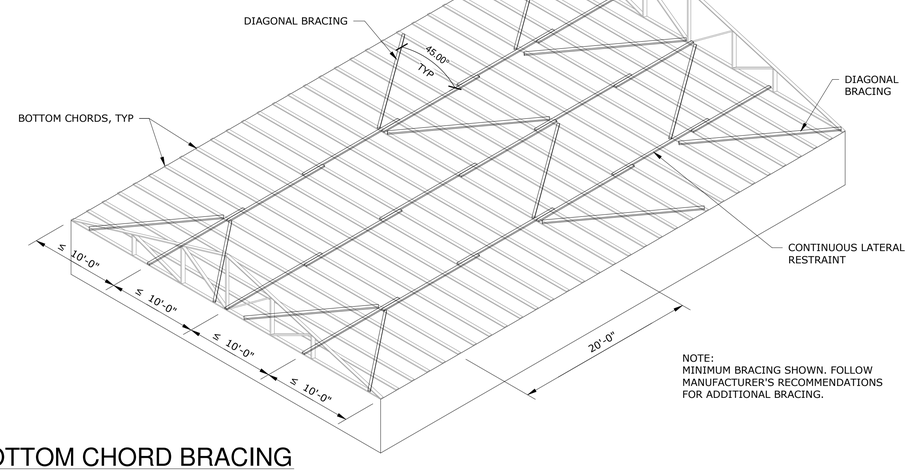


WOOD STUD SHEAR WALL SCHEDULE

MARK	GWB & APA RATED PLYWOOD/OSB SHEATHING	NAIL SIZE	EDGE NAIL SPACING	FIELD NAIL SPACING	ANCHORS	HOLDOWN
SW1	7/16" OSB	8d	6"	12"	1/2"ø ANCHOR BOLTS (7" EMBED) @ 4' OC AT INTERIOR WALL LOCATIONS. POST INSTALL 1/2" TITEN HD @ 4' OC, 6" EMBED MIN WHERE NOTED ON PLANS.	SEE SCHEDULE 11/S1.3

TDH 11260

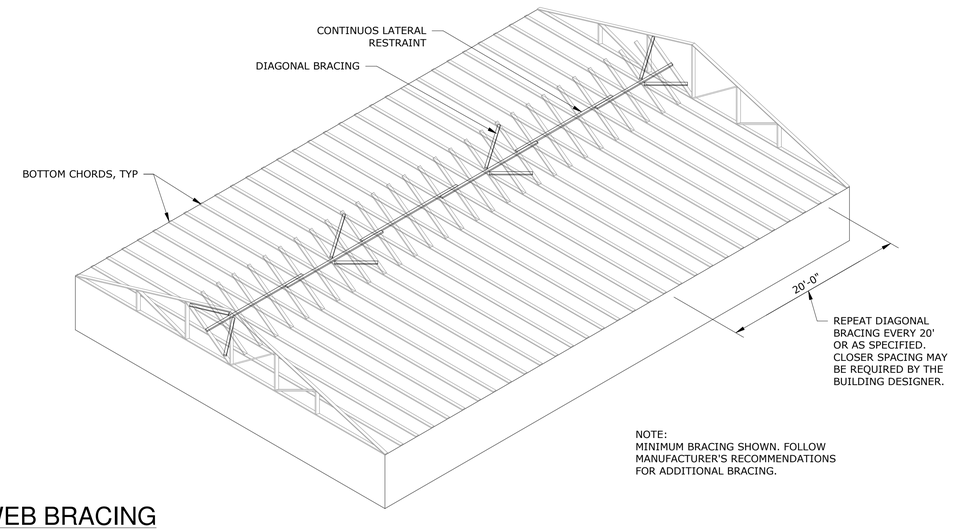
NOTES:
1. USE 4'x8' WOOD STRUCTURAL PANELS.
2. FIELD FASTENERS SHALL BE 12" OC AND STUD SPACING SHALL BE NO GREATER THAN 16" OC.
3. USE 3"x3"x0.229" PLATE WASHERS WITH ALL ANCHOR BOLTS (2021 IBC 2308.3.1).
5. ASSEMBLE SHEAR WALL ACCORDING TO DETAIL ABOVE.



NOTE:
MINIMUM BRACING SHOWN. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ADDITIONAL BRACING.

5 TRUSS BOTTOM CHORD BRACING
NTS

7 TYPICAL WOOD SHEARWALL DETAIL
NTS



NOTE:
MINIMUM BRACING SHOWN. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ADDITIONAL BRACING.

9 TRUSS WEB BRACING
NTS

HOLDOWN SCHEDULE

MARK	TYPE	HOLDOWN	ANCHOR BOLT	FRAMING REQUIRED	EMBED DEPTH
HD1	FOUNDATION	SIMPSON DTT2Z	1/2" TITAN HD	(1) 2x	6" MIN
HD2	FOUNDATION	SIMPSON HDU2-SDS2.5	SIMPSON PAB5	(1) 2x	6" MIN

TDH 11700

NOTE:
SEE DETAIL 2/S1.3

11 HOLDOWN SCHEDULE
NTS

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SHEET ISSUE DATE:
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DRAWN BY: RLT APPROVED BY: RRB

SHEET TITLE
TYPICAL DETAILS

SHEET NUMBER
S1.3

TABLE 2304.10.2 FASTENING SCHEDULE

DESCRIPTION OF BUILDING ELEMENT	NUMBER AND TYPE OF FASTENER[g]	SPACING & LOCATION
ROOF		
1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS, OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	4 - 8d box (2 1/2"x0.113"); OR 3 - 8d COMMON (2 1/2"x0.131"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS.	2 - 8d COMMON (2 1/2"x0.131") 2 - 3" x 0.131" NAILS 2 - 3" 14 GAGE STAPLES	EACH END, TOENAIL
	2 - 16d COMMON (3 1/2"x0.162") 3 - 3" x 0.131" NAILS 3 - 3" 14 GAGE STAPLES	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON (3 1/2"x0.162") @ 6" O.C. 3" x 0.131" NAILS @ 6" O.C. 3" 14 GAGE STAPLES @ 6" O.C.	FACE NAIL
2. CEILING JOISTS TO TOP PLATE	4 - 8d BOX (2 1/2"x0.113"): OR 3 - 8d COMMON (2 1/2"x0.131"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST, TOENAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST). (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	3 - 16d COMMON (3 1/2"x0.162"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
4. CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	PER TABLE 2308.7.3.1	FACE NAIL
5. COLLAR TIE TO RAFTER	3 - 10d COMMON (3"x0.148"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
6. RAFTER OR ROOF TRUSS TO TOP PLATE (SEE SECTION 2308.7.5, TABLE 2308.7.5)	3 - 10d COMMON (3"x0.148"); OR 3 - 16d BOX (3 1/2"x0.135"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	2 TOENAILS ON ONE SIDE AND 1 TOENAIL ON OPPOSITE SIDE OF RAFTER OR TRUSS[c]
7. ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2-INCH RIDGE BEAM	2 - 16d COMMON (3 1/2"x0.162"); OR 3 - 16d BOX (3 1/2"x0.135"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131 NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
	3 - 10d COMMON (3"x0.148"); OR 4 - 16d BOX (3 1/2"x0.135"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
WALL		
8. STUD TO STUD (NOT AT BRACED WALL PANELS)	16d COMMON (3 1/2"x0.162");	24" O.C. FACE NAIL
	10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	16" O.C. FACE NAIL
9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d COMMON (3 1/2"x0.162")	16" O.C. FACE NAIL
	16d BOX (3 1/2"x0.135"); OR 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	12" O.C. FACE NAIL
10. BUILT-UP HEADER (2" TO 2" HEADER)	16d COMMON (3 1/2"x0.162")	16" O.C. EACH EDGE, FACE NAIL
	16d BOX (3 1/2"x0.135")	12" O.C. EACH EDGE, FACE NAIL
11. CONTINUOUS HEADER TO STUD	4 - 8d COMMON (2 1/2"x0.131"); OR 4 - 10d BOX (3"x0.128"); OR 5 - 8d BOX (2 1/2"x0.113")	TOENAIL
12. TOP PLATE TO TOP PLATE	16d COMMON (3 1/2"x0.162")	16" O.C. FACE NAIL
	10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" O.C. FACE NAIL
13. TOP PLATE TO TOP PLATE, AT END JOINTS	8 - 16d COMMON (3 1/2"x0.162");OR 12 - 16d BOX (3 1/2"x0.135"); OR 12 - 10d BOX (3"x0.128"); OR 12 - 3" x 0.131" NAILS; OR 12 - 3" 14 GAGE STAPLES, 7/16" CROWN	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT A BRACED WALL PANELS)	16d COMMON (3 1/2"x0.162")	16" O.C. FACE NAIL
	16d BOX (3 1/2"x0.135"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" O.C. FACE NAIL
15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS	2 - 16d COMMON (3 1/2"x0.162");OR 3 - 16d BOX (3 1/2"x0.135"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	16" O.C. FACE NAIL

