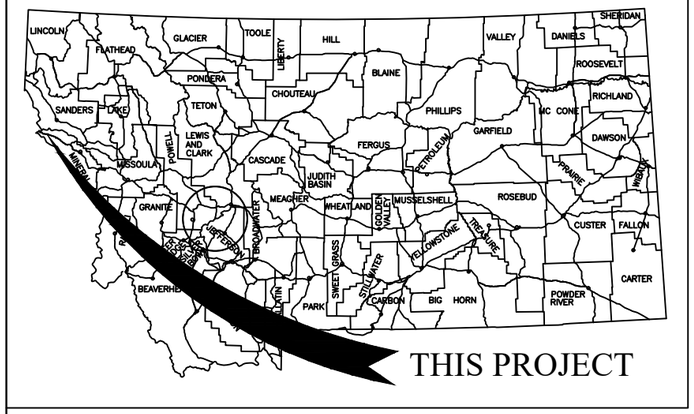
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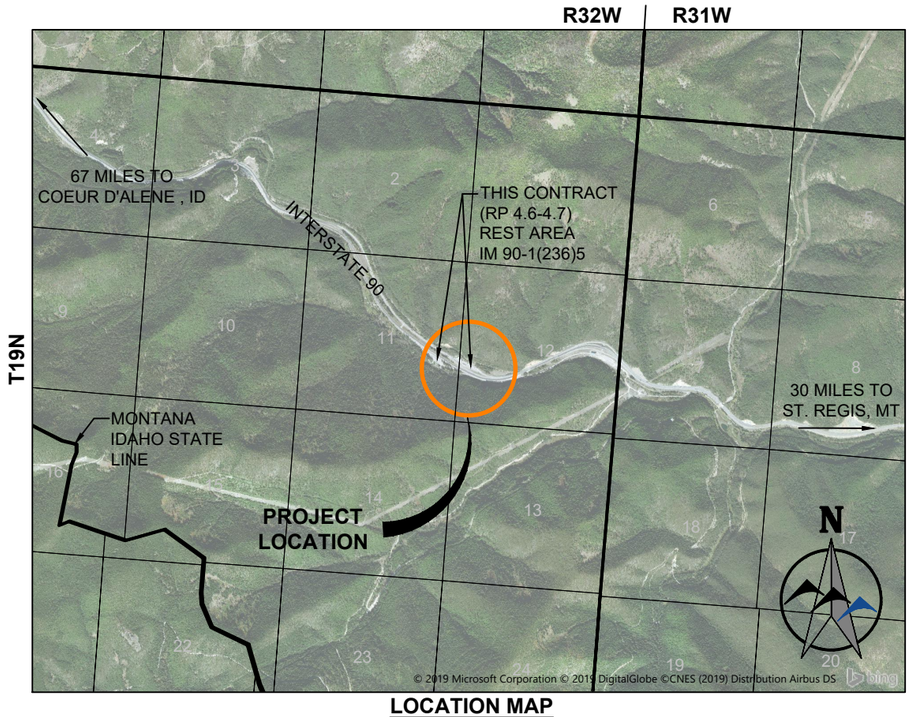


MONTANA DEPARTMENT OF TRANSPORTATION

PRESENT _____
LETTING _____
DESIGN _____
LETTING DATE - _____

FEDERAL AID PROJECT IM 90-1(236)5
WASTEWATER TREATMENT REHABILITATION
DENA MORA REST AREA
MINERAL COUNTY

LENGTH N.A. MILES



LOCATION MAP

0 2500' 5000'

HORIZONTAL SCALE

INDEX OF SHEETS	
Sheet Number	*SHEET TITLE*
1	TITLE SHEET
2	GENERAL NOTES & QUANTITIES
3	STRUCTURAL NOTES
4	EXISTING SYSTEM
5	PLAN & PROFILE EASTBOUND
6	PLAN & PROFILE WESTBOUND
7	REPAIR SCHEDULE
8	SEPTIC TANK DETAILS
9	REHABILITATION DETAILS
10	FOUNDATION DETAILS
11	CMU BLOCK WALL DETAILS
12	EXISTING & DEMOLITION - CHEMICAL FEED BUILDING
13	PLANS & ELEVATIONS - CHEMICAL FEED BUILDING
14	BUILDING & WALL SECTIONS - CHEMICAL FEED BUILDING
15	EXISTING & DEMOLITION - DOSE TANK BUILDING
16	PLANS & ELEVATIONS - DOSE TANK BUILDING
17	BUILDING & WALL SECTIONS - DOSE TANK BUILDING
18	DETAILS
19	DOOR SCHEDULE, ELEVATIONS & DETAILS

WWC ENGINEERING

DocuSigned by:
Scott Dunkelberger
4E63740734BA48A...
10/19/2021
DATE

MONTANA
DOUGLAS SCOTT DUNKELBERGER
No. 48764PE
LICENSED PROFESSIONAL ENGINEER

RECOMMENDED:
DocuSigned by:
BY _____ 10/19/2021
CONSULTANT DESIGN ENGINEER — DATE
DE46B2DA0A0447B...

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED :

DIVISION ADMINISTRATOR — DATE

PLANS PREPARED BY

WWC ENGINEERING
1275 Maple Street,
Helena, MT 59601
Phone: (406) 443-3962

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W & I.C.	
P. E.	

WWC ENGINEERING
1275 Maple Street, Helena, MT 59601
Phone: (406) 443-3962

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		DENA MORA REST AREA WASTEWATER REHABILITATION PROJECT
2		7/2021	REVIEWED BY	J. FADNESS		
			CHECKED BY	S. HIGLEY		UPN 9432001

NOTE: SCALE SHOWN ON PLANS BASED ON 11"X17" PRINT SIZE.

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GENERAL CONSTRUCTION NOTES:

1. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL WORK WILL CONFORM TO THE SPECIAL PROVISIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS REQUIRED FOR CONSTRUCTION ACTIVITIES.
3. THE LOCATION, DEPTH AND SIZE OF EXISTING UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE, LOCATION, DEPTH, SIZE, LINE AND GRADE OF EXISTING UTILITIES CONNECTIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING FACILITIES DUE TO FAILURE TO LOCATE OR PROVIDE PROPER PROTECTION WHEN LOCATION IS KNOWN.
4. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY FITTINGS, COUPLINGS, AND SPOOL PIECES FOR CONNECTING NEW UTILITIES TO EXISTING UTILITIES. THESE PLANS MAY NOT SHOW ALL REQUIRED COMPONENTS FOR MAKING THE CONNECTIONS.
5. ALL BACKFILL FOR UTILITY TRENCHES SHALL BE TYPE “A”, UTILIZING TYPE 1 BEDDING UNLESS DIRECTED OTHERWISE BY ENGINEER. SPECIFIED BEDDING SHALL BE FROM 4” BENEATH THE PIPE TO 6” ABOVE THE TOP OF PIPE (SEE SPECIAL PROVISIONS). THE COST OF THIS ADDITIONAL BEDDING IS INCIDENTAL AND SHALL BE INCLUDED IN THE BID.
6. PIPE BEDDING (TYPE 1) AND TRENCH BACKFILL (TYPE A) SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. THE SITE SHALL BE WATERED TO CONTROL DUST WHEN ORDERED BY THE ENGINEER. EROSION SHALL BE CONTROLLED IN ACCORDANCE WITH MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY REGULATIONS.
8. ALL PROFILES REPRESENT EXISTING GROUND (DASHED LINE).
9. ALL DISTURBED AREAS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AND IS INCIDENTAL TO THE PROJECT COST. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
10. RESTORED SOD AREAS TO BE RESTORED TO THE ORIGINAL CONDITION PER MDT STANDARD SPECIFICATION 610.03.3 (SODDING). RESTORED NATIVE GRASS AREAS TO BE RESTORED TO THE ORIGINAL CONDITION PER MDT STANDARD SPECIFICATION 610.03.2 (SEEDING, FERTILIZING, AND MULCHING).
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL UTILITY INSTALLATION AND RELOCATION WITH LOCAL UTILITY COMPANIES AND THE OWNER.
12. THE CONTRACTOR SHALL NOTIFY ONE CALL @ 1-800-424-5555 FOR ONSITE UTILITY LOCATION. ALL EXISTING UTILITIES SHALL BE MARKED BEFORE DIGGING.
13. THE CONTRACTOR SHALL MAINTAIN SERVICE OF ALL EXISTING UTILITIES. IF SAID SERVICE IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPAIR THE DAMAGE AT THE CONTRACTOR’S EXPENSE.
14. THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER A MINIMUM OF 24 HOURS PRIOR TO BEGINNING ANY WORK.
15. IF THE CONTRACTOR DETERMINES THE NEED TO DISTURB MORE THAN 1.0 ACRE DURING THE CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A SWPPP PERMIT AND COMPLYING WITH ALL TERMS OF THE PERMIT. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
16. REFERENCE ALL SURVEY MONUMENTS, SECTION CORNERS, ¼ CORNERS AND PROPERTY CORNERS PRIOR TO BEING DISTURBED BY CONSTRUCTION. REPLACE ANY MONUMENTS AND CORNERS THAT ARE DISTURBED DURING CONSTRUCTION.

SEPTIC NOTES:

1. ALL SEPTIC SYSTEM INFRASTRUCTURE SHALL BE CONSTRUCTED TO DEQ CIRCULAR 4 AND THESE PLANS.
2. ALL SEWER SERVICE MAINS SHALL BE INSTALLED A MINIMUM OF 4 FEET BELOW THE GROUND SURFACE. WHERE SERVICE MAIN IS LESS THAN 4 FEET OF GROUND COVER, PROVIDE BLUEBOARD INSULATION. PROVIDE 2" OF BLUEBOARD FOR EVERY 1 FOOT OF COVER NEEDED.
3. ALL SEWER SERVICE CONNECTIONS SHALL BE PERFORMED BY A LICENSED PLUMBER IN THE STATE OF MONTANA.
4. REPLACE SEWER PIPE AND INFRASTRUCTURE TO EXISTING ELEVATIONS AS SHOWN ON THESE PLANS.

DE-WATERING NOTES:

1. DE-WATERING SHALL TAKE PLACE FOR THE CONSTRUCTION OF ALL PROPOSED INFRASTRUCTURE LOCATED BELOW GROUND WATER, INCLUDING PROPOSED PIPING AND SEPTIC TANKS. MAINTAIN A GROUNDWATER ELEVATION BELOW THE DEPTH OF ALL PROPOSED INFRASTRUCTURE FOR THE DURATION OF THE OPEN EXCAVATION.
2. A DE-WATERING PLAN SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER AND MDT PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO OBTAIN A CONSTRUCTION DE-WATERING PERMIT THOUGH THE MONTANA DEQ. A COPY OF THIS PERMIT SHALL BE SUBMITTED TO THE ENGINEERING AND MDT PRIOR TO DE-WATERING OPPERATIONS.

INFRASTRUCTURE QUANTITIES

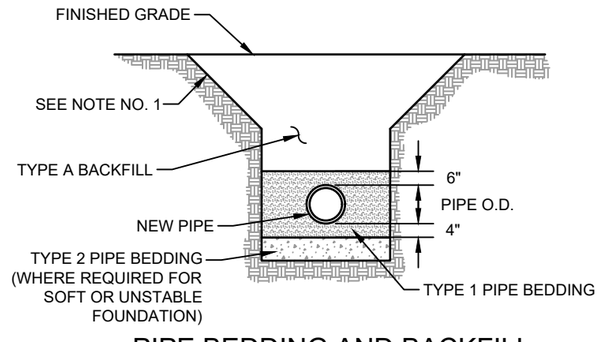
ITEM	QUANTITY	UNITS	DESCRIPTION
6" Dia. SDR-35 PVC	210	LF	Sewer line
4" Dia. DIP	5	LF	Sewer line
Misc. Install - 10,000 Gallon Concrete Septic Tank	2	EA	Install new septic tanks
Misc. Removal - Fiberglass Septic Tanks	1	LS	Pumping, removal and disposal of two (2) existing 7,000 gallon septic tanks
Dewatering	1	LS	Dewatering & BMP required to reduce groundwater elevation below excavated infrastructure
Sidewalk - Concrete 4"	3	SY	Proposed sidewalk at Chem. Feed Building
Rehabilitate Building	1	LS	Improvements to the Chem. Feed Building
Building Misc.	1	LS	Replace Dose Tank Building
Revegetation	1	LS	Revegetate disturbed areas

INFRASTRUCTURE QUANTITIES NOTES:

1) INCIDENTAL TO THESE ITEMS INCLUDES THE REMOVAL AND DISPOSAL OF EXISTING PIPES, TANKS, AND CONCRETE TANK BALLAST.
2) REMOVAL AND DISPOSAL OF EXISTING INFRASTRUCTURE, AS DESCRIBED IN THESE PLANS, MUST BE AT AN APPROVED OFF-SITE LOCATION AND IS AT THE EXPENSE OF THE CONTRACTOR.

