

**REGULAR MEETING OF THE CARBON COUNTY PLANNING
BOARD**

APRIL 16, 2024

TUESDAY 7:00 PM

**CARBON COUNTY PERSONAL SERVICES BUILDING
10 OAKES AVENUE SOUTH
RED LODGE, MT**

A. CALL TO ORDER

B. ROLL CALL

C. APPROVAL OF MINUTES OF PREVIOUS MEETING

March 19, 2024

D. PUBLIC HEARINGS

None

E. REGULAR BUSINESS

1. Bridger Tower Corporation Group 2 Development
Permit for Wireless Communication Tower on Schwend Road

2. Carbon County Road and Bridge Group 2 Development
Permit for Storage Building on Rodeo Road

F. PETITIONS & COMMUNICATION FROM AUDIENCE

G. WRITTEN COMMUNICATIONS

**H. REPORTS FROM PLANNING BOARD MEMBERS AND
COMMITTEES**

I. STAFF REPORTS

J. ADJOURN

Carbon County Planning Board
March 19, 2024 Meeting

- A. Call to meeting order, 7 p.m., by Gordy Hill, Chairperson
- B. Roll Call
 - Present, Gordy Hill, Dean Webb, Betsy Scanlin, Angela Kallevig, Mike Hayes, Marni Echols-Bell (replacing Ryan Brajcich at-large); by phone: Clint Peterson, Skip Bratton, surveyor Kate Stout; staff Forrest Mandeville
 - Audience: John and Judith McMurray
- C. Approval of 1-16-24 minutes
 - a. Scanlin requested the addition of her comments under F. Regular Business, Narrow Gate Subdivision, "Suggested concerned parties consider looking into a special groundwater district to define the availability of the aquifer," and under the motion to recommend approval, add "with conditions." Webb moved, Kallevig seconded to approve amendments; motion to approve with amendments passed unanimously.
- D. Public Hearings (See Regular Business)
- E. Regular Business
 - a. McMurray Subdivision
 - i. 3 lot minor subdivision, approximately 40 acres with agricultural covenant exemption
 - ii. Lots 25.03, 7.5 and 7.5 acres each
 - iii. Subdivision will lift covenant and allow non-agricultural development
 - iv. Located on East Bench Road approximately 1 mile north of the intersection with Clear Creek Road.
 - v. No existing water rights connected to the property
 - vi. Draft covenants limit ag use to "6 laying hens and 2 horses"
 - vii. Water ditches run along the subdivision
 - viii. County permits needed for Lots 2 and 3 to access East Bench Road
 - ix. Located within the General Sage Grouse Habitat
 - x. Surrounded by other residential subdivisions
 - xi. DEQ approval needed for water and septic
 - xii. Broadwater County case raises questions regarding exempt wells
 - b. Applicants Judith and John McMurray spoke, have owned the property since 2004, purchased without water rights, want to limit to residential and do not want commercial use
 - c. Discussion by board members:
 - i. Peterson raised concerns about conflict with goal of County Growth Policy to preserve agricultural land, loss of prime farmland and

pasture, the effect of private covenants restricting future ag use of lots

- ii. Scanlin raised questions about the status of groundwater use, also noted that private covenants can be changed by the parties at any time
- iii. Bratton stated concerns about the Broadwater County case that might require one well for multiple lots, the value of water, the need for appropriate agencies to have the authority to address issues relating to water availability
- d. Webb moved to approve with conditions, Scanlin seconded. Motion passed with “no” vote by Peterson.

F. Petitions & Communications From Audience: None

G. Written Communications: None

H. Reports from Planning Board Members and Committees

- a. Kallevig: noted new (replacement) gas station in Bridger

I. Staff Reports

- a. Mandeville discussed the possible effects of the Broadwater County case regarding wells, that it is not necessarily binding on Carbon County but is the current “prevailing opinion.” Board members discussed possible ways to preserve ag land to meet Growth Policy goal, including zoning incentives to cluster development and locate along existing roads, preserving open space, while acknowledging private property rights. Mandeville indicated that the 2020 Growth Policy could wait a year for review and update, while the 2012 Subdivision Regulations might be reviewed by the board in 2024.

Adjourned 8:20 p.m.

Respectfully submitted by Betsy Scanlin acting for Glinton Giesick, Secretary.

CARBON COUNTY
Planning Office
P.O. Box 466, Red Lodge, MT 59068
Main: (406) 446-1694
Fax: (406) 446-2640

GROUP 2 DEVELOPMENT PERMIT – STAFF REPORT

Date: April 5, 2025

To: Carbon County Planning Board/Board of Adjustment Members

From: Forrest J. Mandeville, AICP – Contract Planner

RE: Bridger Tower Corporation – Telecommunication Tower

Recommendation: Approval

Recommended Motion: *Having reviewed and considered the variance request, staff report, public comment, and all of the information presented, I hereby move to approve the Group 2 Development Permit from the Bridger Tower Corporation for the construction of a telecommunication tower subject to the conditions included in this memorandum.*

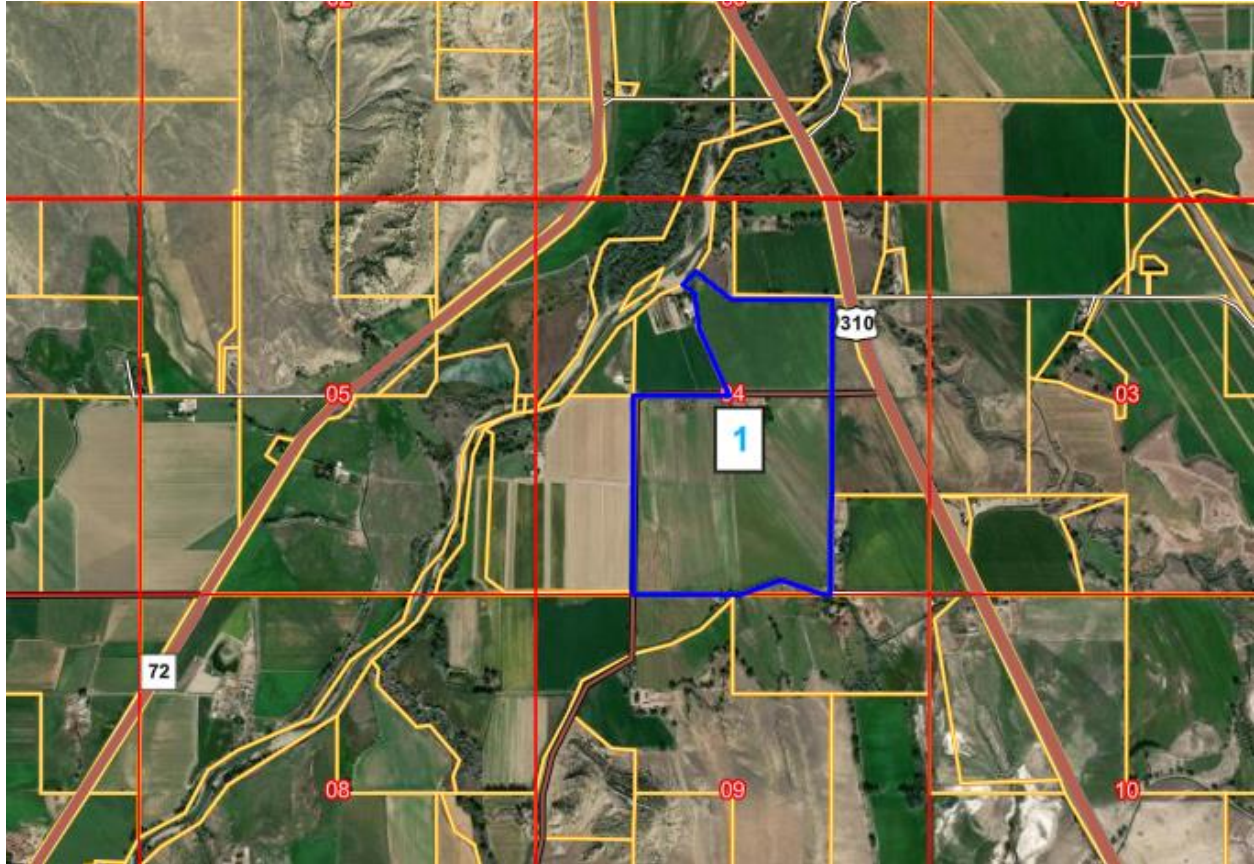
Project/Application Summary:

Chad Krahel, on behalf of the Bridger Tower Corporation, has submitted an application to construct and operate a telecommunication tower on leased property south of Bridger. The proposed development is located about 3 miles south of Bridger on Schwend Road. The property is legally described as the E2SW4, N2SW4SE4, SW4SE4, Part of the NW4SE4, Part of Gov't Lots 3 and 9, and Tract 1 of COS 959, in Section 4, T 7S, R 23E, Carbon County, MT. The property is owned by Bart A. and Kelly B. Heiken.

Required Board Action:

Under the Development Regulations, the Planning Board, in its role as the Zoning Commission, is tasked with considering the criteria for approval, and approving or conditionally approving an application for a Group 2 Development Permit. The Zoning Commission may deny an application if the approval criteria cannot be met, or it is determined that the development will create a significant adverse impact on surrounding properties or current uses.

The Zoning Commission shall approve, deny, or conditionally approve a Group 2 Development Permit within 60 days of receiving a complete application. The application was received on March 26, 2024, so a decision must be made by May 25, 2024. Surrounding property owners were notified of the pending application by planning via mail on April 4, 2024.



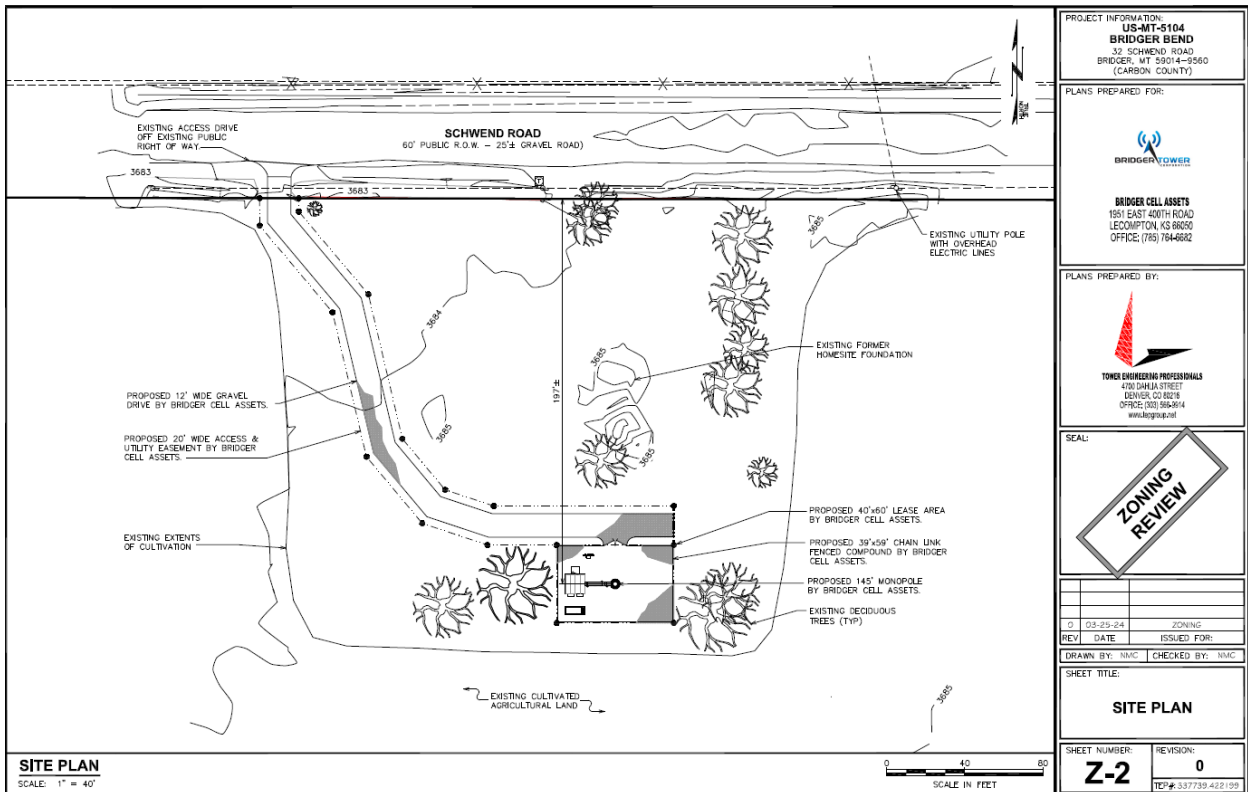
Subject Property (Blue) and Vicinity

Development Regulations – Compliance Review/Findings Summary: (Section references are to the Carbon County Development Regulations unless otherwise noted)

Pursuant to Section V-B.3.c, the Zoning Commission shall consider the following approval criteria for any Group 2 Development Permit:

1. Water Supply: The development shall provide adequate water supply and adequate means of waste water disposal, and adequate disposal of solid and hazardous waste. **There is no on-site water, wastewater, or solid or hazardous waste as part of this application.**
2. Floodplain: The development shall conform to the Carbon County Floodplain regulations. There shall be no development in the floodway. **There is no floodplain in the development area.**
3. Site Design: The development shall be properly graded and appropriate culverts, ditches, settling ponds, and other necessary facilities shall be provided to remove surface run-

off in a manner that will not adversely affect adjacent streams, lakes, reservoirs, or public roads. **The lease site consists of a 40'x60' area south of a former homesite surrounded by a field currently used for irrigated farmland. Given the location it is unlikely that any adverse drainage issues will be created. There are no streams, lakes, or reservoirs in the area of the development. Access will be from an existing approach from Schwend Road. Adherence to the submitted site plan is recommended as a condition of approval.**



Site Plan

4. Setbacks: Proposed buildings or structures may not be erected on property lines or within right-of-ways or easements. All buildings and structures shall be set back 10 feet from any side lot line, 20 feet from a rear lot line and 30 feet from the front lot line or street right of way or easement. **There are setbacks specific to telecommunication towers (see below). All setbacks appear to be met.**

5. Access: legal and physical access shall be provided to the tract of land where the development is proposed. Any new proposed access on a County Road will require an approach permit. Approaches on state highways shall be approved by the Montana Department of Transportation. **The site is accessed from Schwend Road, a County road, via an existing approach. If required by County Rural Addressing, an address for the tower should be obtained.**

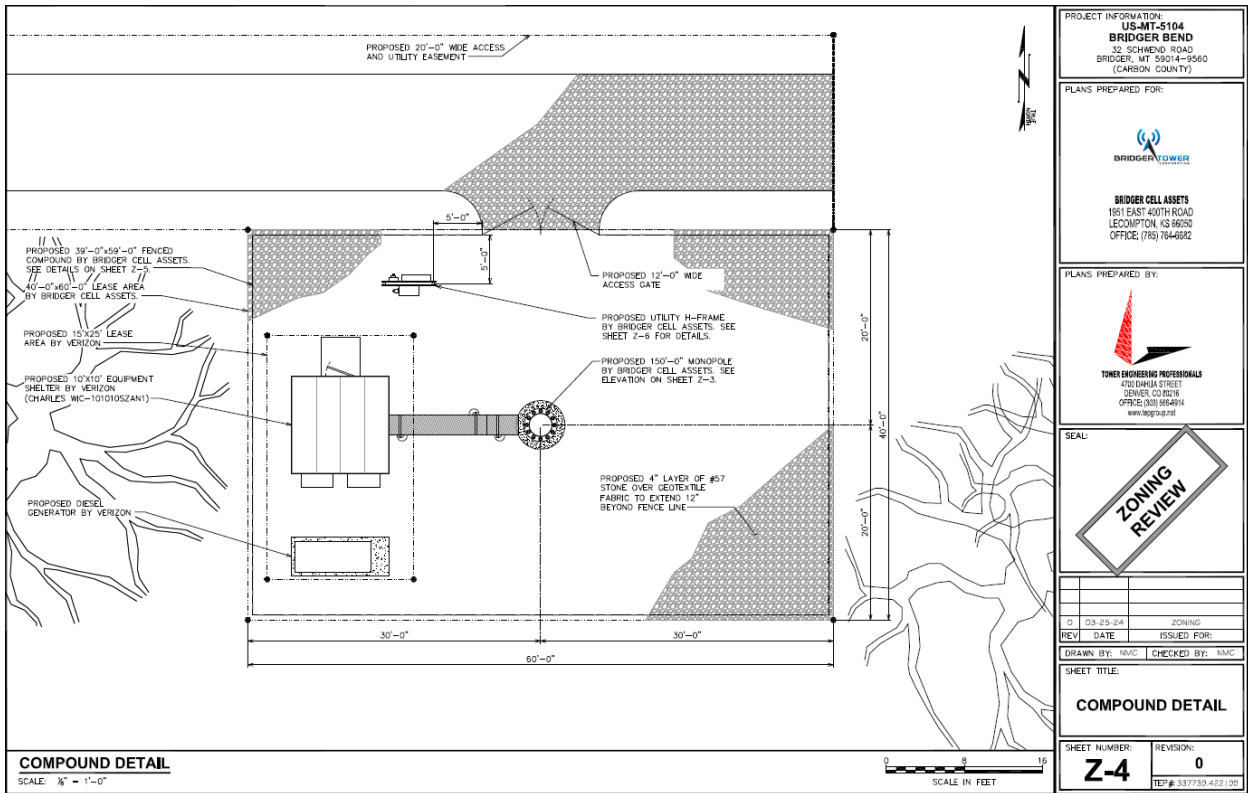
6. Agricultural Interference: Development shall not interfere with agricultural operations through the contamination of livestock or irrigation water supplies or obstruct, impair or

impede irrigation canals, headgates, ditches, culverts or other irrigation facilities. **The Bridger Ditch is located in an easement to the south of the development nearly ½ mile away. The development is unlikely to interfere with agricultural operations.**

7. Current Uses: Development shall not create significant unmitigated adverse impacts on surrounding properties or current uses. **The biggest impact will likely be on area views. After construction, other adverse impacts from the development will likely be minimal. The project is located in Sage Grouse Core Area per the Montana Sage Grouse Habitat Conservation Program and will need to meet any requirements of the program.**

Section VII-A.1. establishes requirements specific to Communications Towers:

- i. Setbacks: Wireless communication facilities or structures shall be located at least 150' from any property line. **Per the site plan, the tower will be 197 feet from the nearest property line.**
- ii. Height: Shall not exceed two hundred fifty feet. **The proposed tower will be 145 feet tall, plus a 5-foot lightning rod.**
- iii. Fencing: A fence at least 6 feet in height is required at the base of a wireless support structure for the purpose of safety and security. **The site plan indicated a 6-foot tall chain link fence will be installed around the lease area.**
- iv. Lighting: Antenna support structures shall not be artificially lit unless required by the FAA or other local, state, or federal agency. If the FAA requires safety lighting, the use of red beacons shall be used. **The only lighting on the tower will be what is required by the FAA.**
- v. Signage: The structure shall not provide advertising of any kind. One sign, limited to four square feet shall be posted at the base of the tower. The sign shall include a notice of no trespassing, a warning of high voltage, and the telephone number of the property owner/operator to call in case of emergency. Other acceptable signage is limited to non-illuminated warning and equipment identification signs. **The warning and emergency notification sign is recommended to be a condition of approval.**
- vi. Wireless communication facilities shall either maintain a galvanized steel finish or, subject to any applicable standards of the FAA or other applicable local, state, or federal agency, be painted a neutral color or painted and/or textured to match the existing structure or surroundings so as to reduce visual obtrusiveness. **The site plan notes the tower will have a galvanized color.**
- vii. Wireless communication facilities attached to new or existing structures shall be designed to blend with the structure's architecture and should be placed directly above, below or incorporated with vertical design elements of a structure. **The tower design indicates it will be able to accommodate additional carriers beyond the primary carrier (Verizon).**
- viii. Wireless communication facilities shall be located as to minimize their visibility and not be placed along scenic corridors. **The project is not located in an area designated as a scenic corridor.**



Tower Site Layout

Planning Staff Recommendation:

Planning Staff recommends approval of the Bridger Tower Corporation Group 2 Development Permit, pursuant to the following conditions (Section references are to the Carbon County Development Regulations):

1. Obtain all other necessary permits as required by other state or government agencies and adhere to any conditions required.
2. Any deviation from the site plan must be made known to the Planning Office to determine whether or not the deviation is in compliance with the approved development permit or if a new permit is needed.
3. The owner shall check with the Montana Sage Grouse Habitat Conservation Program (www.sagegrouse.mt.gov) and adhere to any conditions required by the Program.
4. If approved activity on site is inactive for two years this permit is deemed abandoned and a new permit must be obtained prior to activity resuming.
5. Any intensification of use shall be made known to the Carbon County Planning Department to determine whether an amended permit is required.
6. Ingress and egress shall be limited to Schwend Road, as shown on the site plan.
7. A rural address shall be obtained for the site, if required by County Rural Addressing.



Development Permit Package

Carbon County Montana

Submitted On:

Mar 26, 2024, 06:14PM EDT

What permits are you applying for today?	Group 2 Development
PROPERTY OWNER	First Name: Chad Last Name: Krahel
Business Name (If Applicable)	Bridger Tower Corporation
Property Owner Mailing Address	Street Address: 13920 Theisen Road City: Belgrade State: MT Zip: 59714
Property Owner Email	chad@bridgertowercorp.com
Property Owner Primary Phone Number	406-600-2327
Type of Primary Phone	Cellular
Cellular provider for Primary Phone	Verizon
Property Owner Secondary Phone Number	
Preferred Contact Method	Email
How would you like to receive your permits?	Digital copy (email)
Do you own, rent, or lease the property?	Lease
Are you applying on behalf of a client?	No
Assessment Code from Montana Cadastral	0001436600
Certificate of Survey or Plat Number (INCLUDE LT OR TR, if applicable) from Montana Cadastral website	COS 959
Legal Description of property from Montana Cadastral website (Ex: S27, T07S, R20E)	S04 T07 R23
Has a physical address been assigned to the property?	No
Access to Property	Existing

Current Property Use	Agriculture
Property Acreage	213
Proposed Use / Development to Property	Communication Facility
Check Type of Development	Telecommunication Towers (Regulations VII-A-1)
Describe the type of proposed building construction or planned development.	New telecommunications tower, 150' Monopole, 40' x 60' compound, use existing access drive/curb cut
What type of business activities will be on the property?	Unmanned Wireless Communications site
Is there surface water on the property?	No
Is the property located in a floodplain?	No
Is the proposed development located in Sage Grouse habitat?	No
Are there covenants and/or restrictions on the property that may prohibit the proposed development?	No
Are there any road, ditch, utility or other easements that exist on the property?	Yes
Please describe the easements that exist on the property.	NW Energy Power easement
Describe existing and proposed water, sewer and wastewater facilities:	N/A
Describe existing access to the property and how traffic related to the commercial and industrial activity will be directed through the site.	Existing curb cut access drive to the site location
For construction of new buildings or facilities related to this permit, please state how far they will be set back from each property line:	197'
Will the proposed activity interfere with agricultural operations by contaminating water sources or interfering	No

with irrigation facilities?	
Are State or Federal Permits needed to conduct this activity on the proposed property?	Yes, I'm waiting on obtaining them
What are the current uses adjacent to the proposed property?	Agricultural
Neighboring Property Owner 1	First Name: Durl & Mary Lou Last Name: Heiken
Neighboring Property Owner 1 Full Address	Street Address: 40 Schwend Road City: Bridger State: MT Zip: 59014
Neighboring Property Owner 2	First Name: Randall Last Name: Belshaw
Neighboring Property Owner 2 Full Address	Street Address: 60 Schwend Road City: Belfry State: MT Zip: 59014
More Owners?	Yes
Neighboring Property Owner 3	First Name: James Last Name: Kuel
Neighboring Property Owner 3 Full Address	Street Address: 2 Pryor Mountain Rd #362 City: Bridger State: MT Zip: 59014
Neighboring Property Owner 4	First Name: Howard & Donna Last Name: Peterson
Neighboring Property Owner 4 Full Address	Street Address: 80 Schwend Rd City: Bridger State: MT Zip: 59014
Neighboring Property Owner 5	First Name: David Last Name: Althoff
Neighboring Property Owner 5 Full Address	Street Address: 47 Althoff Rd City: Bridger State: MT Zip: 59014
Group 2 Property Site Plan submission	Email / Mail my site plan at a later date
Amount to be Paid (convenience fees are in addition to this total)	150
Signature Data	First Name: Chad Last Name: Krahel Email Address: chad@bridgertowercorp.com

Chad Kraebel

Signed at: March 26, 2024 6:06pm America/New_York

Receipt

DPP-0000684

GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED BRIDGER CELL ASSETS, OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF MONTANA.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-H, 2017. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
 - B. ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
 - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS ;MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
 32 SCHWEND ROAD
 BRIDGER, MT 59014-9560
 (CARBON COUNTY)

PLANS PREPARED FOR:



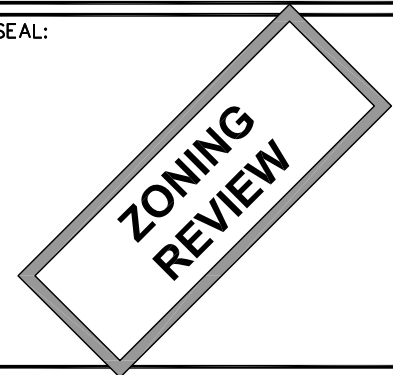
BRIDGER CELL ASSETS
 1951 EAST 400TH ROAD
 LECOMPTON, KS 66050
 OFFICE: (785) 764-6682

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
 4700 DAHLIA STREET
 DENVER, CO 80216
 OFFICE: (303) 566-9914
 www.tepgroup.net

SEAL:



0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

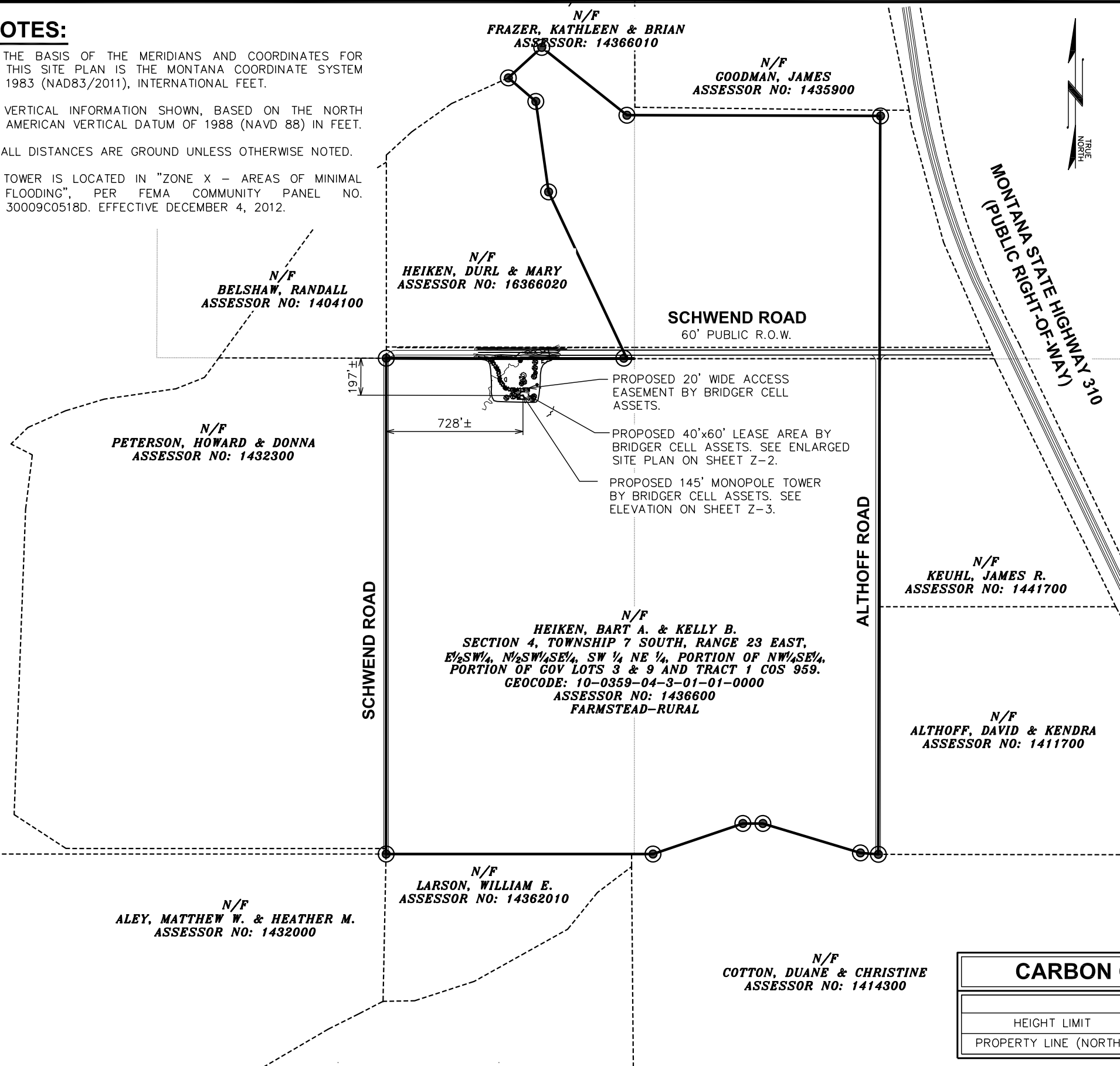
DRAWN BY: NMC | CHECKED BY: NMC

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: **N-1** | REVISION: **0**
 TEP#: 337739.422199

NOTES:

1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS SITE PLAN IS THE MONTANA COORDINATE SYSTEM 1983 (NAD83/2011), INTERNATIONAL FEET.
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) IN FEET.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. TOWER IS LOCATED IN "ZONE X - AREAS OF MINIMAL FLOODING", PER FEMA COMMUNITY PANEL NO. 30009C0518D. EFFECTIVE DECEMBER 4, 2012.



LEGEND

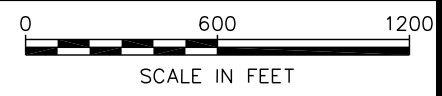
- PARENT PROPERTY LINE
- - - ADJACENT PROPERTY LINE
- EASEMENT/LEASE CORNER
- Ⓜ EXIST. METER
- Ⓣ EXIST. TRANSFORMER
- Ⓢ EXIST. UTILITY POLE
- Ⓣ EXIST. TELCO PEDESTAL
- Ⓢ 3/2 10/11 SECTION CORNER
- ⊙ PROPERTY CORNER
- - - 200 - - - EXIST. CONTOUR LINE
- /// EDGE OF PAVEMENT
- - - OHW - - - OVERHEAD WIRE
- - - BT - - - BURIED TELEPHONE LINE
- - - R/W - - - RIGHT-OF-WAY
- X - FENCE
- ~ ~ ~ EXISTING TREE LINE

1-A COORDINATES

LATITUDE:	N 45° 15' 12.78" (NAD '83)
LONGITUDE:	W 108° 54' 59.62" (NAD '83)
GROUND ELEVATION:	3,684.5' (NAVD '88)

CARBON COUNTY REQUIREMENTS

	REQUIRED	PROPOSED
HEIGHT LIMIT	< 250'	150' (T/LIGHTNING ROD)
PROPERTY LINE (NORTH)	150'	197'-0"



PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
 32 SCHWEND ROAD
 BRIDGER, MT 59014-9560
 (CARBON COUNTY)

PLANS PREPARED FOR:

BRIDGER CELL ASSETS
 1951 EAST 400TH ROAD
 LECOMPTON, KS 66050
 OFFICE: (785) 764-6682

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
 4700 DAHLIA STREET
 DENVER, CO 80216
 OFFICE: (303) 566-9914
 www.tepgroup.net

SEAL:

ZONING REVIEW

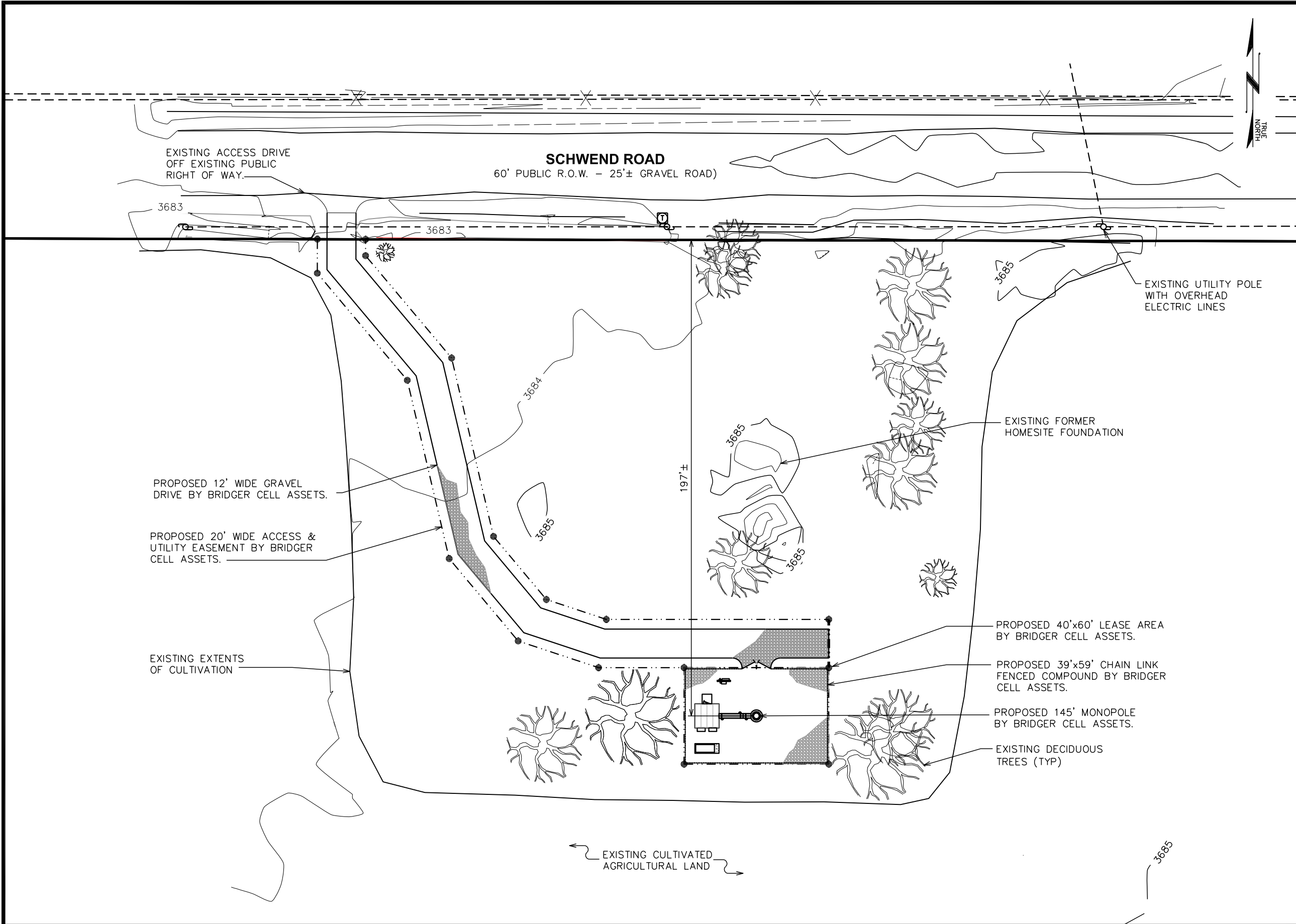
0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: NMC CHECKED BY: NMC

SHEET TITLE:
ENLARGED SITE PLAN


SHEET NUMBER: Z-1	REVISION: 0
TEP#: 337739.422199	

SITE PLAN
 SCALE: 1" = 600'



PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
 32 SCHWEND ROAD
 BRIDGER, MT 59014-9560
 (CARBON COUNTY)

PLANS PREPARED FOR:



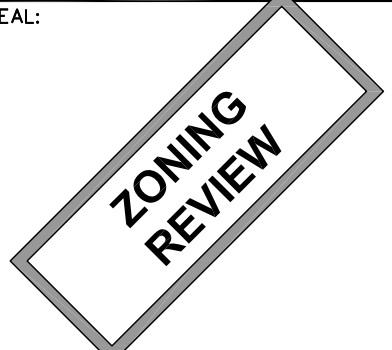
BRIDGER CELL ASSETS
 1951 EAST 400TH ROAD
 LECOMPTON, KS 66050
 OFFICE: (785) 764-6682

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
 4700 DAHLIA STREET
 DENVER, CO 80216
 OFFICE: (303) 566-9914
 www.tepgroup.net

SEAL:



0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

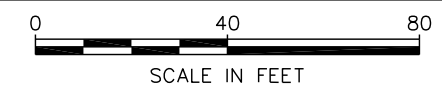
DRAWN BY: NMC | CHECKED BY: NMC

SHEET TITLE:

SITE PLAN

SHEET NUMBER: **Z-2** | REVISION: **0**
 TEP#: 337739.422199

SITE PLAN
 SCALE: 1" = 40'



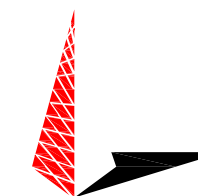
PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
 32 SCHWEND ROAD
 BRIDGER, MT 59014-9560
 (CARBON COUNTY)

PLANS PREPARED FOR:



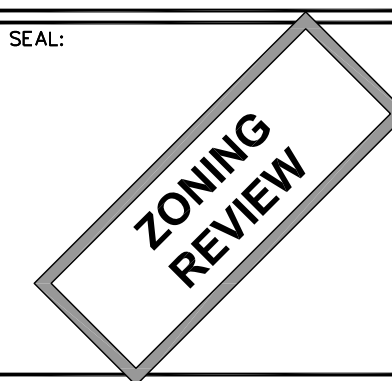
BRIDGER CELL ASSETS
 1951 EAST 400TH ROAD
 LECOMPTON, KS 66050
 OFFICE: (785) 764-6682

PLANS PREPARED BY:



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 4700 DAHLIA STREET
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SEAL:



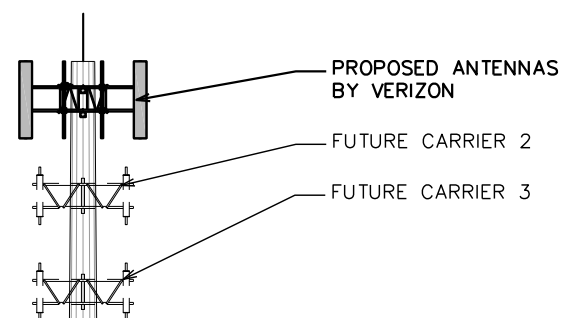
0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: NMC CHECKED BY: NMC

SHEET TITLE:
TOWER ELEVATION

SHEET NUMBER: **Z-3** REVISION: **0**
 TEP#: 337739.422199

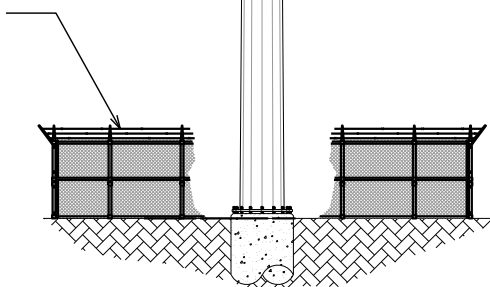
- 150'-0"±
T/LIGHTNING ROD
- 145'-0"±
T/TOWER
- 140'-0"±
CL/VERIZON ANTENNAS
- 130'-0"±
CL/FUTURE CARRIER 2
- 120'-0"±
CL/FUTURE CARRIER 3



PROPOSED 145'-0" MONOPOLE TOWER.
 MANUFACTURER TO BE DETERMINED.

PROPOSED 6' HIGH CHAIN LINK FENCE BY BRIDGER CELL ASSETS.