TABLE 2304.10.2-CONTINUED FASTENING SCHEDULE

DESCRIPTION OF BUILDING ELEMENT	NUMBER AND TYPE OF FASTENER[g]	SPACING & LOCATION
WALL		
16. STUD TO TOP OR BOTTOM PLATE	3 - 16d BOX (3 1/2"x0.135"); OR 4 - 8d COMMON (2 1/2"x0.131"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 8d BOX (2 1/2"x0.113"); OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
	2 - 16d COMMON (3 1/2"x0.162");OR 3 - 16d BOX (3 1/2"x0.135"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
17. TOP PLATED, LAPS AT CORNERS AND INTERSECTIONS	2 - 16d COMMON (3 1/2"x0.162"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
18. 1" BRACE TO EACH STUD AND PLATE	3 - 8d BOX (2 1/2"x0.113"); OR 2 - 8d COMMON (2 1/2"x0.131"); OR 2 - 10d BOX (3"x0.128"); OR 2 - 3" x 0.131" NAILS; OR 2 - 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
19. 1" X 6" SHEATHING TO EACH BEARING	3 - 8d BOX (2 1/2"x0.113"); OR 2 - 8d COMMON (2 1/2"x0.131"); OR 2 - 10d BOX (3"x0.128"); OR 2 - 1 3/4" 16 GAGE STAPLES, 1" CROWN	FACE NAIL
20. 1" X 8" AND WIDER SHEATHING TO EACH BEARING	3 - 8d COMMON (2 1/2"x0.131"); OR 3 - 8d BOX (2 1/2"x0.113"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 1 3/4" 16 GAGE STAPLES, 1" CROWN	FACE NAIL
	WIDER THAN 1"x8" 3 - 8d COMMON (2 1/2"x0.131"); OR 4 - 8d BOX (2 1/2"x0.113"); OR 3 - 10d BOX (3"x0.128"); OR 4 - 1 3/4" 16 GAGE STAPLES, 1" CROWN	
FLOOR		
21. JOIST TO SILL, TOP PLATE, OR GIRDER	4 - 8d BOX (2 1/2"x0.113"); OR 3 - 8d COMMON (2 1/2"x0.131"); OR FLOOR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
22. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW	8d BOX (2 1/2"x0.113")	4" O.C., TOENAIL
	8d COMMON (2 1/2"x0.131"); OR 10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	6" O.C., TOENAIL
23. 1" X 6" SUBFLOOR OR LESS TO EACH JOIST	3 - 8d BOX (2 1/2"x0.113"); OR 2 - 8d COMMON (2 1/2"x0.131"); OR 3 - 10d BOX (3"x0.128"); OR 2 - 1 3/4" 16 GAGE STAPLES, 1" CROWN	FACE NAIL
24. 2" SUBFLOOR TO JOIST OR GIRDER	3 - 16d BOX (3 1/2"x0.135"); OR 2 - 16d COMMON (3 1/2"x0.162")	BLIND AND FACE NAIL
25. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	3 - 16d BOX (3 1/2"x0.135"); OR 2 - 16d COMMON (3 1/2"x0.162")	EACH BEARING, FACE NAIL
26. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4"x0.192")	32" O.C., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
	10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	24" O.C., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
	AND: 2 - 20d COMMON (4"x0.192"); OR 3 - 10d BOX (3"x0.128"); OR 3 - 3" x 0.131" NAILS; OR 3 - 3" 14 GAGE STAPLES, 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
27.LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3 - 16d COMMON (3 1/2"x0.162");OR 4 - 16d BOX (3 1/2"x0.135"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST OR RAFTER, FACE NAIL
28. JOIST TO BAND JOIST OR RIM JOIST	3 - 16d COMMON (3 1/2"x0.162"); OR 4 - 10d BOX (3"x0.128"); OR 4 - 3" x 0.131" NAILS; OR 4 - 3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
29. BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS	2 - 8d COMMON (2 1/2"x0.131"); OR 2 - 10d BOX (3"x0.128"); OR 2 - 3" x 0.131" NAILS; OR 2 - 3" 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL

TABLE 2304.10.2-CONTINUED FASTENING SCHEDULE

DESCRIPTION OF BUILDING ELEMENT	NUMBER AND TYPE OF FASTENER[g]	SPACING & LOCATION	
WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING[a]			
		EDGES (INCHES)	INTERIOR SUPPORTS (INCHES)
30. 3/8" - 1/2"	6d COMMON OR DEFORMED (2"x0.113"); OR 2 3/8"x0.113" NAIL (SUBFLOOR AND WALL)	6	12
	8d COMMON OR DEFORMED (2 1/2"x0.113"x0.281" HEAD) (ROOF) OR RSRS-01 (2 3/8"x0.113") NAIL (ROOF)[d]	6[e]	6[e]
	1 3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR AND WALL)	4	8
	2 3/8"x0.113"x0.266" HEAD NAIL (ROOF)	3[f]	3[f]
	1 3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF)	3[f]	3[f]
31. 19/32" - 3/4"	8d COMMON (2 1/2"x0.131"); OR DEFORMED (2"x0.113") (SUBFLOOR AND WALL)	6	12
	8d COMMON OR DEFORMED (2 1/2"x0.131"x0.281" HEAD) (ROOF) OR RSRS-01 (2 3/8"x0.113") NAIL (ROOF)[d]	6[e]	6[e]
	2 3/8"x0.113"x0.266" HEAD NAIL; OR 2" 16 GAGE STAPLE, 7/16" CROWN	4	8
32. 7/8" - 1 1/4"	10d COMMON (3"x0.148"); OR DEFORMED (2 1/2"x0.131"x0.281" HEAD)	6	12
OTHER EXTERIOR WALL SHEATHING			
33. 1/2" FIBERBOARD SHEATHING[b]	1 1/2"x0.120", GALVANIZED ROOFING NAIL (7/16" HEAD DIAMETER); OR 1 1/4" 16 GAGE STAPLE WITH 7/16" OR 1" CROWN	3	6
34. 25/32" FIBERBOARD SHEATHING[b]	1 3/4"x0.120" GALVANIZED ROOFING NAIL (7/16" DIAMETER HEAD); OR 1 1/2" 16 GAGE STAPLE WITH 7/16" OR 1" CROWN	3	6
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
35. 3/4" AND LESS	8d COMMON (2 1/2"x0.131"); OR DEFORMED (2"x0.113"); OR DEFORMED (2"x0.120")	6	12
36. 7/8" - 1"	8d COMMON (2 1/2"x0.131"); OR DEFORMED (2 1/2"x0.131"); OR DEFORMED (2 1/2"x0.120")	6	12
37. 1 1/8" - 1 1/4"	10d COMMON (3"x0.148"); OR DEFORMED (2 1/2"x0.131"); OR DEFORMED (2 1/2"x0.120")	6	12
PANEL SIDING TO FRAMING			
38. 1/2" OR LESS	6d CORROSION-RESISTANT SIDING (1 7/8" x 0.106"); OR 6d CORROSION-RESISTING CASING (2" x 0.099")	6	12
39. 5/8"	8d CORROSION-RESISTANT SIDING (2 3/8" x 0.128"); OR 8d CORROSION-RESISTING CASING (2 1/2" x 0.113")	6	12
INTERIOR PANELING			
40. 1/4"	4d CASING (1 1/2"x0.080"); OR 4d FINISH (1 1/2"x0.072")	6	12
41. 3/8"	6d CASING (2"x0.099"); OR 6d FINISH (2"x0.092") (PANEL SUPPORTS AT 24 INCHES)	6	12

FOR SI: 1 INCH = 25.4 mm.

a. NAILS SPACED AT 6 INCHES AT INTERMEDIATE SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.

b. SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NONSTRUCTURAL APPLICATIONS. PANEL SUPPORTS AT 16 INCHES (20 INCHES IF STRENGTH AXIS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED).

c. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE AND THE CEILING JOIST IS FASTENED TO THE TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE RAFTER SHALL BE PERMITTED TO BE REDUCED BY ONE NAIL.

d. RSRS-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667.

e. TABULATED FASTENER REQUIREMENTS APPLY WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 140 MPH. FOR WOOD STRUCTURAL PANEL ROOF SHEATHING ATTACHED TO GABLE-END ROOF FRAMING AND TO INTERMEDIATE SUPPORTS WITHIN 48 INCHES OF ROOF EDGES AND RIDGES, NAILS SHALL BE SPACED AT 4 INCHES ON CENTER WHERE THE ULTIMATE DESIGN WITH SPEED IS GREATER THAN 130 MPH IN EXPOSURE B OR GREATER THAN 110 MPH IN EXPOSURE C. SPACING EXCEEDING 6" INCHES ON CENTER AT INTERMEDIATE SUPPORTS SHALL BE PERMITTED WHERE THE FASTENING IS DESIGNED PER THE AWC NDS.

f. FASTENING IS ONLY PERMITTED WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN OR EQUAL TO 110 MPH.

g. NAILS AND STAPLES ARE CARBON STEEL MEETING THE SPECIFICATIONS OF ASTM F1667. CONNECTIONS USING NAILS AND STAPLES OF OTHER MATERIALS, SUCH AS STAINLESS STEEL, SHALL BE DESIGNED BY ACCEPTABLE ENGINEERING PRACTICE OR APPROVED UNDER SECTION 104.11.