MISC. REPAIR QUANTITIES

ITEM	QUANTITY	UNITS	LOCATION
Coating	1,135	SF	MH-A, MH-MED, MH-B, MH-TS1, MH-TS2, MH-C, MD-D, T-4
Coating	1,110	SF	T-3
Chimney Sealant (170 mils)	53	SF	MH-A, MH-MED, MH-TS1, MH-TS2, MH-C, MD-D
Invert Repair	21	EA	MH-A, MH-MED, MH-TS1, MH-TS2, MH-C, MD-D, T-3, T-4
Manhole Casting Replacement	7	EA	MH-A, MH-MED, MH-B, MH-TS1, MH-TS2, MH-C, MD-D



NOTES:
1. TRENCH SHALL BE CONSTRUCTED TO OSHA SPECIFICATIONS FOR EXCAVATION, SECTION 1926, SUBPART P.
2. ALL SPOILS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED LOCATION.
3. NO ROCKS OR LUMPS LARGER THAN 1" IN ANY DIMENSION SHALL BE ALLOWED WITHIN 6" OF THE PIPE.
4. SET PROPOSED PIPE INVERT AT ELEVATION AND GRADE OF EXISTING PIPE.

PIPE BEDDING AND BACKFILL

NOT TO SCALE

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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		WASTEWATER REHABILITATION PROJECT	GENERAL NOTES & QUANTITIES / IM 90-1(236)5
2		07/2021	REVIEWED BY	J. FADNESS		DENA MORA REST AREA	UPN 9432001 / 2
1			CHECKED BY	S. HIGLEY			

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K:\Helena\MDT\19-162\DWG\Sheets\19162-NOTE.dwg STRUCTURAL NOTES 7/23/2021 11:36:07 AM

STRUCTURAL CONSTRUCTION NOTES

1. APPLICABLE SPECIFICATIONS AND CODES
CONSTRUCTION AND DESIGN SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) SPECIFICATIONS AND THE REQUIREMENTS NOTED AS FOLLOWS.

2. SPECIAL INSPECTION
A. SPECIAL INSPECTION SHALL BE PROVIDED BY OWNER UNLESS OTHERWISE SPECIFIED AND WILL CONSIST OF THE FOLLOWING.
B. SOILS
PERIODIC INSPECTION OF FILL MATERIALS, SUBGRADE PREPARATION AND COMPACTION.
C. CONCRETE
I. PERIODIC INSPECTION OF REINFORCEMENT AND OTHER EMBEDDED ITEMS BEFORE CONCRETE IS PLACED.
II. FULL TIME INSPECTION DURING PLACEMENT OF CONCRETE INCLUDING THE TAKING OF TEST SPECIMENS, SLUMP AND AIR CONTENT MEASUREMENT. INSPECTION AND TESTING SHALL BE LIMITED TO STRUCTURAL REINFORCED CONCRETE WITH TESTING FREQUENCY IN ACCORDANCE WITH THE PROJECT TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING COSTS.
D. STEEL
I. PERIODIC INSPECTION OF EMBEDDED ITEMS PRIOR TO PLACEMENT OF CONCRETE.
II. PERIODIC INSPECTION OF EXPOSED STEEL MATERIALS.

3. DESIGN LOADS
A. DESIGN LOADS AND LOAD APPLICATIONS ARE IN ACCORDANCE WITH THE UNITED STATES DEPARTMENT OF INTERIOR, BUREAU OF RECLAMATION, (USBR) DESIGN OF SMALL CANAL STRUCTURES AND USBR DESIGN STANDARDS NO. 3.
B. OPERATING PLATFORM LIVE LOADS----------150 PSF
C. ROOF LOADS
I. MINIMUM ROOF SNOW LOAD----------30 PSF
II. DRIFT SURCHARGE LOADS IN ACCORDANCE WITH ASCE 7-05.
(a) BASIC GROUND SNOW LOAD-------70 PSF
(b) IMPORTANCE FACTOR----------I=1.0
D. SPECIAL LOADS
I. MECHANICAL EQUIPMENT LOADS--------ACTUAL OPERATING LOADS

4. FOUNDATIONS
A. FOUNDATION DESIGN CRITERIA
I. MAXIMUM ALLOWABLE SOIL BEARING PRESSURE---1,500 PSF
II. LATERAL ACTIVE SOIL PRESSURE----------57 PSF / FT EQUIVALENT FLUID PRESSURE (NOT SATURATED)
III. LATERAL ACTIVE SOIL PRESSURE----------77 PSF / FT EQUIVALENT FLUID PRESSURE (SATURATED)
B. AVOID EXCESSIVE WETTING OR DRYING OF THE FOUNDATION EXCAVATIONS DURING CONSTRUCTION.
C. BACKFILL ON WALLS WITH FILL ON BOTH SIDES SHALL BE COMPACTED IN EQUAL LIFTS EACH SIDE OF WALL. WALLS BACKFILLED FROM ONE SIDE ONLY SHALL HAVE ALL SUPPORTING SLABS, PERMANENT FRAMING OR TEMPORARY BRACING IN PLACE PRIOR TO PLACEMENT OF BACKFILL.

5. STRUCTURAL STEEL
A. STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL 13 ED., FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
B. MATERIAL
I. STRUCTURAL STEEL---------- ASTM A992, GRADE 50
II. STRUCTURAL STEEL PLATES, BARS, ANGLES, AND CHANNELS---------- ASTM A 36
III. STRUCTURAL TUBING---------- ASTM A500, GRADE B
IV. STEEL PIPE---------- ASTM A53, TYPE E OR S, GRADE B
V. HIGH -STRENGTH BOLTS---------- ASTM A325
VI. ANCHOR BOLTS---------- ASTM A307
VII. HEADED ANCHOR STUDS---------- ASTM A108
C. ALL STRUCTURAL STEEL BOLTED CONNECTIONS SHALL BE 3/4" DIAMETER A325-N BOLTS WITH STANDARD HOLES, UNLESS OTHERWISE NOTED.
D. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE - STEEL (AWS D1.1), AND SHALL BE PERFORMED BY WELDERS QUALIFIED BY THE APPROPRIATE AWS TEST FOR THE WELDING PERFORMED.
E. ALL SURFACES OF SUBMERGED AND EXPOSED STEEL SURFACES SHALL HAVE A HOT-DIP ZINC COATING IN ACCORDANCE WITH ASTM A123.

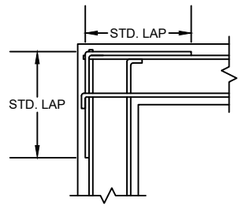
6. EQUIPMENT INSTALLATION
A. ALL OPENINGS SHOWN SHALL BE VERIFIED, AND ALL STRUCTURAL DIMENSIONS AND DETAILS PERTAINING TO EQUIPMENT INSTALLATION SHALL BE COORDINATED BY THE CONTRACTOR WITH THE ACTUAL EQUIPMENT FURNISHED.
B. EQUIPMENT SUPPORTS, ANCHORAGES AND OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO PLACING CONCRETE.

7. MISCELLANEOUS ITEMS
ADHESIVE ANCHORS IN ACCORDANCE WITH ASTM A193 OR APPROVED EQUAL. ANCHORS SHALL BE HOT-DIP ZINC COATED IN ACCORDANCE WITH ASTM A123.

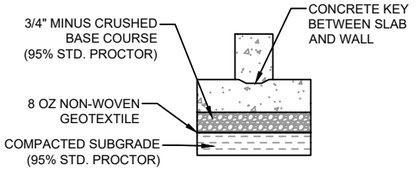
8. CONCRETE
A. CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).
B. DETAILING, FABRICATION AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315).
C. MATERIALS
I. STRUCTURAL CAST-IN-PLACE CONCRETE----------f'c=4,000 PSI
II. REINFORCING BARS----------ASTM A615, GRADE 60
III. ALL BENT REINFORCING BARS SHALL BE SHOP FABRICATED ONLY. REBENDING OR WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS AUTHORIZED BY ENGINEER.
IIJ. END HOOKS IN REINFORCING BARS, SHOWN ON THE DRAWINGS BUT NOT DIMENSIONED, SHALL CONFORM TO ACI 318.
IIK. CONCRETE COVER OVER REINFORCEMENT SHALL BE 2" CLEAR, EXCEPT CONCRETE PLACED AGAINST AND PERMANENTLY IN CONTACT WITH EARTH SHALL BE 3" CLEAR.
IIL. REINFORCEMENT SPLICES NOT PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY ENGINEER. LAP REINFORCING BARS THE FOLLOWING MINIMUMS AT ALL SPLICES, CORNERS AND INTERSECTIONS, UNLESS OTHERWISE INDICATED. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.

BAR SIZE	REG BARS	TOP BARS
#3	1' - 3"	1' - 7"
#4	1' - 7"	2' - 1"
#5	2' - 0"	2' - 7"
#6	2' - 5"	3' - 1"
#7	3' - 6"	4' - 6"
#8	4' - 0"	5' - 2"
#9	4' - 6"	5' - 10"
#10	5' - 1"	6' - 7"

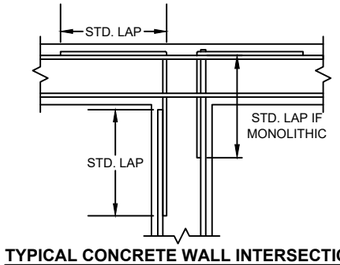
F. STAGGER ADJACENT REINFORCEMENT LAP SPLICES IN WALLS 18" MINIMUM.
G. PROVIDE BAR SUPPORTS TO PROPERLY SECURE AND SUPPORT REINFORCING BARS AT POSITIONS SHOWN ON THE DRAWINGS. IN ADDITION TO NORMAL ACCESSORIES PROVIDE #5 BRIDGES AT 36" O.C. TO SUPPORT TOP REINFORCEMENT IN BASE SLABS, AND #3 U OR Z SHAPE SPACERS AT 72" O.C. EACH WAY IN WALLS WITH TWO CURTAINS OF REINFORCEMENT.
H. DOWELS, PIPES AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION DURING CONCRETE PLACEMENT.
I. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY PIPE, PIPE FLANGE OR METAL PART EMBEDDED IN CONCRETE. PROVIDE 2" CLEARANCE IN ALL CASES UNLESS OTHERWISE INDICATED. NO EMBEDDED ITEM SHALL BE SUSPENDED FROM, SUPPORTED BY, OR BRACED IN PLACE FROM THE STRUCTURAL REINFORCEMENT.
J. LOCATE CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS OR AS AUTHORIZED BY ENGINEER.
K. THOROUGHLY CLEAN BY SANDBLASTING ALL KEYWAYS AND CONSTRUCTION JOINTS PRIOR TO PLACING CONCRETE IN ADJACENT POUR.
L. BEGIN SPACING OF BARS WHICH PARALLEL CONSTRUCTION AND EXPANSION JOINTS 2" CLEAR EACH SIDE OF JOINT.
K. UNLESS OTHERWISE SHOWN, PLACE 2-#5 (1 EACH FACE) WITH 2'-0" PROJECTIONS AROUND ALL OPENINGS IN CONCRETE WALLS OR SLABS.
L. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4", UNLESS OTHERWISE INDICATED.
M. PROTECT ALL PROJECTING WATERSTOPS FROM DAMAGE AND EXPOSURE DURING CONSTRUCTION. FIRMLY TIE ALL ENDS AND EDGES OF WATERSTOP AT 18 INCH MAXIMUM SPACING TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT.