- 0'-0" (REFERENCE)
T/GRADE

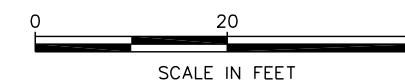


TOWER NOTES:

1. TOWER TO REMAIN A GALVANIZED COLOR.
2. TOWER SHALL NOT BE LIT UNLESS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION.
3. PROPOSED COAX TO BE ROUTED INSIDE POLE WITH HOISTING GRIPS.
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.

TOWER ELEVATION

SCALE: 1" = 20'



PROPOSED 20'-0" WIDE ACCESS
AND UTILITY EASEMENT



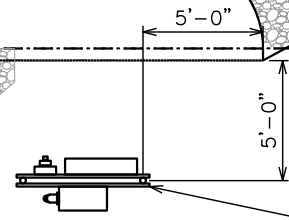
PROPOSED 39'-0"x59'-0" FENCED
COMPOUND BY BRIDGER CELL ASSETS.
SEE DETAILS ON SHEET Z-5.

40'-0"x60'-0" LEASE AREA
BY BRIDGER CELL ASSETS.

PROPOSED 15'x25' LEASE
AREA BY VERIZON

PROPOSED 10'x10' EQUIPMENT
SHELTER BY VERIZON
(CHARLES WIC-101010SZAN1)

PROPOSED DIESEL
GENERATOR BY VERIZON

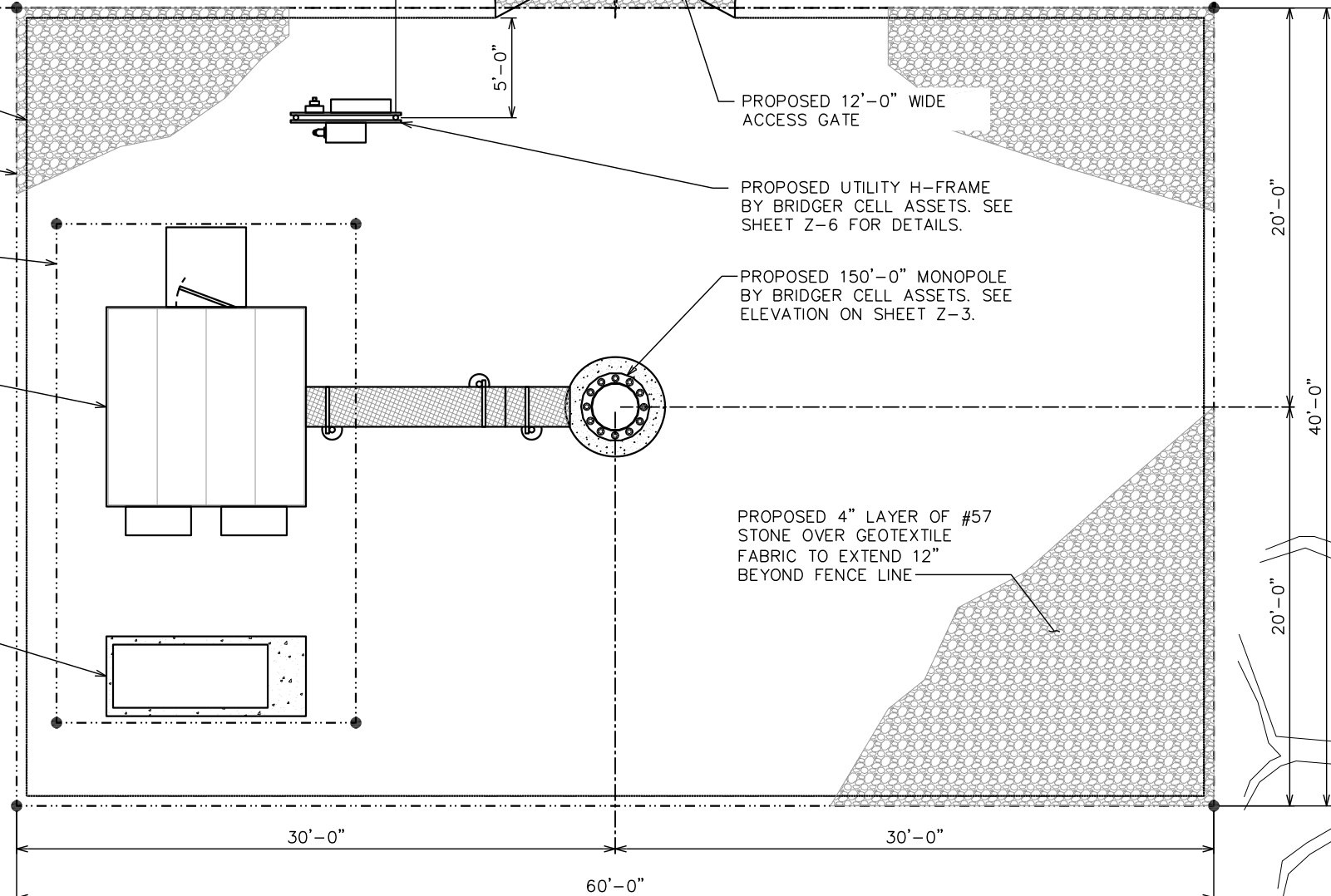


PROPOSED 12'-0" WIDE
ACCESS GATE

PROPOSED UTILITY H-FRAME
BY BRIDGER CELL ASSETS. SEE
SHEET Z-6 FOR DETAILS.

PROPOSED 150'-0" MONOPOLE
BY BRIDGER CELL ASSETS. SEE
ELEVATION ON SHEET Z-3.

PROPOSED 4" LAYER OF #57
STONE OVER GEOTEXTILE
FABRIC TO EXTEND 12"
BEYOND FENCE LINE



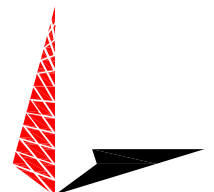
PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
32 SCHWEND ROAD
BRIDGER, MT 59014-9560
(CARBON COUNTY)

PLANS PREPARED FOR:



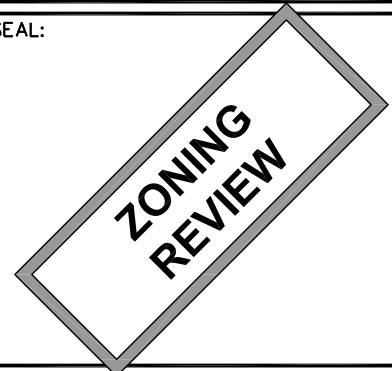
BRIDGER CELL ASSETS
1951 EAST 400TH ROAD
LECOMPTON, KS 66050
OFFICE: (785) 764-6682

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:



0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: NMC | CHECKED BY: NMC

SHEET TITLE:
COMPOUND DETAIL

SHEET NUMBER:
Z-4

REVISION:
0

TEP#: 337739.422199

COMPOUND DETAIL

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



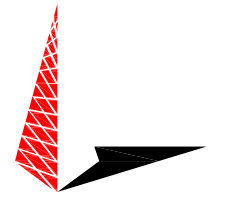
PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
 32 SCHWEND ROAD
 BRIDGER, MT 59014-9560
 (CARBON COUNTY)

PLANS PREPARED FOR:



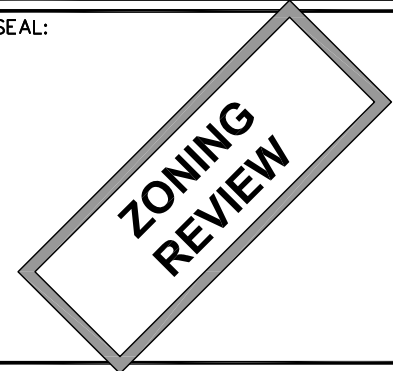
BRIDGER CELL ASSETS
 1951 EAST 400TH ROAD
 LECOMPTON, KS 66050
 OFFICE: (785) 764-6682

PLANS PREPARED BY:



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 4700 DAHLIA STREET
 DENVER, CO 80216
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SEAL:



0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

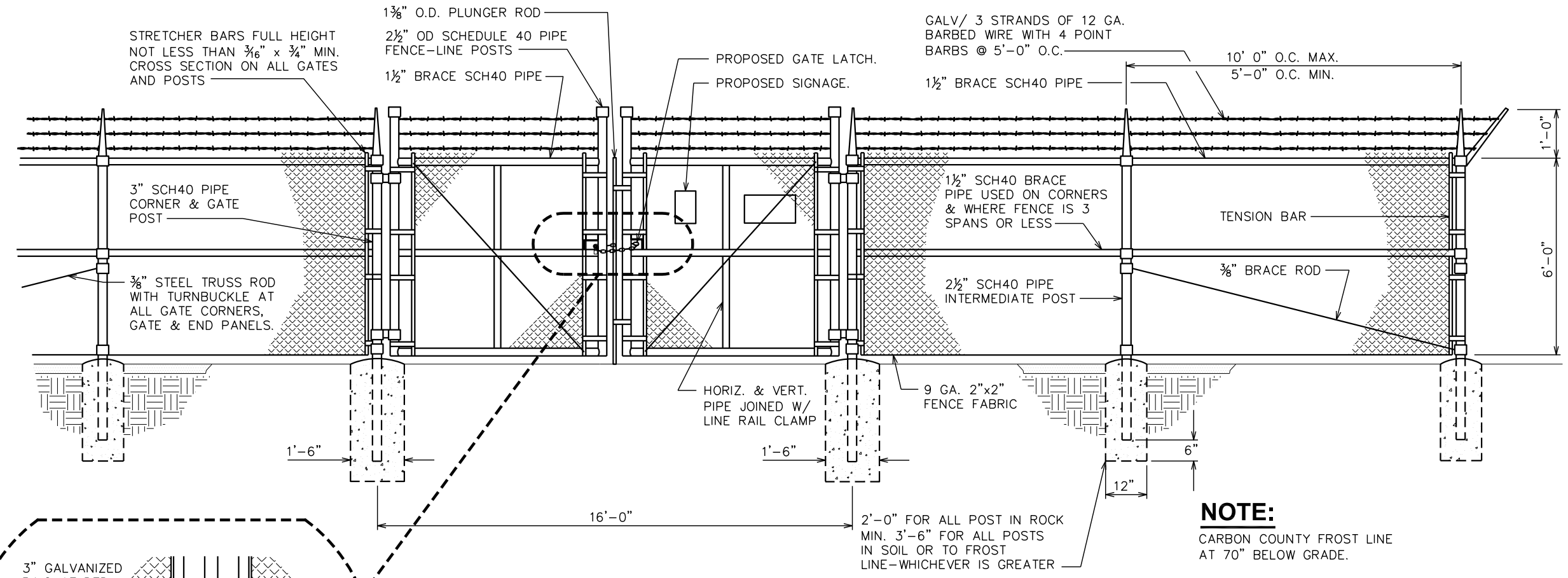
DRAWN BY: NMC CHECKED BY: NMC

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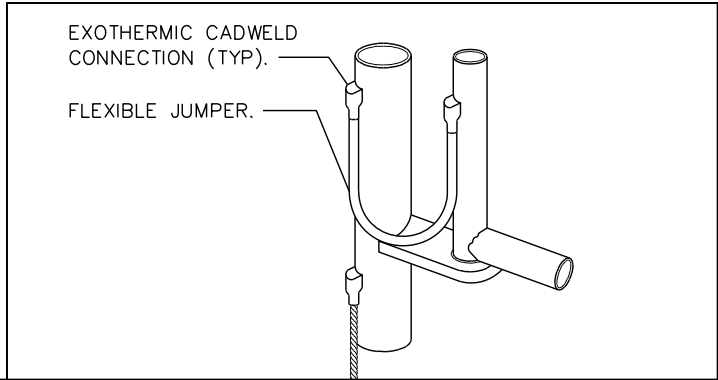
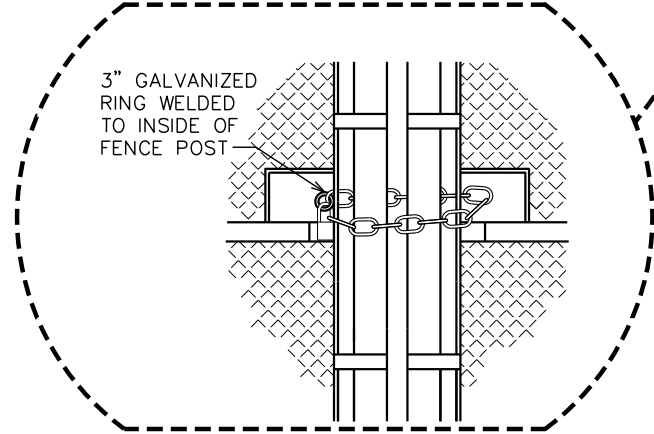
FENCE DETAILS

SHEET NUMBER: **Z-5** REVISION: **0**

TEP#: 337739.422199

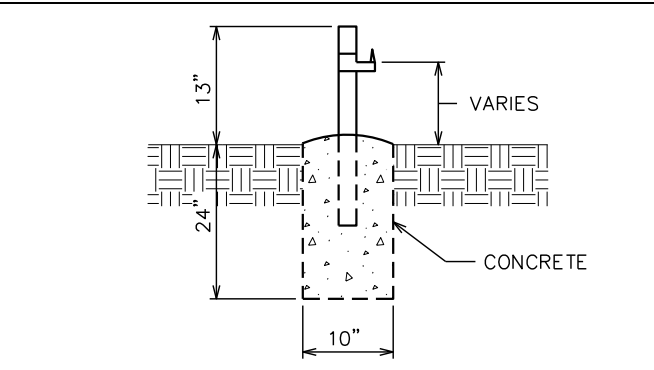


NOTE:
 CARBON COUNTY FROST LINE
 AT 70" BELOW GRADE.

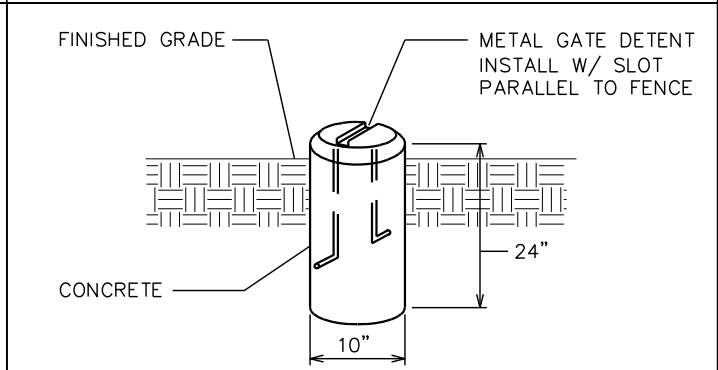


TYPICAL FENCE ELEVATION
 SCALE: N.T.S.

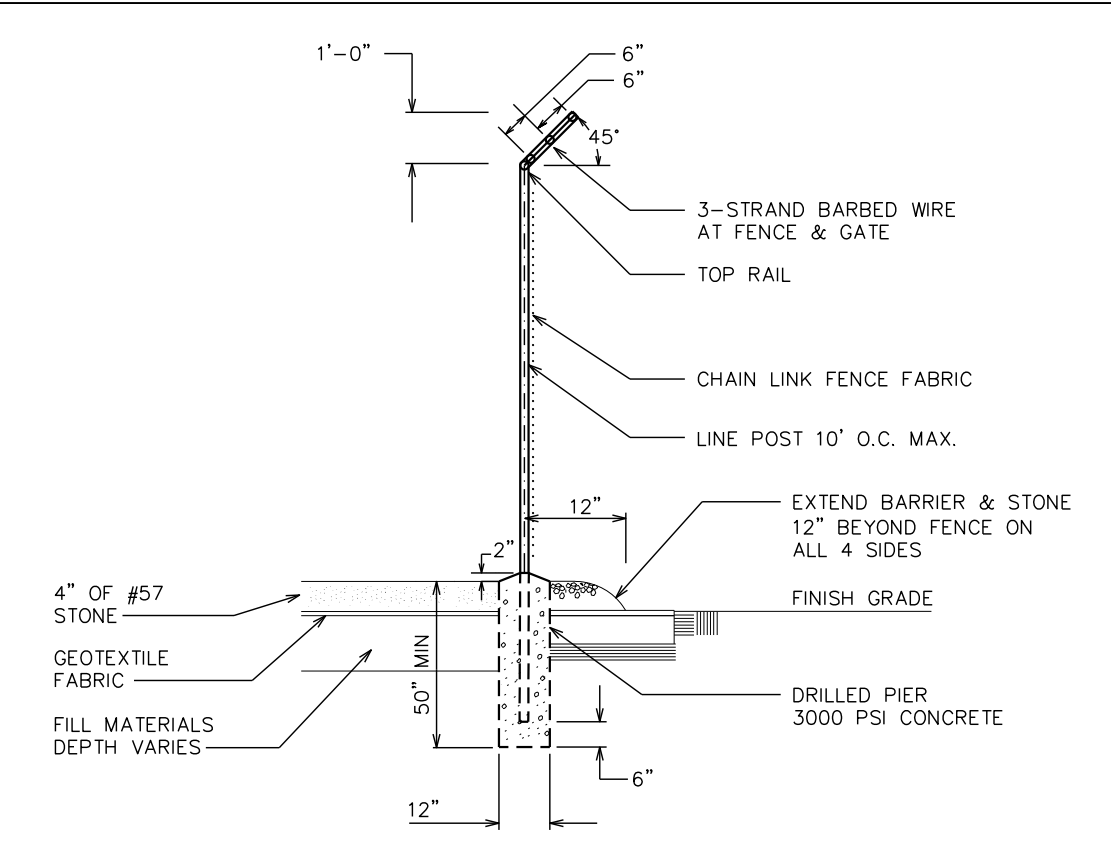
GROUNDING AT GATE POST
 SCALE: N.T.S.



TYPICAL FENCE ELEVATION
 SCALE: N.T.S.



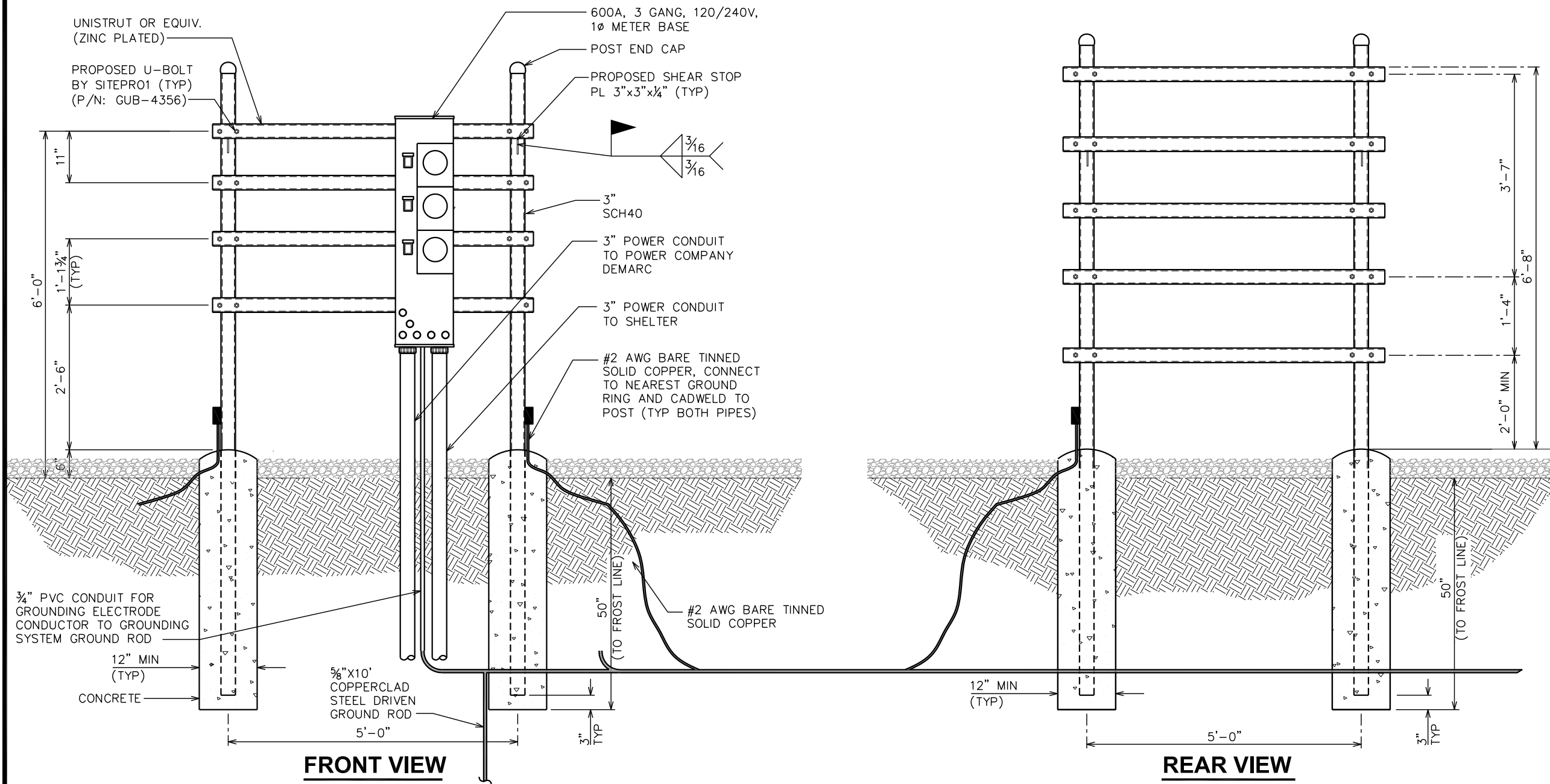
GATE DETENT DETAIL
 SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL
 SCALE: N.T.S.

NOTES:

- ① ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, STATE BUILDING CODES AND THE LOCAL BUILDING CODES. ALL COMPONENTS SHALL BE UL LISTED.
- ② REFER TO THE SITE LAYOUT PLAN FOR THE EXACT LOCATION OF THE H-FRAME.
- ③ CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR METER.
- ④ CONTRACTOR TO PROVIDE AND INSTALL METER SOCKET.
- ⑤ CONTRACTOR TO LOCATE METER RACK TO ENSURE WORKING SPACES REQUIRED BY THE NEC (ART. 110.26), STATE, OR LOCAL CODES ARE MAINTAINED BOTH ON THE FRONT SIDE AND THE BACK SIDE OF THE H-FRAME.
- ⑥ SHOW LOCATION (INCLUDING DIMENSIONS) OF ALL CAPPED UNDERGROUND CONDUIT ON FINAL AS-BUILT DRAWINGS SUBMITTED TO OWNER.
- ⑦ COORDINATE EXACT LOCATION OF UNDERGROUND FEEDERS AND CIRCUITRY WITH THE OWNER.
- ⑧ CONTRACTOR SHALL COORDINATE EFFORTS WITH (LOCAL, ELECTRICAL) AUTHORITY HAVING JURISDICTION (AHJ) AND OTHER TRADES TO DETERMINE "FROST" LINE, AND TYPE(S) OF RACEWAYS REQUIRED FOR INSTALLATION.
- ⑨ BOND ALL ELECTRICAL EQUIPMENT TO RACK.
- ⑩ DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED IN THE FIELD AS APPROVED BY OWNER TO BETTER SUIT ACTUAL CONDITIONS OR EQUIPMENT RECEIVED.
- ⑪ FOR ANY METAL CONDUIT ENTERING AN ENCLOSURE WHERE A PRE-PUNCHED CONCENTRIC OR ECCENTRIC KNOCKOUT IS USED, THE CONTRACTOR SHALL ENSURE ADEQUATE BONDING BETWEEN THE METAL CONDUIT AND ENCLOSURE BY INSTALLING A BONDING JUMPER AROUND THE CONCENTRIC OR ECCENTRIC KNOCKOUT.



SERVICE RACK DETAILS

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

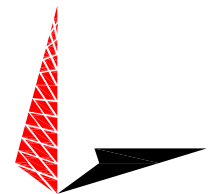
PROJECT INFORMATION:
US-MT-5104
BRIDGER BEND
 32 SCHWEND ROAD
 BRIDGER, MT 59014-9560
 (CARBON COUNTY)

PLANS PREPARED FOR:



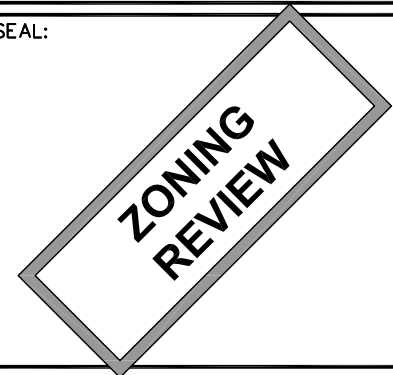
BRIDGER CELL ASSETS
 1951 EAST 400TH ROAD
 LECOMPTON, KS 66050
 OFFICE: (785) 764-6682

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
 4700 DAHLIA STREET
 DENVER, CO 80216
 OFFICE: (303) 566-9914
 www.tepgroup.net

SEAL:



0	03-25-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: NMC | CHECKED BY: NMC

SHEET TITLE:
SERVICE RACK DETAILS

SHEET NUMBER: **Z-6** | REVISION: **0**
 TEP#: 337739.422199

CARBON COUNTY
Planning Office
P.O. Box 466, Red Lodge, MT 59068
Main: (406) 446-1694
Fax: (406) 446-2640

GROUP 2 DEVELOPMENT PERMIT – STAFF REPORT

Date: April 5, 2024

To: Carbon County Planning Board/Zoning Commission Members

From: Forrest J. Mandeville, AICP – Contract Planner

RE: Carbon County Road and Bridge District #3

Recommendation: Approval

Recommended Motion: *Having reviewed and considered the variance request, staff report, public comment, and all of the information presented, I hereby move to approve the Group 2 Development Permit from the Carbon County Road and Bridge District #3 for the construction of a County Road Department storage building.*

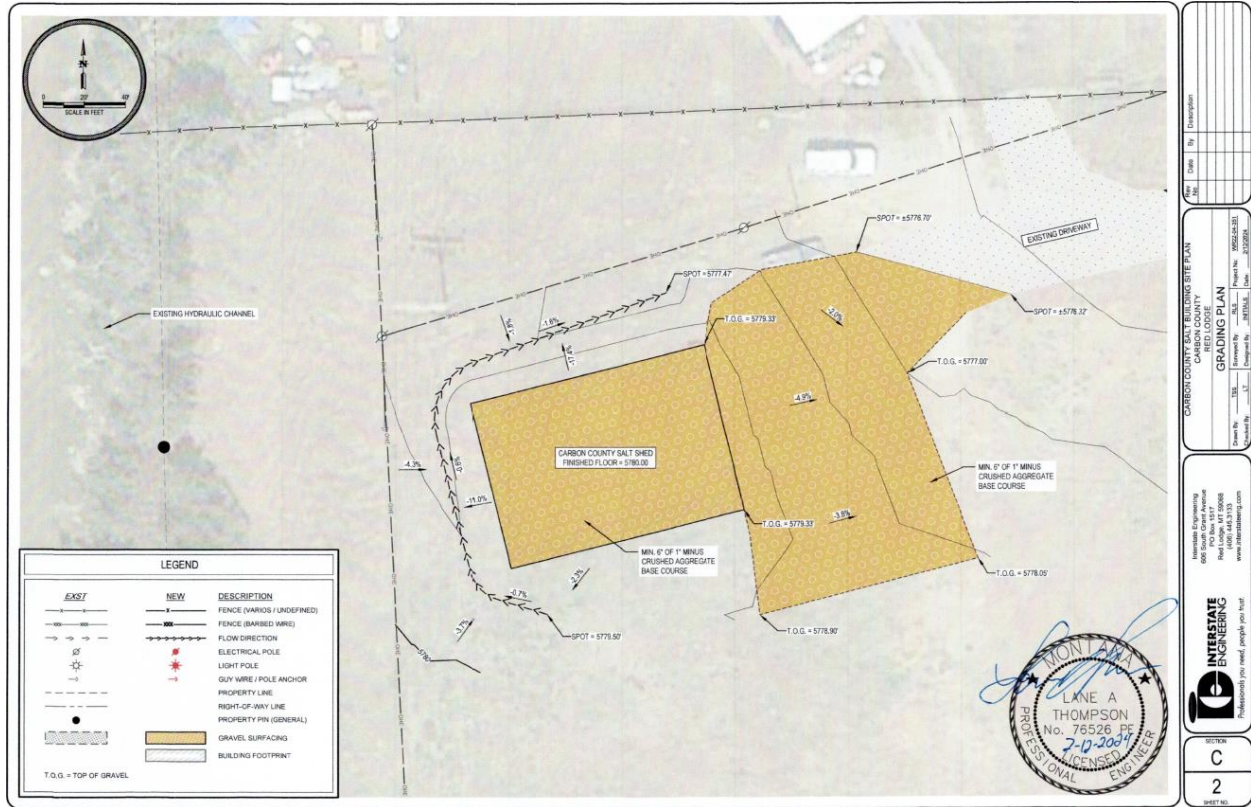
Project/Application Summary:

Commissioner Bill Bullock, on behalf of Carbon County Road and Bridge, has submitted an application to construct a steel and concrete building to store salt and sand for road maintenance on County land on Rodeo Road, west of Red Lodge, south of the fairgrounds. The proposed development is located on Rodeo Road, about ¼ mile north of the intersection with S Airport Road. The property is legally described as Lots 1-12, Block 69 of the Red Lodge Hymer Addition, Section 34, T 7S, R 20E, Carbon County, MT.

Required Board Action:

Under the Development Regulations, the Planning Board, in its role as the Zoning Commission, is tasked with considering the criteria for approval, and approving or conditionally approving an application for a Group 2 Development Permit. The Zoning Commission may deny an application if the approval criteria cannot be met, or it is determined that the development will create a significant adverse impact on surrounding properties or current uses.

The Zoning Commission shall approve, deny, or conditionally approve a Group 2 Development Permit within 60 days of receiving a complete application. The application was received on April 2, 2024, so a decision must be made by June 1, 2024. Surrounding property owners were notified of the pending application by planning staff via mail on April 5, 2024.



Site Plan

Development Regulations – Compliance Review/Findings Summary: (Section references are to the Carbon County Development Regulations unless otherwise noted)

Pursuant to Section V-B.3.c, the Zoning Commission shall consider the following approval criteria for any Group 2 Development Permit:

1. Water Supply: The development shall provide adequate water supply and adequate means of waste water disposal, and adequate disposal of solid and hazardous waste. **There is no on-site water, wastewater, or solid or hazardous waste as part of this application.**
2. Floodplain: The development shall conform to the Carbon County Floodplain regulations. There shall be no development in the floodway. **There is no floodplain in the development area.**
3. Site Design: The development shall be properly graded and appropriate culverts, ditches, settling ponds, and other necessary facilities shall be provided to remove surface runoff in a manner that will not adversely affect adjacent streams, lakes, reservoirs, or public roads. **The site plan indicates grading will occur to ensure proper drainage. Access will be**

from an existing approach from Rodeo Road which assesses other County buildings. Adherence to the submitted site plan is recommended as a condition of approval.

4. Setbacks: Proposed buildings or structures may not be erected on property lines or within right-of-ways or easements. All buildings and structures shall be set back 10 feet from any side lot line, 20 feet from a rear lot line and 30 feet from the front lot line or street right of way or easement. **According to the application, the building will be at least 50 feet from the nearest property line.**

5. Access: legal and physical access shall be provided to the tract of land where the development is proposed. Any new proposed access on a County Road will require an approach permit. Approaches on state highways shall be approved by the Montana Department of Transportation. **The site is accessed from Rodeo Road via an existing approach. The Rodeo Road right of way is mostly owned by the City of Red Lodge, with County access on the west side. The applicant has also applied for a rural address, approval of which is pending at time of writing.**



Project Location and Vicinity

6. Agricultural Interference: Development shall not interfere with agricultural operations through the contamination of livestock or irrigation water supplies or obstruct, impair or impede irrigation canals, headgates, ditches, culverts or other irrigation facilities. **The development is near residential uses, the fairgrounds, and an airport. There is a ditch located**

to the west of the property. The site has been used for County road maintenance for several decades and it is unlikely that the addition of a storage building will result in adverse impacts on agriculture.

7. Current Uses: Development shall not create significant unmitigated adverse impacts on surrounding properties or current uses. **Since the property has been used for Road and Bridge Department Storage historically, and the development will add a storage building, it is unlikely new significant adverse impacts will be created.**

Planning Staff Recommendation:

Planning Staff recommends approval of the Carbon County Road and Bridge District #3 Group 2 Development Permit, pursuant to the following conditions (Section references are to the Carbon County Development Regulations):

1. Obtain all other necessary permits as required by other state or government agencies and adhere to any conditions required.
2. Any deviation from the site plan must be made known to the Planning Office to determine whether or not the deviation is in compliance with the approved development permit or if a new permit is needed.
3. If approved activity on site is inactive for two years this permit is deemed abandoned and a new permit must be obtained prior to activity resuming.
4. Any intensification of use shall be made known to the Carbon County Planning Department to determine whether an amended permit is required.
5. Ingress and egress shall be limited to Rodeo Road, as shown on the site plan.
6. A rural address shall be obtained for the site.



Development Permit Package

Submitted On:

Apr 2, 2024, 12:50PM EDT

Carbon County Montana

What permits are you applying for today?	Group 2 Development Address
PROPERTY OWNER	First Name: Carbon County Last Name: Carbon County
Business Name (If Applicable)	Carbon County Road and Bridge District #3
Property Owner Mailing Address	Street Address: 91 Rodeo Road Red Lodge City: Red Lodge State: MT Zip: 59068
Property Owner Email	bbullock@co.carbon.mt.us
Property Owner Primary Phone Number	406-425-4517
Type of Primary Phone	Cellular
Cellular provider for Primary Phone	AT&T
Property Owner Secondary Phone Number	406-446-1595
Type of Secondary Phone	Land Line
Preferred Contact Method	Phone
How would you like to receive your permits?	Physical copy (mail)
Do you own, rent, or lease the property?	Own
Are you applying on behalf of a client?	No
Assessment Code from Montana Cadastral	000E166000
Certificate of Survey or Plat Number (INCLUDE LT OR TR, if applicable) from Montana Cadastral website	Red Lodge Hymer Addn, s34, t07s, r 20e, RL Hymer Addn Lots 1-12 BLK 69
Legal Description of property from Montana Cadastral website (Ex: S27, T07S, R20E)	34 07s 20e
Has a physical address been	

assigned to the property?	In progress
Access to Property	Existing
Current Property Use	vacant storage ground
Property Acreage	3.4
Proposed Use / Development to Property	Industrial business
Check Type of Development	General Commercial or Multi-Family Use (including recreational use)
Describe the type of proposed building construction or planned development.	a steel and concrete building to store salt sand for road maintenance.
What type of business activities will be on the property?	county road department storage.
Is there surface water on the property?	No
Is the property located in a floodplain?	No
Is the proposed development located in Sage Grouse habitat?	No
Are there covenants and/or restrictions on the property that may prohibit the proposed development?	No
Are there any road, ditch, utility or other easements that exist on the property?	No
Describe existing and proposed water, sewer and wastewater facilities:	There will be no water available, or needed wastewater on the property.
Describe existing access to the property and how traffic related to the commercial and industrial activity will be directed through the site.	property is accessed off of Rodeo Road, by an existing approach, and navigated by an existing roadway
For construction of new buildings or facilities related to this permit, please state how far they will be set back from each property line:	Building is in excess of 50' from nearest adjoining property owners.
Will the proposed activity interfere with agricultural operations by contaminating	No

water sources or interfering with irrigation facilities?	
Are State or Federal Permits needed to conduct this activity on the proposed property?	No, I have not yet applied for additional permits
What are the current uses adjacent to the proposed property?	1 residential property over 100' to the west, across an irrigation ditch. to the north, other County Land, to the east, vacant airport land, and to the south, City park land of the City of Red Lodge.
Neighboring Property Owner 1	First Name: Gary & Emily Last Name: Russell
Neighboring Property Owner 1 Full Address	Street Address: P.O. Box 2045 Red Lodge City: Red Lodge State: MT Zip: 59068
Neighboring Property Owner 2	First Name: City of Red Lodge
Neighboring Property Owner 2 Full Address	Street Address: P.O. Box 9 City: Red Lodge State: MT Zip: 59068
More Owners?	No
Group 2 Property Site Plan submission	Email / Mail my site plan at a later date
Please describe the location of your approach or provide GPS coordinates.	used to be 92 rodeo road...should that continue or, need a new address...
Please provide any additional comments concerning this address request.	none
Does the occupant want their phone number(s) and email registered with the County's Emergency Notification System (i.e., CodeRED). This will only be used for emergency situations in the County and not shared.	No, do not include my contact information in CodeRED. I do not wish to receive emergency notifications
Amount to be Paid (convenience fees are in addition to this total)	190
Signature Data	First Name: Bill Last Name: Bullock Email Address: bbullock@co.carbon.mt.us

LSM Bullock

Signed at: April 2, 2024 12:50pm America/New_York

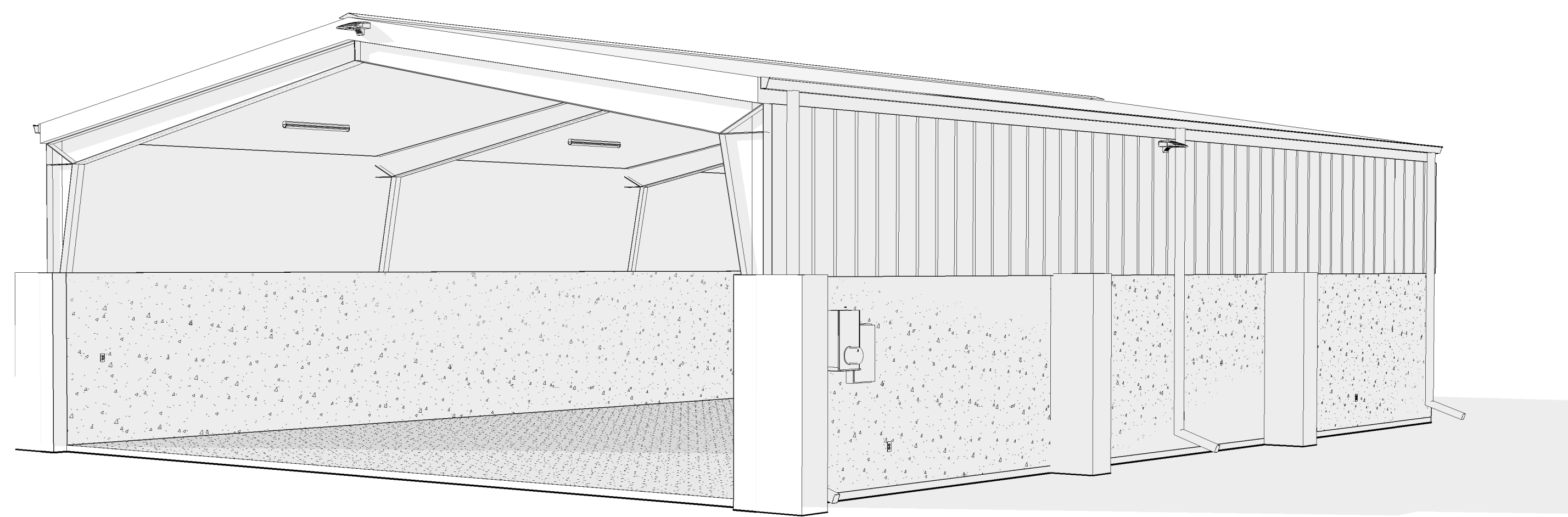
Receipt

DPP-0000689

CARBON COUNTY MONTANA NEW SALT SHED

RED LODGE, MT
CONSTRUCTION DOCUMENTS
FEBRUARY 12, 2024

PROJECT RENDERING



PROJECT TEAM

OWNER
CARBON COUNTY BOARD OF COMMISSIONERS
17 WEST 11TH ST.
RED LODGE, MT 59068



ARCHITECT
ARETE DESIGN GROUP, LLC
228 EAST BRUNDAGE ST, SUITE 100
SHERIDAN, WY 82801
307-672-8270



CONTACT: LEVI VAN BUGGENUM
LEVIV@ARETEDESIGN.GROUP

CIVIL ENGINEER

INTERSTATE ENGINEERING
606 S. GRANT AVENUE
RED LODGE, MT 59068
406-445-3133



CONTACT: LANE THOMPSON
LANE.THOMPSON@INTERSTATEENG.COM

STRUCTURAL ENGINEER

HENDRICKSON FREESE PC
645 GRAND AVENUE, SUITE H
BILLINGS, MT 59102
307-752-9083



CONTACT: ALFRED HENDRICKSON
ALFRED@HENDRICKSONFREESE.COM

ELECTRICAL ENGINEER

MORRISON-MAIERLE
315 N 25TH ST, SUITE 102
BILLINGS, MT 59101
406-656-6000



CONTACT: JEFF KRAFT
JKRAFT@M-M.NET

DRAWING INDEX

G000	COVER SHEET
C1	CONSTRUCTION NOTES
C2	GRADING PLAN
S001	GENERAL NOTES & TYPICAL DETAILS
S002	GENERAL NOTES & TYPICAL DETAILS
S101	PLAN VIEWS
S501	DETAILS
A201	FLOOR PLAN
A301	REFLECTED CEILING PLAN
A401	ROOF PLAN
A501	BUILDING ELEVATIONS
A601	BUILDING SECTIONS
E001	ELECTRICAL COVER SHEET
E002	ELECTRICAL SPECIFICATIONS
E003	ELECTRICAL SPECIFICATIONS
E201	ELECTRICAL PLAN

PROJECT INFORMATION

OWNER: CARBON COUNTY BOARD OF COMMISSIONERS
PROJECT SCOPE: NEW SHED FOR STORAGE OF SALT/SAND MIXTURE FOR CARBON COUNTY, MT
CONSTRUCTION TYPE: VB
OCCUPANCY: S-2
SPRINKLED: NO
NUMBER OF STORIES: 1
TOTAL BUILDING SF: 2,520 SF

ARCHITECTURAL NOTES

- UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO GRIDLINES ALIGNING TO FACE OF COLUMNS, FACE OF NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
- FINISH FLOOR ELEVATION (FFE) REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
- LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE.
- DO NOT SCALE DRAWINGS.