1 WOOD FASTENING SCHEDULE
NTS

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PROJECT NUMBER:
24048

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ROBERT R. BLAKE
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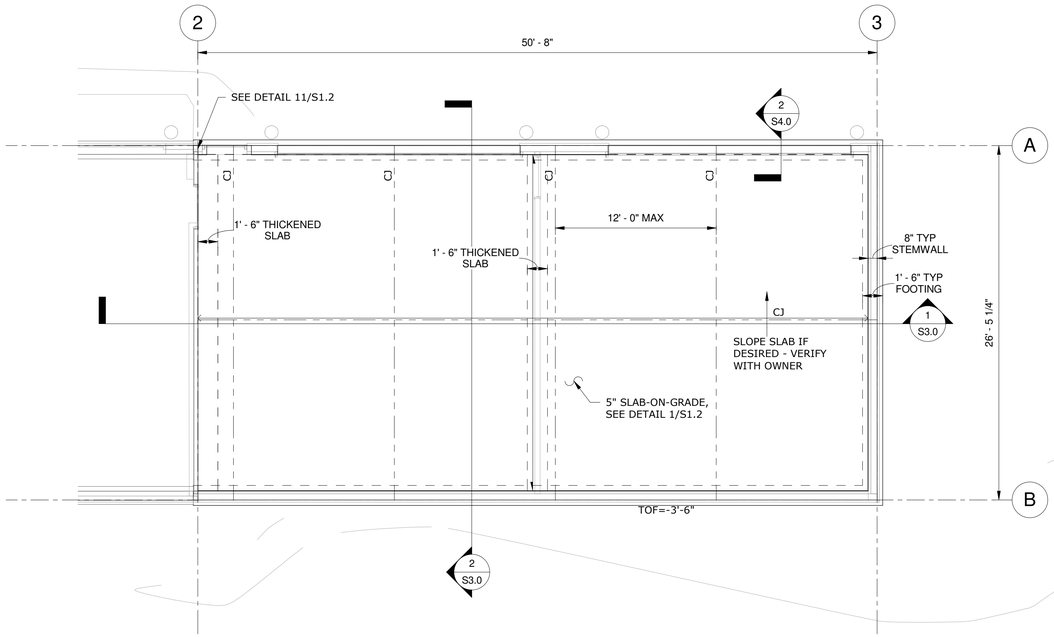
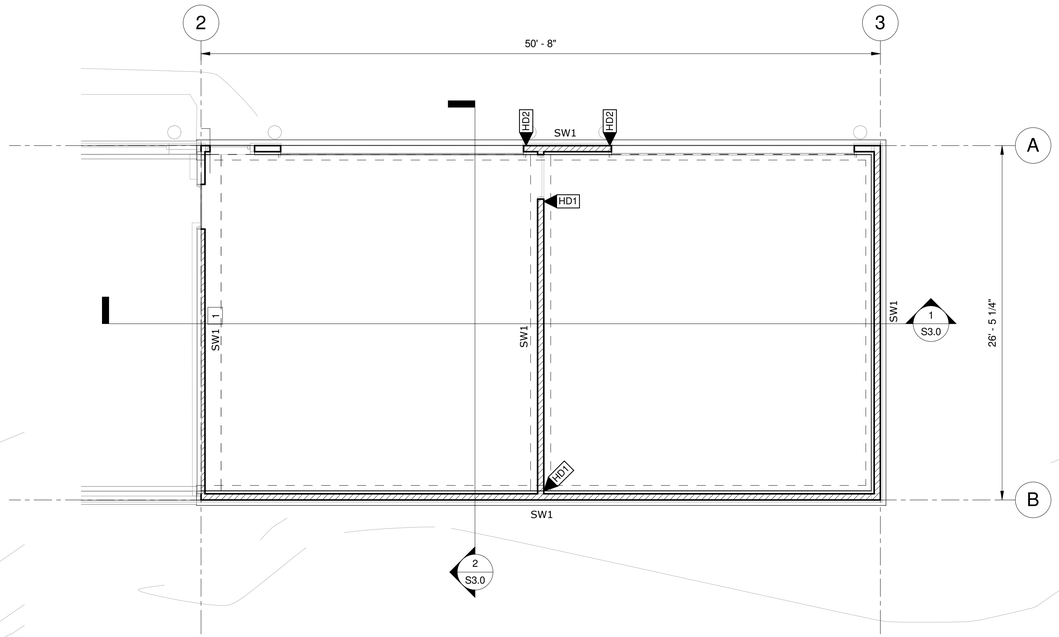
REVISIONS:

DATE	ISSUANCE

PHASE:
BUILDING PERMIT SET
SHEET ISSUE DATE:
01.31.2025
DRAWN BY: RLT APPROVED BY: RRB
SHEET TITLE
WOOD FASTENING SCHEDULE
SHEET NUMBER
S1.4



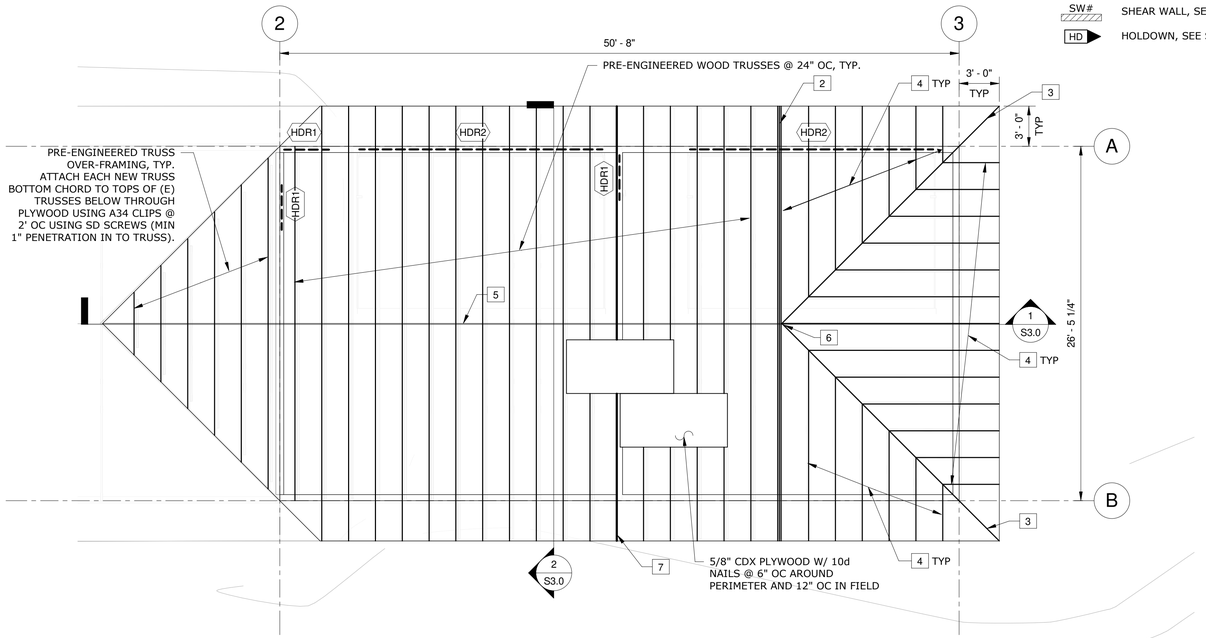
1 FOUNDATION PLAN
3/16" = 1'-0"



2 WALL FRAMING PLAN
3/16" = 1'-0"

LEGEND

CJ	SLAB CONTROL JOINT, SEE DETAIL 2/S1.2
HDRX	HEADER, SEE SCHEDULE 2/S5.0
SW#	SHEAR WALL, SEE SCHEDULE 7/S1.3
HD	HOLDOWN, SEE SCHEDULE 11/S1.3



3 ROOF FRAMING PLAN
3/16" = 1'-0"

FLAG NOTES

1. 2x4 FRAMING. FRAME WALL CONTINUOUSLY UP TO UNDERSIDE OF THE ROOF SHEATHING.
2. PRE-ENGINEERED GIRDER TRUSS
3. PRE-ENGINEERED HIP GIRDER TRUSS
4. MONO TRUSSES @ 2'-0" OC
5. RIDGE LINE
6. HIP GIRDER CONNECTION TO THE GIRDER TRUSS TO BE PROVIDED BY TRUSS MANUFACTURER
7. SHEAR STRUT TRUSS, PLACE DIRECTLY OVER SHEAR WALL BELOW AND MANUFACTURER TO DESIGN TRUSS TO TRANSFER 6,000 lb AXIAL LOAD FROM TRUSS TOP CHORD TO SHEAR WALL BELOW