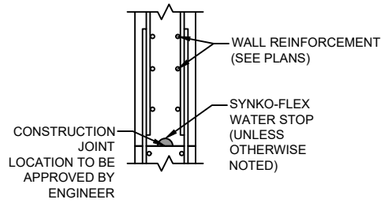
TYPICAL CONCRETE WALL CORNER



FOUNDATION PREPARATION



TYPICAL CONCRETE WALL INTERSECTION



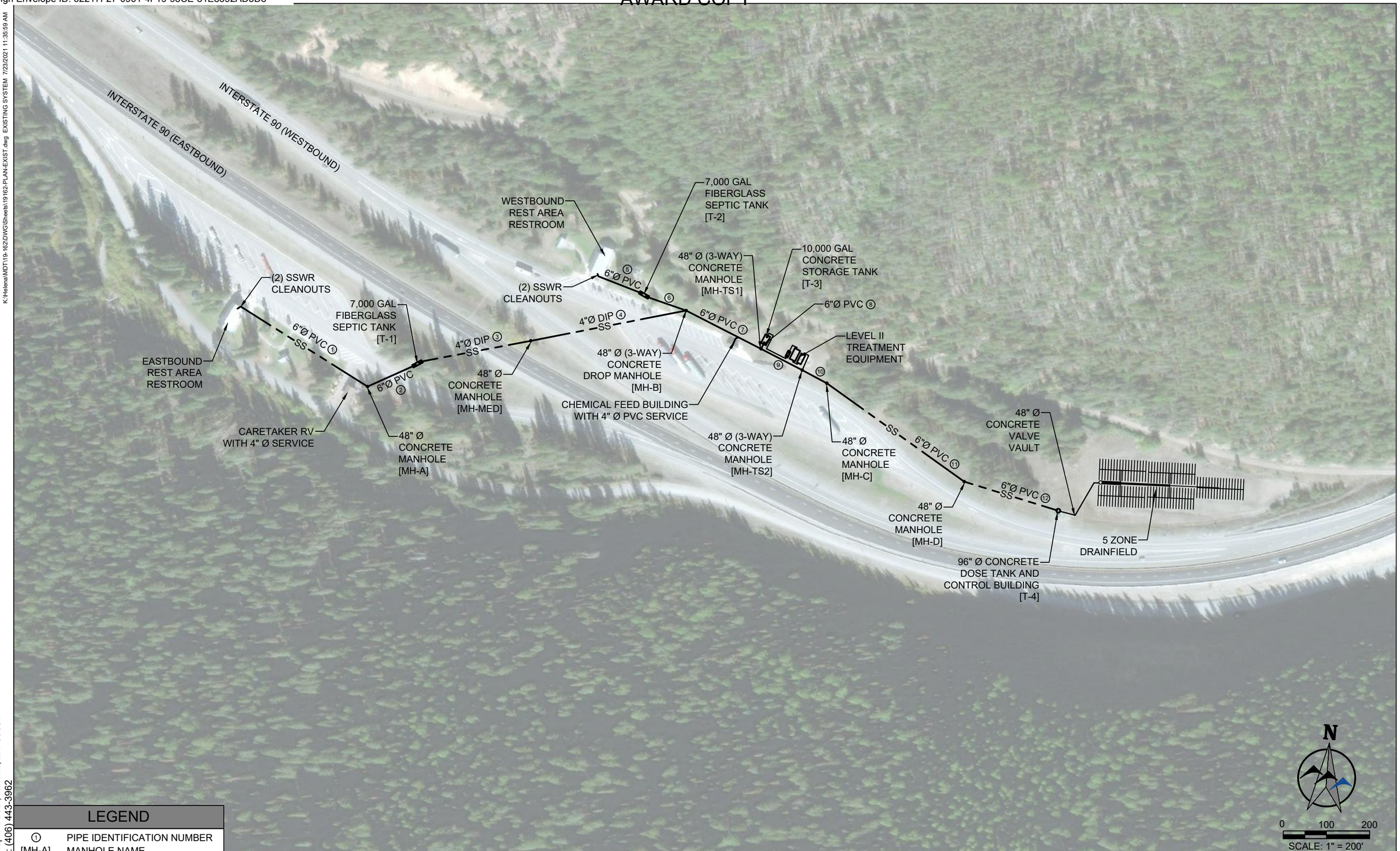
TYPICAL CONCRETE WALL CONNECTION

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LEGEND	
①	PIPE IDENTIFICATION NUMBER
[MH-A]	MANHOLE NAME
[T-1]	TANK NAME

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Phone: (406) 443-3962

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		WASTEWATER REHABILITATION PROJECT	EXISTING SYSTEM / IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS		DENA MORA REST AREA	UPN 9432001 / 4
1			CHECKED BY	S. HIGLEY			

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(2) SSWR CLEANOUTS

EASTBOUND REST AREA RESTROOM

SEPTIC TANK [T-1] REPLACE AS NOTED IN SCHEDULE A

CARETAKER RV WITH 4" Ø SERVICE

REPLACE 5LF 6"Ø PVC AS NOTED IN SCHEDULE A

MANHOLE [MH-A] REPAIR IN PLACE SEE SCHEDULE A

MANHOLE [MH-MED] REPAIR IN PLACE SEE SCHEDULE A

WESTBOUND REST AREA RESTROOM

REPLACE 5LF 4"Ø DIP AS NOTED IN SCHEDULE A

DROP MANHOLE [MH-B] REPAIR IN PLACE SEE SCHEDULE B

INTERSTATE 90 (EASTBOUND)

INTERSTATE 90 (WESTBOUND)

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00

SS 6"Ø PVC ① SS 6"Ø PVC ② SS 4"Ø DIP ③ SS 4"Ø DIP ④ SS

N

0 50 100

SCALE: 1" = 100'

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LEGEND

①	PIPE IDENTIFICATION NUMBER
[MH-A]	MANHOLE NAME
[T-1]	TANK NAME
———	PROPOSED REPAIR AREA

NOTE: SCHEDULE A & B FOUND ON SHEET 7.

PROFILE STRETCHED 20:1 IN THE VERTICAL DIRECTION.

SEPTIC TANK REPLACE WITH 10,000 GAL CONCRETE SEPTIC TANK (A/8)

INSTALL 1' CONCRETE RISER RING

EXISTING GROUND

1-90 EB

1-90 WB

REPAIR DROP MANHOLE IN PLACE (B/9)

6"Ø PVC ① S = 1.6%

6"Ø PVC ② S = 1.0%

4"Ø DIP ③ S = 1.0%

4"Ø DIP ④ S = 0.9%

LOW GROUNDWATER LEVEL

HIGH GROUNDWATER LEVEL

[MH-A]

[MH-MED]

[MH-B]

[T-1]

REPAIR MANHOLE IN PLACE (B/9)

REPLACE 5LF WITH 6"Ø PVC (SDR-35) TO OFFSET JOINT

REPAIR MANHOLE IN PLACE (B/9)

REPLACE 5LF WITH 4"Ø DIP TO OFFSET JOINT

DISCLAIMER:
PROFILE DATA AND GROUNDWATER INFORMATION BASED ON CDM SMITH I&I REPORT DATED 10/2016

3720 3715 3710 3705 3700

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00

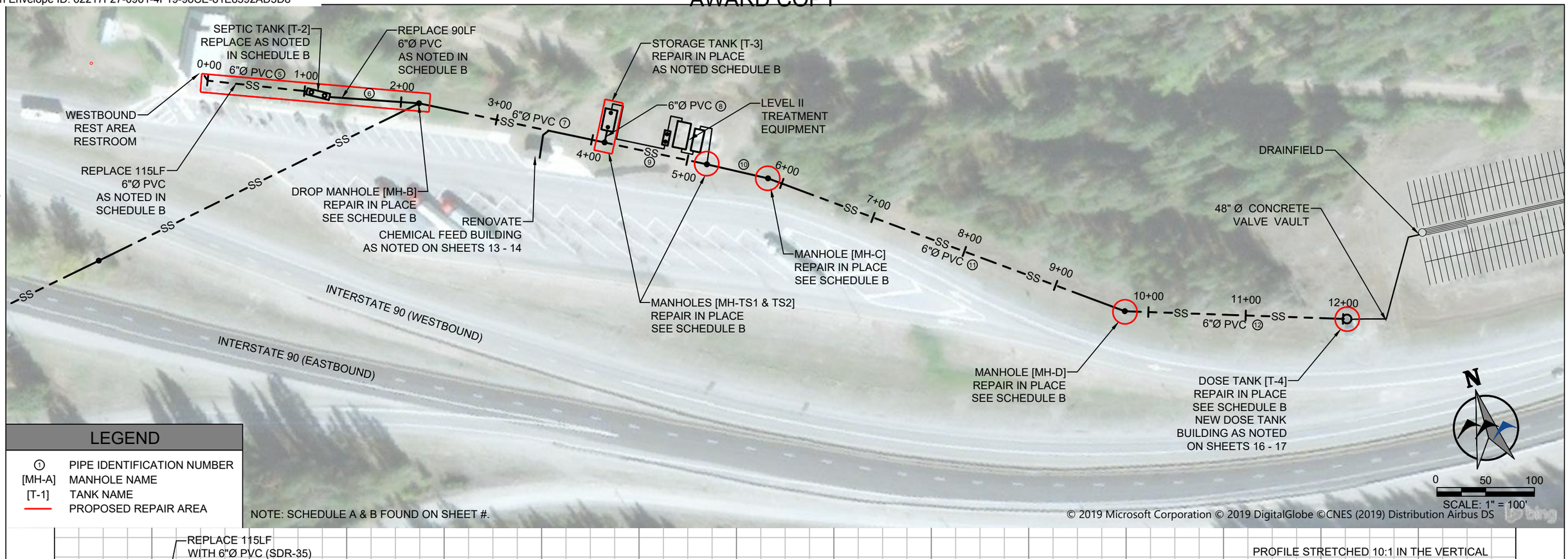
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Phone: (406) 443-3962

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER	WASTEWATER REHABILITATION PROJECT	PLAN & PROFILE EASTBOUND	IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS	DENA MORA REST AREA	UPN 9432001	5
1			CHECKED BY	S. HIGLEY			

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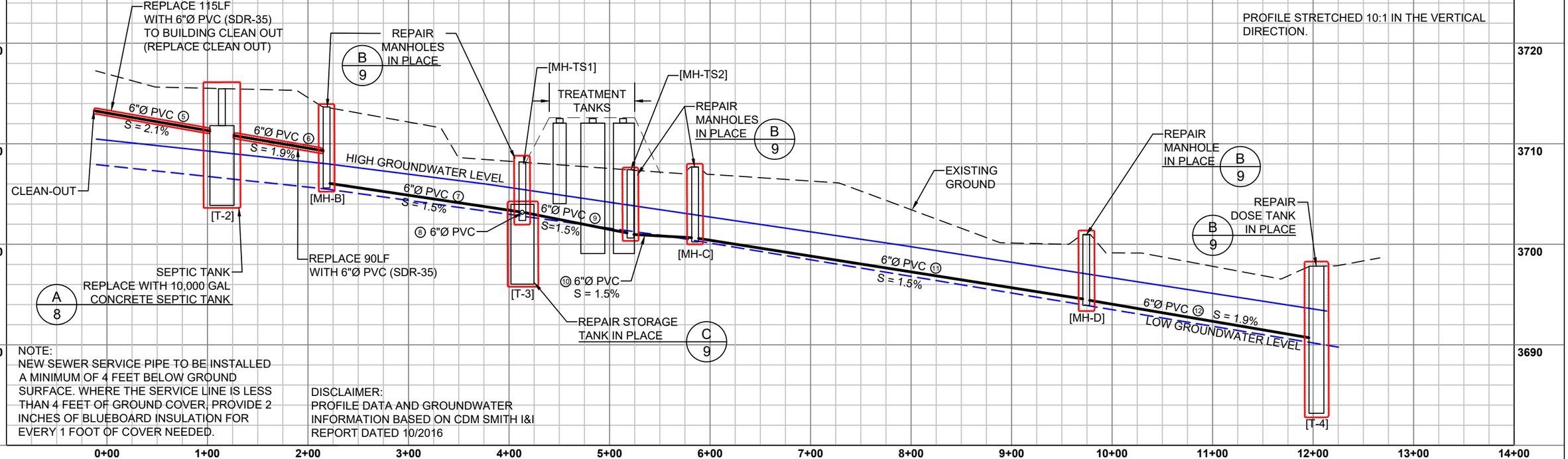
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LEGEND

①	PIPE IDENTIFICATION NUMBER
[MH-A]	MANHOLE NAME
[T-1]	TANK NAME
———	PROPOSED REPAIR AREA

NOTE: SCHEDULE A & B FOUND ON SHEET #.



NOTE:
NEW SEWER SERVICE PIPE TO BE INSTALLED A MINIMUM OF 4 FEET BELOW GROUND SURFACE. WHERE THE SERVICE LINE IS LESS THAN 4 FEET OF GROUND COVER, PROVIDE 2 INCHES OF BLUEBOARD INSULATION FOR EVERY 1 FOOT OF COVER NEEDED.