ARETE DESIGN GROUP

228 EAST BRUNDAGE STREET, SUITE 100
SHERIDAN, WYOMING 82801

INFO@ARETEDESIGN.GROUP
PHONE: 307.672.8270

DESIGN AND CONSTRUCTION CRITERIA:

1. MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, 7TH EDITION, APRIL 2021.
2. MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY, CIRCULAR 1, AUGUST 2022.

GENERAL NOTES:

1. THE GENERAL CONSTRUCTION NOTES APPLY TO THE UTILITY PROJECT IN ITS ENTIRETY, UNLESS NOTED OTHERWISE, CONSTRUCTION NOTES THAT HAVE BEEN INCLUDED PAGE BY PAGE SHALL BE CONSIDERED ADDITIONAL NOTES APPLICABLE TO THAT SECTION OF WORK.
2. UNLESS NOTED OTHERWISE CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE PROJECT DOCUMENTS. PLAN SHEET DETAILS SHALL TAKE PRECEDENCE OVER THE PROJECT SPECIFICATIONS.
3. ITEMS NOT INCLUDED AS A PAY ITEM ON THE BID FORM SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION.

EXISTING UTILITIES:

1. UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVEL" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEER'S DOCUMENT ASCE 38, "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA" RELIANCE UPON THIS DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES, POLICIES, AND/OR PROCEDURES DURING EXCAVATION. IT IS IMPORTANT THAT THE CONTRACTOR INVESTIGATES AND UNDERSTANDS THE SCOPE OF THE WORK BETWEEN THE PROJECT OWNER AND THEIR ENGINEER REGARDING THE SCOPE AND LIMITS OF THE UTILITY INVESTIGATIONS LEADING TO THESE UTILITY DEPICTIONS.
 - a. UTILITY QUALITY LEVEL: A PROFESSIONAL OPINION OF THE QUALITY AND RELIABILITY OF UTILITY INFORMATION, SUCH RELIABILITY IS DETERMINED BY THE MEANS AND METHODS OF THE PROFESSIONAL. EACH OF THE FOUR EXISTING UTILITY DATA QUALITY LEVELS ARE ESTABLISHED BY DIFFERENT METHODS OF DATA COLLECTION AND INTERPRETATION.
 - b. UTILITY QUALITY LEVEL "A": PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUB-SURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT IS TYPICALLY USED TO MINIMIZE THE POTENTIAL FOR UTILITY DAMAGE. A PRECISE HORIZONTAL AND VERTICAL LOCATION, AS WELL AS OTHER UTILITY ATTRIBUTES, IS SHOWN ON PLAN DOCUMENTS. ACCURACY IS TYPICALLY SET TO 15 MM VERTICAL AND TO APPLICABLE HORIZONTAL SURVEY AND MAPPING ACCURACY AS DEFINED OR EXPECTED BY THE PROJECT OWNER.
 - c. UTILITY QUALITY LEVEL "B": INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEO-PHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. QUALITY LEVEL "B" DATA SHOULD BE REPRODUCIBLE BY SURFACE GEO-PHYSICS AT ANY POINT ON THE DEPICTION. THIS INFORMATION IS SURVEYED TO APPLICABLE TOLERANCES DEFINED BY THE PROJECT AND REDUCED ONTO PLAN DOCUMENTS.
 - d. UTILITY QUALITY LEVEL "C": INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL "D" INFORMATION.
 - e. UTILITY QUALITY LEVEL "D": INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.
2. THE UTILITIES SHOWN ON THESE PLANS ARE LOCATED APPROXIMATELY, HAVING AN ACHIEVED QUALITY LEVEL OF "C", THROUGH A COMBINATION OF FIELD SURVEY AND OWNER MAINTAINED MAPS. THE USE OF UTILITY LOCATIONS AND DEPTHS SHOWN HEREIN ARE FOR REFERENCE ONLY AND NOT FOR CONSTRUCTION PURPOSES. THE EXACT SIZE, LOCATION, MATERIAL AND DEPTH OF ALL UTILITIES SHALL BE DETERMINED ONSITE BEFORE CONSTRUCTION COMMENCES. ANY PARTY FAILING TO LOCATE UTILITIES RELATIVE TO THE CONSTRUCTION AREA AGREES TO BE FULLY RESPONSIBLE.
3. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING ALL UTILITIES PRIOR TO EXCAVATION WORK. THE CONTRACTOR SHALL CALL FOR UTILITY LOCATES PRIOR TO BEGINNING SAID WORK AND BE RESPONSIBLE FOR PROTECTING ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED UTILITY RELOCATION WITH THE AFFECTED UTILITY OWNER.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT, OR RELOCATION OF ANY UTILITIES AND STRUCTURES (OVERHEAD, UNDERGROUND, OR SURFACE) REQUIRED FOR INSTALLATION OF THE WATER AND/OR SEWER LINE AND APPURTENANCES. ANY UTILITY MODIFICATIONS SHALL BE COORDINATED WITH THE OWNER OF EACH UTILITY BEFORE CONSTRUCTION COMMENCES, UNLESS NOTED AS BEING RELOCATED BY THE UTILITY OWNER. ALL COSTS ASSOCIATED WITH SAID WORK SHALL BE INCIDENTAL THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE AWARDED FOR SUCH.
5. CONTRACTOR SHALL FIELD VERIFY EXACT ELEVATIONS OF EXISTING STORM SEWER, SANITARY SEWER, POTABLE WATER, ELECTRIC, TELEPHONE, FIBER OPTIC, GAS, AND OTHER UTILITY CROSSINGS BEFORE PLACEMENT OF NEW WATER AND/OR SEWER PIPELINES.
6. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATION AND GRADES PRIOR TO BEGINNING WORK AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN DESIGN AND AS-CONSTRUCTED INFRASTRUCTURE IMPROVEMENTS.

PLAN SHEETS AND DRAWINGS:

1. THE EXISTING SITE COMPONENTS ARE SHOWN IN GRAY. WORK INCLUDED IN THIS PROJECT IS SHOWN AS A SOLID LINE TYPE AND DESIGNATED BY COLOR.
2. IMPROVEMENT OFF-SETS LISTED IN PLAN VIEW ARE "L" MEANING LEFT OFF-SET IN DIRECTION OF STATIONING AND "R" MEANING RIGHT OFF-SET IN DIRECTION OF STATIONING. OFF-SET IS IN RELATION TO LOCATION AT WATER/SEWER MAIN CENTERLINE FOR PLAN VIEW. OFF-SETS LISTED IN PROFILE VIEW REPRESENT DIRECTION OF SERVICES/HYDRANTS FROM WATER/SEWER MAIN CENTERLINE IN DIRECTION OF STATIONING.
3. IMPROVEMENTS LISTED WITH "H" REPRESENTS HORIZONTAL ALIGNMENT ADJUSTMENT, "V" REPRESENTS VERTICAL ALIGNMENT ADJUSTMENT.
4. DETAIL DRAWINGS NOT INCLUDED UNDER THIS COVER MAY BE REFERENCED FROM MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, 7TH EDITION, APRIL 2021.

SITE PROTECTION AND/OR USE:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL LAND, APPROVAL, AND/OR EASEMENTS NECESSARY FOR STAGING AND STORAGE OF CONSTRUCTION MATERIAL AND MACHINERY.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED TO PERFORM THIS WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR, BUT NOT LIMITED TO, DEVELOPING AND IMPLEMENTING A SITE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL SUBMIT THE PLAN TO THE OWNER/ENGINEER PRIOR TO FILING THE NOTICE OF INTENT WITH THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ) FOR THIS PROJECT, IF REQUIRED.
4. ALL SALVAGEABLE MATERIALS SHALL BECOME THE PROPERTY OF THE OWNER. EXCESS EXCAVATED MATERIAL INCLUDING PIPE, STUMPS, ROOTS, AND ANY OTHER ITEMS THE OWNER DOES NOT WISH TO SALVAGE SHALL BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY, INCIDENTAL TO THE CONTRACT WITH NO ADDITIONAL COMPENSATION AWARDED FOR SUCH.
5. THE CONTRACTOR WILL PROTECT ALL PAVEMENT, SURFACING, DRIVEWAYS, CURBS, WALKS, BUILDINGS, UTILITY POLES, GUY WIRES, MAILBOXES, PLANTERS, AND OTHER SURFACE STRUCTURES AFFECTED BY CONSTRUCTION ACTIVITIES IN CONNECTION WITH PERFORMANCE OF THE CONTRACT TOGETHER WITH GRASS, SHRUBS, LAWN ORNAMENTS, ETC., OF YARDS CROSSED OR ADJACENT TO THE WORK FROM DAMAGE AND/OR DISTURBANCE. IF REMOVED OR OTHERWISE DAMAGED, THE CONTRACTOR SHALL RESTORE ALL SURFACE STRUCTURES TO THE ORIGINAL CONDITION OR BETTER AS DETERMINED BY THE OWNER/ENGINEER. ALL REPLACEMENT OF SUCH SURFACING AND SURFACE STRUCTURES SHALL BE MADE WITH NEW MATERIALS CONFORMING TO THE SPECIFICATIONS OR AS APPROVED BY THE OWNER/ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO STREETS, ROADS, HIGHWAYS, DITCHES, SHOULDERS, EMBANKMENTS, CULVERTS, BRIDGES, OR OTHER PUBLIC OR PRIVATE PROPERTY OR FACILITY THAT MAY BE DAMAGED BY MOVING, HAULING, OR OTHERWISE TRANSPORTING EQUIPMENT, MATERIALS TO OR FROM THE WORK. THE CONTRACTOR SHALL MAKE, WITHOUT DELAY, SATISFACTORY AND ACCEPTABLE ARRANGEMENTS WITH THE OWNER OF THE AGENCY HAVING JURISDICTION OVER THE DAMAGED PROPERTY CONCERNING REPAIR OR REPLACEMENT OR PAYMENT OF COSTS INCURRED IN CONNECTION WITH SAID DAMAGE.

7. THE EXISTING LANDSCAPE AND IRRIGATION SYSTEMS ARE NOT SHOWN BUT SHALL BE PROTECTED BY THE CONTRACTOR. ANY DAMAGED COMPONENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTORS SHALL MAINTAIN ACCESS FOR ALL PROPERTY OWNER(S) AND BUSINESSES SHALL COORDINATE DETOURS AND TEMPORARY CLOSURES WITH AFFECTED PROPERTY OWNER(S).
9. CONSTRUCTION ACTIVITIES REQUIRING ROAD CLOSURES SHALL BE RELAYED TO THE LOCAL DISPATCH OFFICE, AS WELL AS THE SCHOOL, BY THE CONTRACTOR TO ENSURE EMERGENCY SERVICES AND BUS ROUTES ARE NOTIFIED OF ALTERNATE ROUTES THROUGHOUT THE DURATION OF THE PROJECT.
10. ALL TRAFFIC CONTROL DEVICES AND PLANS ARE SUBJECT TO REVIEW BY THE OWNER/ENGINEER AND THE CITY OF RED LODGE AS APPLICABLE. ALL TRAFFIC CONTROL/DEVICES SHALL MEET THE REQUIREMENTS OF THE MUTCD, LATEST EDITION.
11. THE CONTRACTOR SHALL KEEP THE PROJECT SITE CLEAN AND ORDERLY DURING THE COURSE OF CONSTRUCTION, AS APPROVED BY THE OWNER/ENGINEER.
12. CONTRACTOR SHALL PROVIDE DUST CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, AS APPROVED BY THE OWNER/ENGINEER.
13. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO PREVENT EXCESSIVE AMOUNTS OF OPEN TRENCH. OPEN TRENCH IS DEFINED AS AREAS ABSENT THE FOLLOWING CRITERIA: BACKFILL/COMPACTION PER SPECIFICATIONS, AND TEMPORARY SURFACE COURSE (IF REQUIRED) TO FINISH GRADE.
 - a. THE MAXIMUM PERMISSIBLE DISTANCE OF OPEN TRENCH BETWEEN BACKFILLING/COMPACTION/TEMPORARY SURFACING OPERATIONS FROM THE END OF NEWLY INSTALLED PIPE SHALL NOT EXCEED 200 FEET IN EXISTING STREETS AND 400 FEET IN ALL OTHER AREAS, UNLESS OTHERWISE APPROVED BY OWNER/ENGINEER. SHORTER DISTANCES MAY BE REQUIRED BASED ON PROXIMITY TO SCHOOL BUILDINGS. REFER TO SECTION 31 23 33 TRENCHING AND BACKFILL FOR MORE INFORMATION.
 - b. OPEN TRENCH OUTSIDE OF THESE LIMITS SHALL BE BACKFILLED, COMPACTED, AND HAVE TEMPORARY SURFACING INSTALLED TO FINISH GRADE PER SPECIFICATIONS AND BE OPEN AND ACCESSIBLE TO THE PUBLIC WITHIN TRAVELED ROADWAYS.

NEW UTILITY INSTALLATION:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL O.S.H.A. STANDARDS FOR TRENCH EXCAVATION.
2. UNLESS OTHERWISE NOTED, CONSTRUCTION LIMITS FOR WATER MAIN ARE WITHIN CITY RIGHTS OF WAY AND EXECUTED EASEMENTS.
3. ALL WATER MAINS, SERVICES, VALVES, HYDRANTS, AND FITTINGS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH DIVISION 33 - UTILITIES OF THE PROJECT SPECIFICATIONS.
4. CONTRACTOR SHALL COORDINATE THE OPERATION OF EXISTING VALVES AND HYDRANTS WITH THE CITY/TOWN PUBLIC WORKS DEPARTMENT.
5. ALL CURB STOP AND FIRE HYDRANT LOCATIONS SHALL BE VERIFIED WITH THE OWNER/ENGINEER PRIOR TO PLACEMENT.
6. THE EXACT TYPE AND SIZE OF EXISTING WATER MAIN/SERVICES ARE UNKNOWN. THE CONTRACTOR SHALL VERIFY THE SIZE, TYPE, AND LOCATION OF EXISTING MAINS/SERVICES AND ACQUIRE THE NECESSARY FITTINGS, VALVES, ADAPTORS, AND OTHER MATERIALS REQUIRED TO COMPLETE THE PROJECT. THIS INCLUDES HAVING A SMALL QUANTITY OF SERVICE LINE FITTINGS NOT NECESSARILY CALLED OUT ON THE PLANS. IF THE CONTRACTOR IS REQUIRED TO ACQUIRE/RETURN ANY FITTINGS, VALVES, ETC., THE COST OF SUPPLYING AND/OR RESTOCKING THE NECESSARY FITTINGS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
7. ALL WATER SERVICE CONNECTIONS NOT COVERED UNDER THE PROJECT DOCUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE AS ADOPTED BY MONTANA IN ARM 24.301.301.
8. ALL SEWER SERVICE LATERAL INSTALLATION AND/OR REPAIRS NOT COVER UNDER THE PROJECT DOCUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH UNIFORM PLUMBING CODE AS ADOPTED BY MONTANA IN ARM 24.302.301.
9. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER WHEN ADDITIONAL WATER OR SEWER SERVICES ARE ENCOUNTERED THAT ARE NOT SHOWN ON THE PLANS, WHETHER THEY ARE ACTIVE OR INACTIVE.

SURFACE RESTORATION:

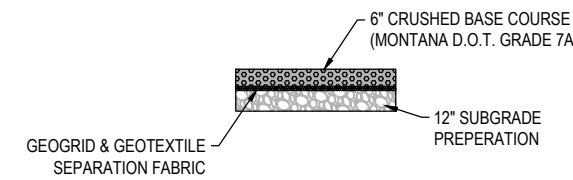
1. ALL DISTURBED LANDSCAPE AREAS SHALL BE RE-LANDSCAPED WITH A MINIMUM 6 INCHES OF TOPSOIL AND RE-SEEDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 32 92 19 SEEDING OF THE PROJECT SPECIFICATIONS, UTILIZING A SEED MIX OR SOD APPROVED BY THE OWNER/ENGINEER AND AFFECTED PROPERTY OWNER(S).
 - a. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING NEW LANDSCAPING UNTIL VEGETATION HAS BEEN FULLY ESTABLISHED, UNLESS OTHER ARRANGEMENTS ARE MADE AND APPROVED BY OWNER/ENGINEER.

MISCELLANEOUS:

1. THIS SECTION RESERVED.

MATERIAL & UTILITY SUMMARY

ITEM	UNIT	QUANTITY
6" CRUSHED BASE COURSE	SY	767
CLEARING AND GRUBBING	CY	128



1 C-1 GRAVEL SECTION DETAIL
Scale: NTS

Rev No	Date	By	Description

CARBON COUNTY SALT BUILDING SITE PLAN
CARBON COUNTY
RED LODGE

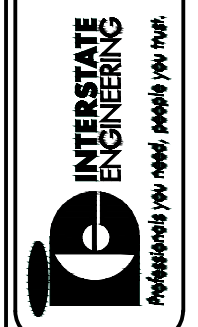
CONSTRUCTION NOTES

Drawn By: TSS
Checked By: LT

Surveyed By: RLS
Designed By: INITIALS

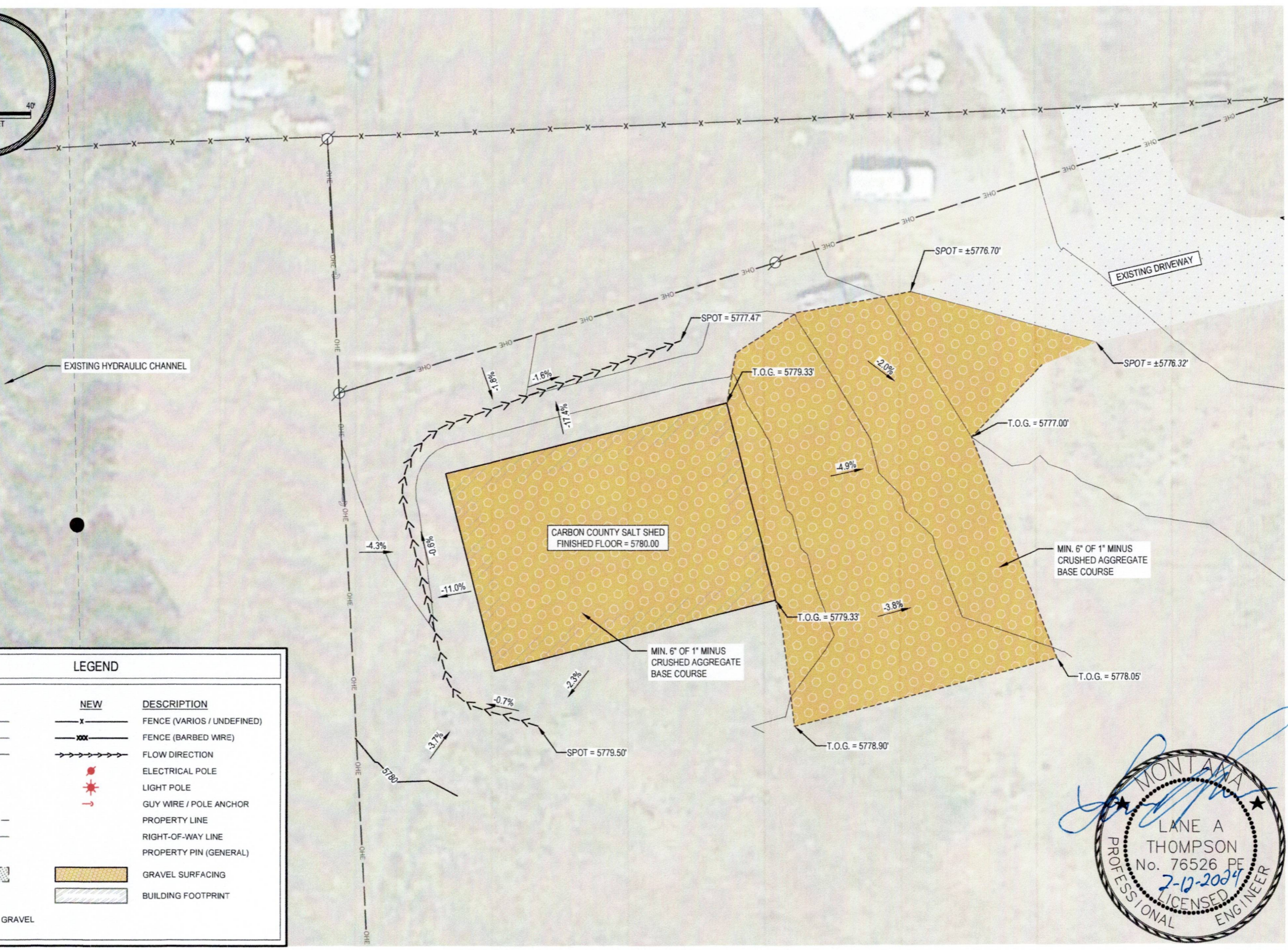
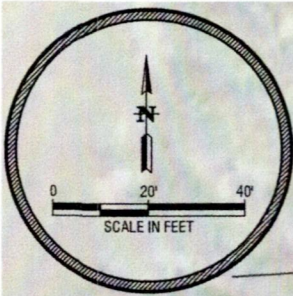
Project No: WR22-04-351
Date: 2/12/2024

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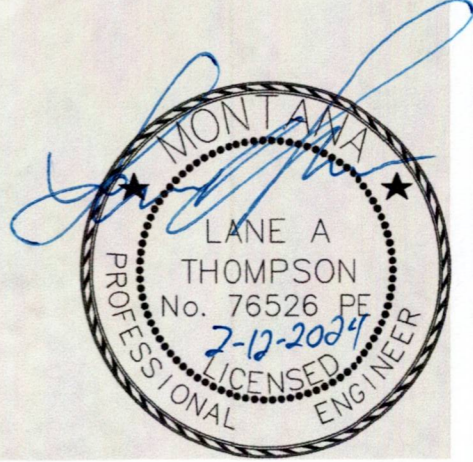
SECTION
C

SHEET NO.
1



LEGEND		DESCRIPTION
<u>EXST</u>	<u>NEW</u>	
		FENCE (VARIOS / UNDEFINED)
		FENCE (BARBED WIRE)
		FLOW DIRECTION
		ELECTRICAL POLE
		LIGHT POLE
		GUY WIRE / POLE ANCHOR
		PROPERTY LINE
		RIGHT-OF-WAY LINE
		PROPERTY PIN (GENERAL)
		GRAVEL SURFACING
		BUILDING FOOTPRINT

T.O.G. = TOP OF GRAVEL



Rev No	Date	By	Description

CARBON COUNTY SALT BUILDING SITE PLAN	
CARBON COUNTY RED LODGE	
GRADING PLAN	
Drawn By: TSS	Checked By: LT
Surveyed By: RLS	Designed By: INITIALS
Project No: WR22-04-351	Date: 2/12/2024

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SECTION
C
2
SHEET NO.

MATERIALS AND STRENGTHS

CONCRETE & REINFORCING SCHEDULE

ASTM C150 TYPE V CEMENT

ITEM (CONCRETE CLASS)	28-DAY COMPRESSIVE STRENGTH				AIR ENTRAINMENT	REMARKS
	2500 PSI	4000 PSI	4500 PSI	5000 PSI		
WATER/CEMENT RATIO	0.50 MAX	0.45 MAX	0.45 MAX	0.4 MAX		
ALL CONCRETE UNO					●	
FOOTINGS, FOUNDATION WALLS, PILASTERS					●	6-7% ENTRAINED AIR

NOTES:
AIR CONTENT +/- 1.5% AT POINT OF DISCHARGE

REINFORCING	
REINFORCING BARS	ASTM A615 GRADE 60

DESIGN INFORMATION

DESIGN CRITERIA ASCE 7-16

DEAD LOAD	
BUILDING DEAD LOAD	SEE PEMB DRAWINGS
LIVE LOAD	
ROOF LIVE LOAD	20 PSF
SNOW LOAD DESIGN CRITERIA	
GROUND SNOW LOAD (Pg)	111 PSF
FLAT ROOF SNOW LOAD (Pf)	85 PSF
IMPORTANCE FACTOR (Iw)	1.00
EXPOSURE CATEGORY Ce (SNOW EXPOSURE FACTOR)	1.0
THERMAL FACTOR (Ct)	1.0
MINIMUM ROOF SNOW LOAD	85 PSF
DRIFTING & UNBALANCED LOADING PER ASCE 7	
WIND DESIGN CRITERIA	
RISK CATEGORY	II
BASIC WIND SPEED	110 mph
EXPOSURE	C
SEISMIC DESIGN CRITERIA	
RISK CATEGORY	II
IMPORTANCE FACTOR (Ie)	1.00
SOIL SITE CLASS	D - Default
SPECTRAL ACCELERATION Ss	31.4%
SPECTRAL ACCELERATION S1	10%
SPECTRAL RESPONSE COEFFICIENT Sds	0.32g
SPECTRAL RESPONSE COEFFICIENT Sd1	0.16g
SEISMIC DESIGN CATEGORY	C
BASIC SEISMIC FORCE RESISTING SYSTEM	CONCRETE SHEAR WALLS/ STEEL FRAME
FUTURE EXPANSION: No future expansion provisions have been included in the design	

STRUCTURAL NOTES

GENERAL NOTES FOR STRUCTURAL SYSTEMS
=====

=== DIVISION 1A - DESIGN INFORMATION ===

GOVERNING CODE: INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION

LATERAL FORCE RESISTING SYSTEM: CONCRETE SHEAR WALLS / STEEL FRAMES

=== DIVISION 1B - GENERAL REQUIREMENTS ===

VERIFY EXISTING CONDITIONS AND PROMPTLY NOTIFY A/E OF ANY CONDITIONS THAT MIGHT REQUIRE CHANGES TO THE WORK.

CHECK & APPROVE SHOP DRAWING SUBMITTALS BEFORE SUBMITTING TO DESIGN TEAM.

DRAWINGS ARE DIAGRAMMATIC AND ARE NOT SCALABLE. DO NOT SCALE DRAWINGS.

COORDINATE DIMENSIONS, OPENINGS, EMBEDDED ITEMS & OTHER CONDITIONS ON ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND TRADES BEFORE CONSTRUCTION.

SIZES OF OPENINGS IN SLABS, FLOORS, WALLS, DECKS, ROOFS, ETC., ARE NOT SHOWN ON THESE DRAWINGS. DETERMINING SIZES OF OPENINGS IS THE RESPONSIBILITY OF THE CONTRACTOR. OPENINGS SHALL BE APPROPRIATELY SIZED TO SUIT THE RELATED REQUIREMENTS.

PROVIDE TEMPORARY SUPPORT DURING CONSTRUCTION AS REQUIRED, UNTIL STRUCTURAL ELEMENTS ARE PERMANENTLY ATTACHED. DRAWINGS INDICATE STRUCTURE IN FINAL FORM CAPABLE OF SUPPORTING DESIGN LOADS.

DETAILS ARE SHOWN FOR MOST CONDITIONS. UNDETAILED CONDITIONS SHALL BE CONSTRUCTED SAME AS THE MOST SIMILAR CONDITION.

=== DIVISION 1C - SUBMITTALS ===

PROVIDE SUBMITTALS:
CONCRETE MIX DESIGNS
REINFORCING BAR LAYOUT
PRE-ENGINEERED STEEL BUILDING
ANCHOR RODS

=== DIVISION 2 - SOILS AND EARTHWORK ===

PROVIDE POSITIVE DRAINAGE FOR 10'-0" AWAY FROM FOUNDATIONS.

DRAINAGE GRAVEL: CRUSHER RUN GRAVEL, ASTM D448 SIZE 57. 100% PASSING THE 1-1/2" SIEVE, 0% TO 5% PASSING THE #8 SIEVE.

FOLLOW ALL APPLICABLE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.

=== DIVISION 3A - CONCRETE, GENERAL ===

ANCHOR RODS (STRAIGHT): ASTM F1554 36 KSI RODS, ASTM A563-A NUTS (EMBEDMENT INTO CONCRETE SHALL BE 2'-0")

CLEAR COVER FOR REINFORCING BARS:
- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
- FORMED CONCRETE OTHERWISE: 2"

REINFORCING BAR SUPPORTS:
WHERE BAR SUPPORTS CARRY WEIGHT OF REINFORCING, SUPPORTS SHALL BE MADE OF CONCRETE OR STEEL. DO NOT USE MASONRY ELEMENTS, WOOD, PLASTIC OR ANY SIMILAR MATERIAL TO SUPPORT REINFORCING.

BAR LAP SPLICES: 60 BAR DIAMETERS, UNLESS SHOWN OTHERWISE.

PROVIDE CORNER BARS, WITH LAP SPLICES AS INDICATED, FOR ALL HORIZONTAL REINFORCING BARS.

SECURE EMBEDDED ITEMS BEFORE PLACING CONCRETE. DO NOT WET-STAB OR WET-SET DOWELS, ANCHORS, OR ANY OTHER EMBEDDED ITEMS.

=== DIVISION 3B - CONCRETE FOOTINGS ===

PLACE CONTINUOUS FOOTINGS IN A SINGLE POUR. DO NOT USE CONSTRUCTION JOINTS UNLESS APPROVED BY THE ENGINEER.

=== DIVISION 3C - CONCRETE WALLS ===

PLACE WALLS IN SINGLE POURS. DO NOT USE CONSTRUCTION JOINTS UNLESS APPROVED BY THE ENGINEER.

=== DIVISION 3D - CONCRETE FOUNDATIONS SUBJECT TO CHANGE ===

FOUNDATIONS AND REINFORCING ARE SIZED BASED ON ESTIMATED BUILDING REACTIONS. THIS WILL BE REVIEWED BY THE ENGINEER WHEN ACTUAL BUILDING REACTIONS ARE KNOWN. FOOTING SIZES AND REINFORCING MAY BE ADJUSTED BY THE ENGINEER AT THAT TIME. CONTRACTOR WILL PROVIDE ADJUSTED FOOTINGS AND REINFORCING AT NO ADDED COST TO THE OWNER.

=== DIVISION 5 - POST-INSTALLED MECHANICAL ANCHORS ===

ANCHORS SHALL BE SIMPSON BRAND UNLESS ENGINEER APPROVES OTHER.

ANCHORS SHALL BE CORROSION-RESISTANT.

ADHESIVE ANCHORS: A36 STEEL THREADED RODS WITH CHISEL POINT END, SIMPSON AT-XP ADHESIVE. MINIMUM EMBEDMENT OF 8 DIAMETERS, UNLESS NOTED OTHERWISE.

EXPANSION ANCHORS: SIMPSON STRONG-BOLT 2. MINIMUM EMBEDMENT OF 8 DIAMETERS, UNLESS NOTED OTHERWISE.

SCREW ANCHORS: SIMPSON TITEN HD. MINIMUM EMBEDMENT OF 8 DIAMETERS, UNLESS NOTED OTHERWISE.

=== DIVISION 13 - PRE-ENGINEERED STEEL BUILDING ===

THE PRIMARY BUILDING SUPERSTRUCTURE IS A PRE-ENGINEERED STEEL BUILDING, DESIGNED BY OTHERS.

USE INDICATED DESIGN CRITERIA.

FOUNDATIONS AND REINFORCING ARE SIZED BASED ON ESTIMATED BUILDING REACTIONS. THIS WILL BE REVIEWED BY THE ENGINEER WHEN ACTUAL BUILDING REACTIONS ARE KNOWN. FOOTING SIZES AND REINFORCING MAY BE ADJUSTED BY THE ENGINEER AT THAT TIME. CONTRACTOR WILL PROVIDE ADJUSTED FOOTINGS AND REINFORCING AT NO ADDED COST TO THE OWNER.

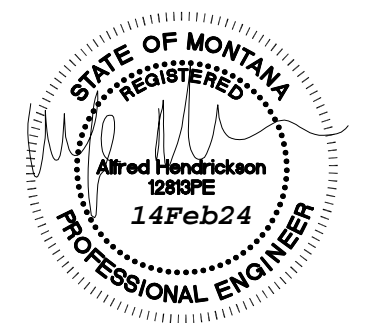
PROVIDE ANCHOR ROD DIAMETERS AS RECOMMENDED BY THE STEEL BUILDING MANUFACTURER. PROVIDE MINIMUM EMBEDMENT AS INDICATED. PLACE ANCHOR RODS INBOARD OF THE OUTER LINES OF REINFORCING.

COORDINATE THE SIZE OF THE FOUNDATION TO ACCOMMODATE THE SUPPLIED STEEL BUILDING.

PROVIDE FOUNDATION AND SLAB NOTCHES, OFFSETS, RECESSES, EMBEDMENTS, ETC., AS RECOMMENDED BY THE STEEL BUILDING MANUFACTURER.



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ELECTRICAL ENGINEER
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JKRAFT@M-M.NET

CARBON COUNTY MONTANA NEW SALT SHED

ABBREVIATIONS

A.B.	ANCHOR BOLTS
AFF	ABOVE FINISH FLOOR
ANC	ANCHOR
A.R.	ANCHOR RODS
ARCH	ARCHITECT OF RECORD OR THE ARCHITECTURAL DRAWINGS
BM	BEAM
BOT	BOTTOM
CANT	CANTILEVER
COL	CONTROL JOINT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DIA	DIAMETER
(E)	EXISTING
EA	EACH
EF	EACH FACE
EL	ELEVATION
EQ	EQUAL
EW	EACH WAY
EXP	EXPANSION
FDN	FOUNDATION
F/S	FAR SIDE
FS	FOOTING STEP
FTG	FOOTING
F.V.	FIELD VERIFY
GA	GAGE
GC	GENERAL CONTRACTOR
GL	GLUED LAMINATED TIMBER
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHORS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MECH	MECHANICAL ENGINEER OR DRAWINGS
MIN	MINIMUM
N/S	NEAR SIDE
OC	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OPPOSITE FACE
OPP	OPPOSITE
PAF	POWER-ACTUATED FASTENER
PEMB	PRE-ENGINEERED METAL BUILDING
PL	PLATE
PT	PRESERVATIVE - TREATED
SEOR	STRUCTURAL ENGINEER ON RECORD
SIPS/SIPS	STRUCTURAL INSULATED PANEL SYSTEM
SOG	SLAB ON GRADE
SPA	SPACING OR SPACES
STD	STANDARD
T&B	TOP AND BOTTOM
TC	TOP OF CONCRETE
TF	TOP OF FOOTING
TS	TOP OF STEEL
TD	TOP OF DECK
T.O.	TOP OF
TW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
U/S	UNDERSIDE OF STEEL
VERT	VERTICAL
WF	WIDE FLANGE
WS	WALL STEP

PLAN VIEW LEGEND

MARK	DESCRIPTION
	STRUCTURAL WALL TAG
	SHEAR WALL TAG
	INDICATES SLAB TYPE - SEE SCHEDULE
	INDICATES FOOTING SIZE - SEE SCHEDULE
	INDICATES PIER/PILASTER/PEDESTAL SIZE - SEE SCHEDULE
	INDICATES KEYNOTE - SEE SCHEDULE
	INDICATES HOLD DOWN
	INDICATES DETAIL CUT
	INDICATES BUILDING SECTION OR FRAMING ELEVATION
	INDICATES BUILDING ELEVATION
	INDICATES STRUCTURAL EXTENTS OPEN ARROW - EXTENTS FILLED ARROW - SPAN DIRECTION
	ELEVATION
	VERTICAL BRACE
	MOMENT FRAME CONNECTION
	CANTILEVER MOMENT FRAME CONNECTION
	EMBED PLATE CONNECTION
	INDICATES CONCRETE/MASONRY WALL JOINT
	INDICATES STEP

EARTHWORK CRITERIA

GEOTECHNICAL REPORT:	
GEOSCIENCE, PLLP	DATED: DECEMBER 5, 2022
ALL FOUNDATIONS TO BE SUPPORTED ON COMPACTED IN-SITU SANDY GRAVEL	
ALLOWABLE BEARING PRESSURE	3500 PSF
COMPACTION REQUIREMENTS:	ASTM D698 - MAXIMUM DRY DENSITY
BELOW FOUNDATION	98%
UNDER SLABS	98%
AROUND EXTERIOR FOUNDATION WALLS	98%
TESTING FREQUENCIES	
STRUCTURAL FILL BELOW SLABS	ONE (1) COMPACTION TEST AT LEAST EVERY 500 SQUARE FEET, PER EACH 8-INCH LIFT
STRUCTURAL FILL BELOW FOUNDATIONS	ONE (1) COMPACTION TEST AT LEAST EVERY 150 LINEAR FEET, OR TWO (2) PER TRENCH, WHICHEVER RESULTS IN THE GREATER NUMBER OF TESTS, PER EACH 8-INCH LIFT OF FILL
FOUNDATION WALL BACKFILL	ONE (1) COMPACTION TEST EVERY 150 LINEAR FEET OF WALL, OR TWO (2) TESTS PER WALL LINE (INTERIOR AND EXTERIOR SIDES), WHICHEVER RESULTS IN THE GREATER NUMBER OF TESTS, PER EACH 8-INCH LIFT OF BACKFILL
NOTE: ALL FILL TO BE PLACED IN 8" LIFTS UNO	

STRUCTURAL DRAWINGS

SHEET NUMBER	SHEET NAME
S001	GENERAL NOTES & TYPICAL DETAILS
S002	GENERAL NOTES & TYPICAL DETAILS
S101	PLAN VIEWS
S501	DETAILS

GENERAL NOTES & TYPICAL DETAILS

S001

Date FEBRUARY 14, 2024

Issue CONSTRUCTION DOCUMENTS

Project Number 2022-36.1

Revisions

GENERAL NOTES & TYPICAL DETAILS

S001

STATEMENT OF SPECIAL INSPECTIONS

SCOPE

A systematic approach to required IBC inspections and testing in order to provide a finished structure that meets or exceeds the minimum performance expectation in accordance with the following program and tables:

SPECIAL INSPECTION PROGRAM

Owner shall select inspection agency once project has been awarded.

STRUCTURAL OBSERVATIONS

EOR will provide structural observations during construction, review the concrete mix design, reinforcing steel and placement, and concrete anchors.