GENERAL NOTES

1. ALL STUD WALLS SHALL BE 2x6 FRAMING (UNO) WITH STUDS @ 16" OC.

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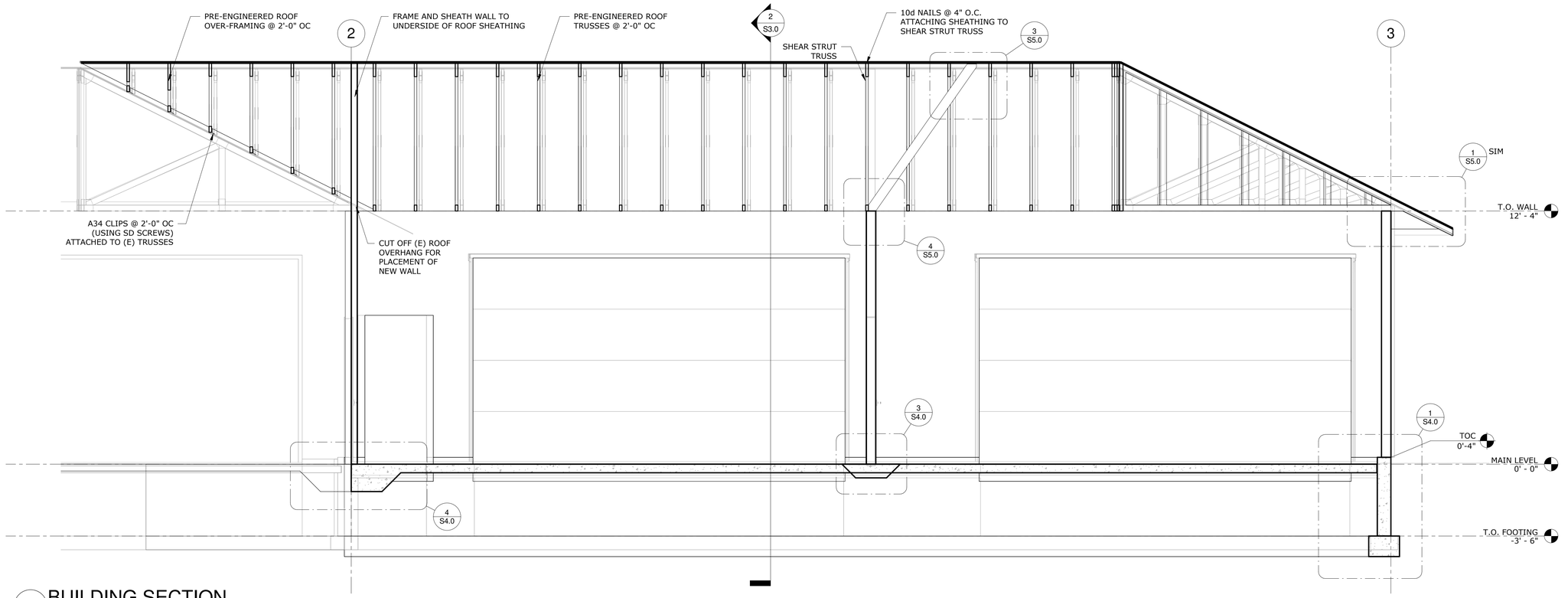
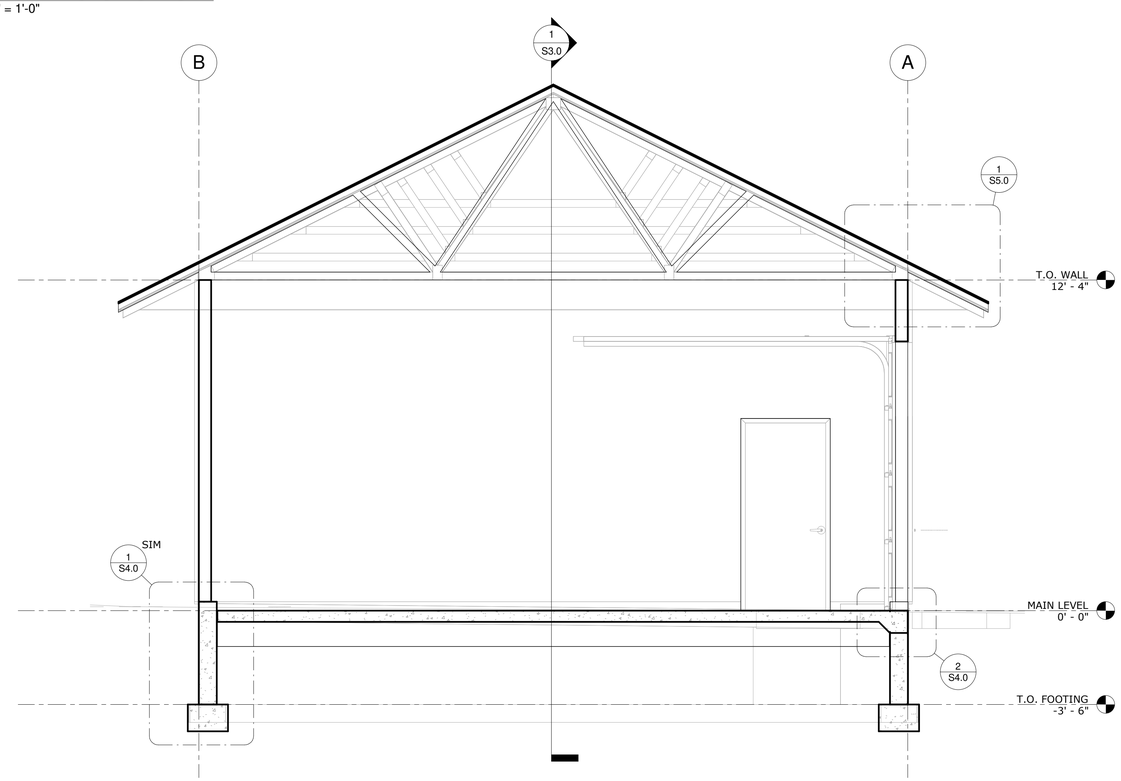
DRAWN BY: **RLT** APPROVED BY: **RRB**

SHEET TITLE
FOUNDATION &
ROOF PLANS

SHEET NUMBER
S2.0



1 BUILDING SECTION
3/8" = 1'-0"



2 BUILDING SECTION
3/8" = 1'-0"

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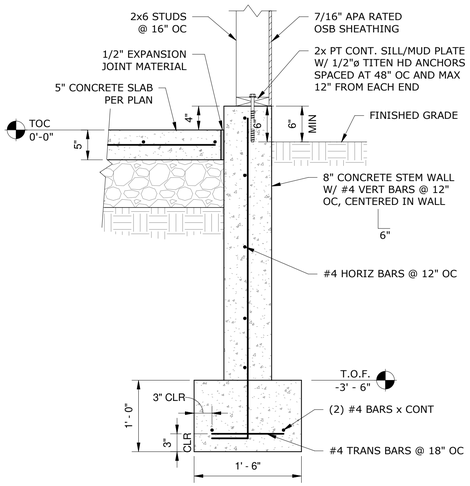
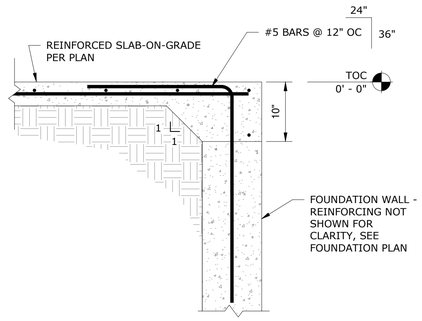
DRAWN BY: RLT APPROVED BY: RRB

SHEET TITLE
BUILDING SECTIONS

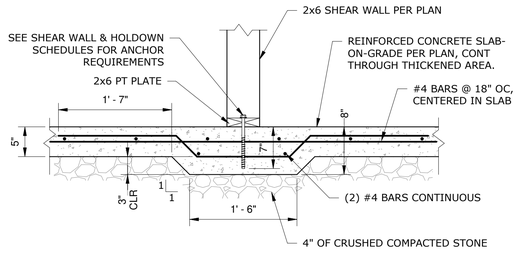
SHEET NUMBER
S3.0



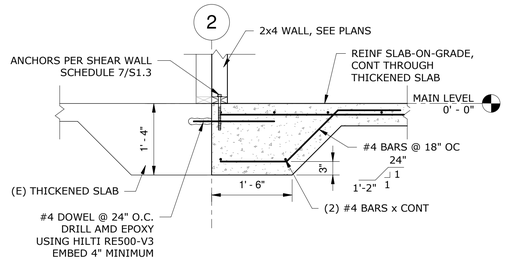
1 WALL FOOTING SECTION
1" = 1'-0"



2 SLAB EDGE AT OPENING SECTION
1" = 1'-0"



3 THICKENED SLAB SECTION
1" = 1'-0"



4 THICKENED EDGE SLAB DETAIL
3/4" = 1'-0"

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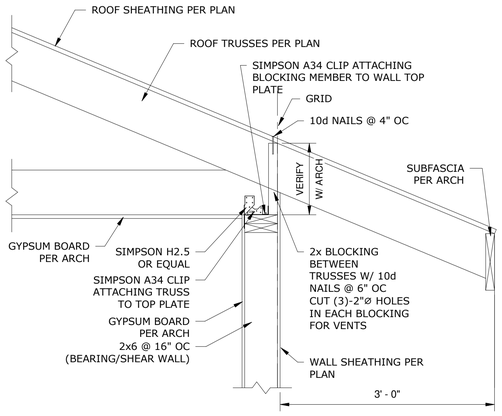
DRAWN BY: **RLT** APPROVED BY: **RRB**