DISCLAIMER:
PROFILE DATA AND GROUNDWATER INFORMATION BASED ON CDM SMITH I&I REPORT DATED 10/2016

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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER	WASTEWATER REHABILITATION PROJECT	PLAN & PROFILE WESTBOUND	IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS	DENA MORA REST AREA		UPN 9432001
1			CHECKED BY	S. HIGLEY			6

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EASTBOUND REST AREA COLLECTION SYSTEM- SCHEDULE A

	Item Number	Repair Location Station	Existing Material Type & Size	Action	Materials Required	Remediation Description
Pipes	1	N/A	6" Dia PVC	No Action	N/A	N/A
	2	4+57 to 4+62	6" Dia PVC	Replace Portion	5 LF of 6" Dia PVC	Replace 5 linear feet of pipe, from the septic tank to the offset joint.
	3	N/A	4" Dia DIP	No Action	N/A	N/A
	4	11+03 to 11+08	4" Dia DIP	Replace Portion	5 LF of 4" Dia DIP	Replace 5 linear feet of pipe, from MH-B to the offset joint.
Tanks	T-1	4+80	7,000 Gal Fiberglass Reinforced Plastic	Replace	10,000 Gal Concrete Septic Tank, overburden soil, alarm, appurtenances	Remove existing septic tank. Install new concrete tank per Sheet 7.
Manholes	MH-A	3+47	48" Dia Concrete	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Install additional 1' conrete riser, clean existing structure, install sealant and lining materials, replace lid.
	MH-MED	7+42	48" Dia Concrete	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Clean existing structure, install sealant and lining materials, replace lid.

WESTBOUND REST AREA COLLECTION SYSTEM - SCHEDULE B

	Item Number	Repair Location Station	Existing Material Type & Size	Action	Materials Required	Remediation Description
Pipes	5	0+00 to 1+15	6" Dia PVC	Replace All	115 LF of 6" Dia PVC	Replace 115 linear feet of pipe, from the septic tank to building.
	6	1+25 to 2+15	6" Dia PVC	Replace All	90 LF of 6" Dia PVC	Replace 90 linear feet of pipe, from the septic tank to manhole.
	7	N/A	6" Dia PVC	No Action	N/A	N/A
	8	N/A	6" Dia PVC	No Action	N/A	N/A
	9	N/A	6" Dia PVC	No Action	N/A	N/A
	10	N/A	6" Dia PVC	No Action	N/A	N/A
	11	N/A	6" Dia PVC	No Action	N/A	N/A
	12	N/A	6" Dia PVC	No Action	N/A	N/A
Tanks	T-2	1+20	7,000 Gal Fiberglass Reinforced Plastic	Replace	10,000 Gal Concrete Septic Tank, overburden soil, alarm, appurtenances	Remove existing septic tank. Install new concrete tank per Sheet 7.
	T-3	4+13	10,000 Gal Conc	Repair	Inlet/outlet seal repair, structure liner	Remove all standing water, clean existing structure, install sealant and lining materials. (Access riser has been previously repaired)
	T-4	12+04	96" Dia. 6,000 gal Conc.	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Remove all standing water, clean existing structure, install sealant and lining materials.
Manholes	MH-B	2+15	48" Dia Concrete (3-way, drop inlet)	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Clean existing structure, install sealant and lining materials, replace lid.
	MH-TS1	4+13	48" Dia Concrete (3-way)	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Clean existing structure, install sealant and lining materials, replace lid.
	MH-TS2	5+21	48" Dia Concrete (3-way)	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Clean existing structure, install sealant and lining materials, replace lid.
	MH-C	5+85	48" Dia Concrete	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Clean existing structure, install sealant and lining materials, replace lid.
	MH-D	9+76	48" Dia Conc	Repair	Inlet/outlet seal repair, structure liner, chimney seal	Clean existing structure, install sealant and lining materials, replace lid.

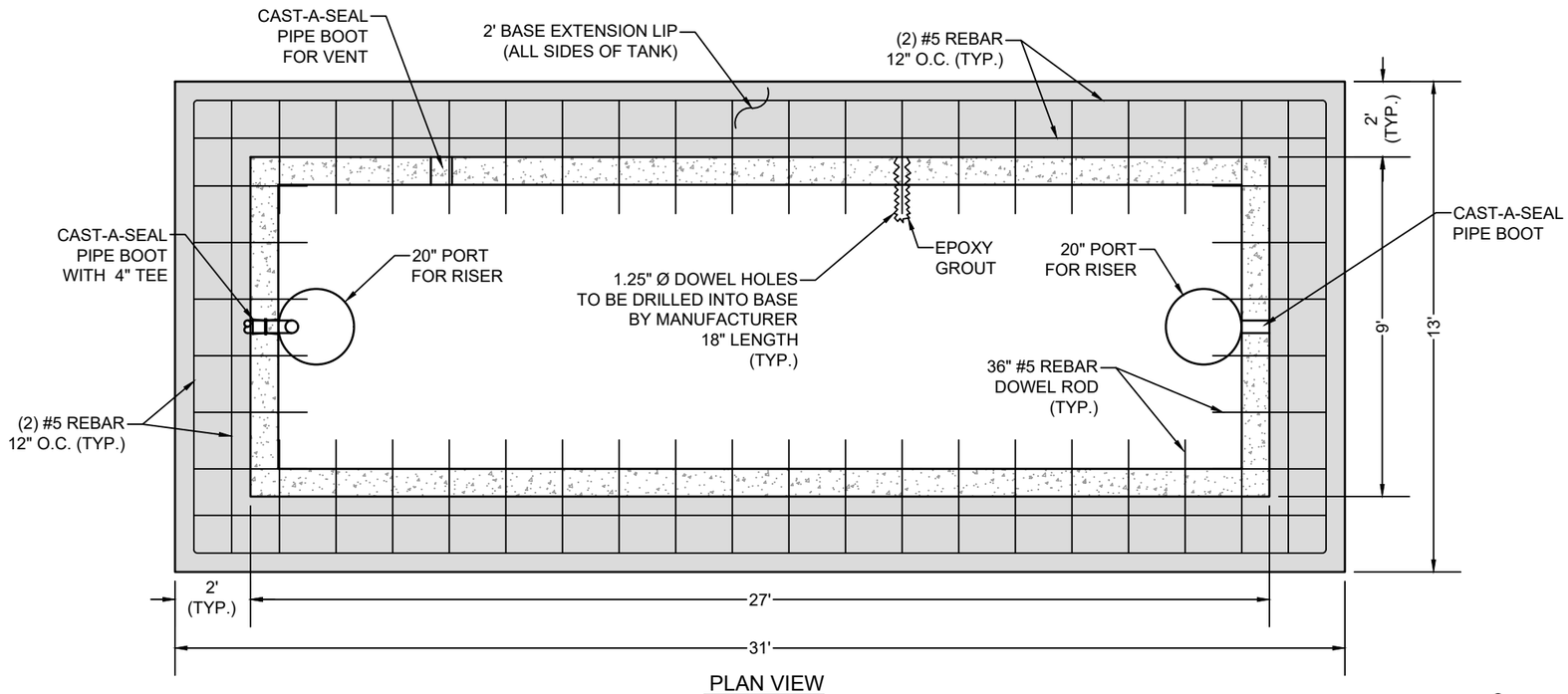
NOTES:
1. MATERIAL LIST IS TO PROVIDE GUIDANCE TO THE CONTRACTOR. ALL MATERIALS REQUIRED TO PERFORM THE WORK MAY NOT BE EXPLICITLY DESCRIBED. CONTRACTOR TO VERIFY ALL MATERIALS TO PERFORM OR THAT IS INCIDENTAL TO THE WORK.
2. ALL EQUIPMENT REQUIRED TO PERFORM THE WORK IS AT THE EXPENSE OF THE CONTRACTOR.
3. STRUCTURE CLEANING TO BE PERFORMED PER LINING MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

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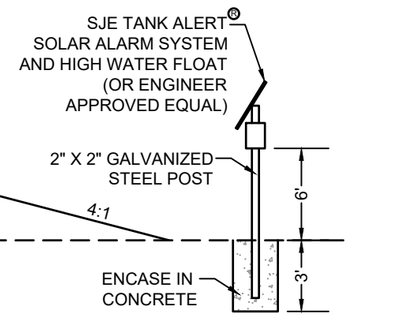
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PLAN VIEW



EASTBOUND - HIGH WATER ALARM MOUNTING DETAIL
NOT TO SCALE

PROFILE VIEW

RISER NOTES:

1. RISER SECTION TO BE A 24" PRTA ABS TANK ADAPTOR WITH 24" KRO FLOW RISER. SEAL BETWEEN ADAPTOR AND RISER WITH EPOXY MA 320. INSTALL FIBERGLASS LID WITH 4 STAINLESS STEAL BOLT CATCHES. INSTALL RISER SAFETY GRATES.

CAPACITY NOTES:

2. TANK TO HAVE A MINIMUM OPERATING VOLUME OF 10,000 GALLONS PLUS 15% ADDITIONAL AIR SPACE.

TANK NOTES:

3. EXTERIOR OF TANK SHALL BE SEALED WITH CONSEAL CS-1800 SEALANT OR ENGINEER-APPROVED EQUAL.
4. TANK RISER SECTIONS TO BE SEALED WITH PRO-STIK BUTYL JOINT SEALANT OR ENGINEER APPROVED EQUAL.
5. TANK TO BE ANDERSON PRECAST OR ENGINEER APPROVED EQUAL.
6. TANK DIMENSIONS SHALL BE VERIFIED BY MANUFACTURER.
7. TANK TO BE TWO PIECE PRECAST CONCRETE.
8. CONCRETE BASE EXTENSION DOWEL HOLES TO BE PRE-DRILLED OR FORMED BY THE TANK MANUFACTURER AT THE PRECAST PLANT. CONTRACTOR SHALL NOT DRILL INTO PRECAST TANK.

CONSTRUCTION NOTES:

9. ENSURE ALL EXISTING TANK MATERIAL ARE REMOVED PRIOR TO INSTALLATION OF NEW TANK, INCLUDING CONCRETE BALLAST.
10. IF GROUNDWATER IS ENCOUNTERED DURING INSTALLATION OF TANK. PUMP GROUNDWATER TO A LEVEL BELOW THE BOTTOM OF THE PROPOSED TANK GRADE.
11. INSTALL AND LEVEL TO A UNIFORM FLAT GRADE, 12" OF $\frac{3}{4}$" WASHED GRAVEL BELOW TANK.
12. SET TANK ELEVATION TO MATCH EXISTING OUTLET PIPE ELEVATION.
13. VERIFY INLET AND OUTLET PIPES HAVE A UNIFORM SLOPE MATCHING THE EXISTING PIPES.
14. SURCHARGE FILL TO BE NATIVE OR IMPORTED MATERIAL AND APPROVED BY THE ENGINEER.
15. ALL FILL INCLUDING SURCHARGE FILL TO BE COMPACTED TO 95% STANDARD PROCTOR.
16. SURCHARGE FILL TO BE COMPACTED WITH EQUIPMENT AS APPROVED BY TANK MANUFACTURER.
17. CONTINUE DEWATERING UNTIL INSTALLATION AND APPROVAL OF BACKFILL AND SURCHARGE FILL.

HIGH WATER ALARM NOTES:

18. FURNISH SJE TANK ALERT SOLAR ALARM SYSTEM (OR ENGINEER APPROVED EQUAL) FOR WESTBOUND AND EASTBOUND SEPTIC TANKS.
19. INSTALL CONTROL PANEL, ALARM, AND SOLAR PANEL ON WESTBOUND BUILDING FACE.
20. BURRY 2" Ø SCH. 40 PVC CONDUIT MIN. 1.5' BELOW FINISHED GRADE TO ENCASE ELECTRICAL WIRING.
21. SUBMIT ALARM SYSTEM AND SOLAR PANEL MOUNTING LOCATION TO MDT AND ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
22. ALARM ON FLOAT TO BE SET AT 3" ABOVE INVERT OUT ELEVATION.

TESTING NOTES:

23. VACUUM (NEGATIVE AIR PRESSURE) TEST TANK TO ENSURE WATER TIGHTNESS PER ASTM C1244 OR METHOD APPROVED BY THE ENGINEER.