Structural observation frequency:

- Steel framing
- Reinforcing placement
- Concrete placement
- Final structure: with written report to the Building Official

SPECIAL INSPECTIONS

Inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

All Special Inspectors shall be under the direct supervision of a registered Montana PE (with structural experience) or SE.

Statement of Special Inspections

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. See schedule of Special Inspection services as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompasses STRUCTURAL discipline including the following building systems:

- Soils and Foundations
- Cast-in-Place Concrete

Inspection Frequency as indicated and in accordance with the following:

- Continuous:** Special inspection by the *special inspector* who is continuously present when and where the work to be inspected is being performed.
- Periodic:** Special inspection by the *special inspector* who is intermittently present where the work to be inspected has been or is being performed.

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities. The Special Inspection program does not authorize inspectors to modify the structural plans or details.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge. Interim Report Frequency: weekly (minimum)

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Special Inspector Qualifications

Credentials shall be provided if requested.

PE/SE Structural Engineer; a licensed SE/PE specializing in the design of building structures.
 PE/GE Geotechnical Engineer; a licensed PE specializing in soil mechanics and foundations.
 EIT Engineer-In-Training; a graduate engineer who has passed the Fundamentals of Engineering examination.

American Concrete Institute (ACI) Certification

ACI-CFTT Concrete Field Testing Technician – Grade 1
 ACI-CCI Concrete Construction Inspector
 ACI-LTT Laboratory Testing Technician – Grade 1&2
 ACI-STT Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI Certified Welding Inspector
 AWS/AISC-SSI Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT Non-Destructive Testing Technician – Level II or III

International Code Council (ICC) Certification

ICC-SMSI Structural Masonry Special Inspector
 ICC-SWSI Structural Steel and Welding Special Inspector
 ICC-SFSI Spray-Applied Fireproofing Special Inspector
 ICC-PCSI Prestressed Concrete Special Inspector
 ICC-RCSI Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT Concrete Technician – Levels I, II, III & IV
 NICET-ST Soils Technician - Levels I, II, III & IV
 NICET-GET Geotechnical Engineering Technician - Levels I, II, III & IV

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Force Resisting System and Designated Seismic Systems:
 Contractor or subcontractor responsible for construction or fabrication of systems or components shall submit a Statement of Responsibility for the items listed.

Quality Assurance for Wind Resistance

Wind Resisting System and Designated Wind Resisting Components:
 Contractor or subcontractor responsible for construction or fabrication of systems or components shall submit a Statement of Responsibility for the items listed.

IBC 2018 TABLE 1705.6 REQUIRED VERIFICATION AND INSPECTION OF SOILS

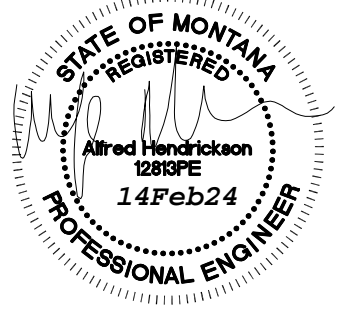
TYPE	CONTINUOUS	PERIODIC	TESTING AGENCY
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.		●	OWNER'S TESTING AGENCY
2. Verify excavations are extended to proper depth and have reached proper material.		●	OWNER'S TESTING AGENCY
3. Perform classification and testing of compacted fill materials.		●	OWNER'S TESTING AGENCY
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	●		OWNER'S TESTING AGENCY
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.		●	OWNER'S TESTING AGENCY

IBC 2019 TABLE 1705.3 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC 2018 REFERENCE	TESTING AGENCY
1. Inspect reinforcement, and verify placement.		●	ACI 318: Ch. 20, 25.3, 25.3, 26.6.1-26.6.3	1908.4	OWNER'S TESTING AGENCY
2. Inspect anchors cast in concrete.		●	ACI 318: 17.8.2		OWNER'S TESTING AGENCY
3. Inspect anchors post-installed in hardened concrete members. a. Mechanical anchors and adhesive anchors		●	ACI 318: 17.8.2		OWNER'S TESTING...
4. Verify use of required design mix.		●	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	OWNER'S TESTING AGENCY
5. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of concrete.	●		ASTM C172, C31 ACI 318: 26.5, 26.12	1908.10	OWNER'S TESTING AGENCY
6. Inspect concrete placement for proper application techniques.	●		ACI 318: 26.5	1908.6, 1908.7, 1908.8	OWNER'S TESTING AGENCY
7. Verify maintenance of specified curing temperature an techniques.		●	ACI 318: 26.5.3-26.5.5	1908.9	OWNER'S TESTING AGENCY
8. Inspect formwork for shape, location, and dimension of concrete member being formed.		●	ACI 318: 26.11.1.2(b)		OWNER'S TESTING AGENCY



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CARBON COUNTY MONTANA
 NEW SALT SHED

Date FEBRUARY 14, 2024

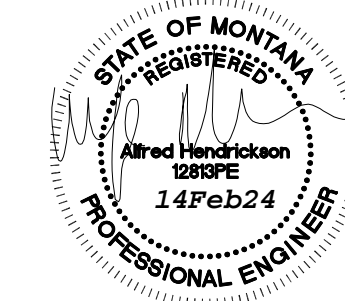
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GENERAL NOTES & TYPICAL DETAILS

S002



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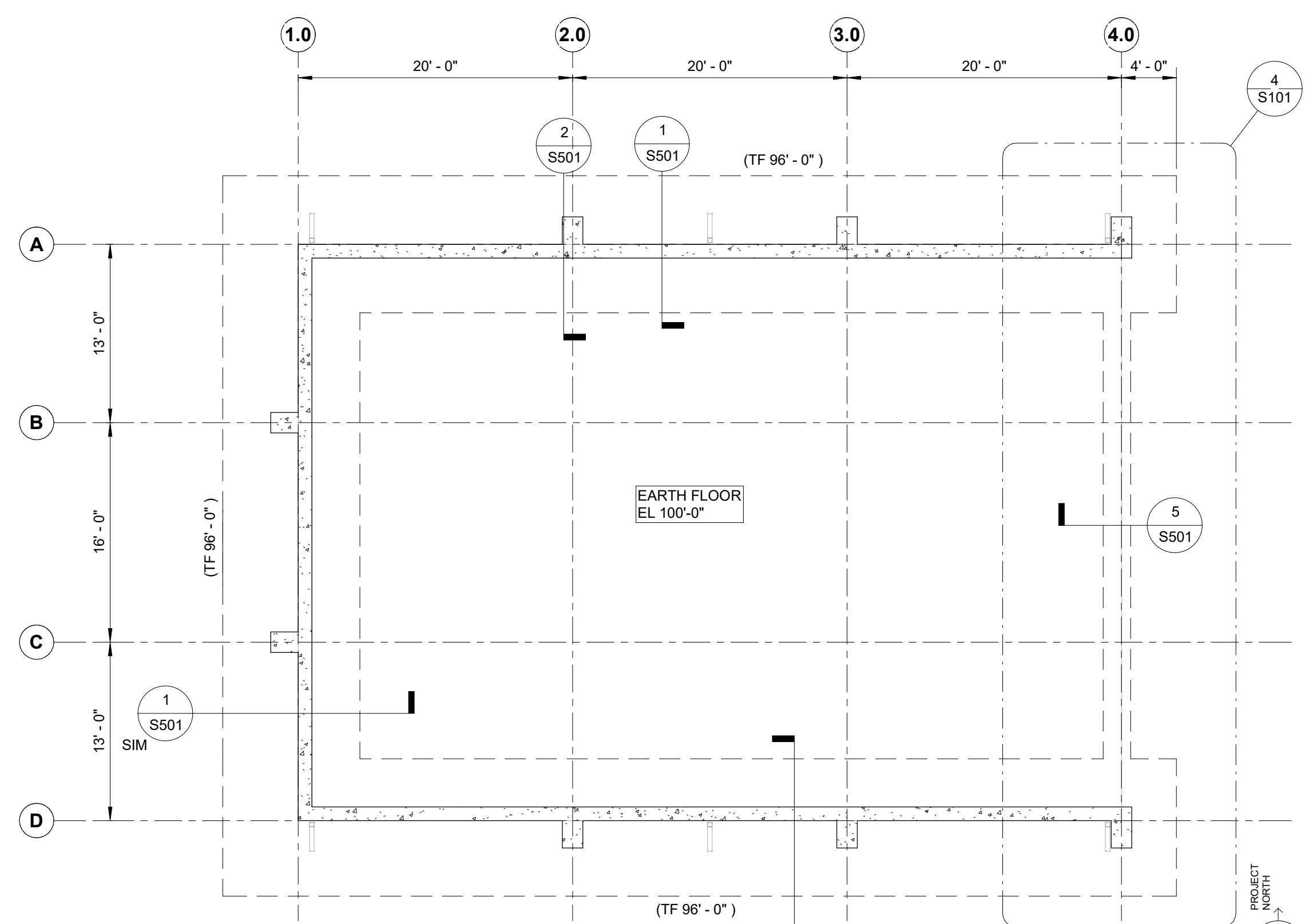
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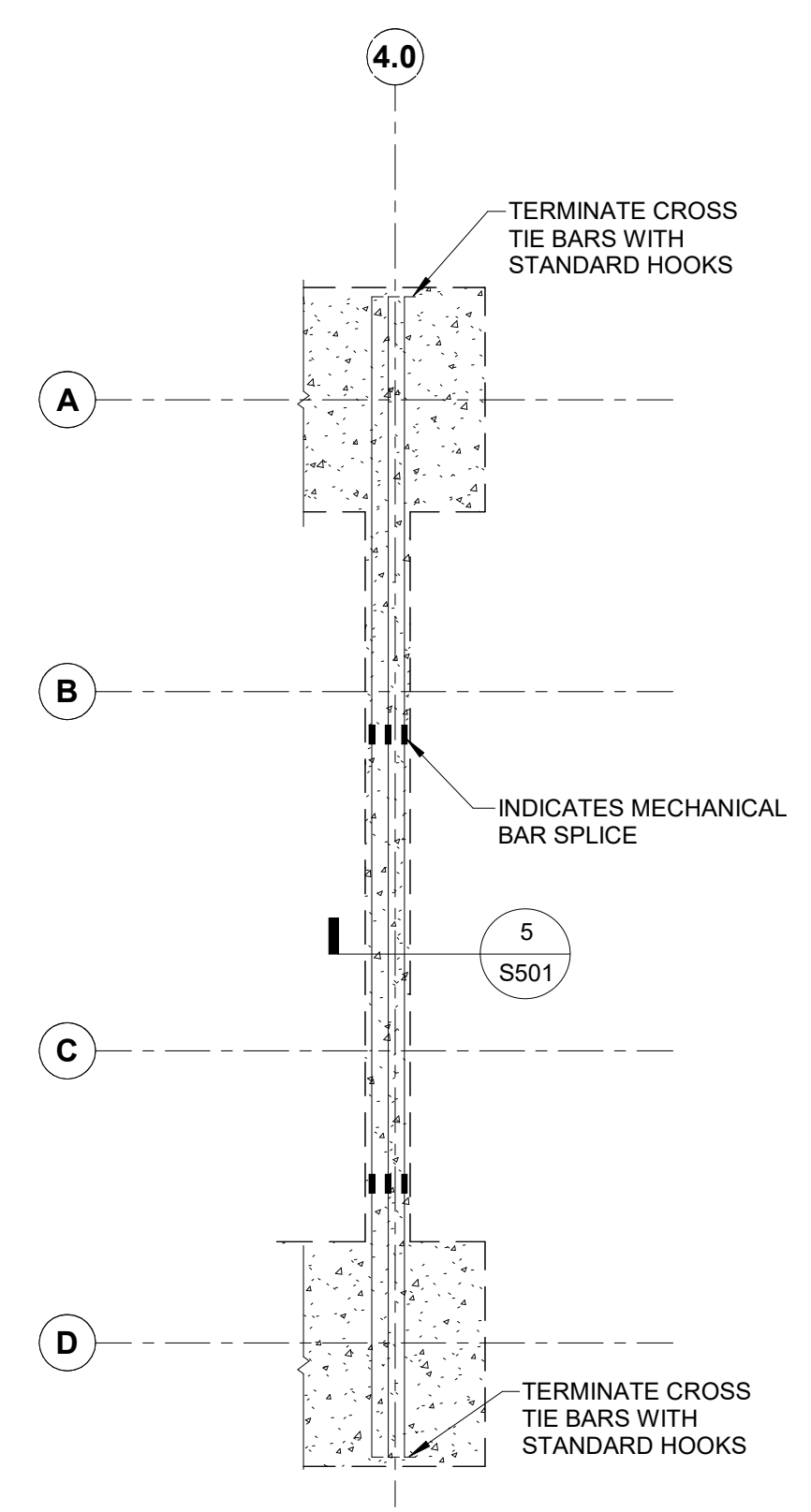
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PLAN VIEWS

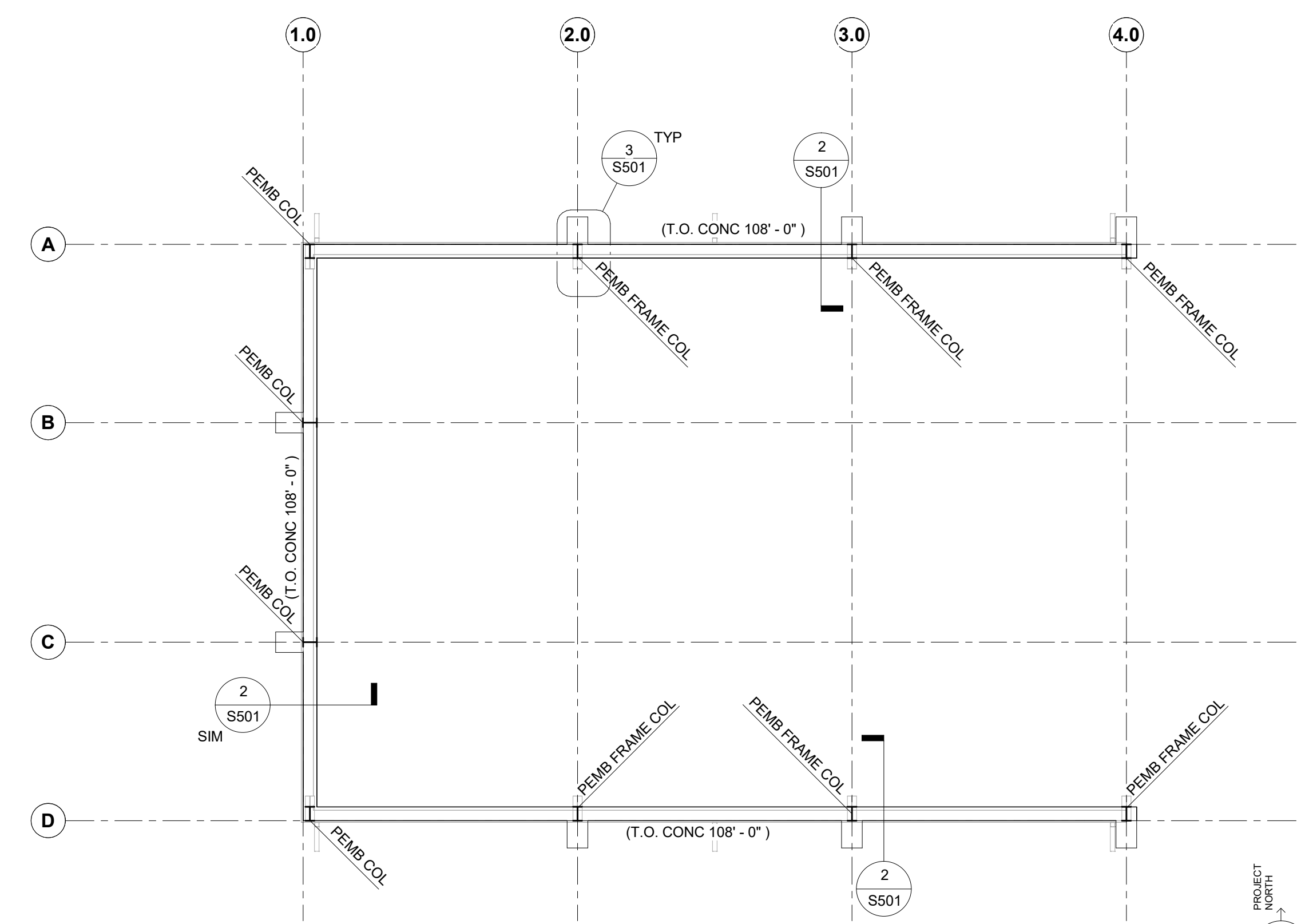
S101



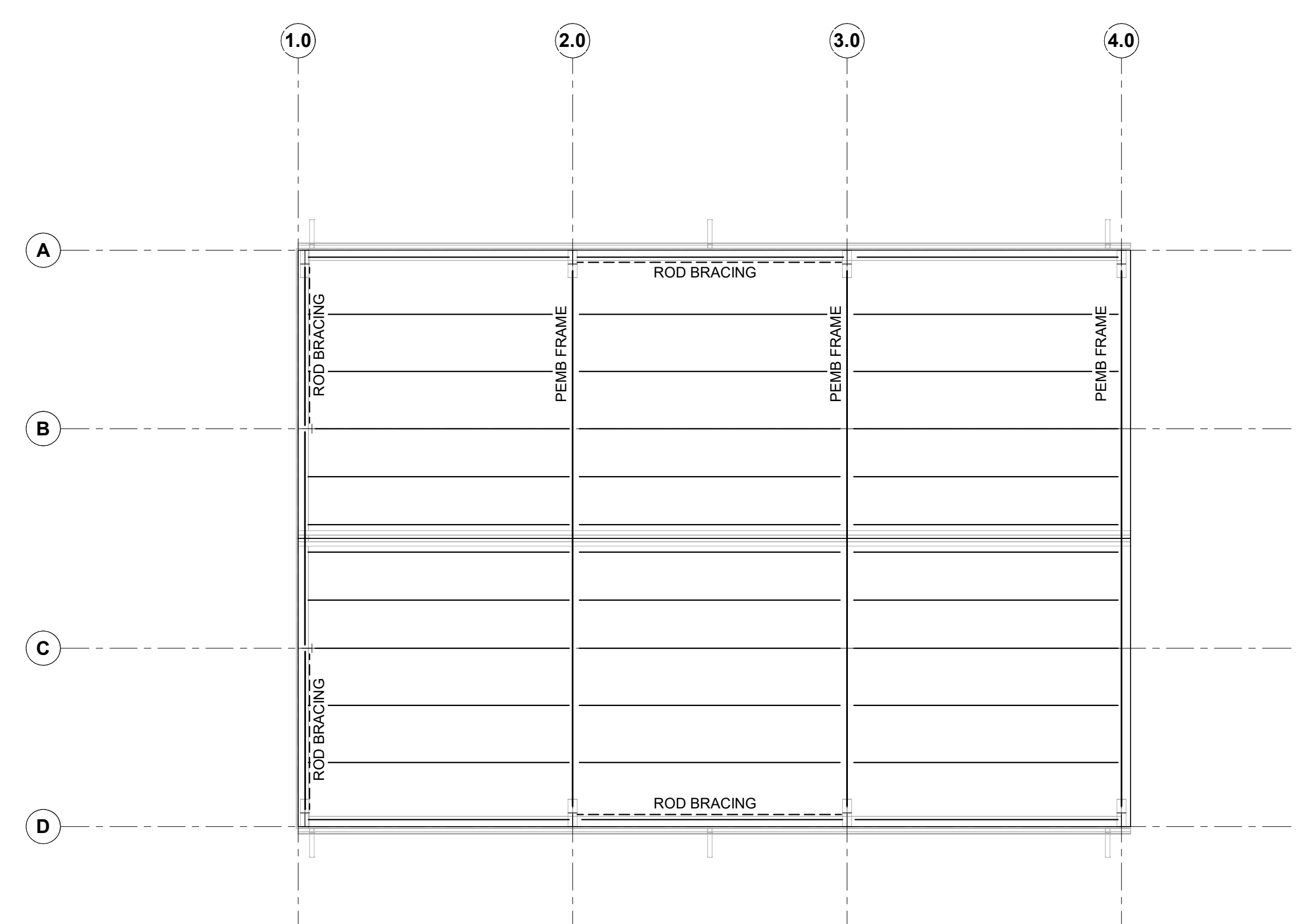
1 FOUNDATION PLAN
S101 1/8" = 1'-0"



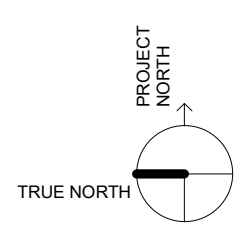
4 CROSS TIE PLAN
S101 1/8" = 1'-0"



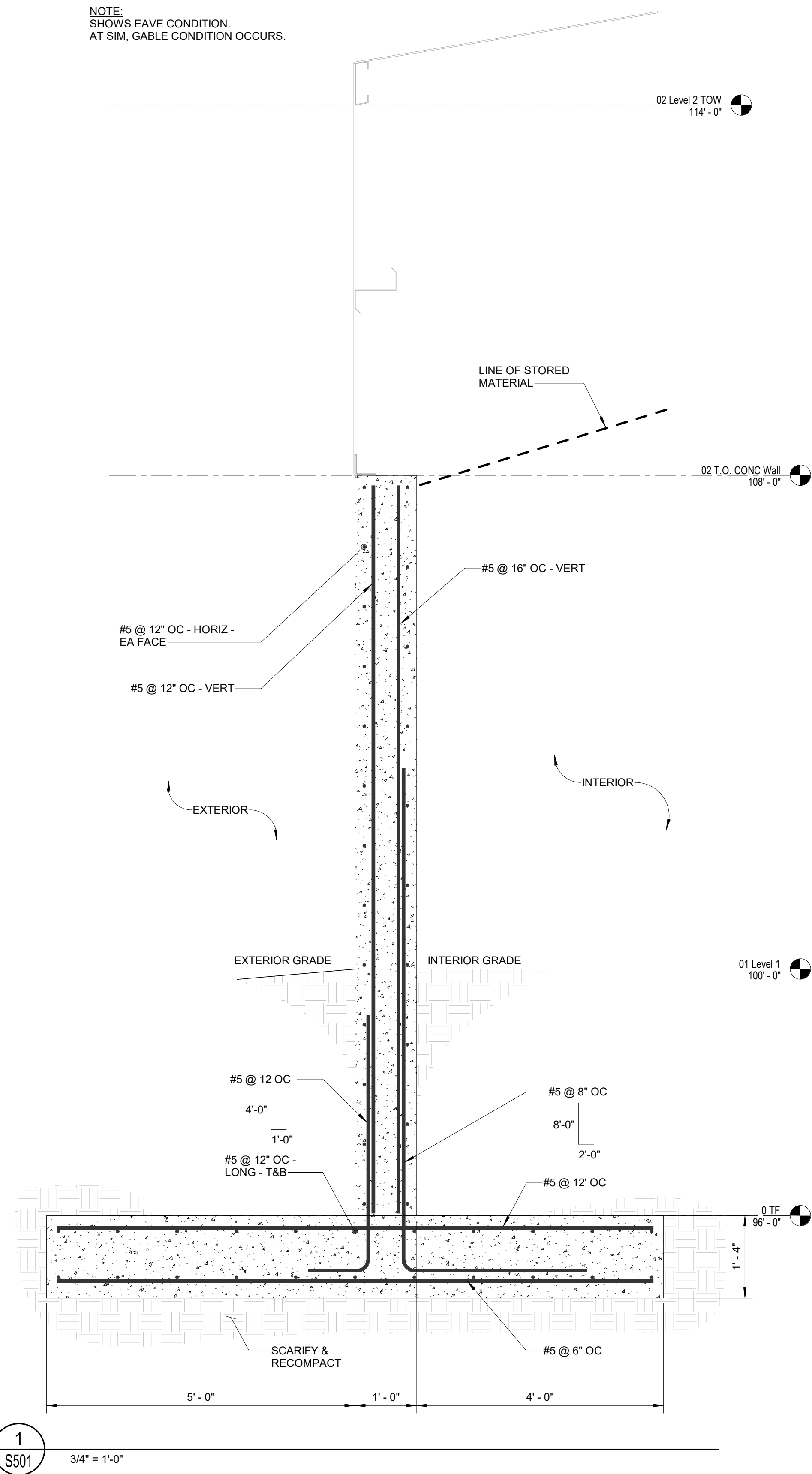
2 WALL PLAN
S101 1/8" = 1'-0"



3 ROOF FRAMING PLAN
S101 1/8" = 1'-0"

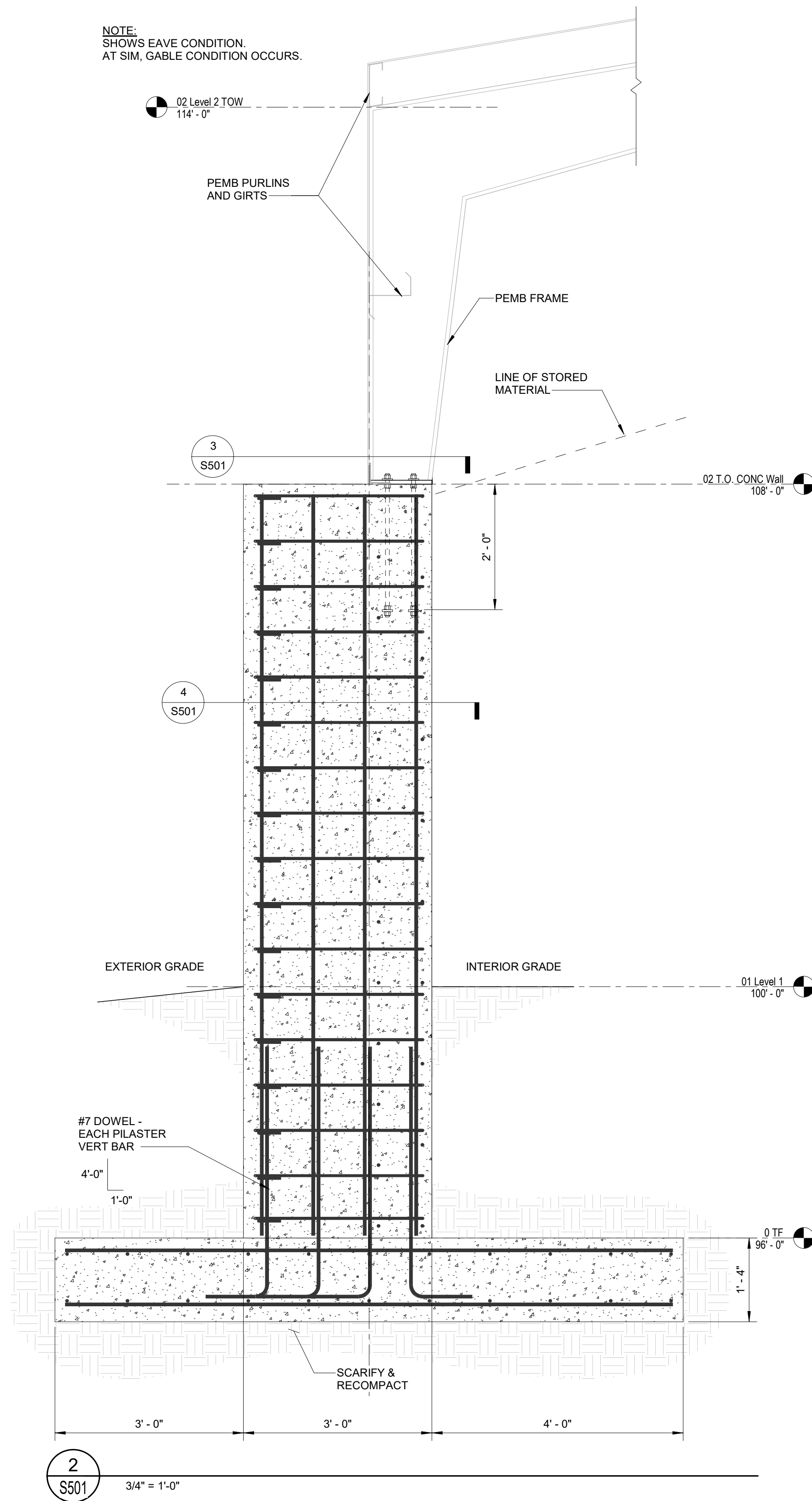


NOTE:
SHOWS EAVE CONDITION.
AT SIM, GABLE CONDITION OCCURS.

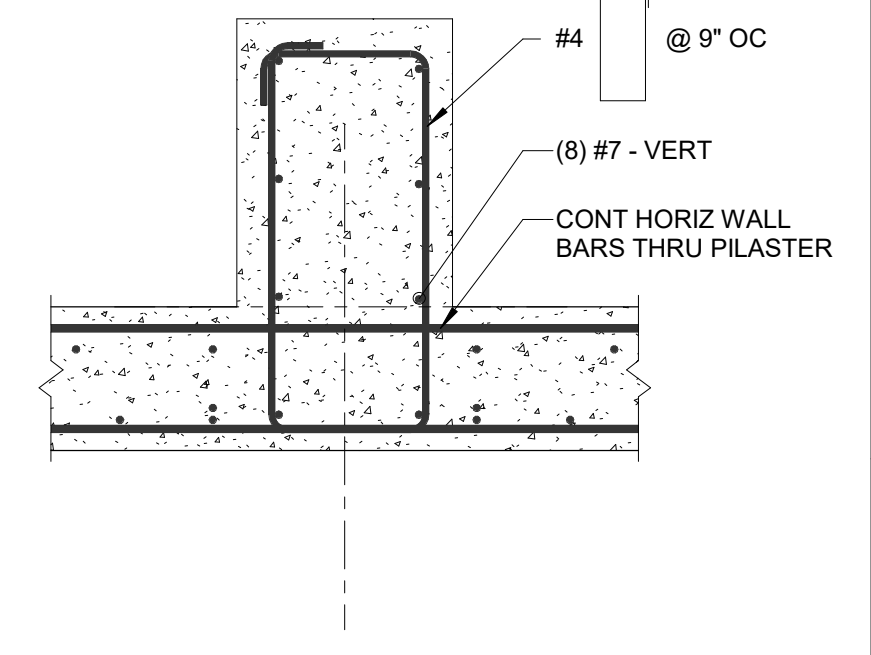
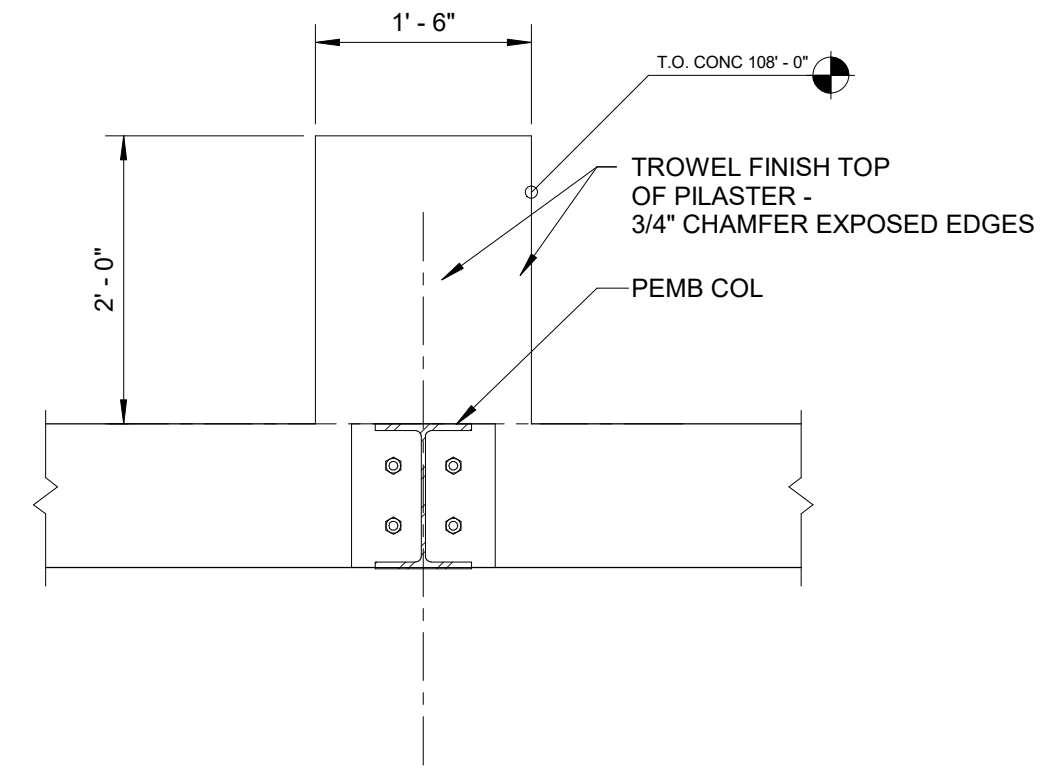


1
S501
3/4" = 1'-0"

NOTE:
SHOWS EAVE CONDITION.
AT SIM, GABLE CONDITION OCCURS.

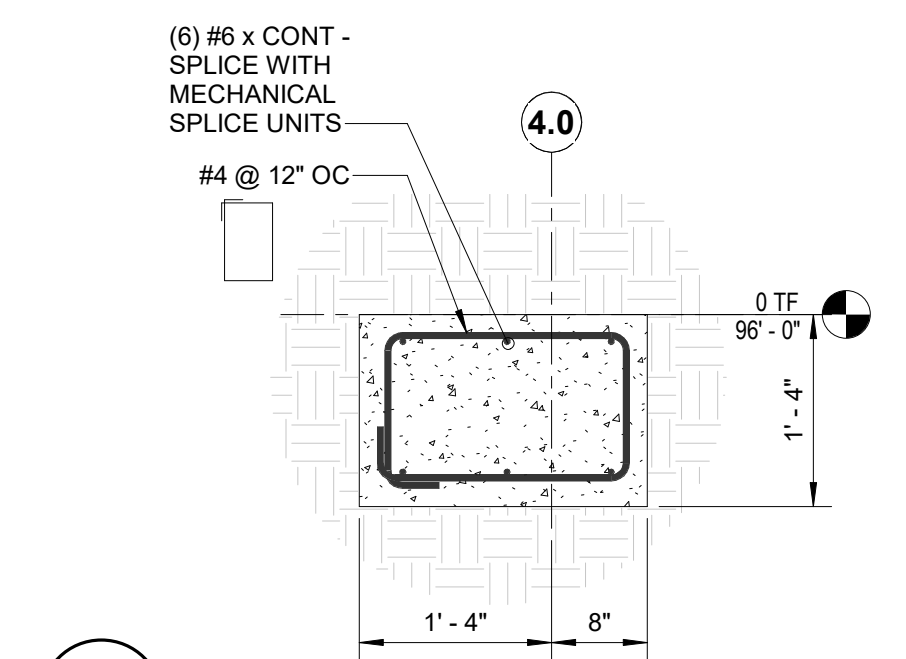


2
S501
3/4" = 1'-0"



3
S501
3/4" = 1'-0"

4
S501
3/4" = 1'-0"



5
S501
3/4" = 1'-0"

**CARBON COUNTY MONTANA
NEW SALT SHED**

Date FEBRUARY 14, 2024

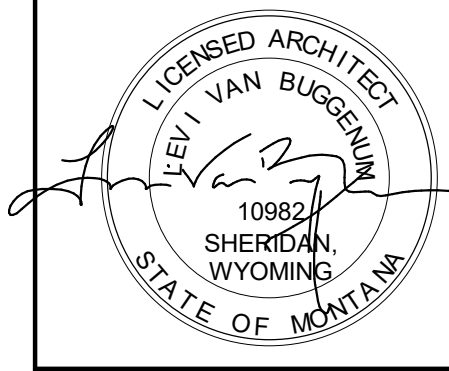
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DETAILS

S501



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**CARBON COUNTY MONTANA
NEW SALT SHED**

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FLOOR PLAN

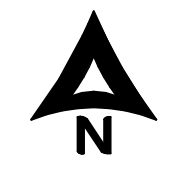
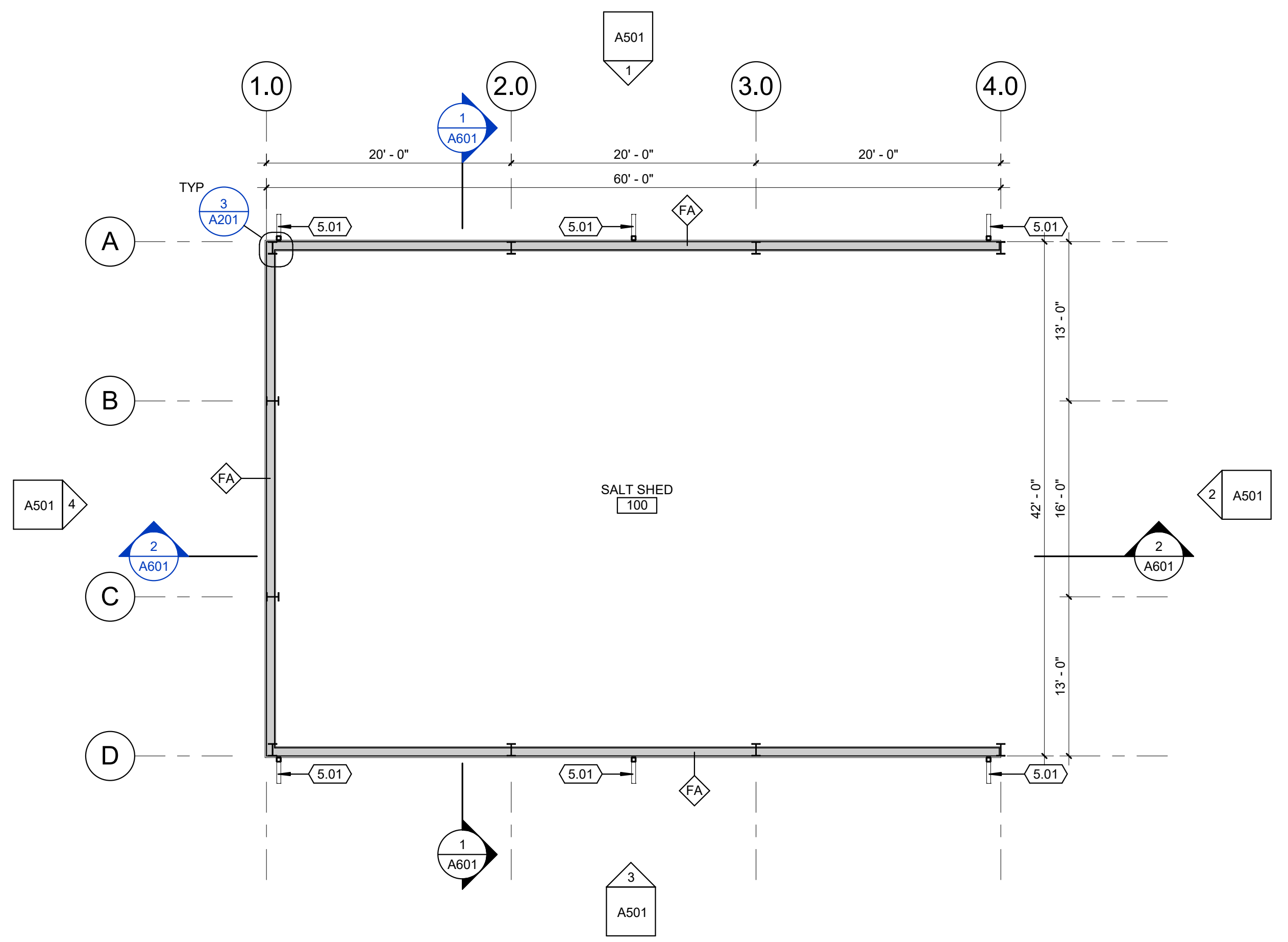
A201

KEYNOTES

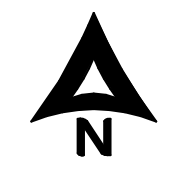
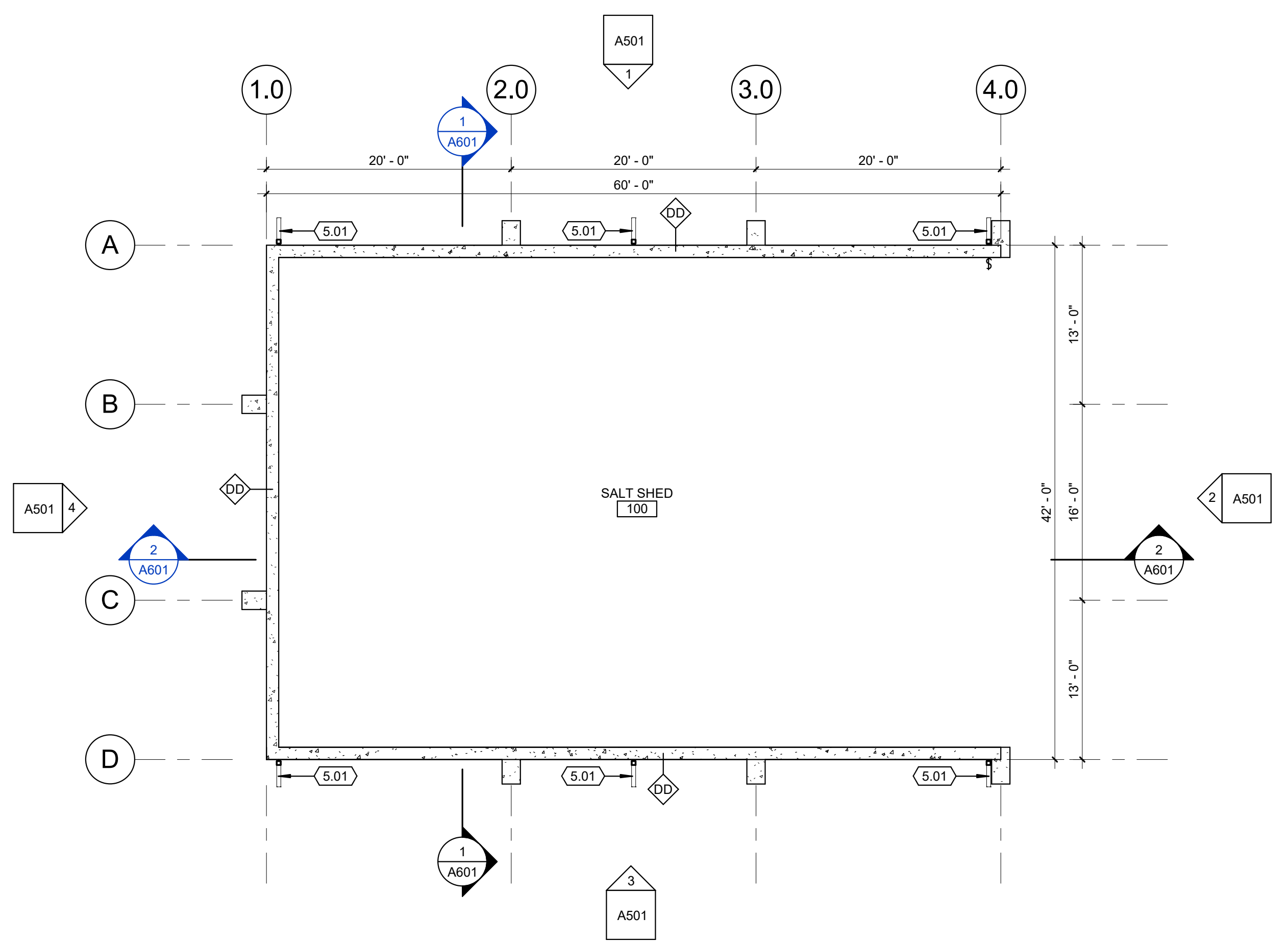
5.01 PREFINISHED METAL DOWNSPOUT.