SHEET TITLE
FOUNDATION
DETAILS

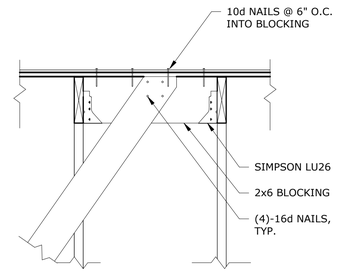
SHEET NUMBER
S4.0



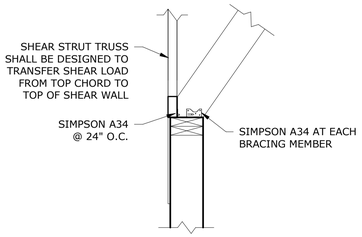
1 WOOD TRUSS CONNECTION DETAIL
NTS

BEAM/HEADER SCHEDULE					
MARK	MATERIAL	SIZE/MEMBER	NO. FULL HEIGHT BUNDLED KING STUDS	NO. OF BUNDLED BEARING STUDS (OR COLUMN) BELOW HEADER	NOTES
HDR1	DF	(3) 2x6	(2) 2x6	(1) 2x6	
HDR2	DF/DF 24F-V4	5 1/2 x 18 GLB	(4) 2x6	(2) 2x6	CONNECT HDR TO BEARING STUD USING SIMPSON ECC64

2 BEAM/HEADER SCHEDULE
NTS



3 BRACE DETAIL
1" = 1'-0"



4 BRACE DETAIL
1" = 1'-0"

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DRAWN BY: **RLT** APPROVED BY: **RRB**

SHEET TITLE
FRAMING DETAILS

SHEET NUMBER
S5.0

BASIC ELECTRICAL REQUIREMENTS

SUMMARY OF WORK:
FURNISH ALL LABOR AND MATERIALS AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE AND OPERATING ELECTRICAL SYSTEMS SUBJECT TO THE CONDITIONS OF THE CONTRACT. PROVIDE SATISFACTORY OPERATION OF ALL EQUIPMENT AND CONTROLS TO THE ARCHITECT/ENGINEER UPON REQUEST.

EXAMINATION OF SITE:
VISIT THE SITE BEFORE SUBMITTING BID AS NO EXTRAS WILL BE ALLOWED FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

COORDINATION:
COORDINATE AND ORDER THE PROGRESS OF WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRADES. SCHEDULE PLAN WORK SO THAT THE DURATION OF THE INTERRUPTIONS ARE KEPT TO A MINIMUM. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND BECAUSE OF THE SMALL SCALE, IT IS NOT POSSIBLE TO INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. VERIFY ALL SPACE REQUIREMENTS, COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.

VERIFY ALL EQUIPMENT IS READY FOR ELECTRICAL CONNECTIONS. COORDINATE ALL ELECTRICAL CONNECTIONS WITH THE START-UP OF THE EQUIPMENT.

THE CONTRACTOR SHALL PLAN HIS WORK TO PROCEED WITH MINIMUM INTERFERENCE WITH OTHER TRADES AND IT SHALL BE HIS RESPONSIBILITY TO INFORM THE GENERAL CONTRACTOR OF ALL OPENINGS REQUIRED IN THE BUILDING STRUCTURE FOR INSTALLATION OF WORK, AND TO PROVIDE SLEEVES, AS REQUIRED.

QUALITY ASSURANCE:
PERFORM WORK IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE. PERFORM WORK IN ACCCORDANCE WITH ALL APPLICABLE STATE AND LOCAL STANDARDS. THE QUALITY APPEARANCE OF THE FINISHED WORK SHALL BE OF EQUAL IMPORTANCE WITH ITS ELECTRICAL EFFICIENCY. THE ARCHITECT/ENGINEER MAY REJECT WORK IF WORKMANSHIP AND APPEARANCE ARE NOT SATISFACTORY. INSTALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS, UNLESS SPECIFICALLY INDICATED OTHERWISE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

REGULATORY AND CODE REQUIREMENTS:
APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THE DIVISION OF WORK. COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AND ORDINANCES. COMPLY WITH REQUIREMENTS OF THE UTILITY COMPANIES. IN THE CASE OF DIFFERENCES BETWEEN THESE REQUIREMENTS AND ORDINANCES, THE MOST STRINGENT SHALL GOVERN. CALL FOR INSPECTIONS REQUIRED BY LOCAL BUILDING INSPECTION AUTHORITY.

WORK SHALL MEET THE REQUIREMENTS OF THE PLANS AND SHALL MEET NO LESS THAN THE MINIMUM REQUIREMENTS AND LATEST CODES AND STANDARDS OF THE FOLLOWING: ANSI, NEC, NEMA, NFPA, OSHA, UL, UBC, LOCAL FIRE MARSHAL, AND SERVING UTILITIES.

PLANS AND SPECIFICATIONS GO HAND IN HAND. WHAT IS REQUIRED IN ONE IS REQUIRED IN BOTH. WHERE CONFLICTS BETWEEN THESE SPECIFICATIONS AND PLANS EXIST, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

RESPONSIBILITY:
BE RESPONSIBLE FOR THE INSTALLATION OF A SATISFACTORY AND COMPLETE SYSTEM IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS. PROVIDE, AT NO EXTRA COST, ALL INCIDENTAL ITEMS REQUIRED FOR COMPLETION OF THE WORK, EVEN THOUGH THEY ARE NOT SPECIFICALLY MENTIONED OR INDICATED ON THE DRAWINGS.

AT ALL TIMES DURING THE PERFORMANCE OF THE CONTRACTOR, PROPERLY PROTECT WORK FROM DAMAGE AND PROTECT THE OWNER'S PROPERTY FROM INJURY OR LOSS. MAKE GOOD ANY DAMAGE, INJURY, OR LOSS, EXCEPT SUCH AS MAY BE DIRECTLY DUE TO THE ERRORS IN THE PROPOSAL DOCUMENTS OR CAUSED BY REPRESENTATIVES OF THE OWNER. ADEQUATELY PROTECT ADJACENT PROPERTY AS PROVIDED BY LAW AND THE DOCUMENTS. PROVIDE AND MAINTAIN PASSAGEWAYS, GUARD FENCES, LIGHTS, AND OTHER FACILITIES AS REQUIRED FOR PROTECTION.

WORKMANSHIP:
WORK UNDER THIS CONTRACT SHALL BE PERFORMED BY WORKMEN SKILLED IN THE PARTICULAR TRADE, INCLUDING WORK NECESSARY TO PROPERLY COMPLETE THE INSTALLATION IN A WORKMANLIKE MANNER TO PRESENT A NEAT AND FINISHED APPEARANCE.

SHOP DRAWINGS:
SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT SHOWING ANY CHANGES REQUIRED IN DISTRIBUTION BOARDS, PANELBOARDS, LIGHT FIXTURES, ELECTRICAL WIRING, SPACE ALLOCATION, ETC.

PROVIDE PRODUCT DATA WITH MANUFACTURER'S CATALOG INFORMATION SHOWING RATINGS, DIMENSIONS, CONFIGURATIONS AND CONSTRUCTION. ALSO PROVIDE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PROJECT RECORD DRAWINGS:
AT COMPLETION OF WORK, DELIVER COMPLETED PROJECT RECORD DOCUMENTS MARKED WITH FIELD CHANGES TO ARCHITECT/ENGINEER.

OPERATION AND MAINTENANCE DATA:
AT THE COMPLETION OF WORK, SUBMIT (3) TYPED AND HARD-BOUND COPIES OF AN OPERATING AND MAINTENANCE MANUAL TO THE ARCHITECT/ENGINEER FOR APPROVAL BEFORE SCHEDULING ANY SYSTEM DEMONSTRATION FOR THE OWNER.

WARRANTIES:
PROVIDE A WRITTEN WARRANTY TO THE OWNER COVERING THE ENTIRE ELECTRICAL WORK TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE.

CLEAN-UP AND CLOSE-OUT:
KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH CAUSED BY THIS CONTRACTOR'S WORK OR HIS EMPLOYEES.

UPON COMPLETION OF WORK, REMOVE MATERIALS, SCRAPS AND DEBRIS RELATIVE TO THIS CONTRACTOR'S WORK AND LEAVE THE PREMISES, INCLUDING CRAWL SPACES AND CHASES, IN CLEAN AND ORDERLY CONDITION.

CLEAN EXPOSED SURFACES OF LIGHT FIXTURES, DISTRIBUTION BOARDS, PANELS AND OTHER EXPOSED ITEMS OF GREASE, DIRT OR OTHER FOREIGN MATERIAL. REMOVE RUBBISH AND DEBRIS RESULTING FROM THE OPERATIONS OF THIS CONTRACTOR AND LEAVE SPACES CLEAN AND READY FOR USE.

BASIC MATERIALS AND METHODS

MOTORS AND STARTERS:
ALL MOTORS, STARTERS AND OTHER ELECTRICAL CONTROL EQUIPMENT SHALL BE LISTED PER THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC).

COREDRILLING AND SAWCUTTING:
PROVIDE ALL COREDRILLING AND SAWCUTTING REQUIRED BY THE WORK IN THIS DIVISION. FIRE AND SMOKE SEAL ALL PENETRATIONS TO MAINTAIN RATINGS OF ALL AREA SEPARATIONS. PATCH AND PREPARE SURFACE TO RECEIVE NEW FINISH WHERE SPECIFIED BY THE ARCHITECT. FINISH SURFACE TO MATCH SURROUNDING SURFACE FINISHES, AS SPECIFIED.