A 5/6 10,000 GALLON SEPTIC TANK DETAILS

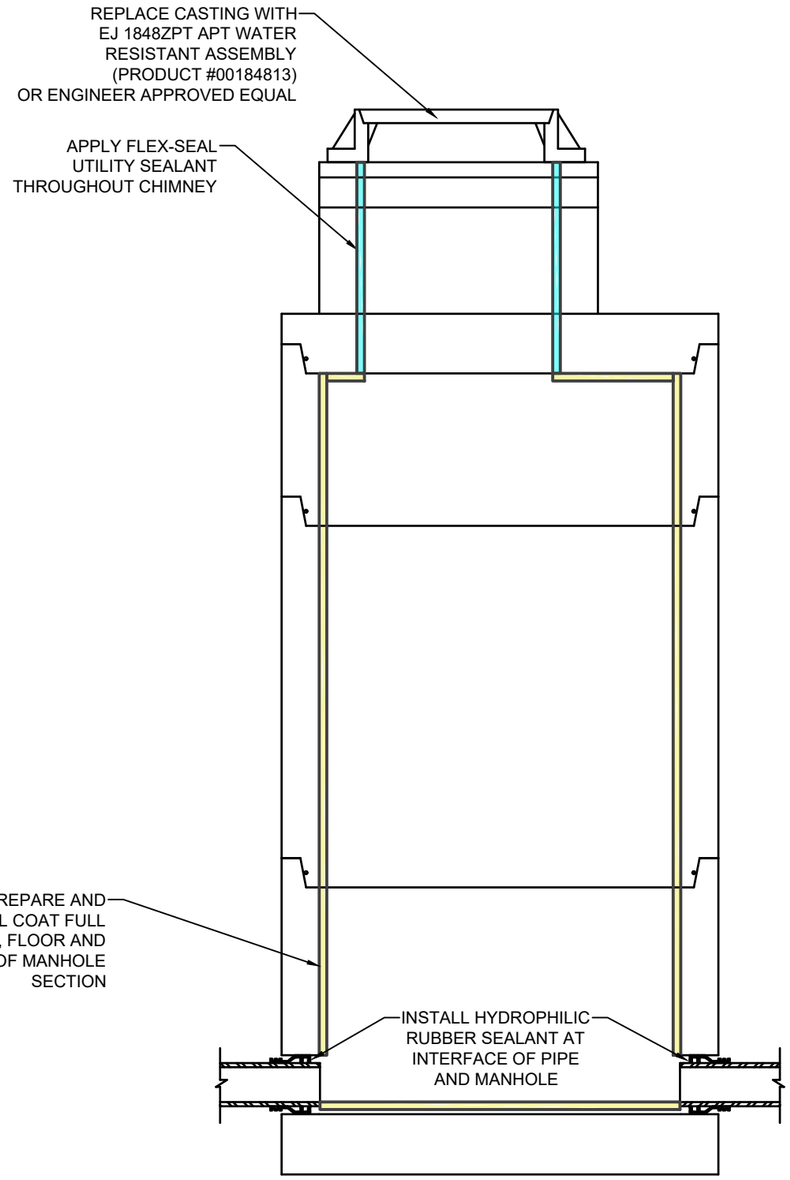
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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		WASTEWATER REHABILITATION PROJECT	SEPTIC TANK DETAILS	IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS				
1			CHECKED BY	S. HIGLEY		DENA MORA REST AREA	UPN 9432001	8

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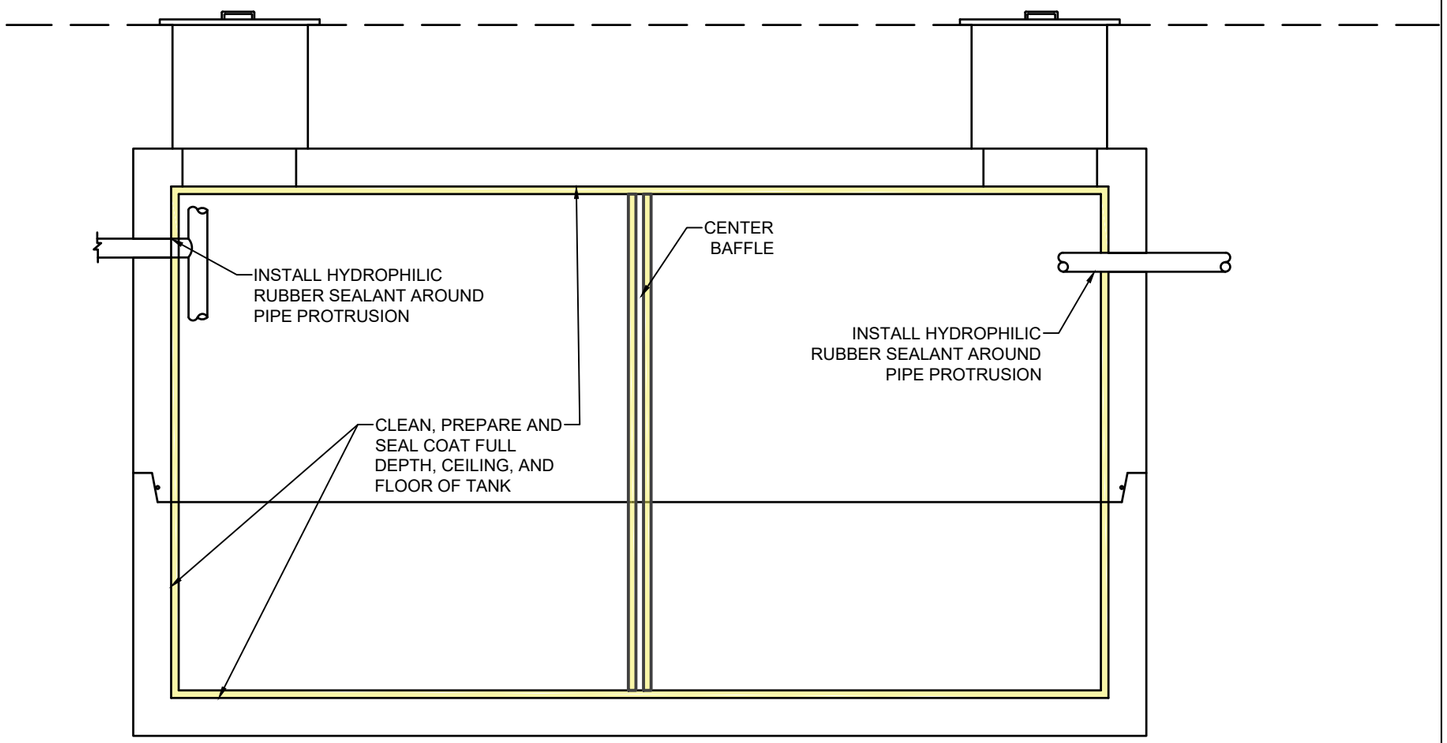
B 5/6 MANHOLE REHABILITATION DETAIL

APPLIES TO: MH-A, MH-MED, MH-B, MH-TS1, MH-TS2, MH-C, MH-D, & T-4

MH-B NOTES:
1. REPLACE PIPE BOOTS AT INVERTS WHERE THE INLET PIPE WILL BE REPLACED.

SEAL COAT NOTES:
1. APPLY COATINGS THROUGHOUT FULL DEPTH OF MANHOLE AND TANK STRUCTURE, COVERING ALL EXPOSED CONCRETE.
2. REPAIR CONCRETE, PREPARE AND INSTALL COATING AS DESCRIBED IN THE SPECIAL PROVISIONS.
3. PROTECT OR REMOVE ALL NON-CONCRETE APPURTENANCES INCLUDING MANHOLE STAIRS OR STEEL FITTINGS FROM COATING.

STORAGE & DOSE TANK NOTES:
1. PUMPS NOT SHOWN FOR CLARITY.
2. REMOVE ALL STANDING WATER AND PUMPS BEFORE BEGINNING WORK.
3. REPLACE ALL PUMPS, FLOATS, AND PIPING TO ORIGINAL LOCATIONS.



C 6 STORAGE TANK REHABILITATION DETAIL

APPLIES TO: T-3

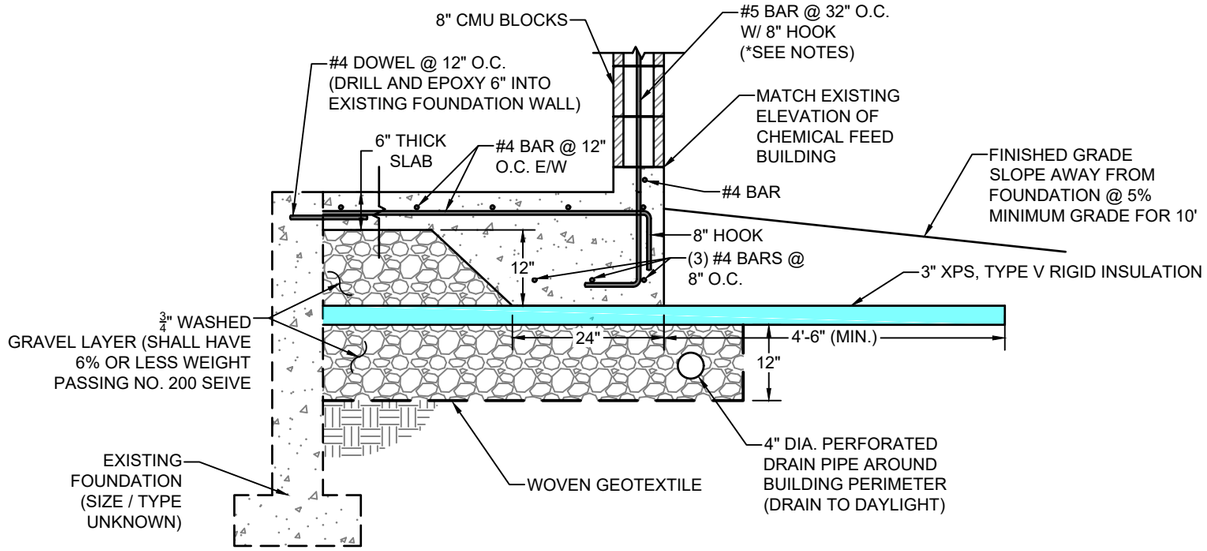
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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		WASTEWATER REHABILITATION PROJECT	REHABILITATION DETAILS	IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS			UPN 9432001	9
1			CHECKED BY	S. HIGLEY		DENA MORA REST AREA		

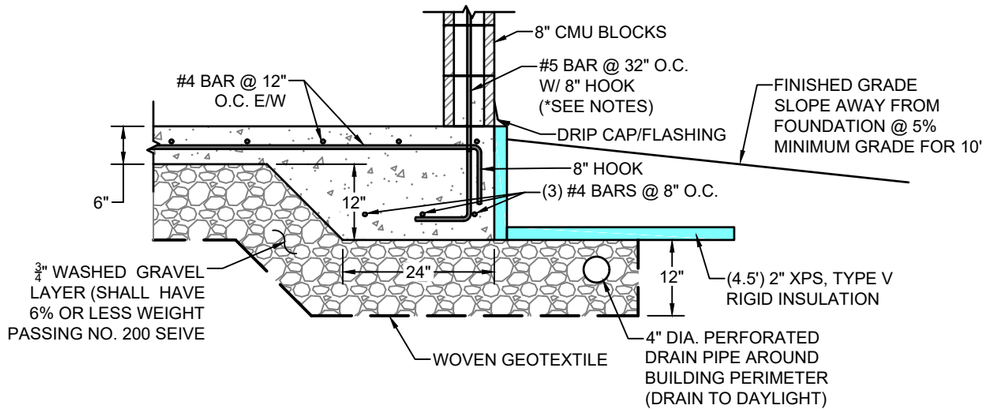
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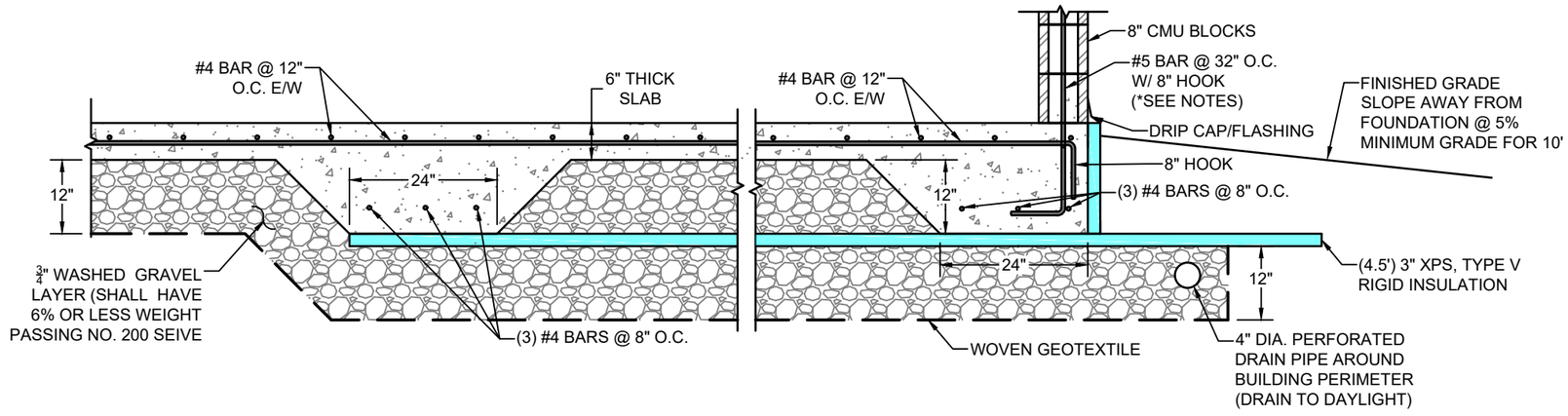


EXTERIOR FOUNDATION DETAIL
CHEMICAL FEED BUILDING



EXTERIOR FOUNDATION DETAIL
DOSE TANK BUILDING (HEATED WALL)

*NOTES:
1. BAR TO BE CONTINUOUS THROUGH SLAB TO A HEIGHT OF 3-FT (MIN.) ABOVE FINISHED SLAB ELEVATION.
2. INSTALL TWO #5 BARS AT EACH SIDE OF ALL OPENINGS.
3. ALL BARS IN SOLID GROUTED CELLS.
4. INSULATE ALL NON-GROUTED CELLS.