FLOOR PLAN SYMBOL LEGEND

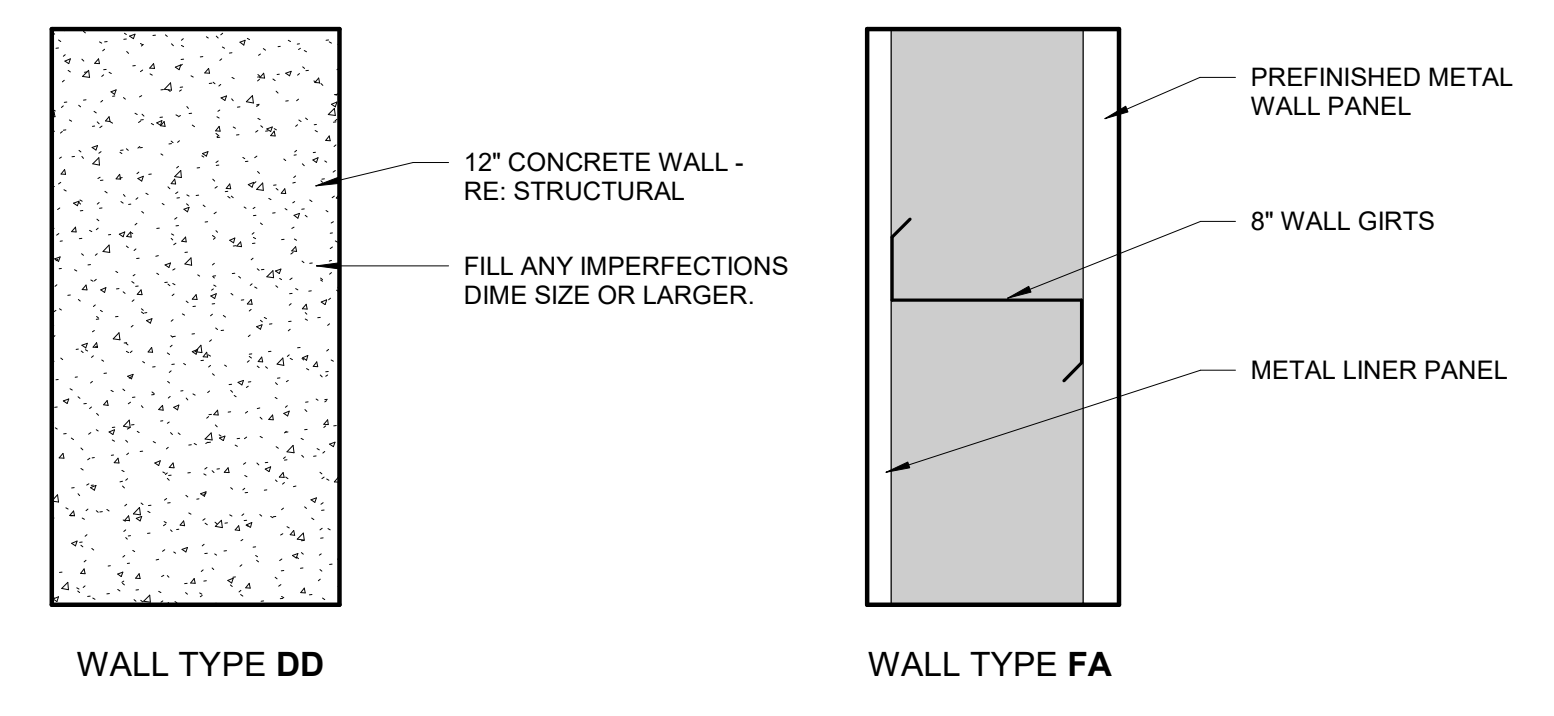
- EXTERIOR BUILDING ELEVATION REFERENCE
- BUILDING WALL SECTION REFERENCE
- DETAIL REFERENCE
- DETAIL REFERENCE
- KEYNOTE
- ROOM NAME
- ROOM DESIGNATION REFERENCE
- WALL TYPE / VERTICAL ASSEMBLY TYPE
- WALL TYPE NOTE



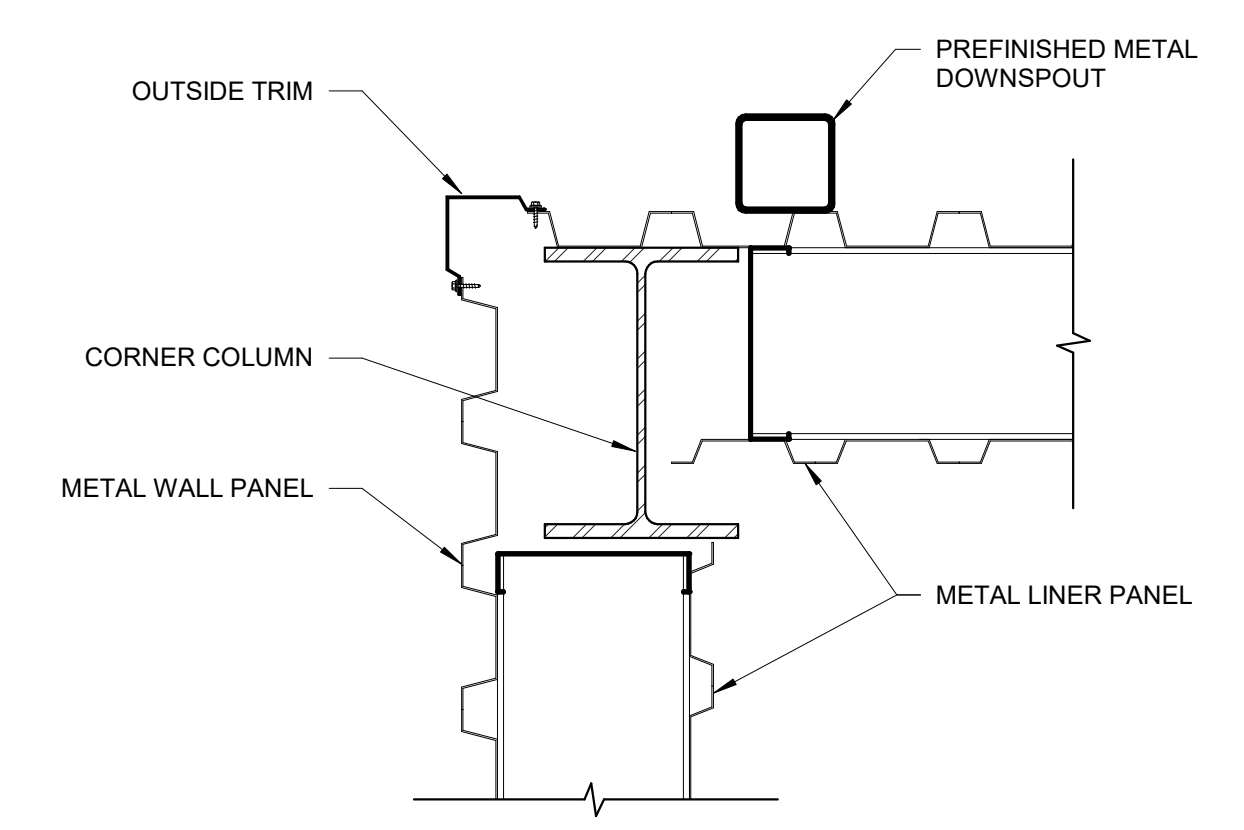
2 FLOOR PLAN - ABOVE 8'
A201 SCALE: 1/8" = 1'-0"



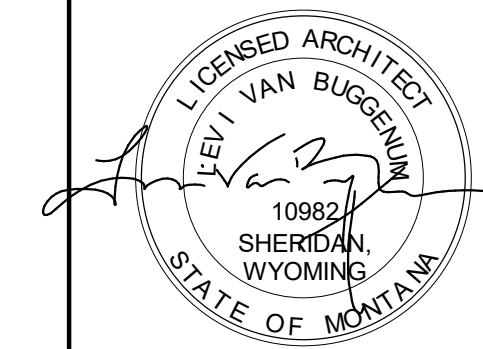
1 FLOOR PLAN - BELOW 8'
A201 SCALE: 1/8" = 1'-0"



WALL TYPES



3 TYPICAL BUILDING CORNER PLAN DETAIL
A201 SCALE: 1 1/2" = 1'-0"



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**CARBON COUNTY MONTANA
NEW SALT SHED**

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Issue CONSTRUCTION DOCUMENTS
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REFLECTED CEILING PLAN
A301

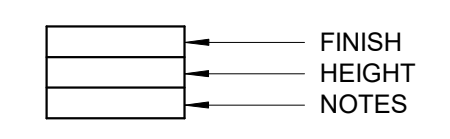
GENERAL REFLECTED CEILING PLAN NOTES

- ELECTRICAL DEVICES AND FIXTURES ARE SHOWN FOR COORDINATION ONLY. REFER TO ELECTRICAL SHEETS FOR INFORMATION.

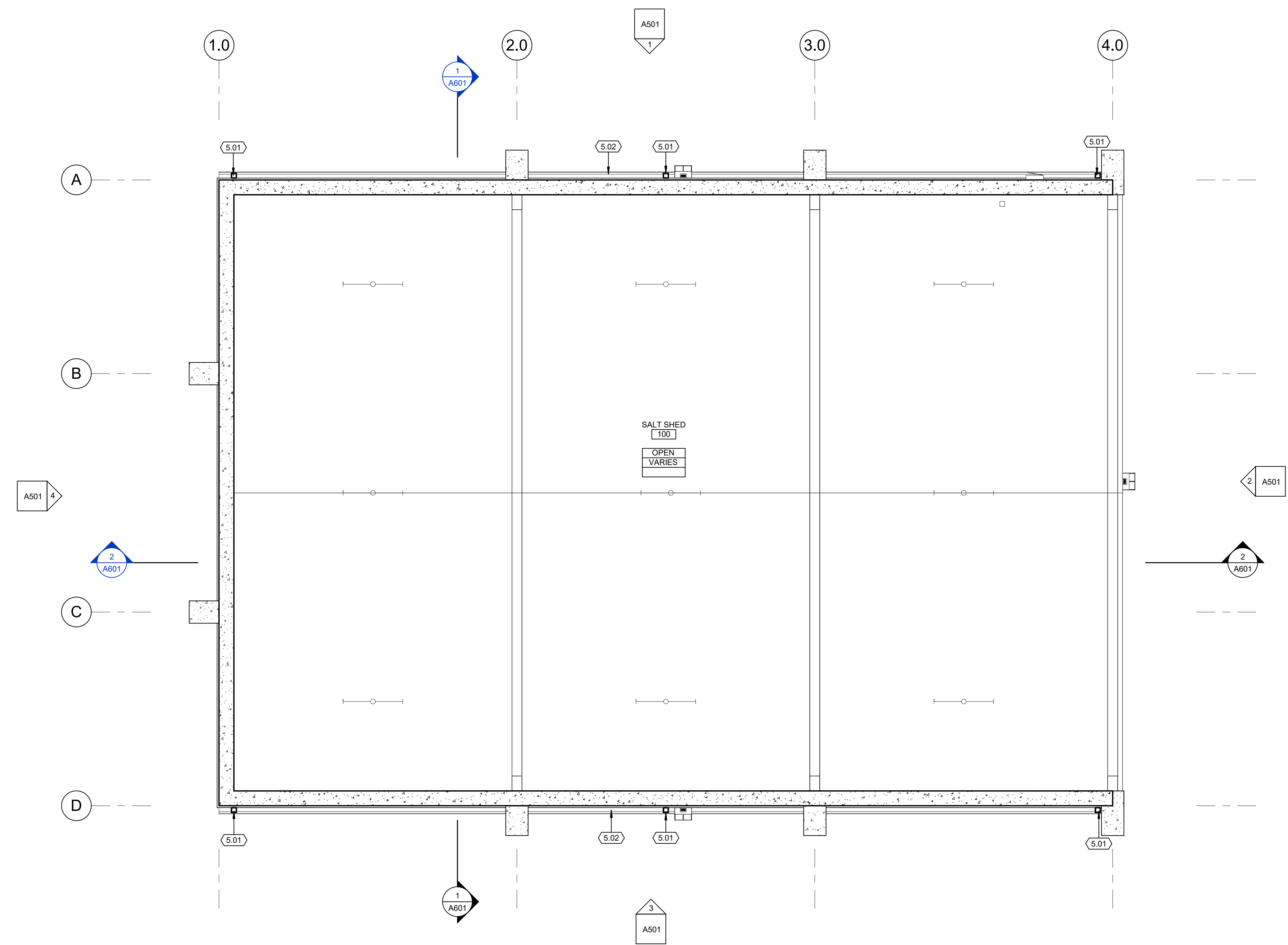
KEYNOTES

- 5.01 PREFINISHED METAL DOWNSPOUT.
- 5.02 PREFINISHED METAL GUTTER.

CEILING PLAN LEGEND



FINISH ABBREVIATIONS:
OPEN: OPEN TO STRUCTURE



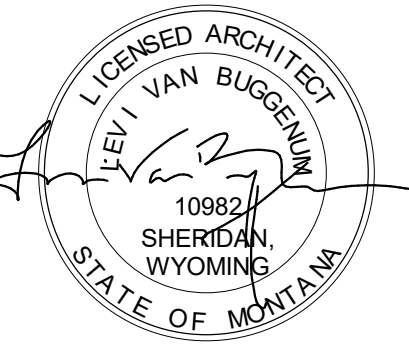
1 REFLECTED CEILING PLAN
A301 SCALE: 1/4" = 1'-0"

KEYNOTES

- 5.01 PREFINISHED METAL DOWNSPOUT.
- 5.02 PREFINISHED METAL GUTTER.



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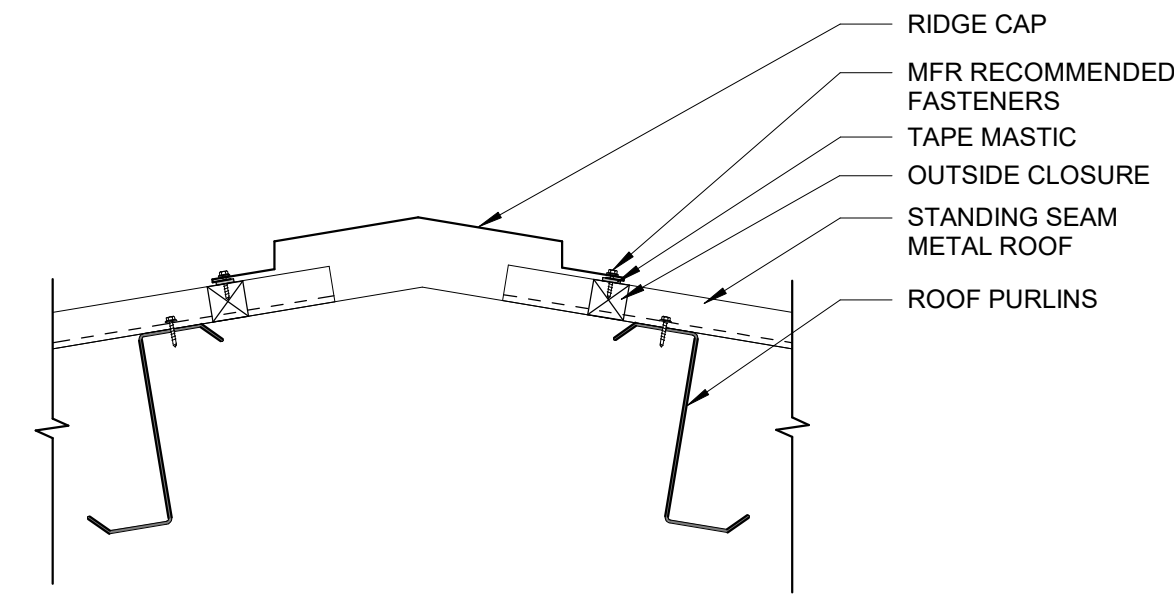
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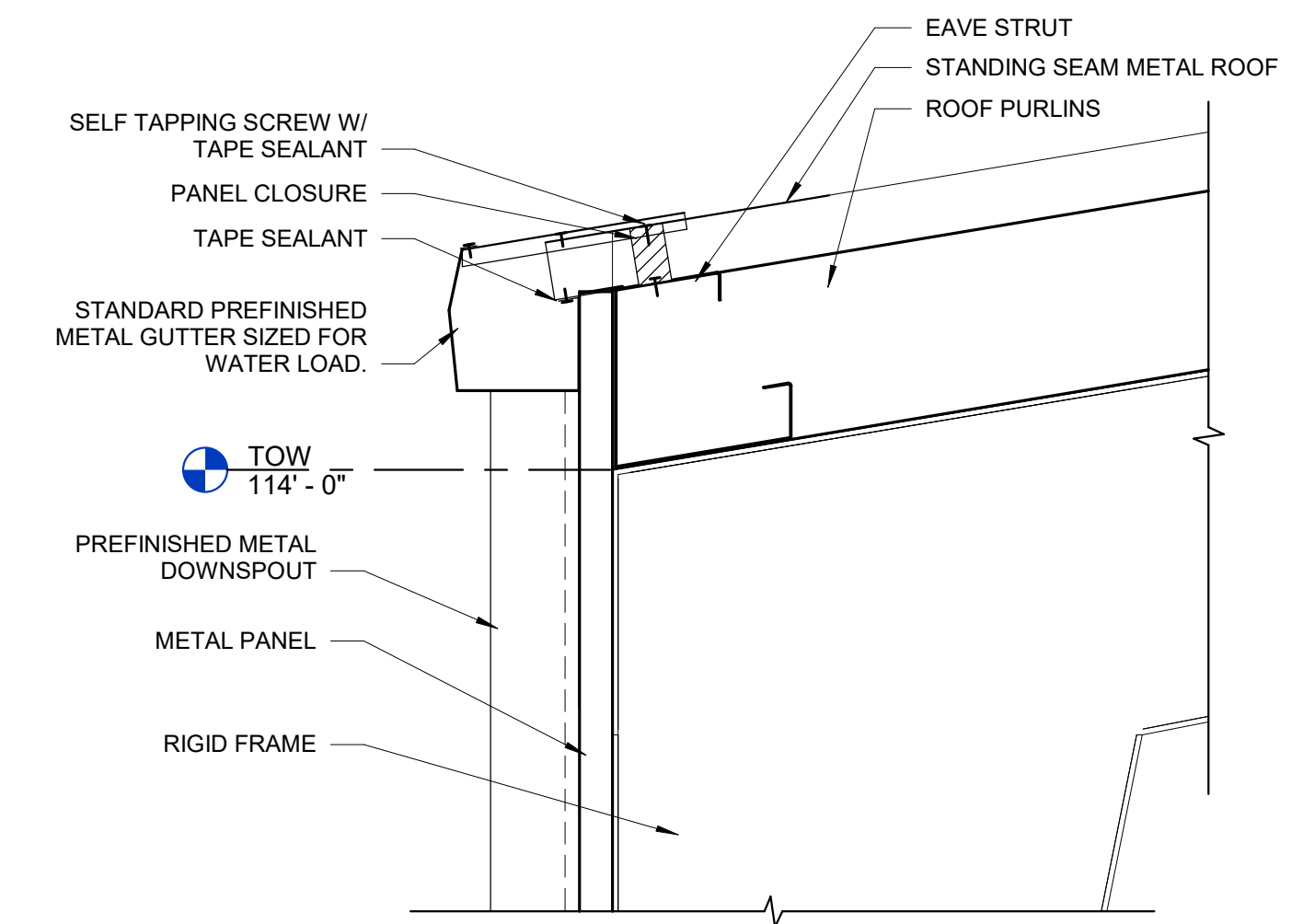
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ROOF PLAN

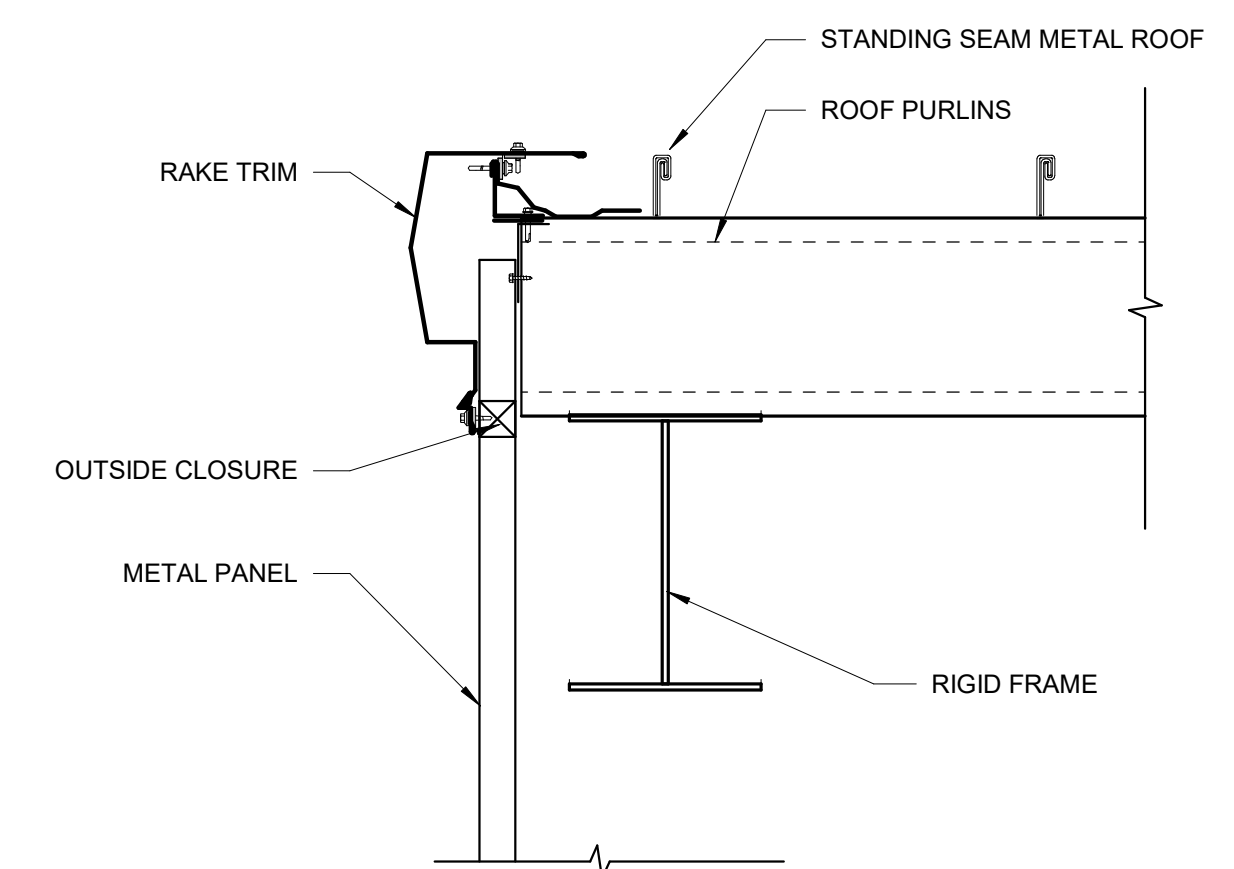
A401



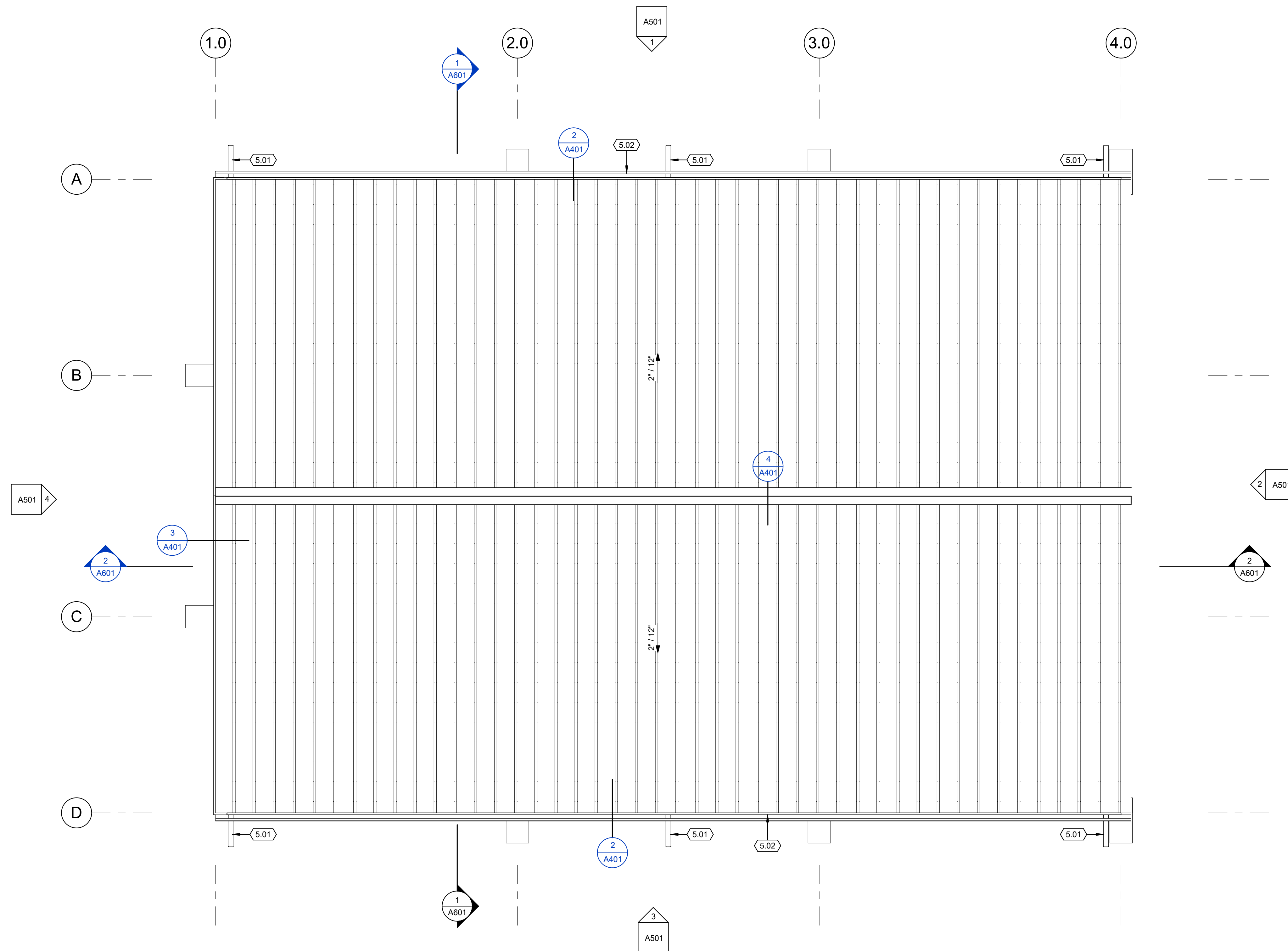
4 STANDING SEAM RIDGE DETAIL
A401 SCALE: 1 1/2" = 1'-0"



2 EAVE ROOF DETAIL
A401 SCALE: 1 1/2" = 1'-0"



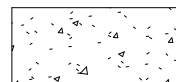
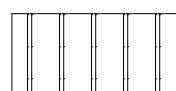

3 RAKE ROOF DETAIL
A401 SCALE: 1 1/2" = 1'-0"



1 ROOF PLAN
A401 SCALE: 1/4" = 1'-0"

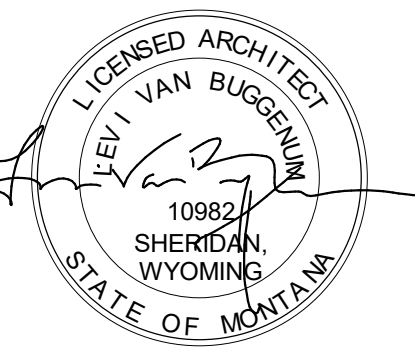


BUILDING ELEVATIONS LEGEND

-  A CONCRETE
-  B METAL PANEL
-  LOCATION HEIGHT VERTICAL ELEVATION HEIGHT

KEYNOTES

5.01 PREFINISHED METAL DOWNSPOUT.



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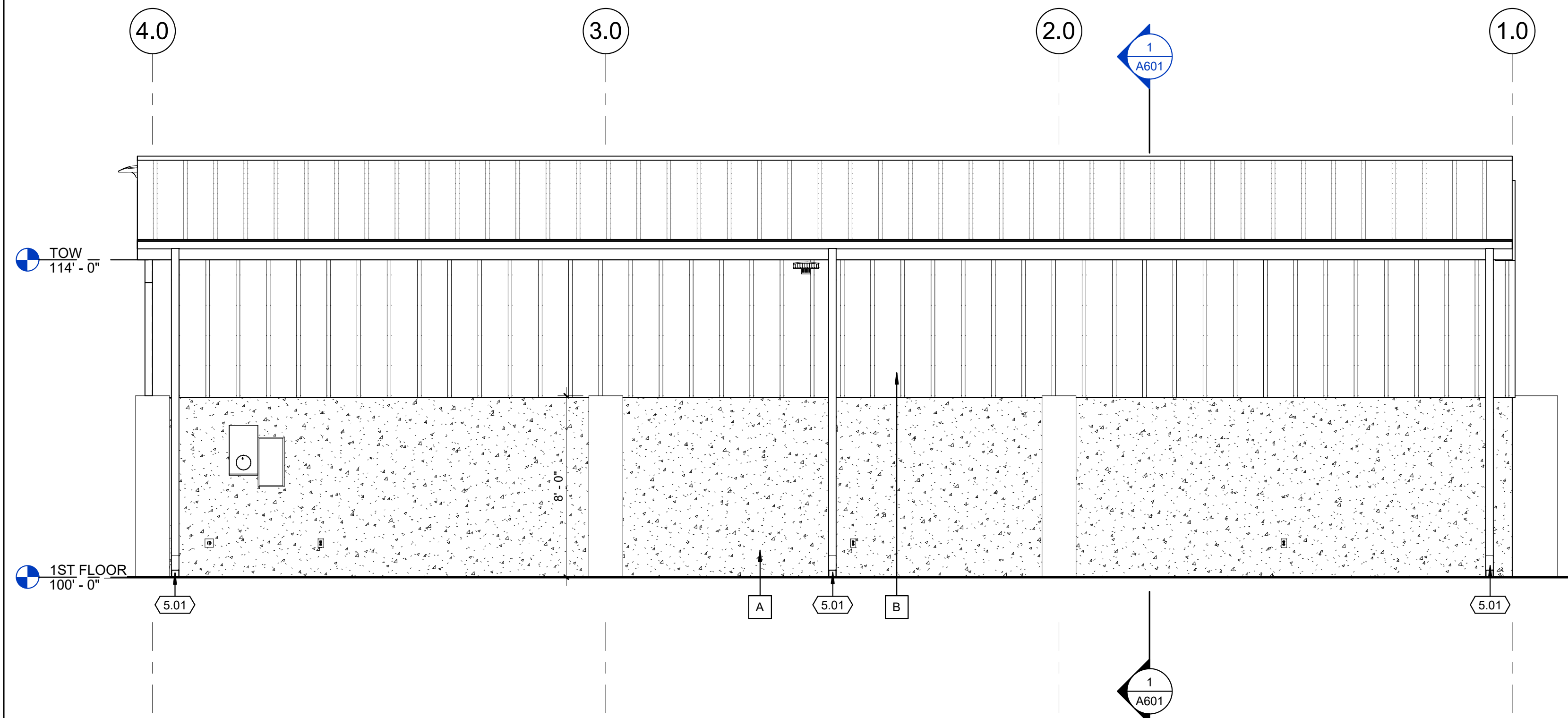
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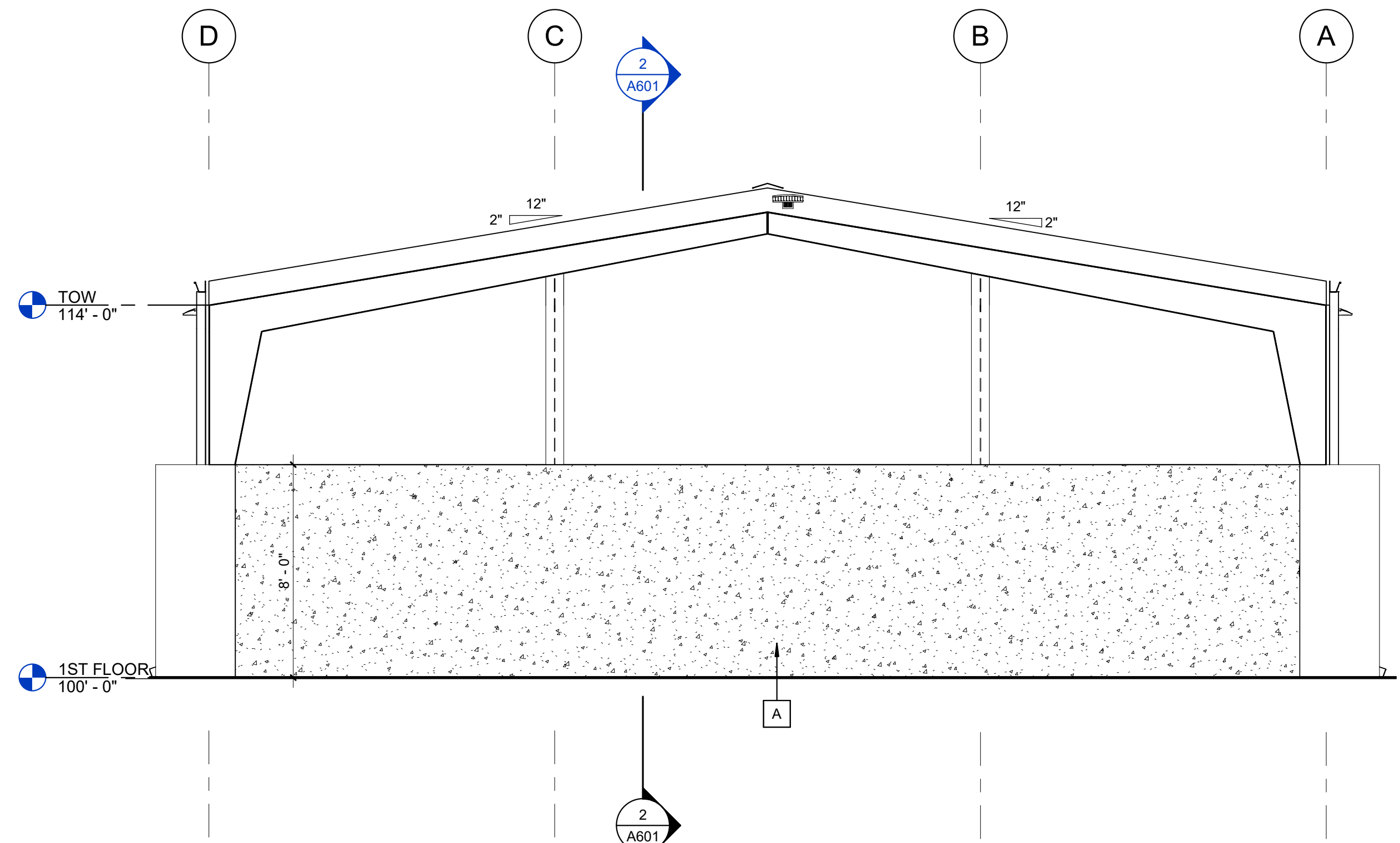
**CARBON COUNTY MONTANA
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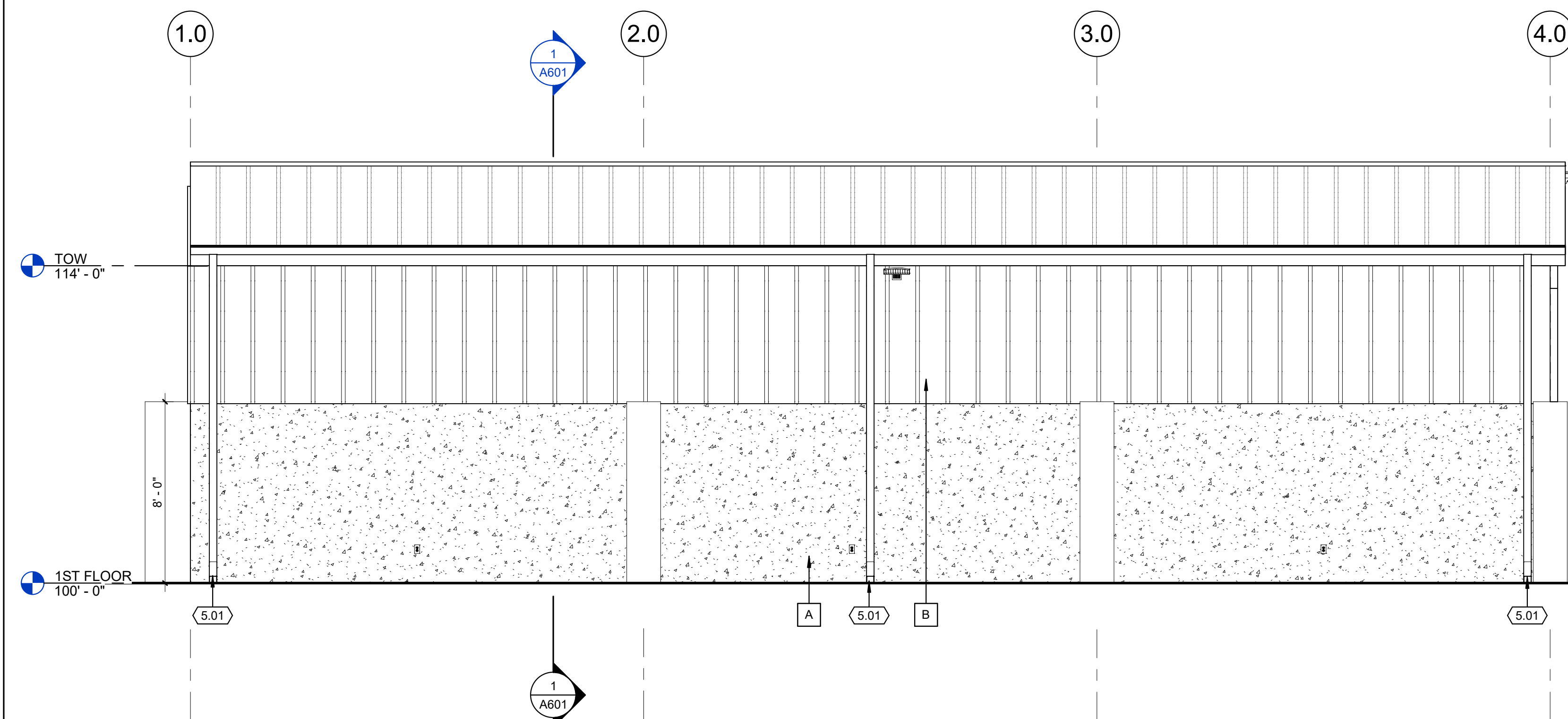
BUILDING ELEVATIONS
A501