SEALING:
MAINTAIN ALL CEILING, FLOOR AND WALL PROTECTION RATINGS FOR FIRE AND SMOKE. SEAL ALL CONDUIT AND ENCLOSURE PENETRATIONS TO COMPLY WITH UL ASSEMBLY AND BUILDING CODE REQUIREMENTS. ALL SEALANTS AND CONSTRUCTIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO APPLICATION. ALL OPENINGS SHALL BE SEALED DAILY.

RACEWAYS:
RACEWAYS SHALL BE CONCEALED AND APPROVED FOR USE AND LOCATION.
DRY LOCATIONS – GRC, IMC, EMT.
FLEXIBLE CONDUIT – GALVANIZED STEEL, LIQUIDTIGHT.

JUNCTION AND PULL BOXES: SIZE PER THE NEC.
DRY LOCATIONS – STEEL WITH COVERS.
WET LOCATIONS – CAST ALUMINUM.

COUPLINGS AND CONNECTORS:
GRC – THREADED
IMC – THREADED
EMT – COMPRESSION
PVC – CEMENT
JOINT TYPE. INDENTER TYPE CONNECTORS PROHIBITED.

WIRING DEVICES AND PLATES:

DUPLEX OUTLETS – PASS & SEYMOUR CR SERIES, 120VAC, 15 & 20 AMP
USB OUTLETS – PASS & SEYMOUR TR15USBAC6 120VAC, 15AMP
GFCI OUTLETS – PASS & SEYMOUR – CR SERIES, 120VAC, 15 & 20 AMP AC
SWITCHES – PASS & SEYMOUR – CR SERIES, 120VAC, 15 & 20 AMP

DEVICE COLOR – WHITE (VERIFY WITH ARCHITECT)
PLATES – WHITE NON-BREAKABLE NYLON (VERIFY WITH ARCHITECT)

ALL RATINGS SHALL MATCH BRANCH CIRCUIT AND LOAD CHARACTERISTICS.
ALL RECPT. IN KITCHEN TO BE GFI PROTECTED PER NEC.

WIRE:
COPPER ONLY WITH THHN/THWN TYPE INSULATION IN RACEWAY. NO ALUMINUM CONDUCTORS ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER. UL LISTED LUGS AND CONNECTORS, NEC APPROVED COLOR CODING. ALL WIRE SHALL HAVE AN INSULATION VOLTAGE RATING OF 600 VOLTS, AND AN INSULATION TEMPERATURE RATING OF 75 DEGREES C.

WIRE COLORS: BLACK, RED, AND WHITE FOR CIRCUITS AT 120/240V, SINGLE PHASE.

SUPPORTS AND HANGERS:
SUPPORTS AND HANGERS MUST BE UL LISTED AND APPROVED BY LOCAL INSPECTORS.

ANCHORS:
HOLLOW MASONRY – TOGGLE BOLT.
SOLID MASONRY – EXPANSION BOLT.
METAL – MACHINE SCREWS, BOLTS, WELDING.
WOOD – WOOD SCREWS.

GROUNDING:
IN STRICT ACCORDANCE WITH THE NEC AND UTILITY COMPANY REGULATIONS. PROVIDE COPPER EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS.

PERMANENTLY ATTACH EQUIPMENT AND GROUNDING CONDUCTORS PRIOR TO ENERGIZING EQUIPMENT.

NAMEPLATES:
PROVIDE ON ALL PANELS, DISCONNECTS AND EQUIPMENT. NAMEPLATES SHALL HAVE 3/16" HIGH LETTERS ENGRAVED WITH CONTRASTING COLOR FILL. DEVICE PLATE ENGRAVING SHALL BE 1/8" HIGH LETTERS WITH CONTRASTING COLOR FILL.

PANELBOARDS:
MANUFACTURER, STYLE, ETC. EXISTING. COMPLETE WITH TYPEWRITTEN DIRECTORY, CIRCUIT BREAKERS (MULTIPLE-POLE INTERNAL TRIP), DEAD FRONT, LOCKING DOORS, UL LISTING, ETC. PROVIDE NEW TYPEWRITTEN PANEL DIRECTORIES IN ALL PANELS AFFECTED BY THE RENOVATION SCOPE OF WORK.

LIGHT FIXTURES:
PROVIDE NEW LIGHT FIXTURES AS SCHEDULED COMPLETE WITH TRIMS, LAMPS, FUSES, GASKETS, BALLASTS, OPTIONS, ACCESSORIES, ETC. AS SCHEDULED.

INSTALL SUSPENDED LIGHT FIXTURES USING CHAIN HANGERS WITH SUFFICIENT LENGTH REQUIRED TO SUSPEND THE FIXTURE AT HEIGHT SPECIFIED.

SUPPORT LIGHT FIXTURES INDEPENDENT OF CEILING FRAMING. CONNECT LIGHT FIXTURES TO BRANCH CIRCUITS, AS INDICATED. INSTALL SPECIFIED LAMPS IN EACH FIXTURE.

MECHANICAL EQUIPMENT:
SEE PLANS FOR CONNECTION OF MECHANICAL EQUIPMENT. PROVIDE FLEXIBLE CONDUIT (WITH EQUIPMENT GROUND CONDUCTOR) CONNECTION AT ALL MOTORS.

ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTION WITH MECHANICAL CONTRACTOR. ALSO, ELECTRICAL CONTRACTOR SHALL OBTAIN MECHANICAL SUBMITTALS TO COORDINATE DISCONNECT MEANS, SPECIFICATIONS, AND VOLTAGE REQUIREMENTS PRIOR TO ROUGH-IN. VERIFY REQUIREMENTS FOR EACH UNIT WHEN DELIVERED TO SITE. IF DISCREPANCIES OCCUR, NOTIFY THE ELECTRICAL ENGINEER AND ARCHITECT IMMEDIATELY.

ELECTRICAL CONTRACTOR IS TO REVIEW AND COORDINATE WITH MECHANICAL AND PLUMBING DRAWINGS, INCLUDING ALL EQUIPMENT SCHEDULES TO ENSURE THAT ALL CONNECTIONS FOR THEIR EQUIPMENT ARE PROVIDED. DEVICE LOCATIONS ARE TO BE COORDINATED WITH THE APPROPRIATE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK OR ELECTRICAL ROUGH-INS.

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH MECHANICAL CONTRACTOR TO PROVIDE 120V POWER, IF NEEDED, TO ACCOMMODATE ANY LOW VOLTAGE REQUIREMENTS THAT MECHANICAL EQUIPMENT MAY HAVE.

INSTALL DISCONNECT SWITCHES, CONTROLLERS, ETC, TO COMPLETE ALL EQUIPMENT WIRING REQUIREMENTS.

DRAWINGS AND MEASUREMENTS:
CONTRACT DRAWINGS FOR ELECTRICAL WORK ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, CONDUITS AND APPROXIMATE SIZES AND LOCATIONS OF EQUIPMENT AND OUTLETS. ELECTRICAL TRADES SHALL FOLLOW THESE DRAWINGS IN LAYING OUT THEIR WORK, CONSULT GENERAL CONSTRUCTION DRAWINGS TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK, AND SHALL VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED. COORDINATE WORK WITH OTHER TRADES AS JOB CONDITIONS REASONABLY REQUIRE.

WHERE JOB CONDITIONS REQUIRE REASONABLE CHANGES IN INDICATED LOCATIONS AND ARRANGEMENT, MAKE SUCH CHANGES WITHOUT EXTRA COST TO OWNER.

THE DRAWINGS ARE NOT INTENDED TO BE SCALED FOR ROUGH-IN MEASUREMENTS AND ARE NOT TO SERVE AS SHOP DRAWINGS.

ALL RACEWAYS SHALL BE CONCEALED IN FINISHED SPACES UNLESS NOTED OTHERWISE. SURFACE-MOUNTED RACEWAYS (WIREMOLD) SHALL BE LIMITED IN USE AND ONLY PERMITTED WHERE PRIOR APPROVAL IS OBTAINED FROM THE ARCHITECT. RACEWAYS IN NON-FINISHED SPACES, SUCH AS MECHANICAL ROOMS AND CRAWL SPACES, SHALL BE PERMITTED TO BE EXPOSED. ALL EXPOSED RACEWAYS SHALL BE ROUTED PLUMB AND SQUARE TO BUILDING SURFACES. RACEWAYS IN NON-FINISHED SPACES SHALL BE INSTALLED SUCH THAT MAJOR RELOCATION IS NOT REQUIRED WHEN CEILINGS AND WALLS ARE INSTALLED IN THE FUTURE.

OWNER SUPPLIED EQUIPMENT:
COORDINATE ELECTRICAL CONNECTIONS FOR OWNER-SUPPLIED EQUIPMENT WITH OWNER, MANUFACTURER DATA, AND EQUIPMENT NAMEPLATE INFORMATION.

SUBSTITUTIONS:
ALL SUBSTITUTIONS TO BE APPROVED BY OWNER, ARCHITECT AND ENGINEER.

INSTALLATION:
INSTALL WORK IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.

RACEWAY ROUTING, WHEN SHOWN, IS IN APPROXIMATE LOCATIONS. FIELD COORDINATE ROUTING.

CUT CONDUIT SQUARE USING SAW OR PIPE CUTTER; DEBURR CUT ENDS.