INTERIOR FOUNDATION DETAIL
DOSE TANK BUILDING

EXTERIOR FOUNDATION DETAIL
DOSE TANK BUILDING (BREEZEWAY WALL)

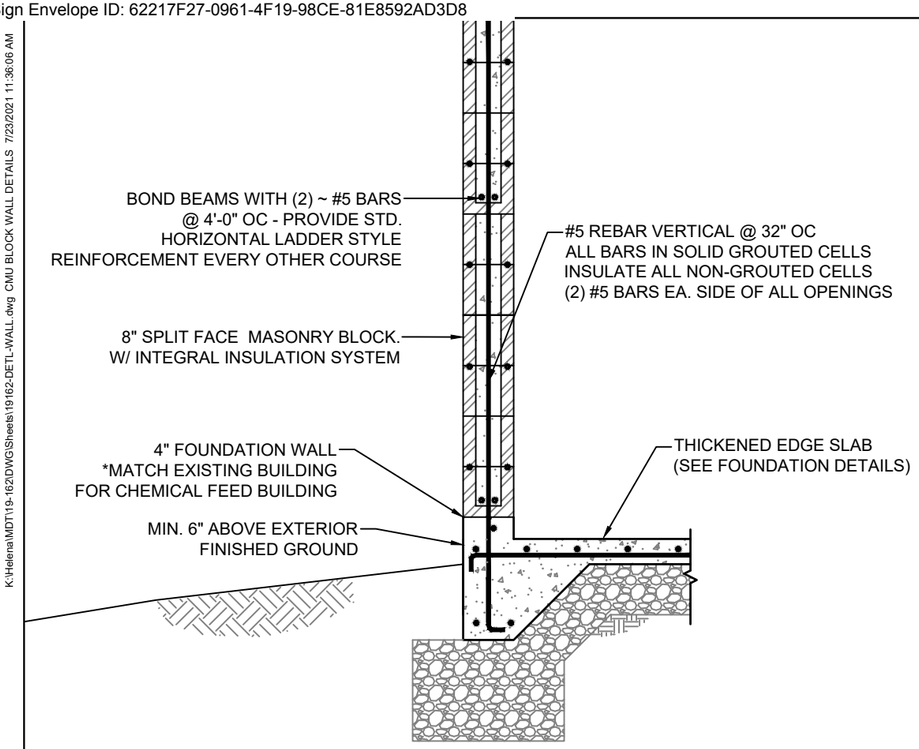
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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		WASTEWATER REHABILITATION PROJECT	**FOUNDATION DETAILS**	IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS				
1			CHECKED BY	S. HIGLEY		DENA MORA REST AREA	UPN 9432001	**10**

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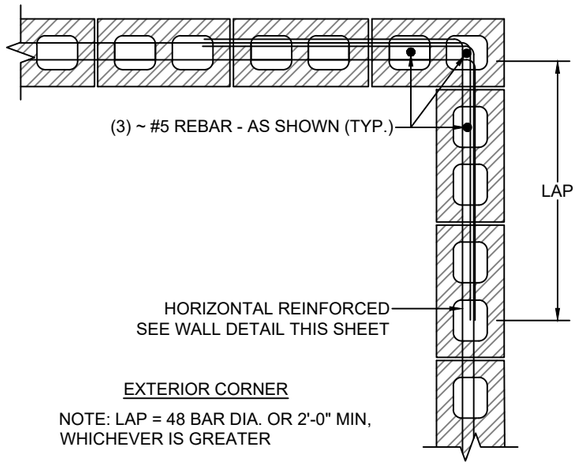
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K:\Helena\MDT\19-162\DWG\Sheets\19162-DETL-WALL.dwg CMU BLOCK WALL DETAILS 7/23/2021 11:36:06 AM



TYPICAL WALL DETAIL
NOT TO SCALE

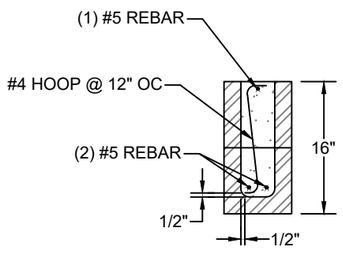
NOTES:
1. MASONRY COLORS SHALL MATCH THE EXISTING BUILDING PER OWNERS RECOMMENDATIONS.
2. ALL REINFORCEMENT SPLICE LENGHTS SHALL BE 48 TIMES THE BAR DIAMETER OR 24", WHICHEVER IS GREATER



EXTERIOR CORNER

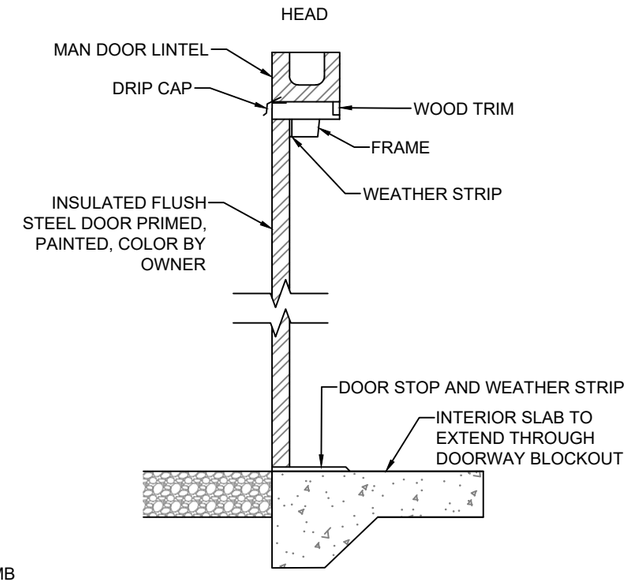
NOTE: LAP = 48 BAR DIA. OR 2'-0" MIN, WHICHEVER IS GREATER

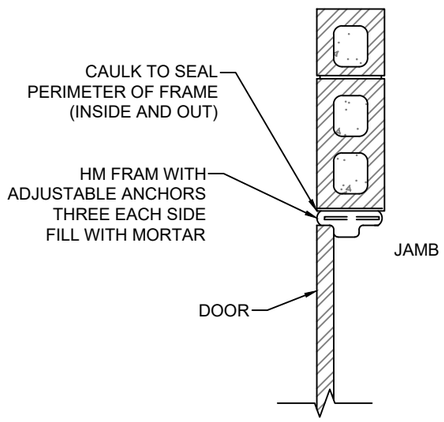
CMU CORNER REINFORCEMENT
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NOTE: EXTEND 26" PAST EACH SIDE OF OPENING OR EXTEND 10" PAST WITH 16" HOOK (CORNERS)

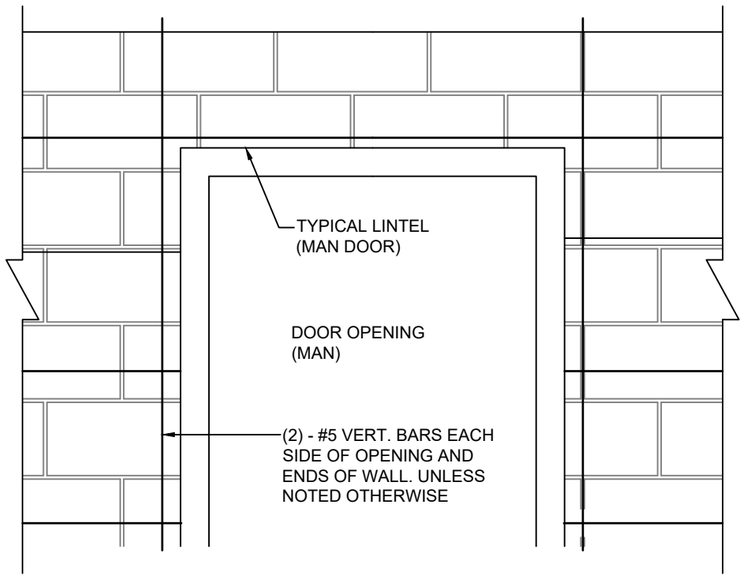
MAN DOOR LINTEL DETAIL
NOT TO SCALE





SECTION

MAN DOOR CONSTRUCTION DETAIL
NOT TO SCALE



CMU DOOR REINFORCEMENT
NOT TO SCALE

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3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	S. DUNKELBERGER		WASTEWATER REHABILITATION PROJECT	CMU BLOCK WALL DETAILS	IM 90-1(236)5
2		7/2021	REVIEWED BY	J. FADNESS		DENA MORA REST AREA	UPN 9432001	11
1			CHECKED BY	S. HIGLEY				

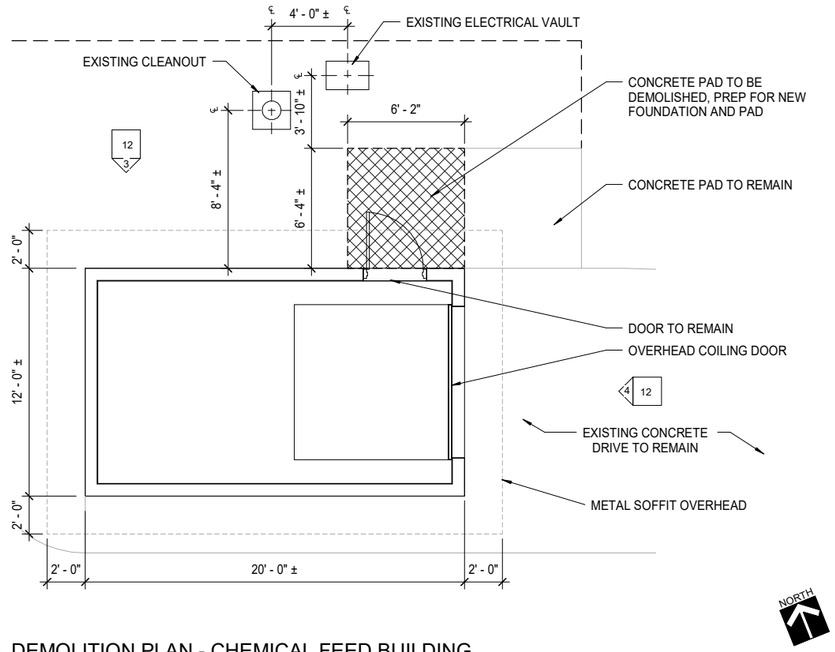
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1 EXISTING ARCHITECTURAL SITE PLAN - CHEMICAL FEED BUILDING
1" = 20'-0"



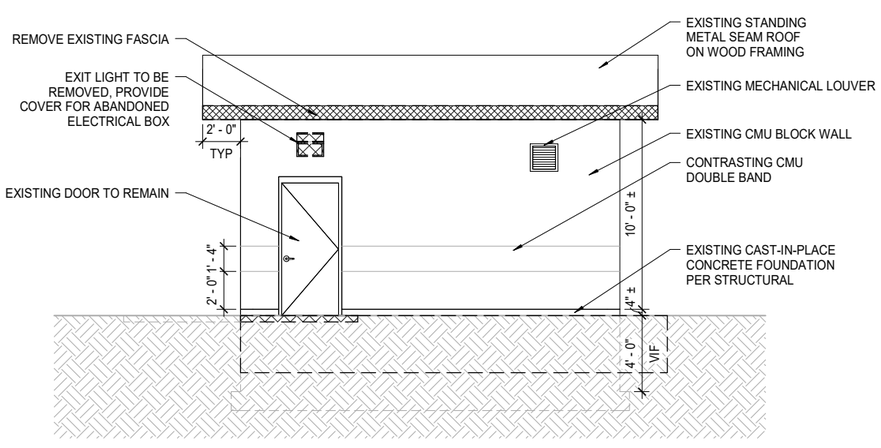
2 DEMOLITION PLAN - CHEMICAL FEED BUILDING
1/4" = 1'-0"

GENERAL DEMOLITION NOTES

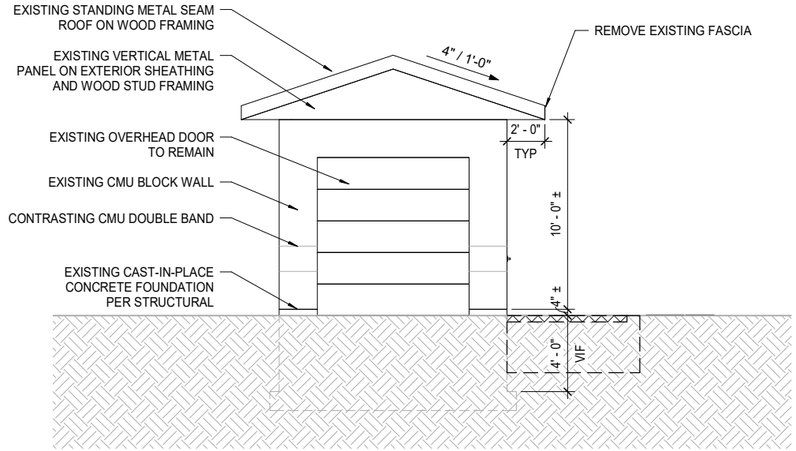
1. SEE SPECIFICATIONS FOR A DETAILED SCHEDULE OF SELECTIVE DEMOLITION ITEMS.
2. ALL EQUIPMENT, FURNITURE, ETC. LEFT IN AREAS WHERE DEMOLITION IS TO COMMENCE IS TO BE COORDINATED WITH OWNER, PRIOR TO REMOVING FROM THE PREMISES.
3. PROTECT ALL ITEMS/ELEMENTS NOT SPECIFIED AS BEING DEMO'D, AND PATCH AND REPAIR ALL DAMAGED ITEMS/ELEMENTS TO REMAIN.
4. PATCH AND INFILL ALL MECHANICAL, ELECTRICAL & PLUMBING WORK THAT ARE OUTLINED IN THEIR SHEETS, EVEN IF NOT CALLED OUT IN THE ARCHITECTURAL SHEETS.
5. THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
6. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS.
7. THE CONTRACTOR SHALL MAINTAIN AND ADHERE TO ALL CURRENT LIFE-SAFETY AND INTERIM LIFE-SAFETY RULES AND REGULATIONS THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.