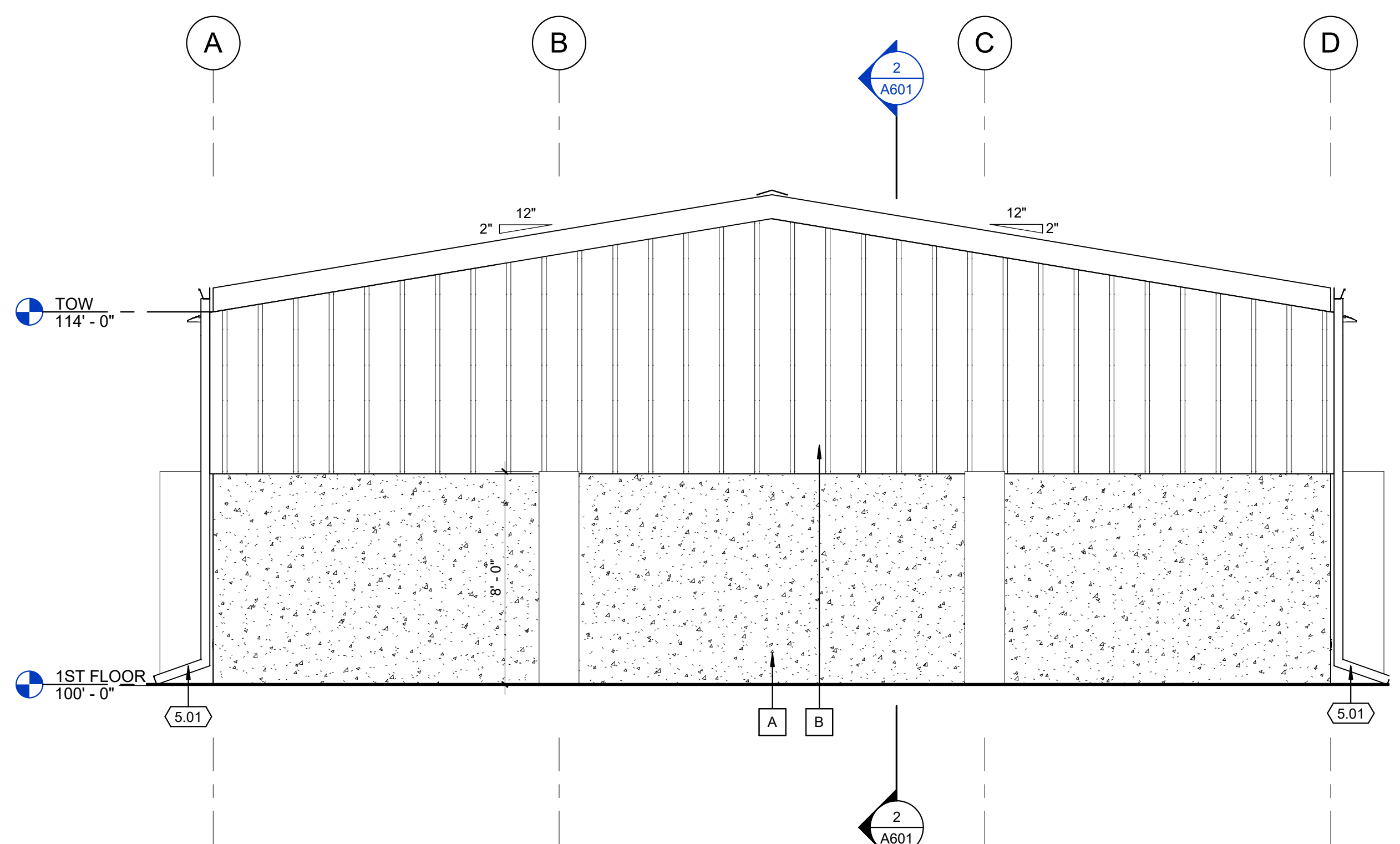
1 NORTH ELEVATION
A501 SCALE: 1/4" = 1'-0"



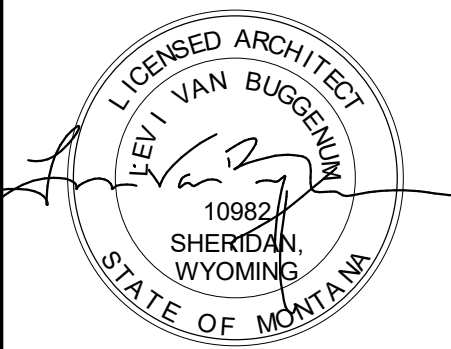
2 EAST ELEVATION
A501 SCALE: 1/4" = 1'-0"



3 SOUTH ELEVATION
A501 SCALE: 1/4" = 1'-0"



4 WEST ELEVATION
A501 SCALE: 1/4" = 1'-0"



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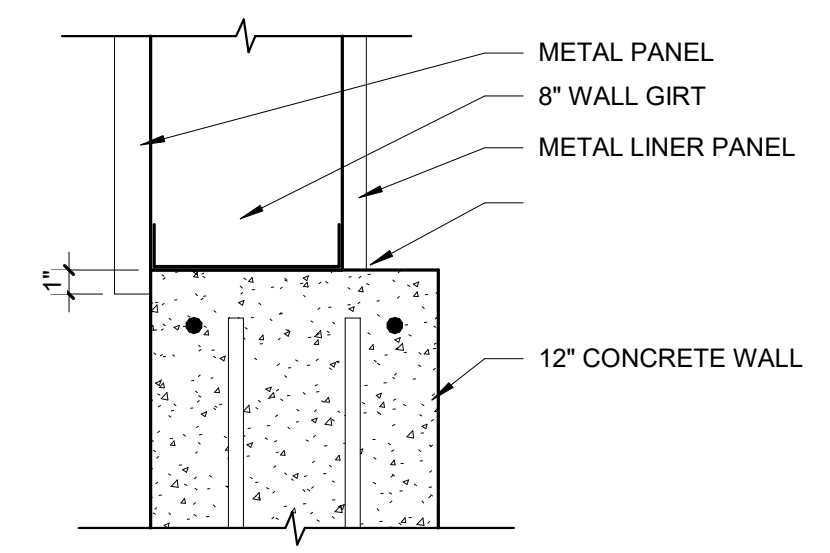
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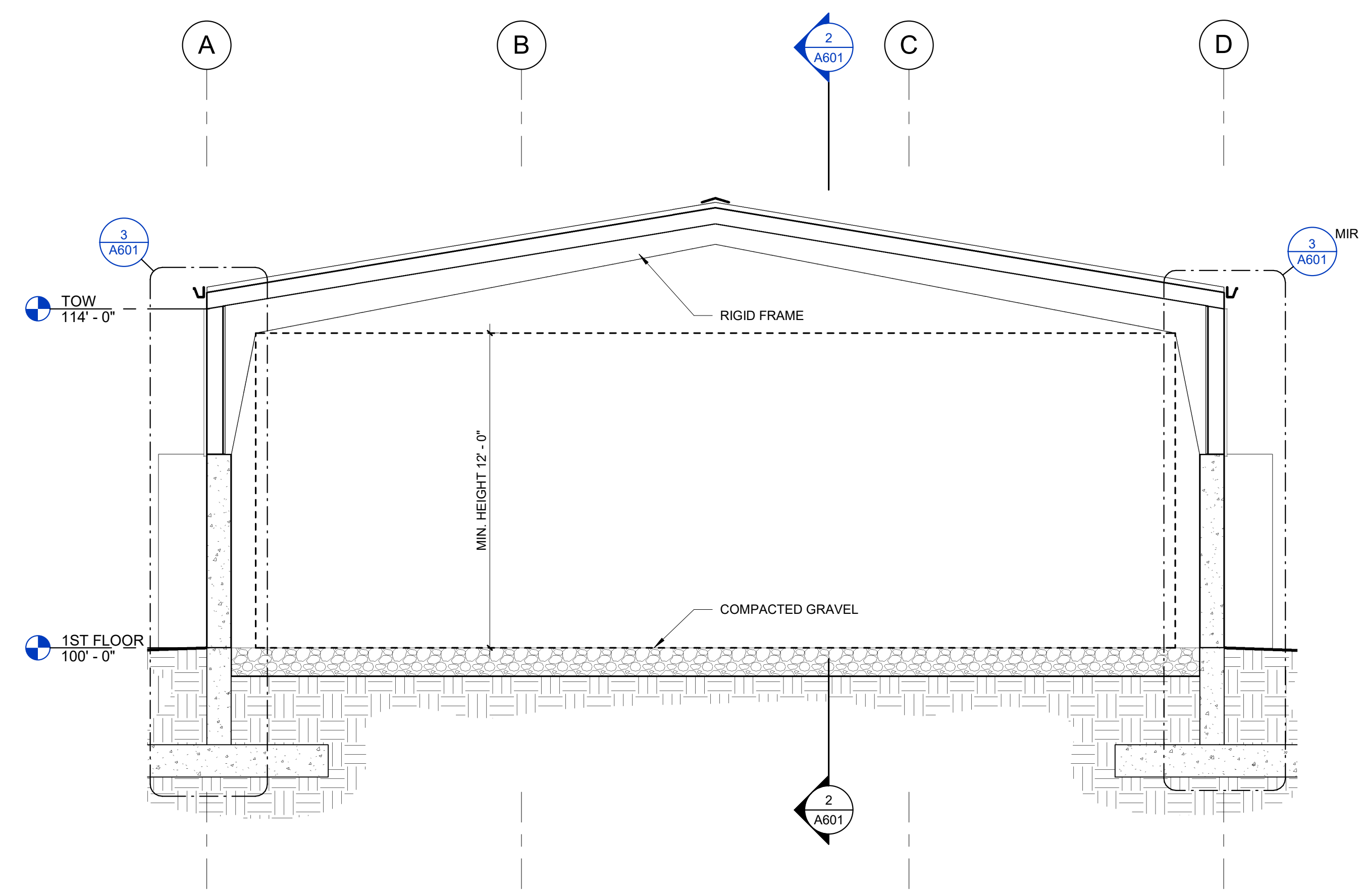
**CARBON COUNTY MONTANA
NEW SALT SHED**

Date FEBRUARY 12, 2024
Issue CONSTRUCTION DOCUMENTS
Project Number 2022-36.1
Revisions

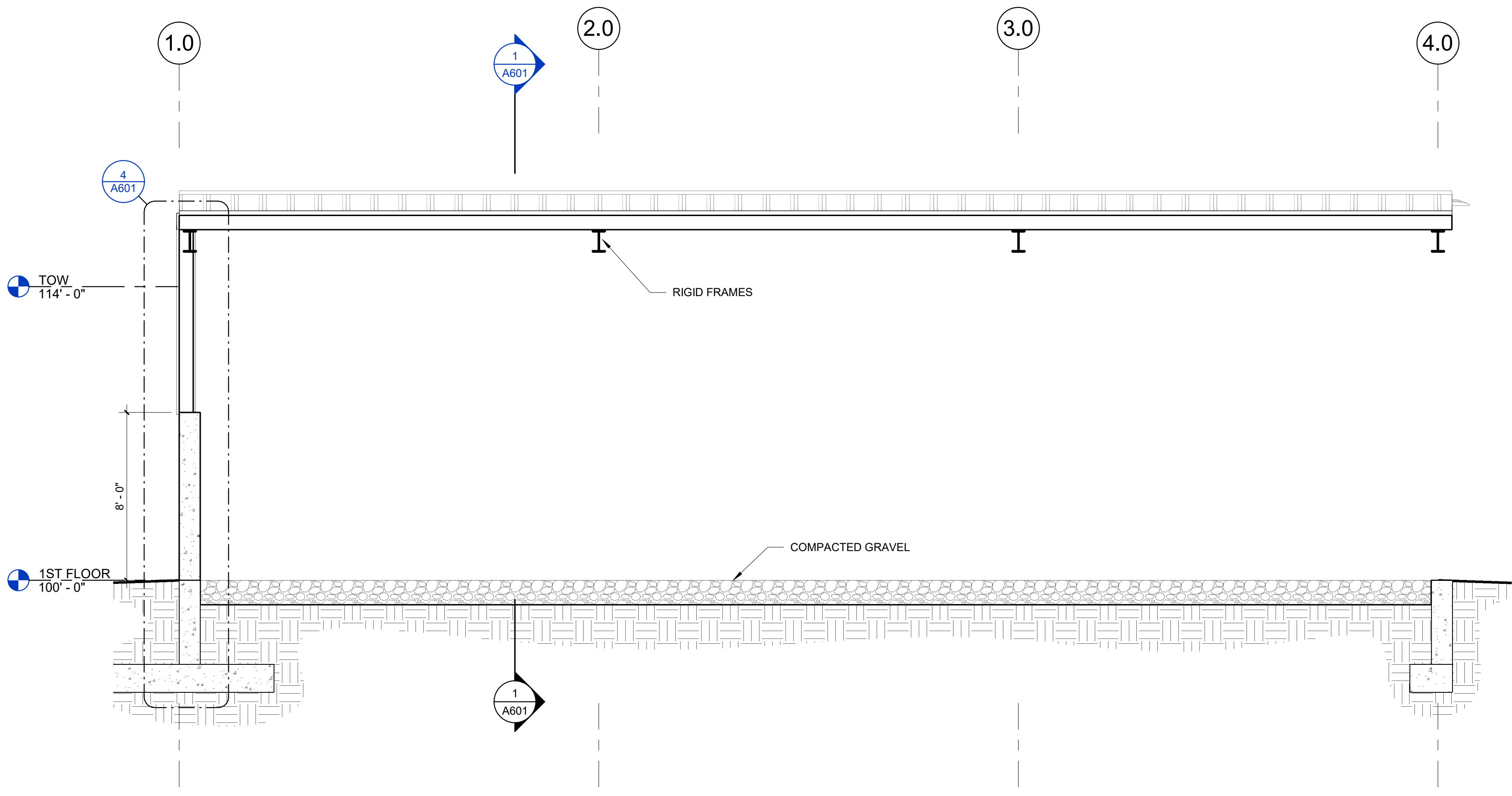
BUILDING SECTIONS
A601



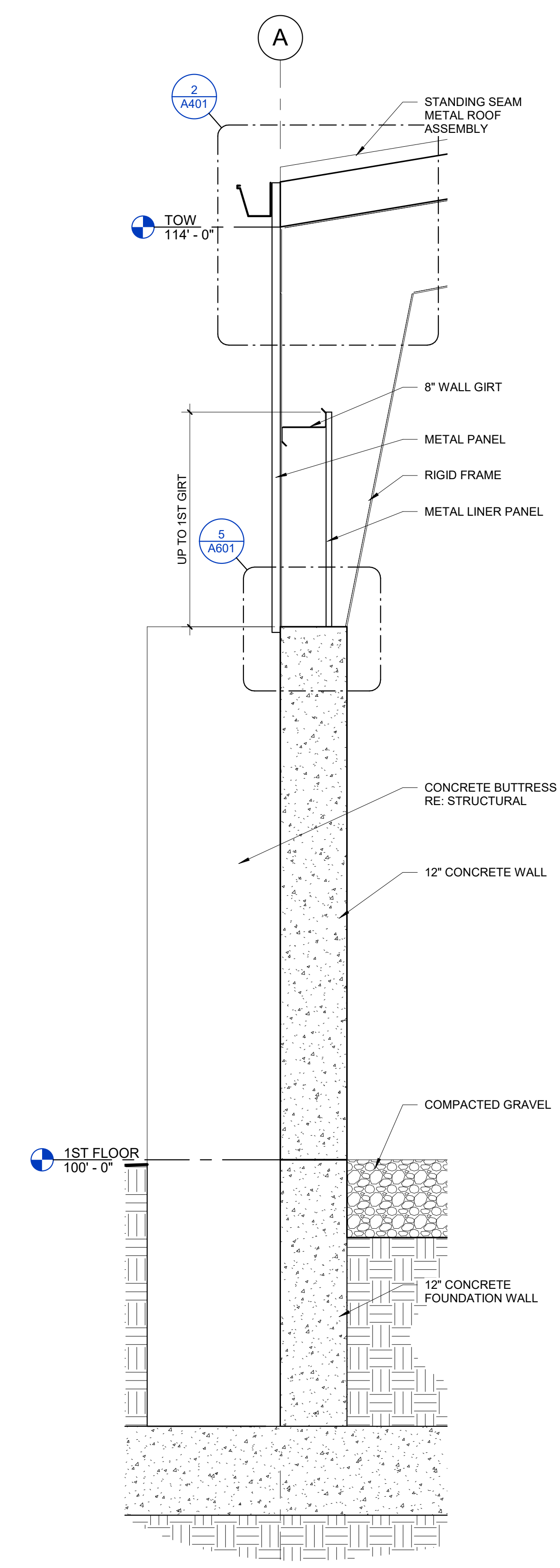
5 CONCRETE TO METAL WALL DETAIL
A601 SCALE: 1 1/2" = 1'-0"



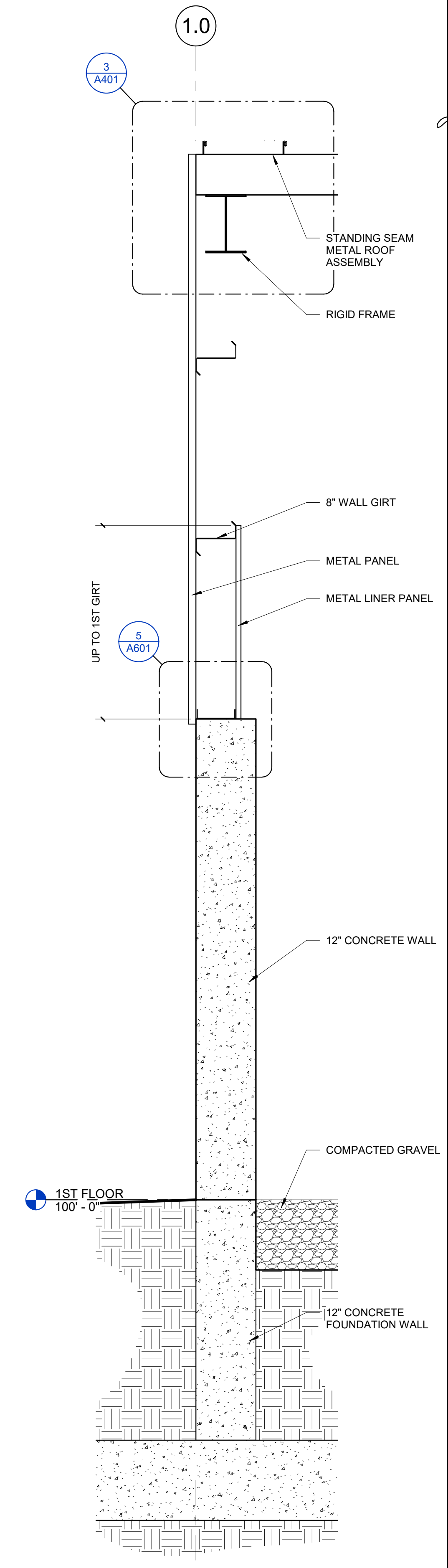
1 BUILDING SECTION N-S
A601 SCALE: 1/4" = 1'-0"



2 BUILDING SECTION E-W
A601 SCALE: 1/4" = 1'-0"



3 NORTH & SOUTH WALL SECTION
A601 SCALE: 3/4" = 1'-0"



4 WEST WALL SECTION
A601 SCALE: 3/4" = 1'-0"

ELECTRICAL ABBREVIATIONS LEGEND

A, AMP	AMPERES	MAG	MAGNETIC STARTER
AC	ALTERNATING CURRENT	MAN	MANUAL
AF	AIR CONDITIONING	MAX	MAXIMUM
AF	AMP FUSE	MC	MECHANICAL CONTRACTOR
AFC	AVAILABLE FAULT CURRENT	MCA	MINIMUM CIRCUIT AMPACITY
AFCI	ARC FAULT CIRCUIT INTERRUPTER	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED FLOOR	MDP	MAIN DISTRIBUTION PANEL
AFG	ABOVE FINISHED GRADE	MECH	MECHANICAL
AHU	AIR HANDLING UNIT	MEP	MECHANICAL, ELECTRICAL, PLUMBING
AL	ALUMINUM	MH	METAL HALIDE
AS	AMP SWITCH	MIN	MINIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MSS	MOTOR STARTER SWITCH WITH THERMAL OVERLOADS
BAS	BUILDING AUTOMATION SYSTEM	N	NEUTRAL
BKR	BREAKER	NC	NORMALLY CLOSED
BOF	BOTTOM OF FIXTURE	NEC	NATIONAL ELECTRIC CODE
C	RACEWAY/CONDUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CB	CIRCUIT BREAKER	NFD	NON-FUSED DISCONNECT
CCT	COLOR RENDERING TEMPERATURE	NL	NIGHT LIGHT, UN-SWITCHED 24/7 OPERATION
CCTV	CLOSED CIRCUIT TELEVISION	NIC	NOT IN CONTRACT
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	#	NUMBER
C.O.	RACEWAY/CONDUIT ONLY, WITH PULL STRING	OAE	OR APPROVED EQUAL
COD	CENTER OF DEVICE	OC	ON CENTER
CNTRL	CONTROL	OC	OVERCURRENT PROTECTIVE DEVICE
CU	COPPER	OH	OVERHEAD
(D)	EXISTING TO BE DEMOLISHED	P	POLE
DISC	DISCONNECT	PB	PUSHBUTTON
DIST	DISTRIBUTION	PC	PLUMBING CONTRACTOR
DPDT	DOUBLE POLE DOUBLE THROW	PH	PHASE
DWG	DRAWING	PNL	PANEL
EA	EACH	PVC	POLYVINYL CHLORIDE CONDUIT
EC	ELECTRICAL CONTRACTOR	PWR	POWER
EF	EXHAUST FAN	(R)	EXISTING TO REMAIN
ELEC	ELECTRIC	RCPT	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	RECEPT	RECEPTACLE
EQUIP	EQUIPMENT	RGS	RIGID GALVANIZED STEEL
EX, EXIST	EXISTING	RM	ROOM
FA	FIRE ALARM	RNR	REDUCED VOLTAGE NON-REVERSING
FAA	FIRE ALARM ANNUNCIATOR	RVR	REDUCED VOLTAGE REVERSING
FACP	FIRE ALARM CONTROL PANEL	SP	SINGLE POLE TOGGLE SWITCH
FD	FUSED DISCONNECT	SPD	SURGE PROTECTIVE DEVICE (TVSS)
FLR	FLOOR	SPEC	SPECIFICATION
FO	FIBER OPTIC	SPST	SINGLE POLE SINGLE THROW
FSD	FIRE SMOKE DAMPER RELAY, CONTROLLED BY ASSOCIATED SMOKE DETECTOR AND CIRCUITED BACK TO FACP	SSPB	START-STOP PUSHBUTTON
FVNR	FULL VOLTAGE NON-REVERSING	SW	SWITCH
FVR	FULL VOLTAGE REVERSING	SWBD	SWITCHBOARD
GEC	GROUNDING ELECTRODE CONDUCTOR	SWGR	SWITCHGEAR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TB	TELEPHONE BOARD
GFI	GROUND FAULT INTERRUPTER	TC	TIME CLOCK
GFP	GROUND FAULT PROTECTION	TD	TIME DELAY
GND	GROUND	TEL	TELEPHONE
GRC	GALVANIZED RIGID CONDUIT	TR	TAMPER RESISTANT
HID	HIGH INTENSITY DISCHARGE	TSP	TWISTED SHIELDED PAIR
HOA	HAND-OFF-AUTOMATIC	TTB	TELEPHONE TERMINAL BOARD
HP	HORSEPOWER	TYP	TYPICAL
HPS	HIGH PRESSURE SODIUM	UG	UNDERGROUND
HTR	HEATER	UH	UNIT HEATER
HVAC	HEATING, VENTILATION & AIR CONDITIONING	UNO	UNLESS NOTED OTHERWISE
HZ	HERTZ	V	VOLT
J-BOX	JUNCTION BOX	VA	VOLT-AMPERES
KVA	KILOVOLT-AMPERES	VFD	VARIABLE FREQUENCY DRIVE
KW	KILOWATTS	W	WATTS
LCP	LIGHTING CONTROL PANEL	WAO	WORK AREA OUTLET
LPW	LUMENS PER WATT	WP	WEATHER-PROOF
LTG	LIGHTING	W/O	WITHOUT
LM	LUMENS	XFMR	TRANSFORMER
LV	LOW VOLTAGE	Y-CONNECTED	Y-CONNECTED
		Δ	DELTA-CONNECTED
		ø	PHASE

ELECTRICAL LIGHTING FIXTURE LEGEND

	SURFACE LED FIXTURE - "a" & "b" DESIGNATES SWITCH		LED STRIP OR INDUSTRIAL, SURFACE OR CHAIN HUNG
	SURFACE EMERGENCY LED FIXTURE - "a" & "b" DESIGNATES SWITCH		EMERGENCY LED STRIP OR INDUSTRIAL, SURFACE OR CHAIN HUNG
	SURFACE WALL MOUNT LED FIXTURE		

ELECTRICAL LIGHTING CONTROL LEGEND

STANDARD LIGHTING CONTROLS: SWITCHES	
§ X	<p>TOGGLE SWITCH (MOUNT AT +48", UNO)</p> <p>*X INDICATES TYPE:</p> <p>BLANK - SINGLE POLE</p> <p>3 - INDICATES THREE-WAY</p> <p>4 - INDICATES FOUR-WAY</p> <p>K - INDICATES KEYED SWITCH</p> <p>T - INDICATES TIMER</p> <p>P - INDICATES PILOT LIGHT</p> <p>a - INDICATES SINGLE POLE LIGHTING SWITCH ZONE FOR ZONE a</p> <p>b - INDICATES SINGLE POLE LIGHTING SWITCH ZONE FOR ZONE b</p> <p>ab - INDICATES LIGHTING SWITCHES WITH MULTIPLE ZONES</p>

ELECTRICAL ONE-LINE LEGEND

	CT AND CUSTOMER POWER METER		FIXED MOUNT LV BREAKER
	MOTOR		FUSED SWITCH ("XXAS/XXAF" - SW AND FUSE AMP RATING)
	UTILITY ELECTRIC METER AND BASE (BASE BY CUSTOMER)		DISCONNECT SWITCH ("XXAS" = SWITCH AMP RATING)
	LIGHTNING ARRESTER, TYPE 1 SPD, MOUNTED ON EXTERIOR OF MAIN SWITCHGEAR (SQUARE D. SDSA SERIES, OAE)		FUSED DISCONNECT SWITCH ("XXAS/XXAF" = SW AND FUSE AMP RATING)
§ X	<p>EQUIPMENT TOGGLE DISCONNECT SWITCH</p> <p>*X INDICATES TYPE:</p> <p>F - FUSTAT</p> <p>M - MOTOR STARTER SWITCH W/ THERMAL OVERLOADS</p>		SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

ELECTRICAL POWER LEGEND

	<p>PANEL AND CIRCUIT DESIGNATION ARE NEXT TO EACH DEVICE (PANEL NAME - CIRCUIT NUMBER)</p> <p>MINIMUM BRANCH CIRCUIT WIRE SIZE IS #12, UNO. A SINGLE INSULATED GREEN GROUND CONDUCTOR SHALL BE PROVIDED WITH EACH HOME RUN. PROVIDE A SEPARATE NEUTRAL FOR EACH CIRCUIT. HOME RUNS SHALL HAVE NO MORE THAN THREE CIRCUITS. LINE VOLTAGE AND LOW VOLTAGE WIRING IS NOT SHOWN ON PLANS.</p> <p>*X INDICATES TYPE:</p> <p>G - AUTOMATIC CONTROL</p> <p>GFI - GROUND FAULT INTERRUPTER</p> <p>WP - WEATHERPROOF WHILE-IN-USE COVER</p> <p>U - PROVIDE WITH (2) USB PORTS</p> <p>TR - TAMPER RESISTANT</p>		PANELBOARD OR LOAD CENTER
	SPECIAL PURPOSE RECEPTACLE (MOUNT AT +18", UNO)		PUSHBUTTON (MOUNT AT +48", UNO)
	DUPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)		RACEWAY CONCEALED IN WALL, FLOOR, OR CEILING IN FINISHED SPACES, EXPOSED IN UNFINISHED SPACES
	QUADRUPLEX RECEPTACLE - CEILING MOUNT, WALL MOUNT (+18", UNO)		RACEWAY BELOW FLOOR OR BELOW GRADE
	JUNCTION BOX		RACEWAY STUB-OUT WITH CAPPED END
	DROP-DOWN RECEPTACLE		RACEWAY STUB-OUT WITH BRUSHED END
			GROUNDING BUS

ABBREVIATIONS AND SYMBOLS GENERAL NOTES

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

ELECTRICAL PROJECT GENERAL NOTES

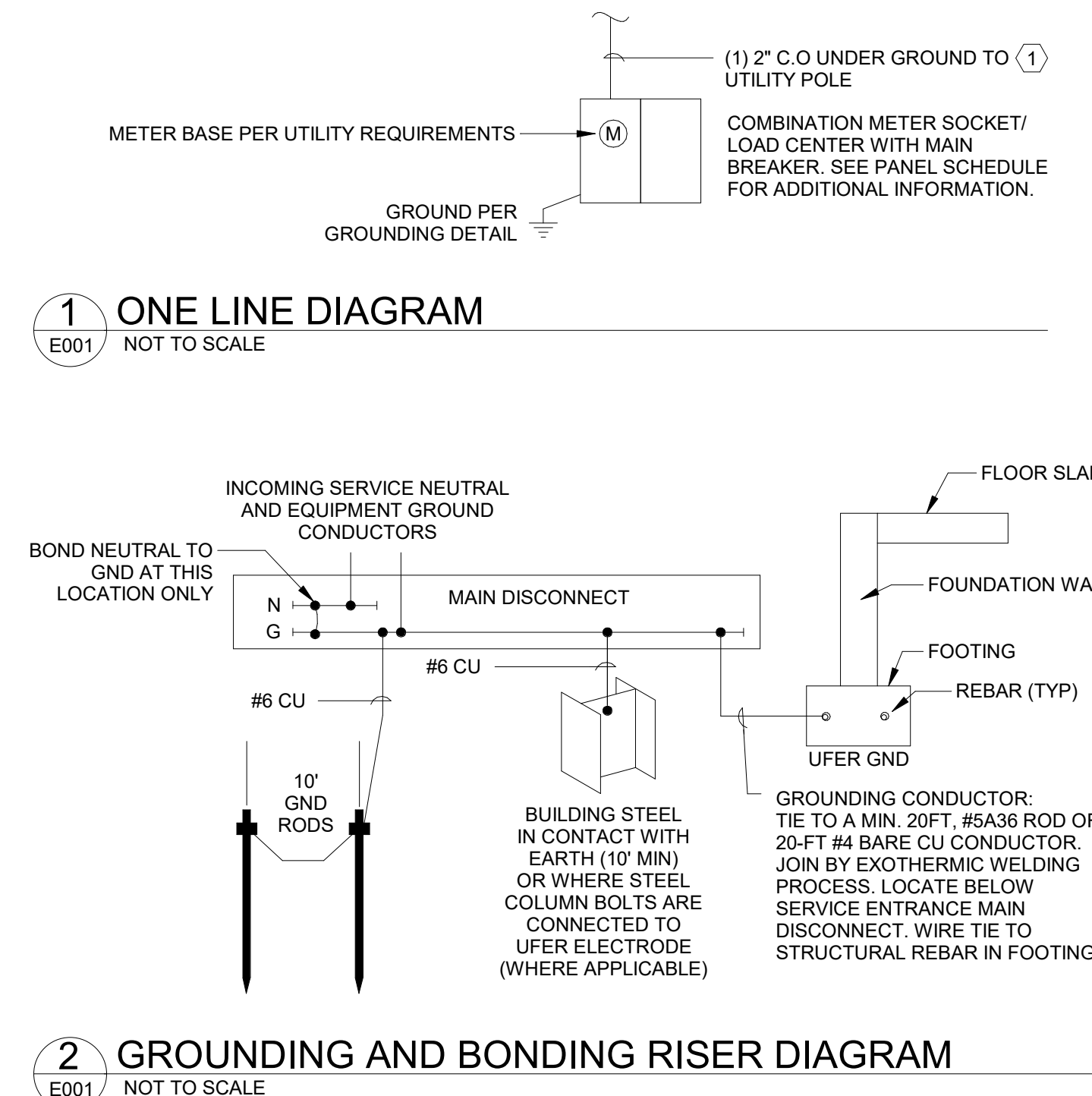
- PRIOR TO BID CONTRACTOR SHALL VISIT THE SITE. NOT ALL WORK REQUIRED TO COMPLETE THE PROJECT IS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL THE WORK REQUIRED TO COMPLETE THE PROJECT IN ADDITION TO THE LOCAL CONDITIONS AND INCLUDE SAID WORK IN THE BID.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL ELECTRICAL SERVICE WORK WITH UTILITY. OWNER PAYS ALL FEES, CONTRACTOR DOES ALL SCHEDULING AND COORDINATION OF WORK. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL SCHEDULES ARE MET.
- GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1, "STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING." THIS PUBLICATION IS AVAILABLE FROM NECA AT 301-657-3110 OR ON-LINE AT WWW.NECANET.ORG.
- IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH MECHANICAL FOR PLENUM SPACES AND PROVIDE PLENUM RATED CABLES WHERE REQUIRED FOR LIGHTING CONTROL, DATA, FIRE ALARM AND ALL OTHER L.V. SYSTEMS NOT INSTALLED IN CONDUIT. VERIFY CONDUIT REQUIREMENTS ON DRAWINGS AND SPECIFICATIONS.
- FIRE-RESISTANCE: PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 24" BETWEEN OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTANCE RATED WALLS. WHERE THIS IS NOT POSSIBLE INSTALL UL LISTED PUTTY PADS ON ALL OUTLET BOXES NOT MEETING THE 24" SEPARATION. PROVIDE A UL LISTED THROUGH-PENETRATION FIRESTOP FOR PENETRATIONS OF FIRE-RESISTANCE RATED ASSEMBLIES.
- CONDUCTORS ARE SIZED PER THE 75 DEGREE C RATING COLUMN OF NEC TABLE 310.16. IF THE TERMINAL USED FOR A TERMINATION OF A PARTICULAR CONDUCTOR IS NOT MARKED, OR THE TERMINAL IS MARKED FOR 60 DEGREE C CONDUCTORS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EITHER ADJUST THE AMPACITY OF THE CONDUCTOR TO MATCH THE 60 DEGREE COLUMN OF TABLE 310.16, OR REPLACE THE TERMINAL WITH ONE RATED FOR AT LEAST 75 DEGREES C.
- BASED ON ACTUAL HOMERUN LENGTHS REQUIRED IN THE FIELD, THE CONTRACTOR SHALL CALCULATE AND INCREASE THE WIRE SIZES AS REQUIRED TO LIMIT BRANCH CIRCUIT VOLTAGE DROP TO 3%. FOR 20A BRANCH CIRCUITS THE MINIMUM CONDUCTOR SIZES SHALL BE AS FOLLOWS: #10 AWG CU FOR RUNS BETWEEN 100 AND 200 LINEAR FEET. #8 AWG CU FOR RUNS BETWEEN 200 AND 325 LINEAR FEET. AND AS CALCULATED BY THE CONTRACTOR FOR CIRCUITS EXTENDING BEYOND 325 LINEAR FEET. IN ALL CASES WHERE WIRE SIZES INCREASE, THE CONTRACTOR SHALL PROVIDE LARGER CONDUITS AS REQUIRED.
- PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120V BRANCH CIRCUIT.

ELECTRICAL SHEET INDEX

NUMBER	SHEET NAME
E001	ELECTRICAL COVER SHEET
E002	ELECTRICAL SPECIFICATIONS
E003	ELECTRICAL SPECIFICATIONS
E201	ELECTRICAL PLAN

KEY NOTES:

- CONFIRM ALL REQUIREMENTS WITH LOCAL ELECTRICAL UTILITY FOR CONDUITS, & LOCATIONS PRIOR TO WORK STARTING.