INSTALL SUITABLE PULLSTRING OR CORD IN EACH EMPTY RACEWAY. INSTALL SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.

INSTALL FITTINGS TO ACCOMMODATE EXPANSION AND DEFLECTION WHERE RACEWAY CROSSES CONTROL AND EXPANSION JOINTS.

ELECTRICAL LEGEND

Symbol	Description
(panel symbol)	PANEL
(arc)	BRANCH CIRCUIT CONCEALED IN WALL OR CEILING
(arrow)	HOME RUN TO PANEL. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS
(hashmarks)	NUMBER OF HASHMARKS INDICATES NUMBER OF CONDUCTORS. NO HASHMARKS INDICATES TWO CONDUCTORS.
(circle)	LED LIGHT FIXTURE (WALL OR CEILING MOUNT)
(rectangle)	LED LIGHT FIXTURE (SURFACE)
(receptacle)	DUPLEX CONVENIENCE RECEPTACLE – GROUNDED TYPE
(receptacle)	220v RECEPTACLE
(outlet)	SPECIAL EQUIPMENT OUTLET AS NOTED
S	SWITCH
S_{FS}	SWITCH-FUSE STATT
(hexagon)	NOTE DESIGNATION
(sensor)	OCCUPANCY SENSOR-WATT STOPPER DT-355

ELECTRICAL ABBREVIATIONS LIST

AMP	AMPHERE
AC	ALTERNATING CURRENT
AFC	ABOVE FINISHED COUNTERTOP
AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
CD	CIRCUIT BREAKER
C	CONDUIT
CLG	CEILING
IT	DATA COMMUNICATIONS ROOM
DIA	DIAMETER
DISC	DISCONNECT
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
EX	EXISTING
EG	EQUIPMENT GROUND
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
GC	GENERAL CONTRACTOR
GRD	GROUND
GFI	GROUND FAULT INTERRUPTING
IG	ISOLATED GROUND
KVA	KILOVOLT AMPHERE
KW	KILOWATT
LAN	LOCAL AREA NETWORK
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MM	MILLIMETERS
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL
NTS	NOT TO SCALE
P	POLE
PH	PHASE
PNL	PANELBOARD
PHN	PHONE
PR	PRINTER
PRI	PRIMARY
RECPT	RECEPTACLE
RM	
SCHED	SCHEDULE
SEC	SECONDARY
SHT	SHEET
SPD	SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATIONS
SWBD	SWITCHBOARD
TVSS	TRANSIENT VOLTAGE SURE SUPRESSOR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V/D	VOICE/DATA
V	VOLT. VOLTAGE
VA	VOLT AMPHERES
VC	VIDEO CAMERA
WP	WATER PROOF
WS	WR WATER RESISTANT
WS	WORK STATION
XFMR	TRANSFORMER
#	NUMBER

PANEL SCHEDULE

PANEL: B — MAIN: LUGS ONLY — LOCATION: BAY #105
AMPS: 100 — FEED: TOP — DIMENSION: –
VOLTAGE: 120/240 — ISC: 10,000 — MOUNTING: SURFACE
WIRES: 3 — PHASE: 1 — TYPE: SQUARE-D QO LOAD CENTER

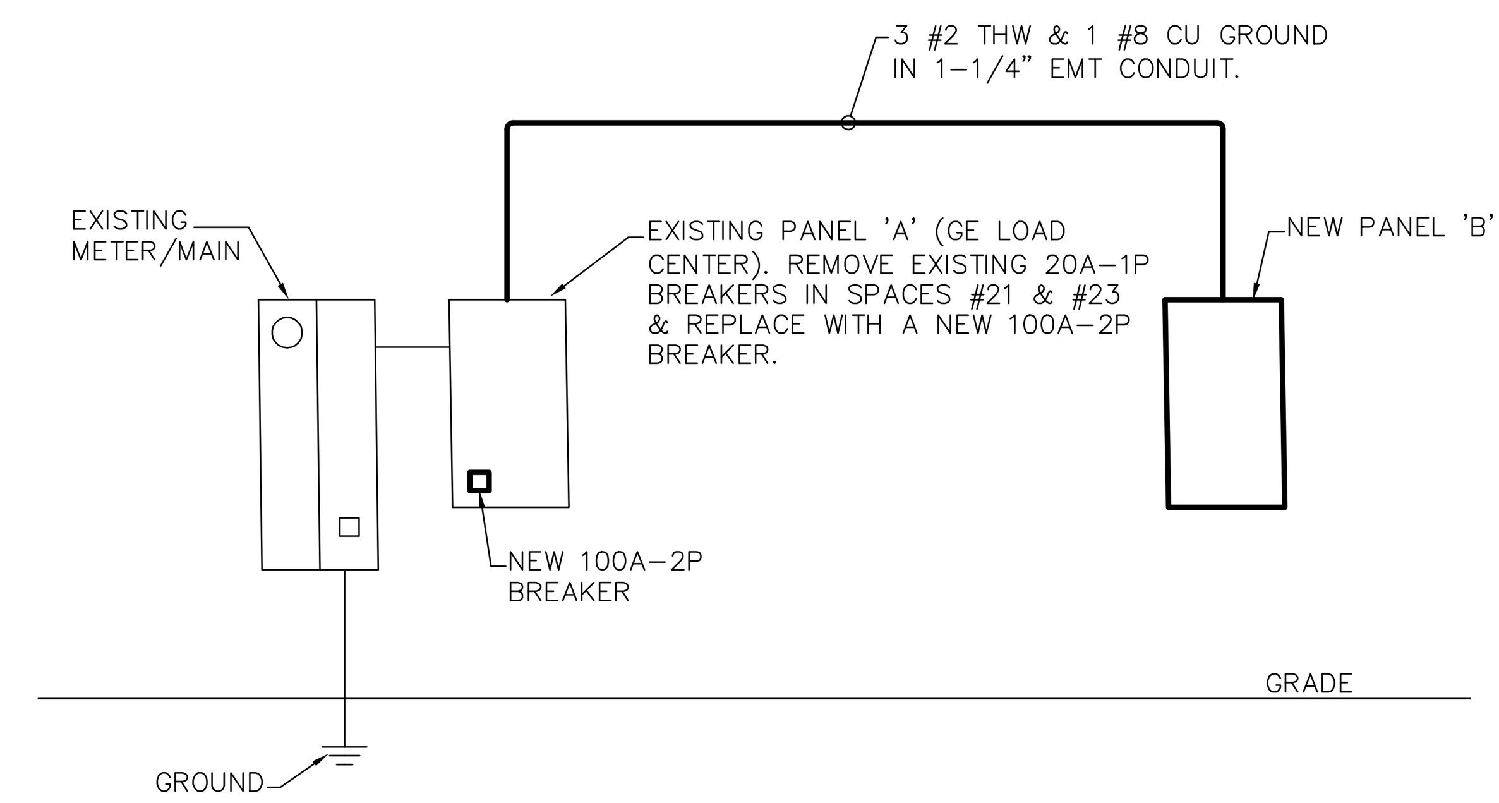
CIRCUIT	PH	LOAD WATT	AMP TRIP	CKT NO.	LOAD A	LOAD B	CKT NO.	AMP TRIP	LOAD WATT	PH	CIRCUIT
LIGHTS	A	366	20	1	906		2	20	540	A	CO-BAY #105 & #106
SPARE	B	0	20	3		540	4	20	540	B	CO-BAY #105 & #106
SPARE	A	0	20	5	360		6	20	360	A	SPACE
SPARE	B	0	20	7		0	8	20	0	B	SPACE
SPARE	A	0	20	9	0		10	20	0	A	SPACE
SPACE	B	0	20	11		0	12	20	0	B	SPACE
SPACE	A	0	20	13	0		14	20	0	A	SPACE
SPACE	B	0	20	15		0	16	20	0	B	SPACE
240V 30A RECPT. -BAY #105	A	2400	30	17	2400		18	20	0	A	SPACE
	B	2400		19		2400	20	20	0	B	SPACE
240V 30A RECPT. -BAY #106	A	2400	30	21	3480		22	20	1080	A	OVERHEAD DOOR BAY #105
	B	2400		23		3480	24	20	1080	B	OVERHEAD DOOR BAY #106

CONNECTED LOAD PER PHASE-WATTS A 7146 B 6420
DEMAND FACTOR 100% ALL
DEMAND LOAD PER PHASE-WATTS A 7146 B 6420
DEMAND LOAD PER PHASE-AMPS A 60 B 54
WIRE SIZE 3 #2 THW CONDUIT SIZE 1-1/4" FEED FROM PANEL 'A'
NOTES:

SCHEDULE OF MOTOR STARTERS AND CONTROL EQUIPMENT

UNIT	MOTOR LOAD	MOTOR PH	MOTOR VOLTS	STARTER MFR.	STARTER CATALOG NO.	STARTER SIZE	STARTER POLES	O.L. HTRS	DEVICES SWT	DEVICES PILOT	NOTES
OVERHEAD DOOR #105	1/2 HP	1	120	–	–	–	–	–	–	–	(1)
OVERHEAD DOOR #106	1/2 HP	1	120	–	–	–	–	–	–	–	(1)

(1) PROVIDE A SWITCH WITH PILOT ADJACENT TO DOOR MOTOR, FUSE @ 20 AMPS.