SYMBOL LEGEND

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



3 DEMOLITION NORTH - CHEMICAL FEED BUILDING
1/4" = 1'-0"



4 DEMOLITION EAST- CHEMICAL FEED BUILDING
1/4" = 1'-0"

*NOTE: SACLE SHOWN ON PLANS BASED ON 22" X 34" PRINT SIZE.

1470 N. ROBERTS STREET
HELENA, MT 59601
TEL| 406.457.0360
www.slatearchitecture.com

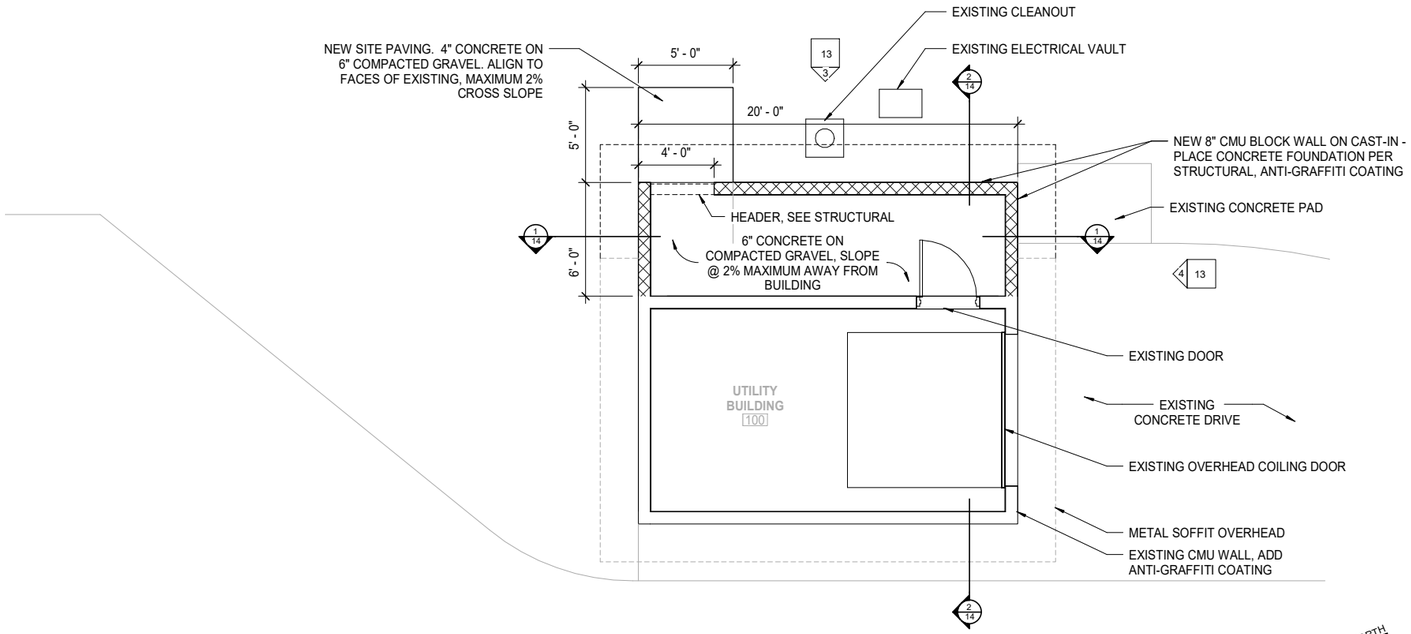
LICENSED ARCHITECT
SCOTT W. CROMWELL
NO. 2551
HELENA, MT
04.08.2020
STATE OF MONTANA

3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE		WASTEWATER REHABILITATION PROJECT	EXISTING & DEMOLITION - CHEMICAL FEED BUILDING / IM 90-1(236)5
2		4/2020	REVIEWED BY	TML			
1			CHECKED BY	SC		DENA MORA REST AREA	UPN 9432001 / 12

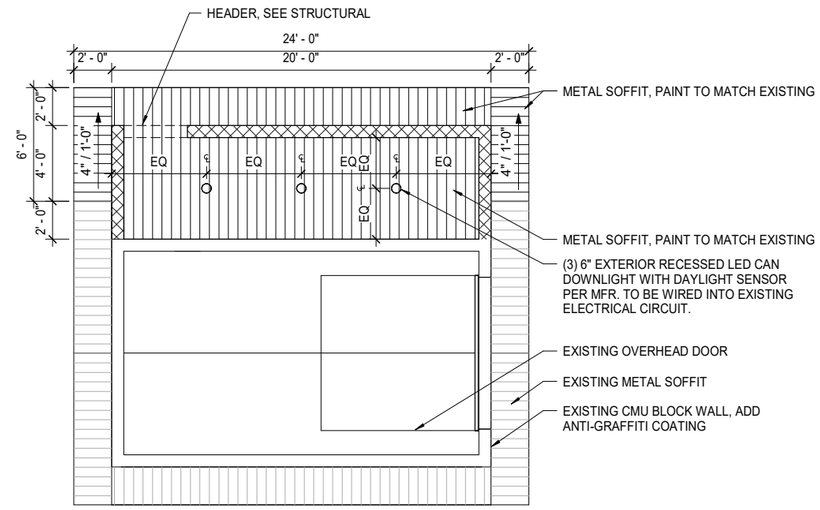
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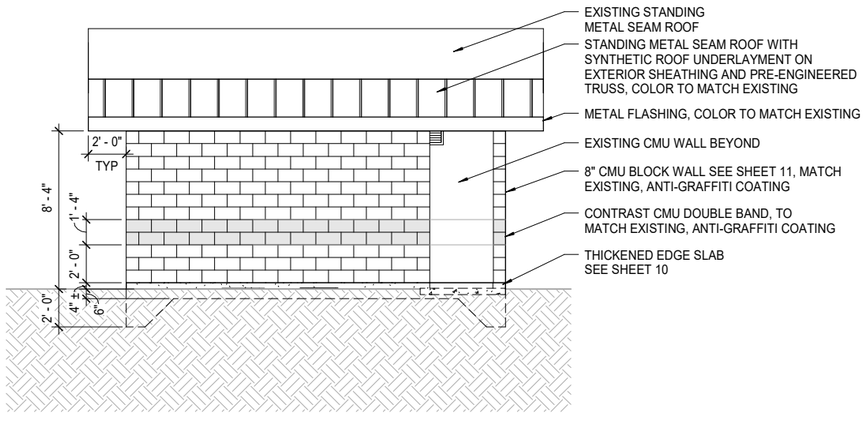
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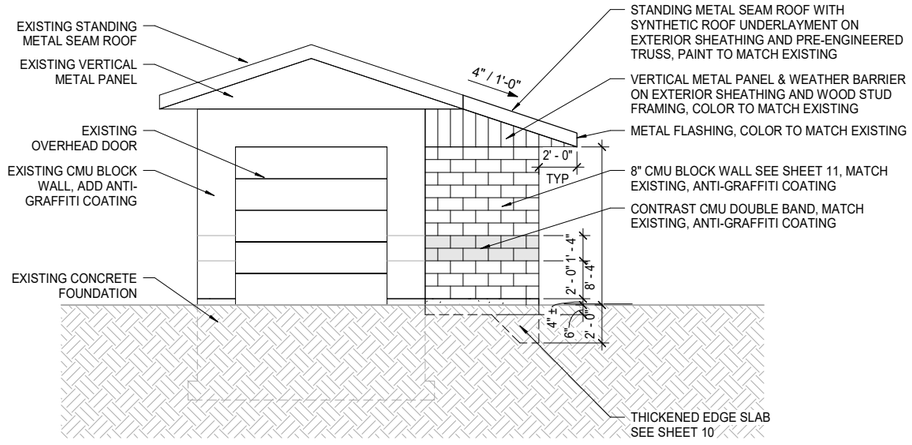
1 FLOOR PLAN -CHEMICAL FEED BUILDING
1/4" = 1'-0"



2 REFLECTED CEILING PLAN - CHEMICAL FEED BUILDING
1/4" = 1'-0"



3 NORTH - CHEMICAL FEED BUILDING
1/4" = 1'-0"



4 EAST - CHEMICAL FEED BUILDING
1/4" = 1'-0"

GENERAL NOTES

1. THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
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3. ALL NEW WALLS ARE TO EXTEND TO DECK, UNLESS OTHERWISE NOTED.
4. WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
5. DIMENSIONS ARE FROM FACE OF EXISTING WALL FINISH, OR FACE OF NEW STUD UNLESS OTHERWISE NOTES.
6. DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.
7. THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.

SYMBOL LEGEND

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

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

*NOTE: SACLE SHOWN ON PLANS BASED ON 22" X 34" PRINT SIZE.

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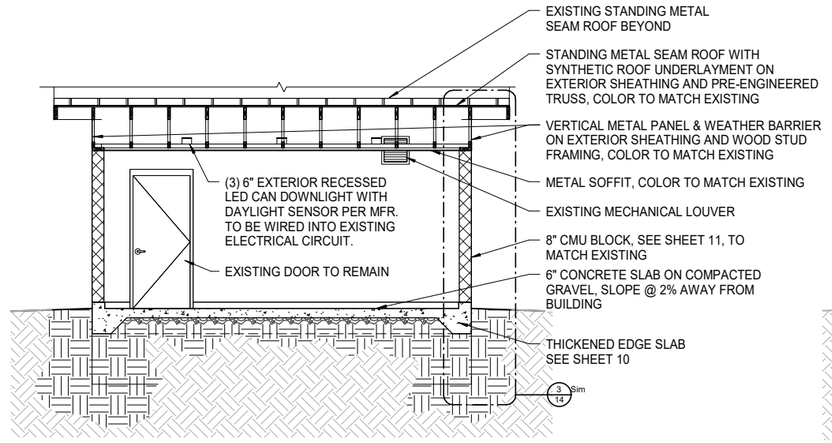
LICENSED ARCHITECT
SCOTT W. CROMWELL
NO. 2551
HELENA, MT
04.08.2020
STATE OF MONTANA

3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE		WASTEWATER REHABILITATION PROJECT	PLANS & ELEVATIONS - CHEMICAL FEED BUILDING	IM 90-1(236)5
2		4/2020	REVIEWED BY	TML				
1			CHECKED BY	SC		DENA MORA REST AREA	UPN 9432001	13