260010 - GENERAL REQUIREMENTS OF ELECTRICAL

- A. SUMMARY
1. THE REQUIREMENTS LISTED IN THIS SECTION ARE SUPPLEMENTAL TO THE DIVISION 01 GENERAL REQUIREMENTS.
2. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS TO EXAMINE AND REFER TO ALL ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING AND LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION CONDITIONS WHICH MAY AFFECT THE SCOPE OF ELECTRICAL, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY WORK, INSPECT THE CONSTRUCTION SITE AND EXISTING FACILITIES FOR VERIFICATION OF PRESENT CONDITIONS. MAKE PROPER PROVISIONS FOR THESE CONDITIONS IN PERFORMANCE OF THE WORK AND COST THEREOF.
3. ELECTRICAL, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY WORK FOR THIS PROJECT SHALL INCLUDE ALL ITEMS, ARTICLES, MATERIALS AND THE ASSOCIATED LABOR MENTIONED, SCHEDULES OR SHOWN IN THESE SPECIFICATIONS AND IN THE ACCOMPANYING DRAWINGS.
4. FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS AND ANY REQUIRED INCIDENTAL ITEMS REQUIRED BY GOOD PRACTICE TO COMPLETE THE SYSTEMS DESCRIBED HEREIN.
5. REFER TO DIVISION 01 FOR ALL LISTED ALTERNATES AND PROVIDE SEPARATE PRICING AND WORK AS INDICATED IN DIVISION 01 AND CONTRACT DOCUMENTS.
B. DEFINITIONS - THROUGHOUT CONTRACT DOCUMENTS THESE WORDS AND PHRASES ARE USED:
1. CONTRACT DOCUMENTS - ALL DRAWINGS, SPECIFICATIONS, ADDENDA AND CHANGE ORDERS THAT DOCUMENT WORK TO BE DONE.
2. LOCATION - CAREFULLY DISCONNECT AND REMOVE ITEMS. ALL REASONABLE CAUTION SHALL BE TAKEN TO AVOID DAMAGING REMOVED EQUIPMENT AND TO RETAIN ITS OPERABILITY.
3. REMOVE BACK TO SOURCE - REMOVE ALL CONDUIT AND WIRE BACK TO PANELBOARD OR LAST LIVE DEVICE.
4. EQUIVALENT OR EQUAL - PRODUCT OF LIKE TYPE AND FUNCTION THAT COMPLIES WITH ALL APPLICABLE PROVISIONS OF DRAWINGS AND SPECIFICATIONS AND WHICH HAS BEEN APPROVED AS SUBSTITUTE FOR SPECIFIED ITEM.
5. FURNISH - PURCHASE MATERIAL AS SHOWN AND SPECIFIED, AND PLACE MATERIAL TO APPROVED LOCATION ON SITE OR ELSEWHERE AS NOTED OR AGREED UPON.
6. INSTALL - SET IN PLACE AND CONNECT, READY FOR USE AND IN COMPLETE AND PROPERLY OPERATING FINISHED CONDITION.
7. PROVIDE - FURNISH AND INSTALL WITH ALL PRODUCTS, LABOR, SUB-CONTRACTS, AND APPURTENANCES REQUIRED FOR A COMPLETE AND PROPERLY OPERATING, SERVICEABLE - ARRANGED SO THAT COMPONENT OR PRODUCT IN QUESTION MAY BE PROPERLY REMOVED AND REPLACED WITHOUT DISASSEMBLY, DESTRUCTION OR DAMAGE TO SURROUNDING INSTALLATION.
C. CODES, STANDARDS AND REGULATIONS
1. CODES - PERFORM ALL WORK IN STRICT ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES, REGULATIONS, BUT NOT LIMITED TO LATEST LEGALLY ENACTED EDITIONS OF FOLLOWING CODES:
a. NFPA 70, NATIONAL ELECTRIC CODE - NEC
b. NFPA 72, NATIONAL FIRE ALARM CODE
c. ANSIC2, NATIONAL ELECTRICAL SAFETY CODE - NESC
d. INTERNATIONAL FIRE ALARM CODE - IBC
e. INTERNATIONAL FIRE CONVENTION CODE - IFC
f. INTERNATIONAL ENERGY CONSERVATION CODE - IECC
2. STANDARDS - REFERENCE TO STANDARDS INFERS THAT INSTALLATION, EQUIPMENT AND MATERIAL SHALL BE WITHIN LIMITS FOR WHICH IT WAS DESIGNED, TESTED AND APPROVED, IN CONFORMANCE WITH CURRENT PUBLICATIONS AND STANDARDS OF FOLLOWING ORGANIZATIONS:
a. AMERICAN NATIONAL STANDARDS INSTITUTE - ANSI
b. AMERICAN SOCIETY FOR TESTING AND MATERIALS - ASTM
c. AMERICAN SOCIETY OF HEATING REFRIGERATING AND AIR CONDITIONING ENGINEERS - ASHRAE (STANDARD 90-75)
d. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS - IEEE
e. INSULATED CABLE ENGINEERS ASSOCIATION - ICEA
f. NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION - NECA
g. NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION - NEMA
h. NATIONAL FIRE PROTECTION ASSOCIATION - NFPA
i. NATIONAL FIRE PROTECTION ASSOCIATION - NFPA
j. UNDERWRITERS LABORATORIES, INC. - UL
k. RULES AND REGULATIONS OF THE STATE/LOCAL FIRE MARSHAL
l. STANDARDS AND REQUIREMENT OF THE SERVING UTILITIES
m. STATE AND LOCAL ORDINANCES
3. REGULATIONS - DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH APPLICABLE REGULATIONS AND GUIDELINES NOTED BELOW. CONTRACTOR SHALL CAREFULLY APPLY THESE REGULATIONS AND BRING ANY DISCREPANCIES TO IMMEDIATE ATTENTION OF ARCHITECT/ENGINEER.
a. AMERICANS WITH DISABILITIES ACT - ADA
D. FEES AND PERMITS
1. ELECTRICAL CONTRACTOR SHALL PAY FOR ALL PERMITS OR FEES IN CONNECTION WITH ELECTRICAL WORK. FEES SHALL INCLUDE ANY OR ALL USER FEES, GOVERNMENT FEES, SYSTEM DEVELOPMENT FEES, CONNECTION FEES OR OTHER FEES THAT ARE REQUIRED TO BE PAID BEFORE SYSTEMS CAN BE CONNECTED OR USED.
2. SCHEDULE ALL REQUIRED ELECTRICAL INSPECTIONS WITH LOCAL ELECTRICAL INSPECTOR. NOTIFY ENGINEER OF ALL ITEMS OF DISCREPANCY NOTED BY ELECTRICAL INSPECTOR IF THOSE ITEMS AFFECT COST OR FUNCTION OF SYSTEM, OR IF THEY CONFLICT WITH ELECTRICAL DRAWINGS AND SPECIFICATIONS.
3. ALL UTILITY COST AND FEES FROM THE UTILITY WORK SHALL BE THE RESPONSIBILITY OF THE OWNER. CONTRACTOR TO COORDINATE ALL UTILITY REQUIREMENTS, STANDARDS AND RESPONSIBILITIES WITH SERVING UTILITY FOR A COMPLETE SCOPE OF WORK PRIOR TO BID.
4. DELIVER ALL INSPECTION CERTIFICATES TO ARCHITECT/ENGINEER PRIOR TO FINAL ACCEPTANCE OF WORK.
E. INTENT OF SPECIFICATIONS AND DRAWINGS
1. PLANS AND SPECIFICATIONS ARE INTENDED TO RESULT IN COMPLETE ELECTRICAL INSTALLATION IN FULL COMPLIANCE WITH ALL APPLICABLE CODES, STANDARDS AND ORDINANCES.
2. PLANS AND SPECIFICATIONS ARE TO SUPPLEMENT EACH OTHER AND ANY DETAILS CONTAINED IN ONE SHALL BE INCLUDED AS IF CONTAINED IN BOTH.
3. ELECTRICAL DRAWINGS SHALL SERVE AS WORKING DRAWINGS, BUT ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE IF ANY DIMENSIONAL DISCREPANCIES EXIST.
4. DRAWINGS ARE PARTLY DIAGRAMMATIC AND DO NOT SHOW ROUTING OF CONDUITS, EXACT LOCATION OF PRODUCTS, OR INSTALLATION FEATURES IN EXACT DETAIL. LOCATIONS OF DEVICES, FIXTURES AND EQUIPMENT ARE APPROXIMATE UNLESS DIMENSIONED.
5. RISER DIAGRAMS AND CONTROL SCHEMATICS ARE NOT TO SCALE AND DO NOT SHOW PHYSICAL ARRANGEMENT OF EQUIPMENT. DO NOT USE RISER DIAGRAMS OR SCHEMATICS TO OBTAIN LINEAL CONDUIT AND CABLING DISTANCES.
6. ITEMS ARE SHOWN ON DRAWINGS IN LOCATIONS TO MINIMIZE INTERFERENCE WITH OTHER EQUIPMENT, STRUCTURAL MEMBERS, ETC. EXACT FINISH LOCATIONS ARE NOT INDICATED, HOWEVER, AND ALL WORK SHALL BE DONE TO AVOID INTERFERENCE. PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.
7. IN EVENT THAT DISCREPANCIES OF ANY KIND EXIST OR REQUIRED ITEMS/DETAILS HAVE BEEN OMITTED, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IN WRITING OF SUCH DISCREPANCY OR OMISSION AT LEAST TEN DAYS PRIOR TO BID DATE. FAILURE TO DO SO SHALL BE CONSIDERED AS WILLINGNESS OF CONTRACTOR TO SUPPLY ALL NECESSARY MATERIALS AND LABOR REQUIRED FOR PROPER COMPLETION OF WORK.

- F. CONTRACTOR'S RESPONSIBILITY - CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF COMPLETE AND FUNCTIONAL PIECE OF WORK IN ACCORDANCE WITH TRUE INTENT OF CONTRACT DOCUMENTS. PROVIDE ALL INCIDENTAL ITEMS REQUIRED FOR COMPLETE INSTALLATION WITHOUT COST TO THE OWNER WITHIN ONE (1) YEAR AFTER SUBSTANTIAL COMPLETION OF THE CONTRACT OR ONE (1) FULL SEASON OF HEATING AND COOLING OPERATION, WHICHEVER IS THE GREATER. THE GUARANTEE SHALL LIST THE DATE OF THE BEGINNING OF THE ONE (1) YEAR PERIOD, WHICH SHALL BE THE DATE THAT THE SUBSTANTIAL COMPLETION OF THE PROJECT OCCURRED.
1. QUALIFICATIONS
a. CONTRACTOR SHALL EMPLOY ON THIS PROJECT, CAPABLE, EXPERIENCED AND RELIABLE FOREMAN AND SUCH SKILLED WORKMEN AS MAY BE REQUIRED TO COMPLETE THE WORK AND TO BE PERFORMED.
b. WHERE SPECIAL SKILLS AND CERTIFICATION ARE REQUIRED, CONTRACTOR SHALL ENSURE THAT WORK IS PERFORMED BY INDIVIDUALS WITH REQUIRED EXPERIENCE, SKILL AND CERTIFICATION.
c. IF, IN ENGINEER'S OPINION, CONTRACTOR'S EMPLOYEES DO NOT POSSESS NECESSARY QUALIFICATIONS TO PERFORM SPECIALTY WORK, CONTRACTOR WILL BE REQUIRED TO OBTAIN SERVICES OF WORKMEN WHO ARE APPROVED BY MANUFACTURER AND CERTIFIED BY APPLICABLE AGENCY OR GROUP. THESE WORKMEN, IF REQUIRED, SHALL BE PROVIDED AT NO ADDITIONAL EXPENSE.
d. REFER TO OTHER SPECIFICATION SECTIONS FOR ADDITIONAL REQUIRED PERSONNEL THROUGHOUT THE OPERATION OF ALL ELECTRICAL EQUIPMENT BY THE CONTRACTOR.
2. LICENSING AND CERTIFICATION - ALL DIVISION 26 WORK SHALL BE ACCOMPLISHED BY ELECTRICIANS, LICENSED BY STATE IN WHICH WORK IS BEING DONE, CERTIFIED AS REQUIRED, AND SKILLED IN THEIR CRAFT. ELECTRICIAN MAY ELECT TO HIRE SUBCONTRACTORS FOR PORTIONS OF WORK (SUCH AS WIRING) PROVIDED IN DIVISION 26 WORK SHALL BE PERFORMED BY LICENSED ELECTRICIANS, BUT HAVE REQUIRED CERTIFICATES AND ARE LICENSED IN THEIR DISCIPLINE BY STATE IN WHICH WORK IS BEING DONE.
3. COORDINATION
a. CONTRACTOR SHALL CONSULT ALL CONTRACT DOCUMENTS, SHOP DRAWINGS, TRADES, AND BUILDING DIMENSIONS TO DETERMINE THAT HIS WORK AND EQUIPMENT WILL FIT AS PLANNED. DO NOT SCALE DRAWINGS FOR FABRICATION. NO EXTRA PAYMENT WILL BE ISSUED FOR MATERIALS OR ITEMS WHICH DO NOT FIT BECAUSE OF CONTRACTOR'S FAILURE TO VERIFY AS-BUILT BUILDING DIMENSIONS.
b. CONTRACTOR SHALL CHECK LOCATION OF FIXTURES, OUTLETS, EQUIPMENT, CONDUIT, ETC., TO DETERMINE THEY CLEAR ALL OPENINGS, STRUCTURAL MEMBERS, PIPING, DUCTS AND MISCELLANEOUS EQUIPMENT HAVING FIXED LOCATIONS.
c. CHANGES IN LOCATION OF ELECTRICAL WORK, NECESSARY DUE TO OBSTACLES OR INSTALLATION OF OTHER TRADES SHOWN ON CONTRACT DOCUMENTS, SHALL BE MADE BY ELECTRICAL CONTRACTOR AT NO EXTRA COST.
d. CONTRACTOR SHALL COORDINATE WITH PLUMBING AND MECHANICAL CONTRACTORS TO AVOID INSTALLATION OF PIPING AND DUCTWORK ABOVE OR BELOW PANELBOARDS IN VIOLATION OF NATIONAL ELECTRICAL CODE.
e. LAY OUT ALL WORK IN ADVANCE AND AVOID CONFLICT WITH OTHER WORK IN PROGRESS. PHYSICAL DIMENSIONS SHALL BE DETERMINED FROM ARCHITECTURAL AND STRUCTURAL PLANS. VERIFY LOCATIONS FOR JUNCTION BOXES, DISCONNECT SWITCHES, STUB UPS, ETC. FOR CONNECTION TO EQUIPMENT FURNISHED BY OTHERS, OR IN OTHER DIVISIONS OF THIS WORK.
f. CONTRACTOR SHALL COORDINATE AND PLAN WORK TO PROCEED WITH WORK OF OTHER TRADES.
g. CONTRACTOR SHALL INFORM GENERAL CONTRACTOR OF ALL REQUIRED OPENINGS IN BUILDING STRUCTURE FOR INSTALLATION OF ELECTRICAL EQUIPMENT.
h. CONTRACTOR SHALL CHECK DIMENSIONS OF ALL ELECTRICAL EQUIPMENT INSTALLED, PROVIDED BY HIMSELF OR BY OTHERS, SO CORRECT CLEARANCES AND CONNECTIONS CAN BE MADE.
i. CONSULTING ALL CONTRACT DOCUMENTS AND SHOP DRAWINGS OF OTHER TRADES, CONTRACTOR SHALL DETERMINE WHERE ELECTRICAL JUNCTION/PULL BOXES AND EQUIPMENT CAN BE INSTALLED TO MAINTAIN PROPER ACCESSIBILITY. WHERE ACCESSIBILITY CANNOT BE MAINTAINED BY JUDDIOUS PLACEMENT OF BOXES, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE, FABRICATE, INSTALL, ADJUST, PAINT, ETC. ACCESS DOORS THROUGH NON-ACCESSIBLE FLOOR, WALL, AND CEILING FINISHES TO ALLOW ACCESS TO ALL ELECTRICAL JUNCTION AND PULL BOXES, ELECTRICAL DEVICES, ELECTRICAL EQUIPMENT, ETC. AT ALL REQUIRED LOCATIONS WHETHER SHOWN OR NOT SHOWN ON PLANS. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING SIZE AND LOCATION OF ALL ACCESS DOORS. REPORT ANY CONFLICTS TO ARCHITECT/ENGINEER.
G. REVIEW - ALL WORK AND MATERIAL IS SUBJECT TO REVIEW AT ANY TIME BY THE ARCHITECT/ENGINEER OR HIS REPRESENTATIVE. IF THE ARCHITECT/ENGINEER OR HIS REPRESENTATIVE FINDS MATERIAL THAT DOES NOT CONFORM TO THESE SPECIFICATIONS OR THAT IS NOT PROPERLY INSTALLED OR THAT CORRECT THE DEFICIENCIES IN A MANNER SATISFACTORY TO THE ARCHITECT/ENGINEER AT THE CONTRACTOR'S EXPENSE.
H. TEMPORARY FACILITIES
1. ELECTRICAL UTILITIES
a. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL POWER TO THE CONSTRUCTION SITE AS DIRECTED BY THE GENERAL CONTRACTOR. NO CONNECTIONS TO THE OWNER'S SYSTEM SHALL BE ALLOWED WITHOUT OWNER'S WRITTEN APPROVAL. PROVIDE A SEPARATE UTILITY SERVICE AS REQUIRED.
b. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL POWER TO JOB TRAILERS AS DIRECTED BY THE GENERAL CONTRACTOR.
c. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY COMMUNICATIONS TO JOB TRAILERS AS DIRECTED BY THE GENERAL CONTRACTOR.
d. ALL COSTS ASSOCIATED WITH TEMPORARY POWER, COMMUNICATIONS AND UTILITY COST SHALL BE PAID BY TO THE GENERAL CONTRACTOR.
e. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION LIGHTING AS DIRECTED BY THE GENERAL CONTRACTOR TO PROVIDE A SAFE WORKING ENVIRONMENT.
f. ALL TEMPORARY SERVICES ARE TO BE REMOVED IN THEIR ENTIRETY PRIOR TO OCCUPANCY AS DIRECTED BY THE GENERAL CONTRACTOR.
2. OFFICES
a. THE ELECTRICAL CONTRACTOR MUST HAVE THE PERMISSION OF THE OWNER AND GENERAL CONTRACTOR OR CONSTRUCTION MANAGER TO INSTALL A TEMPORARY OFFICE/JOB TRAILER ON THE PROJECT SITE.
b. CONTRACTOR SHALL COMPLETELY REMOVE HIS TEMPORARY INSTALLATIONS WHEN NO LONGER NEEDED AND THE PREMISES SHALL BE COMPLETELY CLEAN, DISINFECTED, PATCHED, AND REFINISHED TO MATCH ADJACENT AREAS.
3. LADDERS AND SCAFFOLDS - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE THEIR OWN LADDERS, SCAFFOLDS, ETC. OF SUBSTANTIAL CONSTRUCTION FOR ACCESS TO THEIR WORK IN VARIOUS PORTIONS OF THE BUILDING AS MAY BE REQUIRED, WHEN NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR.
4. PROTECTION DEVICES - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE AND MAINTAIN THEIR OWN NECESSARY BARRICADES, FENCES, SIGNAL LIGHTS, ETC., REQUIRED BY ALL GOVERNING AUTHORITIES OR SHOWN ON THE DRAWINGS. WHEN NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR.
5. TEMPORARY FIRE PROTECTION - THE ELECTRICAL AND LOW-VOLTAGE CONTRACTORS SHALL PROVIDE AND MAINTAIN THEIR OWN NECESSARY EXTINGUISHERS FOR CLASS A, B, C AND SPECIAL HAZARDS AS MAY EXIST IN HIS OWN WORK AREA ONLY IN ACCORDANCE WITH GOOD AND SAFE PRACTICE AND AS REQUIRED BY JURISDICTIONAL SAFETY AUTHORITY.
I. RECORD DOCUMENTS (AS-BUILT DRAWINGS)
1. SEE REQUIREMENTS REGARDING RECORD DOCUMENTS IN GENERAL DIVISION AND DIVISION 1.
2. AT BEGINNING OF WORK, CONTRACTOR SHALL SET ASIDE ONE COMPLETE SET OF DRAWINGS WHICH SHALL BE MAINTAINED AS COMPLETE "AS-BUILT" SET. DRAWINGS SHALL BE UPDATED DAILY IN NEAT AND LEGIBLE MANNER AND SHALL NOT BE USED FOR ANY OTHER PURPOSE. DRAWINGS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS, ETC. SHALL BE MAINTAINED AT JOB SITE AND AVAILABLE FOR REVIEW AT ANY TIME.
3. SHOW DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK THAT WILL BECOME PERMANENTLY CONCEALED, CAST IN CONCRETE OR BURIED UNDERGROUND.
4. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO SYSTEMS SHOWN.
5. SHOW PROVISIONS FOR FUTURE CONNECTION, REFERENCED TO BUILDING LINES OR APPROVED BENCH MARKS.
6. PROVIDE WIRING DIAGRAMS FOR ALL INDIVIDUAL COMMUNICATIONS SYSTEMS AS INSTALLED. IDENTIFY ALL COMPONENTS AND SHOW ALL WIRE AND TERMINAL NUMBERS AND CONNECTIONS.
7. AT COMPLETION OF PROJECT, DELIVER DRAWINGS TO ENGINEER FOR REVIEW.

- J. WARRANTY
1. THE CONTRACTOR SHALL GUARANTEE THAT ALL MATERIALS AND LABOR INSTALLED ARE NEW AND OF FIRST QUALITY AND THAT ANY MATERIAL OR LABOR REQUIRED FOR COMPLETE INSTALLATION WITHOUT COST TO THE OWNER WITHIN ONE (1) YEAR AFTER SUBSTANTIAL COMPLETION OF THE CONTRACT OR ONE (1) FULL SEASON OF HEATING AND COOLING OPERATION, WHICHEVER IS THE GREATER. THE GUARANTEE SHALL LIST THE DATE OF THE BEGINNING OF THE ONE (1) YEAR PERIOD, WHICH SHALL BE THE DATE THAT THE SUBSTANTIAL COMPLETION OF THE PROJECT OCCURRED.
2. ANY DAMAGE TO THE BUILDING, CAUSED BY DEFECTIVE WORK OR MATERIAL OF THE CONTRACTOR WITHIN THE ABOVE-MENTIONED PERIOD, SHALL BE SATISFACTORILY REPAIRED WITHOUT COST TO THE OWNER.
3. THE GUARANTEE DOES NOT INCLUDE MAINTENANCE OF EQUIPMENT. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR PROPER OPERATION AND MAINTENANCE OF EQUIPMENT IMMEDIATELY UPON SUBSTANTIAL COMPLETION AND OCCUPANCY OF THE BUILDING.
4. FINAL ACCEPTANCE BY THE OWNER WILL NOT OCCUR UNTIL ALL OPERATING INSTRUCTIONS ARE MOUNTED IN EQUIPMENT ROOMS AND OPERATING PERSONNEL THOROUGHLY INDOCTRINATED IN THE OPERATION OF ALL ELECTRICAL EQUIPMENT BY THE CONTRACTOR.
5. NO EQUIPMENT INSTALLED AS PART OF THIS PROJECT SHALL BE USED FOR TEMPORARY HEAT DURING CONSTRUCTION.
K. MATERIALS AND EQUIPMENT
1. MANUFACTURER'S TRADE NAMES AND CATALOG NUMBERS LISTED ARE INTENDED TO INDICATE THE QUALITY OF EQUIPMENT OR MATERIALS DESIRED. MANUFACTURERS NOT LISTED IN THE SPECIFICATION WILL BE CONSIDERED SUBSTITUTIONS AND MUST HAVE PRIOR APPROVAL.
2. SEE DIVISION 01 FOR SUBSTITUTIONS PROCEDURES. REQUESTS FOR SUBSTITUTION ARE TO BE SUBMITTED SUFFICIENTLY AHEAD OF THE DEADLINE TO GIVE AMF THE TIME FOR EXAMINATION, PRIOR APPROVAL, REQUEST FOR SUBSTITUTION MUST INDICATE THE SPECIFIC ITEM OR ITEMS TO BE FURNISHED IN LIEU OF THOSE SCHEDULED, TOGETHER WITH COMPLETE TECHNICAL AND COMPARATIVE DATA ON SCHEDULED ITEMS AND ITEMS PROPOSED FOR SUBSTITUTION.
3. IF THE ENGINEER APPROVES ANY PROPOSED SUBSTITUTION, THE APPROVED PRODUCT WILL BE LISTED IN AN ADDENDUM. BIDDERS SHALL NOT RELY ON APPROVAL MADE IN ANY OTHER MANNER.
4. ELECTRICAL EQUIPMENT MAY BE INSTALLED WITH MANUFACTURER'S STANDARD FINISH AND COLOR EXCEPT WHERE SPECIFIC COLOR, FINISH OR CHOICE IS INDICATED. IF THE MANUFACTURER HAS NO STANDARD FINISH, EQUIPMENT SHALL HAVE A PRIME COAT AND TWO FINISH COATS OF GRAY ENAMEL.
5. HIGH ALTITUDE OPERATION: CAPACITY OF ALL EQUIPMENT IS TO BE SIZED AND MANUFACTURED TO PERFORM AT THE ELEVATION OF THE PROJECT SITE. IF NOT SPECIFICALLY INDICATED IN THE EQUIPMENT SCHEDULE OR IN THE SPECIFICATIONS PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR PROPER OPERATION AT ELEVATION OF THE PROJECT SITE.
6. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROTECTION OF MATERIALS AND EQUIPMENT OF OTHER CONTRACTORS FROM DAMAGE AS A RESULT OF HIS WORK.
7. MANUFACTURED MATERIAL AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY MANUFACTURER UNLESS HEREIN SPECIFIED TO THE CONTRARY.
8. THIS CONTRACTOR SHALL MAKE THE REQUIRED ARRANGEMENT WITH GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR THE INJECTION INTO THE BUILDING OF EQUIPMENT LARGE TO PASS THROUGH FINISHED OPENINGS.
9. STORE MATERIALS AND EQUIPMENT INDOORS AT THE JOB SITE OR, IF THIS IS NOT POSSIBLE, STORE ON RAISED PLATFORMS AND PROTECT FROM THE WEATHER BY MEANS OF WATERPROOF COVERS. COVERINGS SHALL PERMIT CIRCULATION OF AIR AROUND THE MATERIALS TO PREVENT CONDENSATION OF MOISTURE. SCREEN OR CAP OPENINGS IN EQUIPMENT TO PREVENT THE ENTRY OF VERMIN.
L. SUBSTITUTION OF MATERIALS - WHERE SUBSTITUTED EQUIPMENT REQUIRES STRUCTURAL, ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK THAT DIFFERS FROM BASIC DESIGN, COST OF ALL CHANGES, INCLUDING RE-DESIGN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR USING SUBSTITUTION.
1. APPROVED MANUFACTURERS
a. IN GENERAL, ONE PARTICULAR MANUFACTURER AND PART NUMBER OR SERIES IS LISTED TO DESCRIBE EQUIPMENT. EQUIVALENT EQUIPMENT OF OTHER MANUFACTURERS LISTED FOR THAT ITEM MAY BE SUBSTITUTED WITHOUT PRIOR APPROVAL IF THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ITEM USED FOR BIDDING PURPOSES IS TRULY EQUIVALENT TO THAT SPECIFIED. IF IT IS NOT EQUIVALENT, IT WILL BE REJECTED AT SHOP DRAWING REVIEW AND CONTRACTOR SHALL SUPPLY SPECIFIED ITEM AT HIS OWN COST.
b. IT IS UNDERSTOOD THAT MANUFACTURERS LISTED MAY NOT ACTUALLY HAVE EQUIVALENT PRODUCT TO THAT SPECIFIED. IF CONTRACTOR/DISTRIBUTOR HAS ANY QUESTIONS REGARDING DESIRED PRODUCT CHARACTERISTICS AND SUITABILITY OF PROPOSED SUBSTITUTION, HE IS ENCOURAGED TO SUBMIT FOR PRIOR APPROVAL. ALSO, ANY MANUFACTURER NOT LISTED SHALL BE SUBMITTED FOR PRIOR APPROVAL.
2. PRIOR APPROVALS
a. MANUFACTURERS NOT LISTED IN SPECIFICATION OR ON SCHEDULE FOR A PARTICULAR ITEM ARE OPEN FOR SUBSTITUTION PRIOR TO BID OPENING ONLY.
b. MANUFACTURERS DESIRING APPROVAL SHALL SUBMIT CATALOG CUTS THAT DEFINE QUALITY OF PRODUCT AND ABILITY TO PERFORM AS SPECIFIED. IT IS UNDERSTOOD THAT NO TWO MANUFACTURES USE IDENTICAL METHODS OR MAKE IDENTICAL PRODUCTS. ANY AND ALL DEVIATIONS FROM THAT SPECIFIED SHALL BE CLEARLY NOTED.
c. SUBMITTALS SHALL ARRIVE AT ENGINEER AT LEAST TEN (10) DAYS PRIOR TO BID OPENING. ALL APPROVALS WILL BE LISTED IN LAST ADDENDUM AS BEING APPROVED TO BID. ITEMS SUBSTITUTED, BUT NOT LISTED IN CONTRACT DOCUMENTS, WILL NOT BE CONSIDERED IF SUBMITTED ON SHOP DRAWINGS.
d. APPROVAL OF SUBSTITUTE EQUIPMENT IS ON BASIS OF QUALITY ONLY. MATERIALS SUPPLIER SHALL BE RESPONSIBLE FOR HIS QUOTATION BEING REFLECTING PROPER SELECTION OF HIS PARTICULAR EQUIPMENT WITH REGARD TO PROPER CAPACITIES, PHYSICAL DIMENSIONS, REQUIREMENTS, INTENDED FUNCTION, FINISH, COLOR, ETC. ENGINEER WILL NOT GIVE APPROVAL TO SPECIFIC MODEL NUMBERS OR CHECK CAPACITIES, DIMENSIONS, OR REQUIREMENTS. EVALUATION WILL BE ON BASIS OF QUALITY AND EQUALITY TO SPECIFIED ITEMS.
e. PRIOR APPROVAL SHALL BE OBTAINED FROM ENGINEER AND NO OTHER ENTITY (ARCHITECT, OWNER, ETC.) IS AUTHORIZED TO GIVE SUCH APPROVAL.
3. SAMPLES
a. WHERE, IN ENGINEER/ARCHITECT'S OPINION, PRODUCT SAMPLE IS REQUIRED IN ORDER TO DETERMINE APPEARANCE, QUALITY, WORKMANSHIP OR OPERATION, CONTRACTOR SHALL SUBMIT ACTUAL PRODUCTION SAMPLES OF ITEM IN QUESTION.
b. SAMPLES WILL BE RETURNED TO CONTRACTOR. APPROVED SAMPLES MAY BE USED.
c. ALL COSTS INCURRED IN PROVIDING AND RETURNING SAMPLES WILL BE CONTRACTOR'S RESPONSIBILITY.
M. SUBMITTALS AND SYSTEM SUBMITTALS
1. SUBMITTALS WILL BE REQUIRED FOR EACH PIECE OF EQUIPMENT, MATERIAL OR PRODUCT UTILIZED IN THE PROJECT. ALL SUBMITTAL SHALL BE SUBMITTED, REVIEWED AND ALL DISCREPANCIES ADDRESSED PRIOR TO ORDERING EQUIPMENT OR STARTING WORK. ANY EQUIPMENT ORDERED WITHOUT HAVING FIRST COMPLETED THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR, ANY WORK PERFORMED PRIOR TO COMPLETING THE SUBMITTAL PROCESS IS DONE AT THE RISK OF THE CONTRACTOR.
2. SEE REQUIREMENTS REGARDING RECORD DOCUMENTS IN GENERAL DIVISION AND DIVISION 1.
a. PRODUCT DATA: PROVIDE MANUFACTURERS CUT SHEETS THAT INCLUDE GENERAL PRODUCT INFORMATION INCLUDING BUT NOT LIMITED TO: MODEL NUMBER, PHYSICAL DATA, NOMINAL CAPACITIES, ROUGH-IN REQUIREMENTS.
b. PERFORMANCE DATA: PROVIDE DETAILED PERFORMANCE AND CAPACITIES BASED ON PROJECT SPECIFIC REQUIREMENTS INCLUDING BUT NOT LIMITED TO: VOLTAGE, PHASE, AMPERAGE, OVERCURRENT PROTECTION, CONDUCTOR SIZE, CONDUCTOR MATERIAL, CONDUIT SIZE, COLOR TEMPERATURE, COLOR RENDERING INDEX, LIFE EXPECTANCE, EFFICACY, EFFICIENCY, IP RATINGS, LIGHT DISTRIBUTION TYPES AND LIGHTING CONTROL.
c. SHOP DRAWINGS: PROVIDE DETAILED DRAWINGS OF THE EQUIPMENT SHOWING OVERALL DIMENSIONS, LOCATION OF ELECTRICAL CONNECTION, LOCATION OF ANCHORAGE POINTS, LOCATION OF ELECTRICAL AND CONTROL PANELS, AND ALL OPERATING, SERVICE AND MAINTENANCE CLEARANCES.
d. DELEGATED DESIGN: PROVIDE DETAILED DRAWINGS PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER THAT DETAIL PERTINENT DESIGN CRITERIA, THE MATERIALS AND PRODUCTS TO BE INSTALLED AND THE REQUIRED INSTALLATION LOCATIONS.
e. WIRING DIAGRAM: PROVIDE DIAGRAMS THAT IDENTIFY AND DETAIL REQUIRED FIELD WIRING.
f. COLOR CHART: PROVIDE A PHYSICAL COLOR CHART OF MATERIAL SAMPLES REQUIRED FOR SELECTION OF EQUIPMENT COLORS.
g. SUSTAINABILITY COMPLIANCE: PROVIDE LITERATURE THAT INDICATED A PRODUCTS COMPLIANCE WITH LEED OR GREEN GLOBES. SEE DIVISION 01 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

- 3. SUBMITTAL FORMATS
a. INCLUDE THE FOLLOWING INFORMATION WITH EACH SUBMITTAL:
• PROJECT NAME
• SUBMITTAL NUMBER
• NAME OF ARCHITECT
• NAME OF ENGINEER
• NAME OF GENERAL CONTRACTOR OR CONSTRUCTION MANAGER
• NAME OF SUB-CONTRACTOR
• NAME OF FIRM OR ENTITY THAT PREPARED THE SUBMITTAL
• UNIQUE SUBMITTAL NUMBER
• TYPE OF SUBMITTAL
• SPECIFICATION SECTION
• NAME OR MARK OF EQUIPMENT OR MATERIAL AND DETAIL OR DRAWINGS REFERENCE.
b. ALL SUBMITTALS WITH THE EXCEPTION OF COLOR CHARTS OR MATERIAL SAMPLES SHALL BE ELECTRONICALLY TRANSMITTED PDF'S. ALL SUBMITTALS OVER 8 MB SHALL BE SETUP ON A SHARE FILE SITE AND ACCESS GRANTED THROUGH EMAIL WITH FOLDER'S LINK FOR DOWNLOAD.
4. SUBMITTAL REQUIREMENTS
a. SUBMITTALS SHALL BE SUBMITTED AS A COMPLETE SPECIFICATION SECTION. THE SUBMITTAL MUST INCLUDE ALL MATERIALS AND EQUIPMENT FOR THAT SPECIFICATION SECTION. SUBMITTALS FOR INDIVIDUAL MATERIALS OF EQUIPMENT WILL BE REJECTED WITHOUT REVIEW.
b. SUBMITTALS SHALL BE COMPLETE, CLEARLY SHOW ITEM USED, SIZE, DIMENSIONS, FINISH, COLOR, RUGH-IN, ETC., AS REQUIRED FOR COMPLETE CHECK AND INSTALLATION. MANUFACTURER'S LITERATURE SHOWING MORE THAN ONE ITEM SHALL BE CLEARLY MARKED AS TO WHICH ITEM IS BEING FURNISHED OR IT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.
c. EACH SUBMITTAL SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR COMPLETENESS OF THE CONTRACT DOCUMENT REQUIREMENTS, ACCURACY OF DIMENSIONS, RELATIONSHIP TO THE WORK OF OTHER TRADES, AND CONFORMANCE WITH SOUND, SAFE PRACTICES AS TO ERECTION AND INSTALLATION. EACH SUBMITTAL SHALL THEN BEAR A STAMP EVIDENCING SUCH CHECKING AND SHALL SHOW CORRECTIONS MADE, IF ANY.
d. THE ENGINEER APPROVES ANY PROPOSED SUBSTITUTION, THE APPROVED PRODUCT WILL BE LISTED IN AN ADDENDUM. BIDDERS SHALL NOT RELY ON APPROVAL MADE IN ANY OTHER MANNER.
e. ELECTRICAL EQUIPMENT MAY BE INSTALLED WITH MANUFACTURER'S STANDARD FINISH AND COLOR EXCEPT WHERE SPECIFIC COLOR, FINISH OR CHOICE IS INDICATED. IF THE MANUFACTURER HAS NO STANDARD FINISH, EQUIPMENT SHALL HAVE A PRIME COAT AND TWO FINISH COATS OF GRAY ENAMEL.
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g. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROTECTION OF MATERIALS AND EQUIPMENT OF OTHER CONTRACTORS FROM DAMAGE AS A RESULT OF HIS WORK.
h. MANUFACTURED MATERIAL AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY MANUFACTURER UNLESS HEREIN SPECIFIED TO THE CONTRARY.
i. THIS CONTRACTOR SHALL MAKE THE REQUIRED ARRANGEMENT WITH GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR THE INJECTION INTO THE BUILDING OF EQUIPMENT LARGE TO PASS THROUGH FINISHED OPENINGS.
j. STORE MATERIALS AND EQUIPMENT INDOORS AT THE JOB SITE OR, IF THIS IS NOT POSSIBLE, STORE ON RAISED PLATFORMS AND PROTECT FROM THE WEATHER BY MEANS OF WATERPROOF COVERS. COVERINGS SHALL PERMIT CIRCULATION OF AIR AROUND THE MATERIALS TO PREVENT CONDENSATION OF MOISTURE. SCREEN OR CAP OPENINGS IN EQUIPMENT TO PREVENT THE ENTRY OF VERMIN.
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2. SEE REQUIREMENTS REGARDING RECORD DOCUMENTS IN GENERAL DIVISION AND DIVISION 1.
a. PRODUCT DATA: PROVIDE MANUFACTURERS CUT SHEETS THAT INCLUDE GENERAL PRODUCT INFORMATION INCLUDING BUT NOT LIMITED TO: MODEL NUMBER, PHYSICAL DATA, NOMINAL CAPACITIES, ROUGH-IN REQUIREMENTS.
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c. SHOP DRAWINGS: PROVIDE DETAILED DRAWINGS OF THE EQUIPMENT SHOWING OVERALL DIMENSIONS, LOCATION OF ELECTRICAL CONNECTION, LOCATION OF ANCHORAGE POINTS, LOCATION OF ELECTRICAL AND CONTROL PANELS, AND ALL OPERATING, SERVICE AND MAINTENANCE CLEARANCES.
d. DELEGATED DESIGN: PROVIDE DETAILED DRAWINGS PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER THAT DETAIL PERTINENT DESIGN CRITERIA, THE MATERIALS AND PRODUCTS TO BE INSTALLED AND THE REQUIRED INSTALLATION LOCATIONS.
e. WIRING DIAGRAM: PROVIDE DIAGRAMS THAT IDENTIFY AND DETAIL REQUIRED FIELD WIRING.
f. COLOR CHART: PROVIDE A PHYSICAL COLOR CHART OF MATERIAL SAMPLES REQUIRED FOR SELECTION OF EQUIPMENT COLORS.
g. SUSTAINABILITY COMPLIANCE: PROVIDE LITERATURE THAT INDICATED A PRODUCTS COMPLIANCE WITH LEED OR GREEN GLOBES. SEE DIVISION 01 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

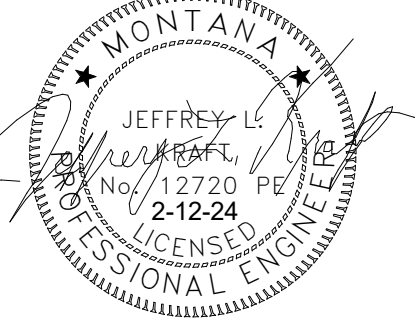
- 2. ADJUSTMENTS
a. MAKE ALL CHANGES NECESSARY TO BALANCE CONNECTED ELECTRICAL LOADS ON COMPLETE SYSTEM. ARRANGE FOR BALANCED CONDITIONS FOR CIRCUITS AND CONNECTED LOAD DEMANDS, AS CONTEMPLATED BY THE NORMAL WORKING CONDITIONS. FINAL LOAD AND BALANCE TEST SHALL BE DEMONSTRATED IN PRESENCE OF ARCHITECT/ENGINEER.
b. IMMEDIATELY CORRECT ALL DEFICIENCIES WHICH ARE EVIDENCED DURING TESTS AND REPEAT TESTS UNTIL SYSTEM IS APPROVED. DO NOT COVER OR CONCEAL ELECTRICAL INSTALLATIONS UNTIL SATISFACTORY TESTS ARE MADE AND APPROVED.
3. FINAL WALK-THRU
a. CONDUCT OPERATING TESTS DURING FINAL INSPECTION. DEMONSTRATE INSTALLATION TO OPERATE SATISFACTORILY IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS. SHOULD ANY PORTION OF INSTALLATION FAIL TO MEET REQUIREMENTS OF CONTRACT DOCUMENTS, REPAIR OR REPLACE ITEMS FAILING TO MEET REQUIREMENTS UNTIL ITEMS CAN BE DEMONSTRATED TO COMPLY.
b. HAVE INSTRUMENTS AVAILABLE FOR MEASURING LIGHT INTENSITIES, VOLTAGES AND CURRENT VALUES AND FOR DEMONSTRATION OF CONTINUITY, GROUNDS, OR OPEN CIRCUIT CONDITIONS.
c. FURNISH PERSONNEL TO ASSIST IN TAKING MEASUREMENTS AND MAKING TESTS. IN EVENT THAT SYSTEMS ARE NOT COMPLETE AND FULLY OPERATIONAL AT TIME OF FINAL INSPECTION, ALL COSTS OF ANY SUBSEQUENT INSPECTIONS SHALL BE BORNE BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
T. OWNER ORIENTATION AND TRAINING
1. GENERAL
a. THE SYSTEM TRAINING IS INTENDED TO FAMILIARIZE THE OWNER'S OPERATING AND MAINTENANCE STAFF WITH ALL SYSTEMS REQUIRING MAINTENANCE. TRAINING IS TO BE PROVIDED AFTER THE SYSTEMS ARE IN PLACE AND OPERATIONAL. AFTER ISSUES NOTED DURING COMMISSIONING HAVE BEEN RESOLVED, AND BEFORE FINAL ACCEPTANCE.
b. ALL TRAINING SHALL BE VIDEO TAPED, REPRODUCED ON DVD'S AND GIVEN TO THE OWNER. PROVIDE A COPY FOR EACH O&M MANUAL PRODUCED.
c. SEE INDIVIDUAL SPECIFICATION SECTIONS FOR ADDITIONAL TRAINING REQUIREMENTS.
2. ATTENDANCE - TRAINING IS TO BE PROVIDED BY CONTRACTOR'S REPRESENTATIVES THAT ARE FAMILIAR WITH THE SYSTEM'S OPERATION AND MAINTENANCE REQUIREMENTS. INDIVIDUAL TRAINING SESSIONS (MODULES) ARE TO PROVIDED FOR EACH TYPE OR GROUP OF SYSTEMS, SEPARATED ROUGHLY BY TRADE GROUP THAT WILL BE PERFORMING MAINTENANCE ON THE SYSTEM.
3. SCHEDULE - TRAINING SESSIONS ARE TO BE PROVIDED FOR EACH TRAINING MODULE. LENGTH OF TRAINING SESSIONS WILL BE DETERMINED BY SCOPE OF TRAINING INDICATED BELOW, AND AS COORDINATED WITH OWNER AFTER DRAFT COPY OF TRAINING DOCUMENTS HAVE BEEN REVIEWED.
4. TRAINING DOCUMENTATION
a. CONTRACTOR TO SUBMIT DRAFT COPY OF AGENDA AND TRAINING DOCUMENTS TO OWNER FOR REVIEW AT LEAST TWO WEEKS PRIOR TO TRAINING DATE.
b. PROVIDE A COPY OF THE FOLLOWING ITEMS FOR EACH PERSON THAT WILL BE ATTENDING THE TRAINING SESSIONS. COORDINATE REQUIRED NUMBER WITH THE OWNER.
• TRAINING AGENDA.
• SUMMARY OF NEW SYSTEMS AND EXISTING SYSTEMS AFFECTED BY THIS PROJECT.
• SUMMARY OF WORK PERFORMED UNDER THIS PROJECT.
• CONTROL SYSTEM DRAWINGS AND SEQUENCES OF OPERATION.
• LIST OF IMPORTANT MAINTENANCE AND TROUBLE-SHOOTING OPERATIONS FOR ALL SYSTEMS.
c. PROVIDE MINIMUM OF 2 COPIES OF CONTRACT DOCUMENTS INCLUDING ALL DRAWINGS, SPECIFICATIONS, ADDENDUMS, AND CHANGE ORDERS.
5. TRAINING SESSIONS
a. ASSEMBLE AT LOCATION TO BE DETERMINED BY THE OWNER.
b. DISTRIBUTE TRAINING DOCUMENTATION AS INDICATED ABOVE.
c. PROVIDE CLASSROOM STYLE TRAINING IF REQUIRED FOR ORIENTATION, DISCUSSION OF NEW SYSTEMS AND EXISTING SYSTEMS AFFECTED BY THIS PROJECT, AND OTHER ISSUES APPROPRIATE FOR A CLASSROOM FORMAT.
d. VISIT SITE AND REVIEW LOCATIONS, AND PERFORM DETAILED REVIEW OF OPERATION AND MAINTENANCE REQUIREMENTS FOR CURRENT SYSTEMS.
e. ALL TRAINING SESSION SHALL BE VIDEO RECORDED AND DISTRIBUTED TO THE OWNER UPON COMPLETION IN DVD FORMAT. OR OWNER DESIRED FORMAT. INCLUDE ALL TRAINING VIDEOS IN THE O&M MANUAL.