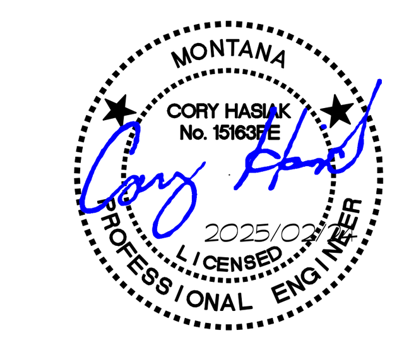
REVISED PANEL RISER DIAGRAM
NO SCALE

BSPARK ARCHITECTURE
410 Central Ave, Suite 506, Great Falls, MT 59401
t. 406.453.0001 f. 406.760.1788
www.bsparkarch.com

REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD, GREAT FALLS, MT, 59405

PROJECT NUMBER:
24048



REVISIONS:
DATE ISSUANCE

PHASE:
SD

SHEET ISSUE DATE:
02.24.2024

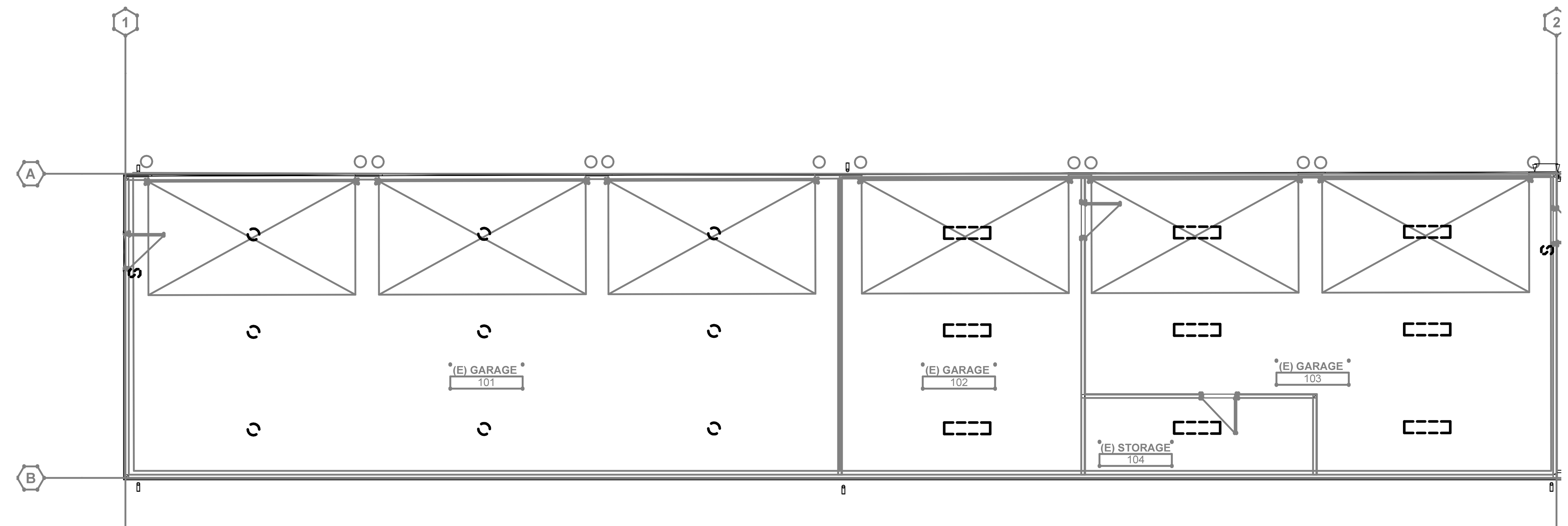
DRAWN BY: DR APPROVED BY: CC

SHEET TITLE
ELECTRICAL BASIC REQUIREMENTS & LEGEND

SHEET NUMBER
E.100

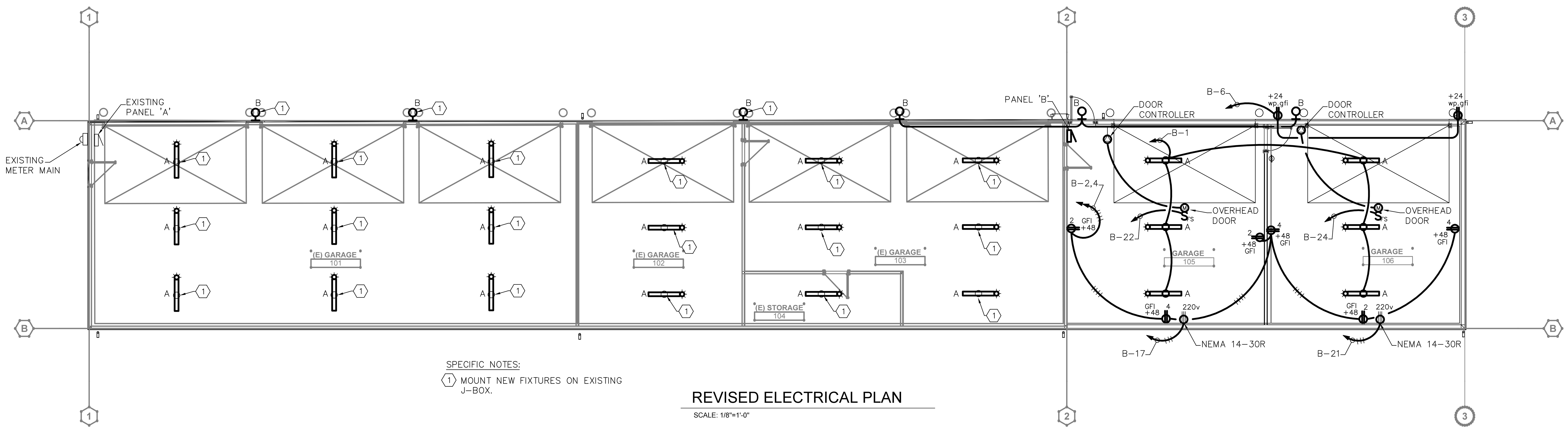
ELECTRICAL DEMOLITION NOTES:

1. WHEREVER EXISTING EQUIPMENT IS BEING REMOVED OR RELOCATED, CIRCUITS SHALL BE EXTENDED, TERMINATED, OR REROUTED AS REQUIRED TO MAINTAIN SERVICE TO EQUIPMENT AND DEVICES REMAINING.
2. ELECTRICAL DEVICES SHOWN LIGHT AND SOLID ARE EXISTING TO REMAIN. DEVICES SHOWN HEAVY AND DASHED ARE EXISTING TO BE RELOCATED OR REMOVED.
3. OUTLETS, FIXTURES, SWITCHES, OR OTHER DEVICES BEING REMOVED SHALL HAVE BLANK COVER PLATES INSTALLED WHERE IT IS NOT PROTICOL TO REMOVE BOX.
4. THE CONTRACTOR SHALL BE COGNIZANT THAT THIS IS A REMODELING PROJECT AND AS SUCH, CERTAIN ITEMS CANNOT BE FULLY ILLUSTRATED NOR EXPLAINED WITHOUT FIELD OBSERVATION. THEREFORE, THE CONTRACTOR SHALL VISIT AND EXAMINE THE SITE AND BUILDING IN EVERY DETAIL AS PERTAINS TO THIS PROJECT AND MAKE ALLOWANCES IN HIS PROPOSAL FOR ALL CONDITIONS THAT WILL AFFECT THE WORK INDICATED IN THE PROJECT MANUAL AND CONTRACT DOCUMENTS.
5. PLANS SHOW MAJOR COMPONENTS OF DEMOLITION. COMPLETELY DEMOLISH ALL ITEMS EXISTING WHICH ARE NOT REUSED IN THE NEW CONSTRUCTION WHETHER INDICATED OR NOT. THE INTENT IS TO HAVE ALL NON-USED ITEMS AND EQUIPMENT COMPLETELY REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.



ELECTRICAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"



SPECIFIC NOTES:

(1) MOUNT NEW FIXTURES ON EXISTING J-BOX.

REVISED ELECTRICAL PLAN

SCALE: 1/8"=1'-0"

LIGHT FIXTURE SCHEDULE							
LETTER DESIG.	FIXTURE				LAMP		NOTES
	MANUFACTURER	CATALOG NO.	LOCATION	TYPE	TYPE	NO.	
A	LSI	SDL4LED80LFLUNV40 80CRI OCSUE	CEILING	SURFACE	61W LED	–	
B	LSI	WPSLS4L40PC120 BZA	WALL	SURFACE	40W LED	–	

ARCHITECTURE
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REGION 4 HEADQUARTERS GARAGE ADDITION

ADDRESS:
4600 GIANT SPRING RD, GREAT FALLS, MT, 59405

PROJECT NUMBER:
24048

MONTANA
CORY HASIAK
No. 15163PE
2025/02/24
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:

DATE	ISSUANCE

PHASE:
SD

SHEET ISSUE DATE:
02.24.2024

DRAWN BY: **DR** APPROVED BY: **CC**

SHEET TITLE
ELECTRICAL DEMO PLAN & REVISED ELECTRICAL PLAN

SHEET NUMBER
E.101