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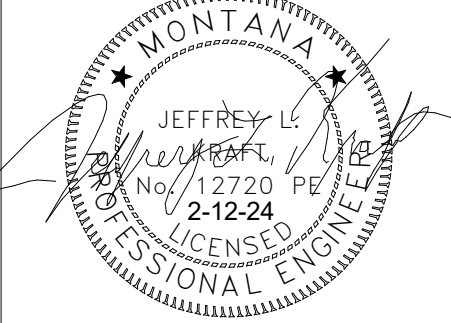
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CARBON COUNTY MONTANA
NEW SALT SHED
RED LODGE, MT
Date FEBRUARY 12, 2024
Issue CONSTRUCTION DOCUMENTS
Project Number 2022-36.1
Revisions
ELECTRICAL SPECIFICATIONS
E002



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ELECTRICAL SPECIFICATIONS
E003

260519 - CONDUCTORS

- A. FEEDERS: COPPER, TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.
 - B. BRANCH CIRCUITS, COPPER, TYPE THHN/THWN-2, SOLID FOR NO. 10 AWG AND SMALLER, STRANDED FOR NO. 8 AWG AND LARGER. SINGLE CONDUCTORS IN RACEWAY.
 - C. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, CORD WITH STAINLESS-STEEL WIRE-MESH, STRAIN RELIEF DEVICE AT TERMINATIONS.
 - D. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120 V BRANCH CIRCUIT.
- 260526 - GROUNDING AND BONDING**
- A. GROUNDING ELECTRODE CONDUCTOR: BARE COPPER, SIZED PER NEC 250.66
 - B. BONDING CONDUCTOR: BARE COPPER FOR LENGTHS OF 6 FEET OR LESS, COPPER WITH INSULATION IN PVC CONDUIT (METALLIC CONDUIT IN AIR PLENUM) WHERE LONGER THAN 6 FEET IN LENGTH. IF METALLIC CONDUIT IS USED, PROVIDE BONDING BUSHING AT EACH END. SIZE PER NEC 250.102.
 - C. EQUIPMENT GROUND CONDUCTOR: COPPER WITH GREEN INSULATION (LARGER WIRES MAY BE PERMANENTLY MARKED WITH GREEN), SIZED PER NEC 250.122. DO NOT RELY ON CONDUIT FOR THE GROUNDING PATH.
 - D. GROUNDING BUS: RECTANGULAR COPPER BAR, 1/4" X 4" X 12" WITH 9/32" HOLES SPACED 1-1/8" APART. WALL-MOUNT WITH STAND-OFF INSULATORS.
 - E. UFER GROUND (CONCRETE-ENCASED GROUNDING ELECTRODE): FABRICATE ACCORDING TO NFPA 70. USE A MINIMUM OF 20 FEET OF BARE COPPER CONDUCTOR NOT SMALLER THAN #4 AWG. IF CONCRETE FOUNDATION IS LESS THAN 20 FEET LONG, COIL EXCESS CONDUCTOR WITHIN BASE OF FOUNDATION. BOND GROUNDING CONDUCTOR TO REINFORCING STEEL IN AT LEAST FOUR LOCATIONS AND TO ANCHOR BOLTS. EXTEND GROUNDING CONDUCTOR BELOW GRADE AND CONNECT TO BUILDING'S GROUNDING GRID OR TO GROUNDING ELECTRODE EXTERNAL TO CONCRETE.
 - F. GROUND RODS: COPPER-CLAD STEEL; 3/4 INCH BY 10 FEET. DRIVE RODS UNTIL TOPS ARE 2 INCHES BELOW FINISHED FLOOR OR FINAL GRADE. INSTALL AT LEAST 2 GROUND RODS, SPACED AT LEAST 10 FEET FROM EACH OTHER AND LOCATED AT LEAST THE SAME DISTANCE FROM OTHER GROUNDING ELECTRODES.
 - G. GROUND ROD CLAMPS: MECHANICAL TYPE, COPPER OR COPPER ALLOY, TERMINAL WITH HEX HEAD BOLT.
 - H. WELDED CONNECTORS: EXOTHERMIC-WELDING KITS OF TYPES RECOMMENDED BY KIT MANUFACTURER FOR MATERIALS BEING JOINED AND INSTALLATION CONDITIONS.
 - I. BEAM CLAMPS: WHEN AVAILABLE, BOND STRUCTURAL STEEL TO GROUNDING ELECTRODE SYSTEM WITH MECHANICAL TYPE CLAMP TERMINAL WITH GROUND WIRE ACCESS FROM FOUR DIRECTIONS, AND DUAL, TIN-PLATED OR SILICON BRONZE BOLTS.
 - J. BUS-BAR CONNECTORS: MECHANICAL TYPE, CAST SILICON BRONZE, SOLDERLESS COMPRESSION-TYPE WIRE TERMINALS, AND LONG-BARREL, TWO-BOLT CONNECTION TO GROUND BUS BAR.
 - K. UNDERGROUND GROUNDING CONDUCTORS: INSTALL BARE TINNED-COPPER CONDUCTOR, NO. 2/0 AWG MINIMUM. BURY AT LEAST 24 INCHES BELOW GRADE.

260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

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

260548.16 - SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

- A. IN GENERAL, ALL ELECTRICAL EQUIPMENT SHALL BE DESIGNED AND INSTALLED TO WITHSTAND A SEISMIC EVENT. THE TERM "WITHSTAND" MEANS "THE EQUIPMENT WILL REMAIN IN PLACE WITHOUT SEPARATION OF ANY PARTS WHEN SUBJECTED TO THE SEISMIC FORCES SPECIFIED AND THE UNIT WILL BE FULLY OPERATIONAL AFTER THE SEISMIC EVENT."
- B. FOR EQUIPMENT, COMPONENTS, CHANNEL BRACINGS, RESTRAINT CABLES, ANCHOR BOLTS, ETC. SEISMIC-RESTRAINT LOADING SHALL COMPLY WITH DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS, $S_{DS} = 0.26$
- C. COMPONENT IMPORTANCE FACTOR, $I_p = 1.0$ FOR ELECTRICAL EQUIPMENT EXCEPT FOR COMPONENTS REQUIRED FOR LIFE-SAFETY PURPOSES AFTER AN EARTHQUAKE SUCH AS EGRESS LIGHTING AND FIRE ALARM CONTROL PANEL WHERE $I_p = 1.5$
- D. COMPONENT RESPONSE MODIFICATION FACTOR, R_n : SEE TABLE 13.6-1 OF ASCE 7-22.
- E. COMPONENT AMPLIFICATION FACTOR, A_p : SEE TABLE 13.6-1 OF ASCE 7-22.

260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

- A. CONDUCTOR COLOR-CODING:
 - 1. 240/120V: PHASE A - BLACK, PHASE B - RED, NEUTRAL - WHITE.
 - 2. GROUNDS: BARE COPPER OR GREEN.
- B. ALL EQUIPMENT SHALL HAVE AN IDENTIFICATION LABEL, BLACK LETTERS ON A WHITE FIELD. LABEL INCLUDES UNIT NAME AND CIRCUIT THAT FEEDS IT.
 - 1. 1" MINIMUM HEIGHT LETTERS FOR SERVICE DISCONNECT AND EMERGENCY SHUT-OFF SWITCHES
 - 2. 1/2" MINIMUM HEIGHT LETTERS FOR PANELBOARDS, SWITCHBOARDS, RELAY ENCLOSURES AND TRANSFORMERS.
 - 3. 1/4" MINIMUM HEIGHT LETTERS FOR DISCONNECT SWITCHES AND MOTOR STARTERS.
 - 4. 1/8" MINIMUM HEIGHT LETTERS FOR DEVICE COVERPLATES.
- C. PANELBOARDS LABEL SHALL INCLUDE: PANEL NAME, VOLTAGE, AMPERAGE, NUMBER OF PHASES AND WIRES, SOURCE AND AVAILABLE FAULT CURRENT WITH DATE CALCULATED. INCLUDE TYPEWRITTEN DIRECTORY OF CIRCUITS IN THE LOCATION PROVIDED BY PANELBOARD MANUFACTURER. INDICATE CIRCUIT LOAD INCORPORATING OWNER'S FINAL ROOM DESIGNATIONS. SPARES SHALL BE FILLED IN BY HAND WITH PENCIL. ON MAIN DISTRIBUTION PANEL DOOR SWITCHBOARD FRONT PROVIDE A LAMINATED ONE-LINE DIAGRAM OF THE ELECTRICAL SYSTEM AND ALL PANEL CONFIGURATIONS.
- D. RECEPCTACLES: IDENTIFY PANELBOARD AND CIRCUIT NUMBER FROM WHICH THE DEVICE IS SERVED
 - 1. MARK OUTSIDE OF THE BOX OR COVERPLATE WITH PERMANENT MARKER.

262416 - PANELBOARDS

- A. FLUSH AND SURFACE-MOUNTED ENCLOSURES (AS NOTED ON PLANS) WITH DEAD-FRONT CABINETS. RATED FOR ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION.
- B. MAXIMUM HEIGHT CABINET
 - a. STANDARD: 84 INCHES TO TOP OF ENCLOSURE (SO THAT MAXIMUM HEIGHT OF HIGHEST BREAKER IS 78 INCHES MAXIMUM).
- C. INCOMING MAINS LOCATION: TOP OR BOTTOM AS DETERMINED BY CONTRACTOR, BASED ON FIELD CONDITIONS, UNO.
- D. HARD-DRAWN COPPER PHASE, NEUTRAL, AND GROUND BUSES WITH 98 PERCENT CONDUCTIVITY. MECHANICAL TYPE LUGS WITH A LUG ON THE NEUTRAL AND GROUND BARS FOR EACH BREAKER POLE IN THE PANELBOARD. CONDUCTOR CONNECTORS SHALL BE SUITABLE FOR USE WITH CONDUCTOR MATERIAL, QUANTITY AND SIZES (REFER TO THE FEEDER SCHEDULE).
- E. PANELBOARD SHORT-CIRCUIT CURRENT RATING: FULLY RATED TO INTERRUPT SYMMETRICAL SHORT-CIRCUIT CURRENT AVAILABLE AT TERMINALS. ASSEMBLY SHALL BE LISTED BY AN NRTL FOR 100 PERCENT INTERRUPTING CAPACITY. ALL OVERCURRENT PROTECTIVE DEVICES (COPOS) SHALL BE FULLY RATED FOR AVAILABLE FAULT CURRENT. NO SERIES RATING WILL BE ALLOWED.
- F. BRANCH OVERCURRENT PROTECTIVE DEVICES - BOLT-ON CIRCUIT BREAKERS OR PLUG-IN CIRCUIT BREAKERS WHERE INDIVIDUAL POSITIVE-LOCKING DEVICE REQUIRES MECHANICAL RELEASE FOR REMOVAL. REPLACEABLE WITHOUT DISTURBING ADJACENT UNITS. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE ONLY AND SUITABLE FOR INDIVIDUAL AS WELL AS PANELBOARD MOUNTING.
- G. BREAKERS SHALL BE ONE- OR TWO POLE AS SCHEDULED, OPERATE MANUALLY FOR NORMAL ON-OFF SWITCHING AND AUTOMATICALLY UNDER OVERLOAD AND SHORT CIRCUIT CONDITIONS. SPACE SAVER OR "THIN FIN" STYLE WILL NOT BE ALLOWED.
- H. THE OPERATING HANDLE SHALL OPEN AND CLOSE ALL POLES SIMULTANEOUSLY ON MULTI-POLE BREAKERS. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITIONS. DO NOT USE SINGLE-POLE CIRCUIT BREAKERS WITH HANDLE TIES WHERE MULTI-POLE BREAKERS ARE INDICATED ON THE PANEL SCHEDULE OR WHERE REQUIRED FOR POLY-PHASE LOADS.
- I. BREAKERS SHALL BE OF THE TYPE NOTED ON PANEL SCHEDULE (SHUNT-TRIP, GFI, ARC-FAULT, ETC.) OR AS REQUIRED BY THE EQUIPMENT BEING PROVIDED.
- J. BREAKERS NOTED AS GFI PROTECTED FOR EQUIPMENT SHALL HAVE A 30mA OR GREATER TRIP.
- K. BREAKERS NOTED AS GFI PROTECTED FOR PERSONNEL SHALL HAVE A 6mA TRIP.
- L. A CONTROL TRANSFORMER WITH PRIMARY AND SECONDARY FUSING SHALL BE PROVIDED AS REQUIRED FOR CONTROL OF SHUNT-TRIP BREAKERS.
- M. DESIGN OF LIGHTING AND APPLIANCE BRANCH IS GENERALLY BASED ON THE SQUARE D NO SERIES PANELBOARDS.
- N. ARRANGE CONDUCTORS IN GUTTERS INTO GROUPS AND BUNDLE AND WRAP WITH WIRE TIES.

262726 - WIRING DEVICES

- A. STRAIGHT-BLADE RECEPTACLES - DUPLEX CONVENIENCE RECEPTACLES, 125V, 20A: COMPLY WITH NEMA WD 1, NEMA WD 6 CONFIGURATION 5-20R, UL 498, AND FS W-C-596.
 - 1. COOPER: 5351 (SINGLE), 5362 (DUPLEX), TR5362 (TAMPER DUPLEX).
 - 2. HUBBELL: HBL5361 (SINGLE), HBL5362 (DUPLEX), HBL5362TR (TAMPER DUPLEX).
 - 3. LEVITON: 5361 (SINGLE), 5362 (DUPLEX), 5362-SG (TAMPER DUPLEX).
 - 4. P&S: 5351 (SINGLE), CRB5362 (DUPLEX), TR5352 (TAMPER DUPLEX).
- B. GFCI RECEPTACLES - 125V, 20A, DUPLEX, STRAIGHT BLADE, NON-FEED-THROUGH TYPE. COMPLY WITH NEMA WD 1, NEMA WD 6 CONFIGURATION 5-20R, UL 498, UL 943 CLASS A, AND FS W-C-596. INCLUDE SELF-TESTING AND INDICATOR LIGHT THAT SHOWS WHEN THE GFCI HAS MALFUNCTIONED AND NO LONGER PROVIDES PROPER GFCI PROTECTION.
 - 1. COOPER: VGF20 (STANDARD), TRVGF20 (TAMPER), WRSGF20 (OUTDOOR).
 - 2. HUBBELL: GFR5352L (STANDARD), GFRTRST20 (TAMPER), GFTWRST20 (OUTDOOR).
 - 3. LEVITON: GFNT2 (STANDARD), GFTR2-KW (TAMPER), GFWR2 (OUTDOOR).
 - 4. P&S: 2097 (STANDARD), 2097TR (TAMPER), 2097TRWR (OUTDOOR).
- C. TOGGLE SWITCHES - 120/277V, 20A. COMPLY WITH NEMA WD 1, UL 20, AND FS W-S-896.
 - 1. COOPER: AH1221 (SINGLE-POLE), AH1222 (TWO-POLE), AH1223 (THREE-WAY), AH1224 (FOUR-WAY).
 - 2. HUBBELL: HBL1221 (SINGLE-POLE), HBL1222 (TWO-POLE), HBL1223 (THREE-WAY), HBL1224 (FOUR-WAY).
 - 3. LEVITON: 1221-2 (SINGLE-POLE), 1222-2 (TWO-POLE), 1223-2 (THREE-WAY), 1224-2 (FOUR-WAY).
 - 4. P&S: CSB20AC1 (SINGLE-POLE), CSB20AC2 (TWO-POLE), CSB20AC3 (THREE-WAY), CSB20AC4 (FOUR-WAY).
- D. DEVICE COLOR - WHITE. THIS IS UNLESS OTHERWISE INDICATED OR REQUIRED BY NFPA 70 OR DEVICE LISTING.
- E. WALL PLATES
 - 1. ALL LOCATIONS - NEMA 250, COMPLYING WITH TYPE 3R, HEAVY DUTY WEATHERPROOF-IN-USE, DIE-CAST ALUMINUM WITH LOCKABLE COVER.
- F. IDENTIFICATION - IDENTIFY PANELBOARD AND CIRCUIT NUMBER FROM WHICH THE DEVICE IS SERVED.
 - 1. MARK OUTSIDE OF THE BOX OR COVERPLATE WITH PERMANENT MARKER.

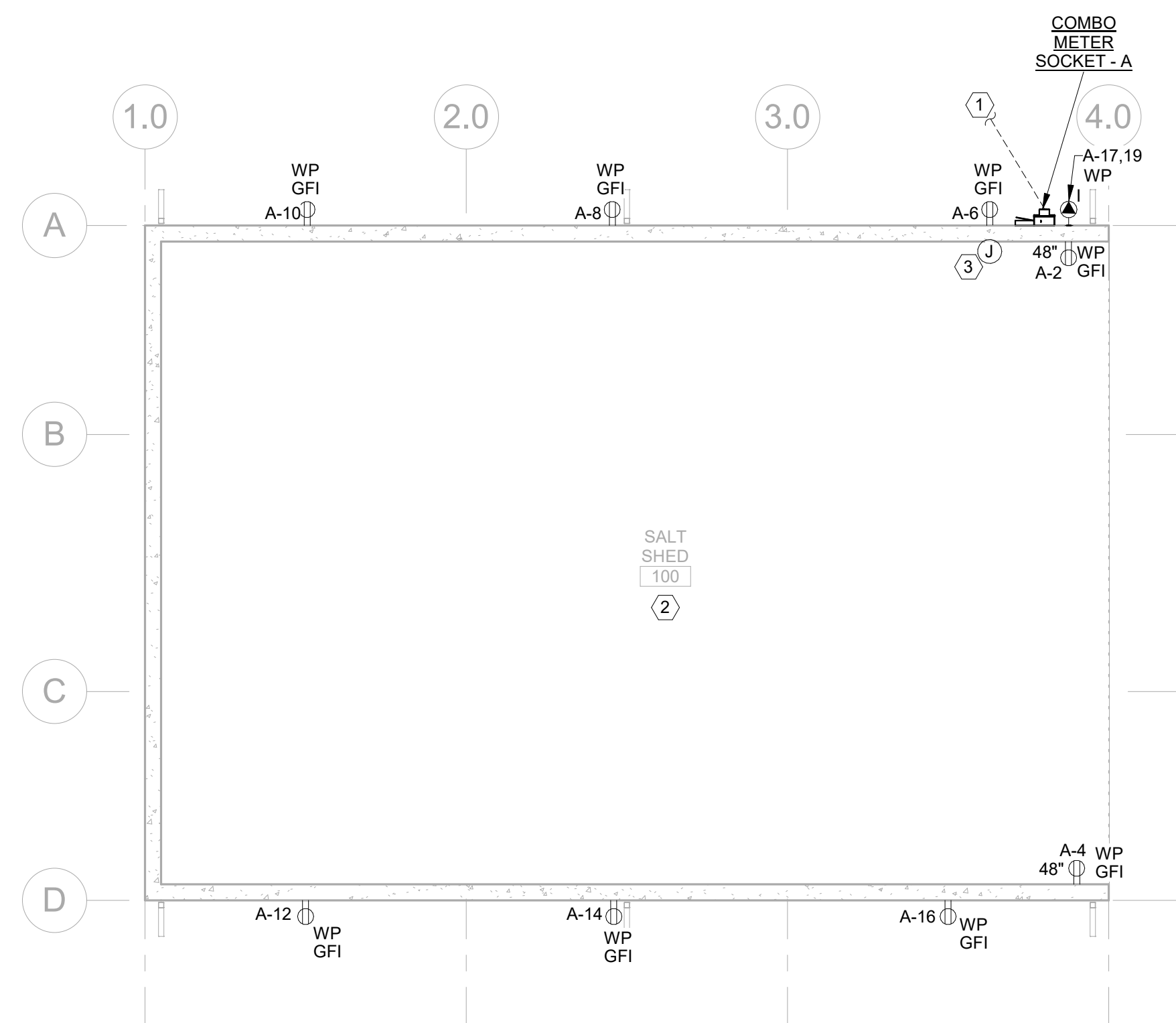
262713 - ELECTRICITY METERING

- A. COORDINATE ELECTRICAL SERVICE CONNECTIONS WITH THE UTILITY COMPANY, NORTHWESTERN ENERGY AND UTILITY-FURNISHED COMPONENTS. SUBMIT ALL METERING TO THE UTILITY COMPANY FOR APPROVAL. COORDINATE ALL UTILITY REQUIREMENTS AND ROUTING PRIOR TO ROUGH-IN. OBTAIN ALL REQUIREMENTS IN WRITING.
- B. METERS WILL BE FURNISHED BY UTILITY COMPANY. CONTRACTOR SHALL PROVIDE METER SOCKETS.
- C. COMBINATION MAIN BREAKER/ METER SOCKETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL UTILITY COMPANY INCLUDING:
 - 1. SIZING, GAUGE STEEL, LOCKING CAPABILITIES, ETC.
 - 2. MOUNTING CONFIGURATION AND METHODS
 - 3. APPROPRIATE METER JAW CONFIGURATION
 - 4. LANDING LUG SIZE, LOCATION AND CONFIGURATION.
 - 5. ANTI-INVERSION CLIP AND LEVER BYPASS AS REQUIRED.
- D. INSTALL RACEWAYS AND EQUIPMENT ACCORDING TO UTILITY COMPANY'S WRITTEN INSTRUCTIONS. PROVIDE EMPTY CONDUITS FOR METERING LEADS AND EXTEND GROUNDING CONNECTIONS AS REQUIRED BY UTILITY COMPANY.

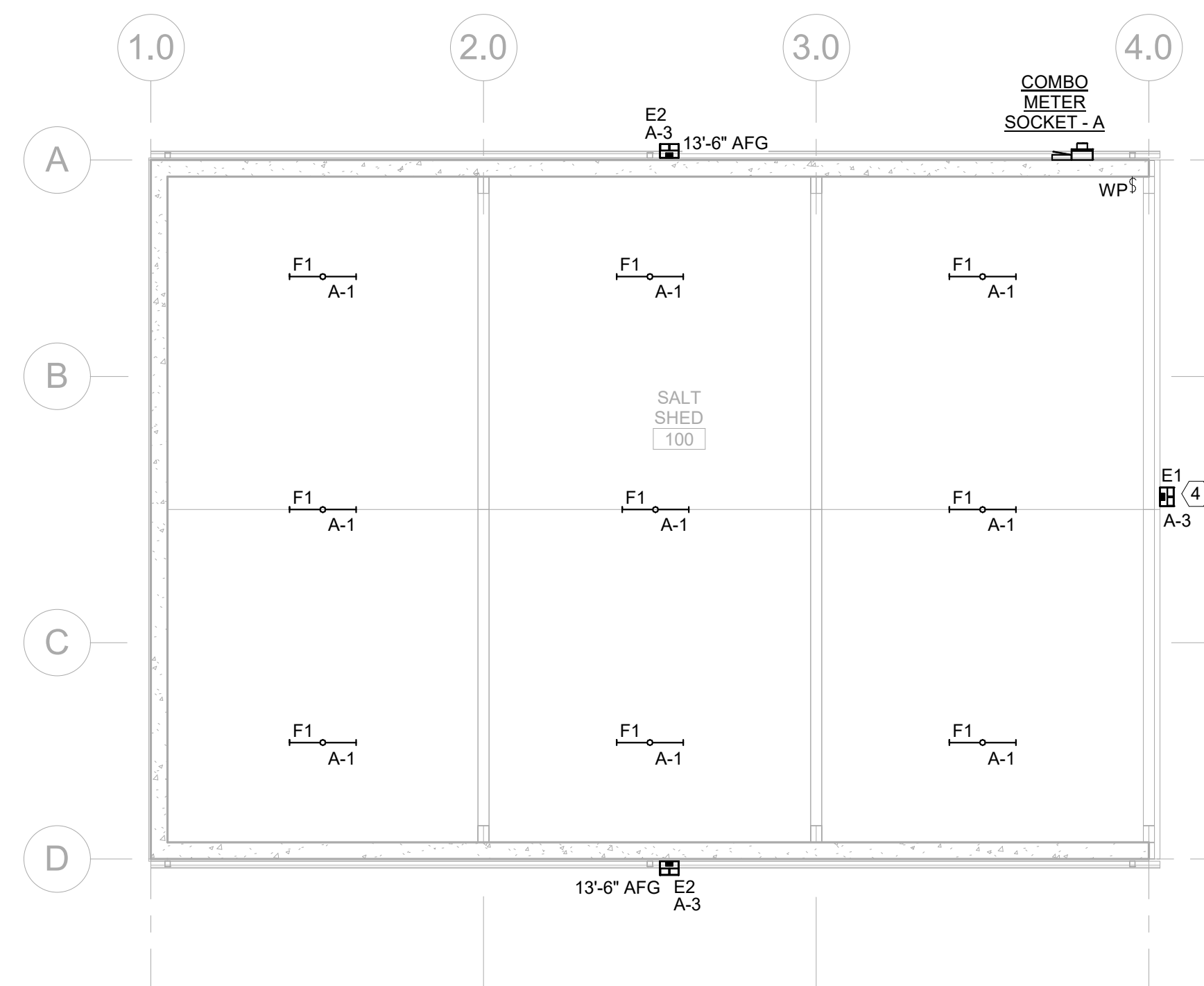
265110 - LED LIGHTING

- A. GENERAL - ALL FIXTURES SHALL HAVE LED LIGHT SOURCES UNO.
 - 1. INTERNAL, FACTORY INSTALLED BALLAST/DRIVER UNO.
 - 2. DIMMABLE FROM 100% TO 10% OF MAXIMUM LIGHT OUTPUT.
 - 3. NOMINAL OPERATING VOLTAGE: AS NOTED ON THE PLANS.
 - 4. LENS THICKNESS: AT LEAST 0.125 INCH MINIMUM UNO.
 - 5. INDOOR FIXTURES: MINIMUM CRI OF 80 UNO AND CCT OF 4,000K UNO.
 - 6. OUTDOOR FIXTURES: MINIMUM CRI OF 85 UNO AND CCT OF 4,000K UNO.
 - 7. OUTDOOR FIXTURES SHALL HAVE FULL CUT-OFF REFLECTORS WITH MOUNTING TYPE AND DISTRIBUTION AS NOTED ON PLANS.
- B. LED ASSEMBLIES - UL RATED FOR 40 DEGREE C AMBIENT ENVIRONMENTS, 50,000 HOUR FIXTURE LIFE INCLUDING DRIVER, 5 YEAR WARRANTY AND COMPLIANT WITH IESNA LM-79 AND LM-80 STANDARDS.
- C. STANDARDS - UNO, COMPLY WITH THE FOLLOWING:
 - 1. ENERGY STAR OR DESIGN LIGHTS CONSORTIUM (DLC) CERTIFIED.
 - 2. NRTL COMPLIANCE: LUMINAIRES FOR HAZARDOUS LOCATIONS SHALL BE LISTED AND LABELED FOR IDENTIFIED CLASS AND DIVISION OF HAZARD BY AN NRTL.
 - 3. UL LISTING: LISTED FOR DAMP AND/OR WET LOCATIONS AS REQUIRED.
 - 4. RECESSED LUMINAIRES SHALL COMPLY WITH NEMA LE 4.
 - 5. EXTERIOR LUMINAIRES SHALL HAVE INTERNATIONAL DARK-SKY ASSOCIATION (IDA) - FIXTURE SEAL OF APPROVAL (FSA).

5



1 ELECTRICAL POWER PLAN
E201 SCALE: 1/8" = 1'-0"



2 ELECTRICAL LIGHTING PLAN
E201 SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES

- A. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INVOLVED TO COORDINATE WITH EACH OTHER AND VERIFY THAT THERE ARE NO CONFLICTS IN LOCATION OF STRUCTURAL FRAMING, CONDUITS, DIFFUSERS, BOXES, AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
- B. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING OF FLOORS, WALLS, CEILINGS, AND ROOFS TO PERFORM THE REQUIRED WORK DEPICTED IN THESE DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL PATCHING OF HOLES TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
- C. ALL ELECTRICAL SYSTEMS IN PROJECT SHALL BE SURFACE MOUNTED. RACEWAY SYSTEMS SHALL BE COMPRISED OF IMC CONDUIT SYSTEMS WITH COMPRESSION FITTINGS OR THREADED FITTINGS AND METALLIC, SURFACE MOUNTED CORROSION RESISTIVE (BELL) BACK BOXES.
- D. LINES SHOWN BETWEEN ELECTRICAL EQUIPMENT ITEMS DOES NOT REPRESENT CIRCUITRY, BUT RATHER SHALL BE USED FOR EC REFERENCE IN PROVIDING DESIRED CONTROL GROUPING WHERE IT MAY BE UNCLEAR.

KEY NOTES:

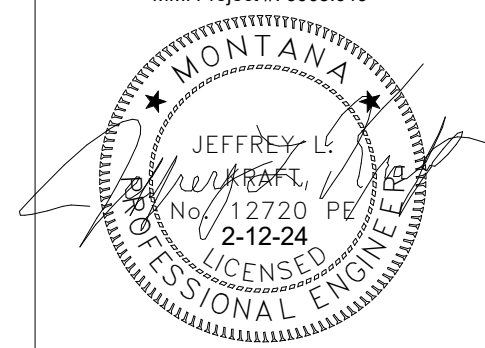
- 1 UNDER GROUND TO UTILITY POLE WITH POLE MOUNTED TRANSFORMER LOCATED APPROXIMATELY 155' NORTHWEST OF THIS LOCATION. SEE RISER DIAGRAM ON E001 AND CIVIL SITE PLAN FOR ADDITIONAL DETAILS AND EXACT LOCATION OF POLE.
- 2 BUILDING WALLS ARE POUR IN PLACE CONCRETE UP TO 8' AFF. ABOVE 8' WALL ARE PRE-MANUFACTURED METAL BUILDING CONSTRUCTION WITH STEEL SIDING.
- 3 ALL RACEWAY SYSTEMS SHALL ROUTE UP WALL TO BE ABOVE THE CONCRETE WALL TO ALLOW ROUTING OF CONDUITS FROM COMBINATION PANEL/ METER SOCKET ON THE BUILDING EXTERIOR TO SUPPORT ELECTRICAL DEVICES IN THE BUILDING.
- 4 MOUNT LIGHT ON THE FACE OF THE STRUCTURAL FRAME AT THIS LOCATION. FIXTURE WILL NEED TO BE OFFSET TO ONE SIDE OF THE ROOF CONNECTION TO ALLOW FOR MOUNTING. EC TO LOCATE FIXTURE AS CLOSE AS POSSIBLE TO THE CENTER RIDGE LINE OF THE ROOF. ROUTE SERVING RACEWAY ON THE FACE OF THE STRUCTURAL FRAMING, HOLDING TIGHT TO THE INSIDE CORNER OF THE 'I' FORMED IN THE FRAME.
- 5 APPROXIMATE LOCATION OF THE SERVING UTILITY POLE ON SITE THAT WILL BE THE SOURCE OF POWER TO NEW SALT BUILDING. FINAL DETAILS MUST BE COORDINATED WITH NORTHWESTERN ENERGY BY THE EC PRIOR TO PROCEEDING WITH WORK.



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**CARBON COUNTY MONTANA
NEW SALT SHED**

RED LODGE, MT

Date FEBRUARY 12, 2024

Issue CONSTRUCTION DOCUMENTS

Project Number 2022-36.1

Revisions

ELECTRICAL PLAN

E201

Branch Panel: A

Location: BUILDING EXTERIOR
Supply From: UTILITY
Mounting: Surface
Enclosure: Nema 3R

Volts: 120/240 Single
Phases: 1
Wires: 3

A.F.C.: 4,590
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:
MANUFACTURER/ TYPE: SQ D, HOMELINE COMBINATION METER SOCKET/ LOAD CENTER

CKT	Circuit Description	Load Classification	Trip	Poles	A	B	Poles	Trip	Load Classification	Circuit Description	CKT	
1	LTG - BUILDING INTERIOR	Lighting	20 A	1	675	1800			20 A	Receptacle	RCPT - BUILDING INTERIOR, NORTH	2
3	LTG - BUILDING EXTERIOR	Lighting	20 A	1		138	1800		20 A	Receptacle	RCPT - BUILDING INTERIOR, SOUTH	4
5	SPARE	--	20 A	1	0	1800			20 A	Receptacle	RCPT - BUILDING EXTERIOR, NORTH EAST	6
7	SPARE	--	20 A	1		0	1800		20 A	Receptacle	RCPT - BUILDING EXTERIOR, NORTH CENTER	8
9	SPARE	--	20 A	1	0	1800			20 A	Receptacle	RCPT - BUILDING EXTERIOR, NORTH WEST	10
11	SPACE	--	--	1		--	1800		20 A	Receptacle	RCPT - BUILDING EXTERIOR, SOUTH WEST	12
13	SPACE	--	--	1		--	1800		20 A	Receptacle	RCPT - BUILDING EXTERIOR, SOUTH CENTER	14
15	SPACE	--	--	1		--	1800		20 A	Receptacle	RCPT - BUILDING EXTERIOR, SOUTH EAST	16
17	<1> RCPT - 50A NORTH BUILDING EXTERIOR	Receptacle	50 A	2	4800	0			20 A	--	SPARE	18
19			--	1			4800		--	--	SPACE	20
					Total Load:	12675 VA	12138 VA					
					Total Amps:	106 A	101 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	813 VA	125.00%	1016 VA	
Receptacle	24000 VA	70.83%	17000 VA	
				Total Conn. Load: 24813 VA
				Total Est. Demand: 18016 VA
				Total Conn.: 103 A
				Total Est. Demand: 75 A

Notes:
<1> PROVIDE 5ma GFI BREAKER FOR PROTECTION

LUMINAIRE SCHEDULE

TYPE	LAMPS	LOAD (W)	OUTPUT (LM, NOMINAL)	CCT (K)	DESCRIPTION	MFR	CATALOG NO. OR SERIES	MOUNTING	VOLTAGE	NOTES
E1	LED	46 W	5,454	4,000	FULL CUT OFF LED WALL PACK WITH TYPE 3 OPTICS, BI-LEVEL MOTION DETECTOR (15-30') WITH INTEGRAL PHOTOCELL AND SURFACE BACK BOX.	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT BBW PIRH1FC3V DDBXD	WALL/ SURFACE	120 V	2,4
E2	LED	46 W	5,454	4,000	FULL CUT OFF LED WALL PACK WITH TYPE 3 OPTICS, BI-LEVEL MOTION DETECTOR (8-15') WITH INTEGRAL PHOTOCELL AND SURFACE BACK BOX.	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT BBW PIR1FC3V DDBXD	WALL/ SURFACE	120 V	2,4
F1	LED	75 W	11,979	4,000	4' INDUSTRIAL ENCLOSED GASKETED LED FIXTURE W/ CLEAR ACRYLIC LENS & MEDIUM OPTICS	LITHONIA	FEM L48 12000LM IMACD MD MVOLT GZ10 40K 80CRI	CEILING/ SURFACE	120 V	2

NOTES:
1. PRIOR SUBMITTAL NOT REQUIRED. ALL ALTERNATE FIXTURE SHOP DRAWINGS WILL BE REVIEWED AFTER THE PROJECT IS AWARDED.
2. PRIOR SUBMITTAL IS REQUIRED.
3. ALTERNATE FIXTURE IS NOT ACCEPTED FOR SUBSTITUTIONS.
4. MOUNTING HEIGHT IS NOTED ON THE PLANS.

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

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