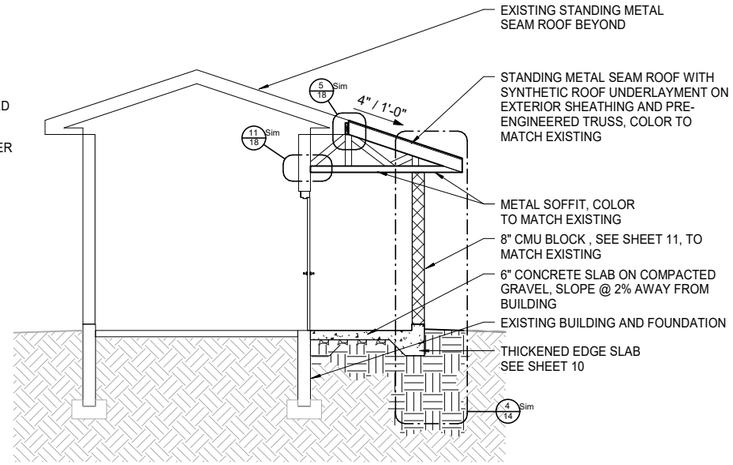
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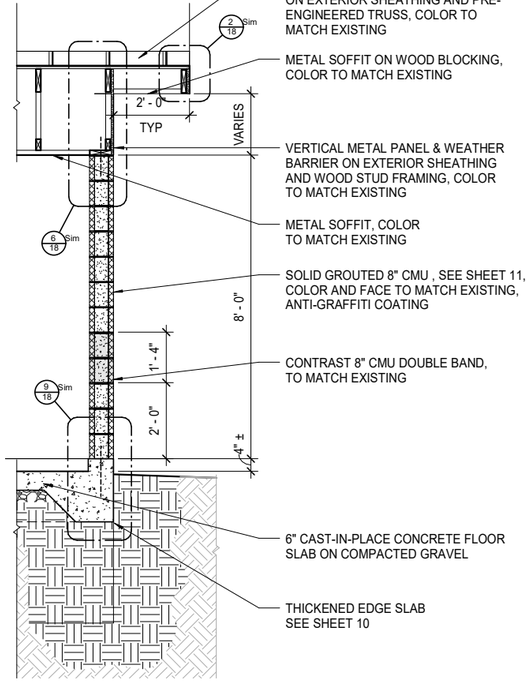
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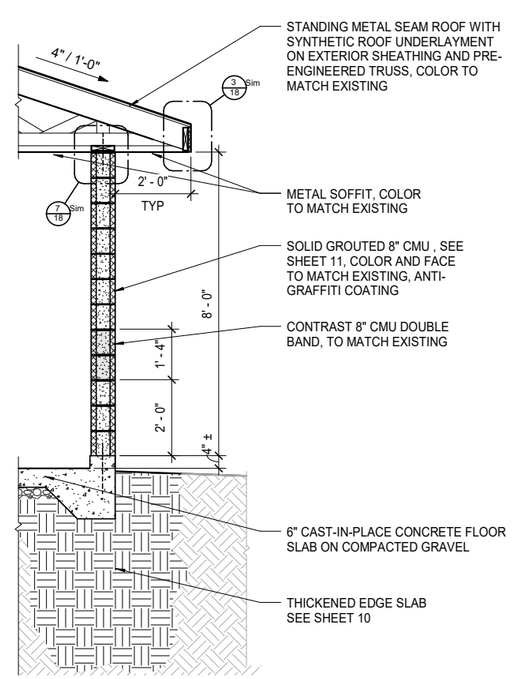
1 E/W BUILDING SECTION - CHEMICAL FEED BUILDING
1/4" = 1'-0"



2 N/S BUILDING SECTION - CHEMICAL FEED BUILDING
1/4" = 1'-0"



3 WALL SECTION @ GABLE
1/2" = 1'-0"



4 WALL SECTION @ METAL SOFFIT
1/2" = 1'-0"

*NOTE: SACLE SHOWN ON PLANS BASED ON 22" X 34" PRINT SIZE.

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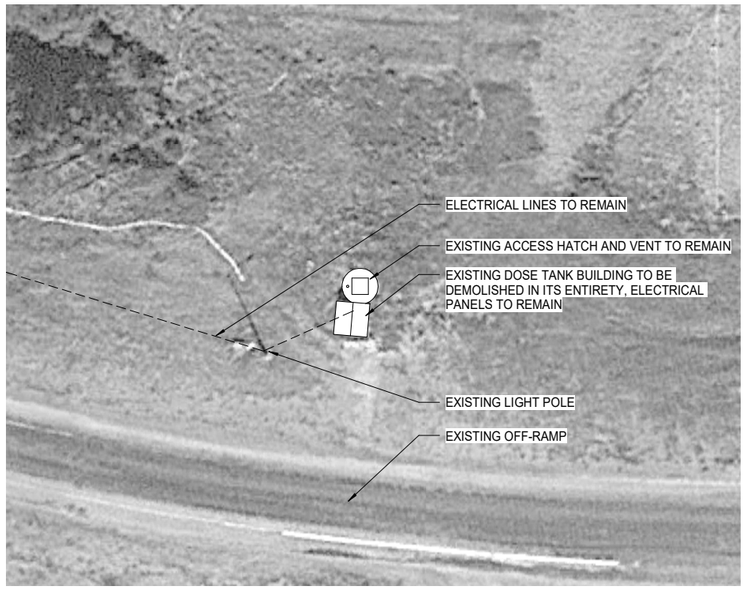
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3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE		WASTEWATER REHABILITATION PROJECT	BUILDING & WALL SECTIONS - CHEMICAL FEED BUILDING	IM 90-1(236)5
2		4/2020	REVIEWED BY	TML				
1			CHECKED BY	SC		DENA MORA REST AREA	UPN 9432001	14

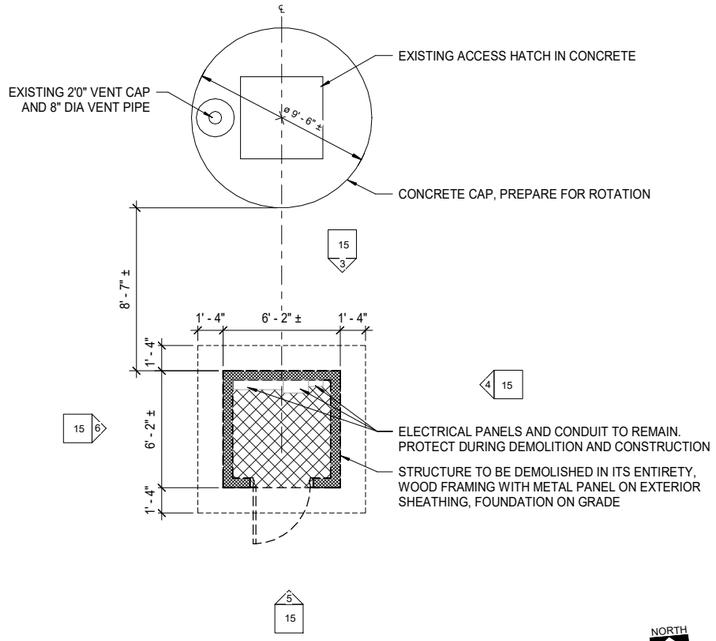
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1 EXISTING ARCHITECTURAL SITE PLAN - DOSE TANK BUILDING
1" = 20'-0"



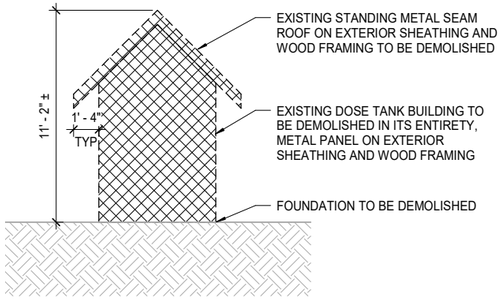
2 DEMOLITION PLAN - DOSE TANK BUILDING
1/4" = 1'-0"

GENERAL DEMOLITION NOTES

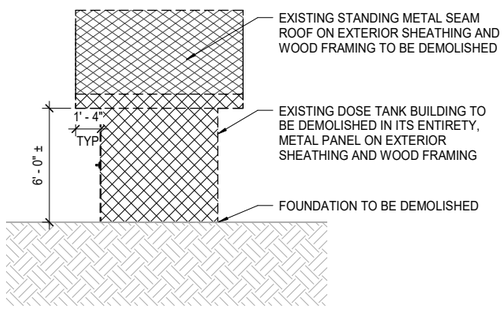
1. SEE SPECIFICATIONS FOR A DETAILED SCHEDULE OF SELECTIVE DEMOLITION ITEMS.
2. ALL EQUIPMENT, FURNITURE, ETC. LEFT IN AREAS WHERE DEMOLITION IS TO COMMENCE IS TO BE COORDINATED WITH OWNER, PRIOR TO REMOVING FROM THE PREMISES.
3. PROTECT ALL ITEMS/ELEMENTS NOT SPECIFIED AS BEING DEMO'D, AND PATCH AND REPAIR ALL DAMAGED ITEMS/ELEMENTS TO REMAIN.
4. PATCH AND INFILL ALL MECHANICAL, ELECTRICAL & PLUMBING WORK THAT ARE OUTLINED IN THEIR SHEETS, EVEN IF NOT CALLED OUT IN THE ARCHITECTURAL SHEETS.
5. THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
6. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS.
7. THE CONTRACTOR SHALL MAINTAIN AND ADHERE TO ALL CURRENT LIFE-SAFETY AND INTERIM LIFE-SAFETY RULES AND REGULATIONS THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.

SYMBOL LEGEND

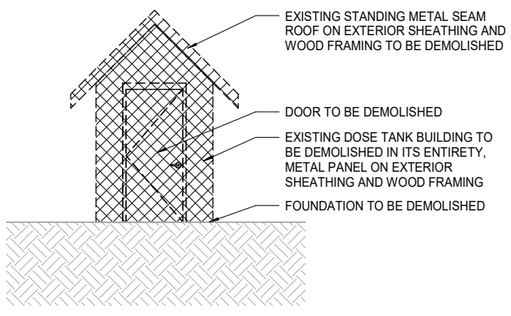
- EXISTING CEILING/FLOOR IS TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS
- EXISTING WALL/ITEM/ELEMENT TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS
- EXISTING WALL/ITEM/ELEMENT TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS



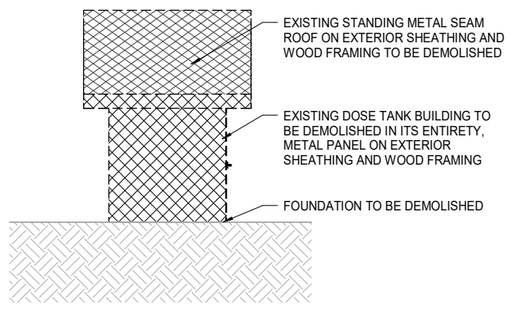
3 DEMOLITION NORTH - DOSE TANK BUILDING
1/4" = 1'-0"



4 DEMOLITION EAST - DOSE TANK BUILDING
1/4" = 1'-0"



5 DEMOLITION SOUTH - DOSE TANK BUILDING
1/4" = 1'-0"



6 DEMOLITION WEST - DOSE TANK BUILDING
1/4" = 1'-0"

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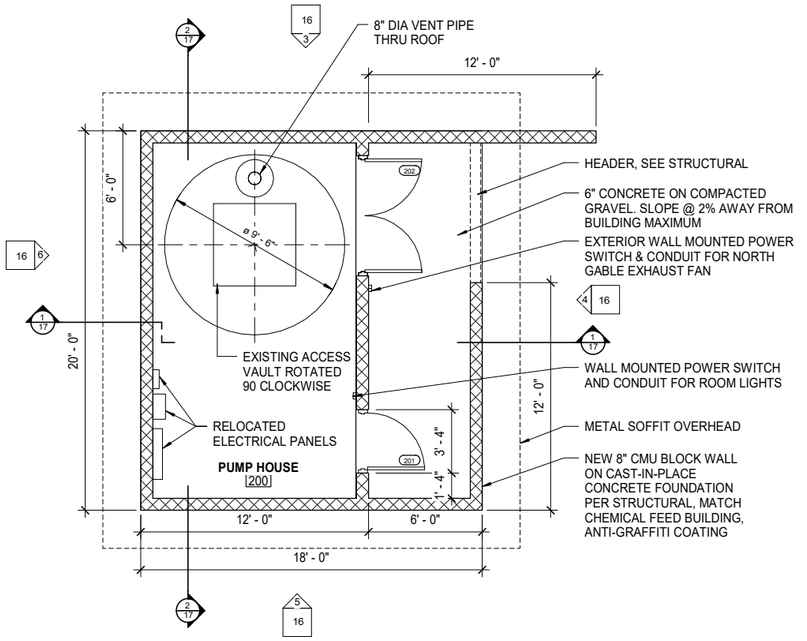
*NOTE: SACLE SHOWN ON PLANS BASED ON 22" X 34" PRINT SIZE.

3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE		WASTEWATER REHABILITATION PROJECT	EXISTING & DEMOLITION - DOSE TANK BUILDING / IM 90-1(236)5
2		4/2020	REVIEWED BY	TML			
1			CHECKED BY	SC		DENA MORA REST AREA	UPN 9432001 / 15

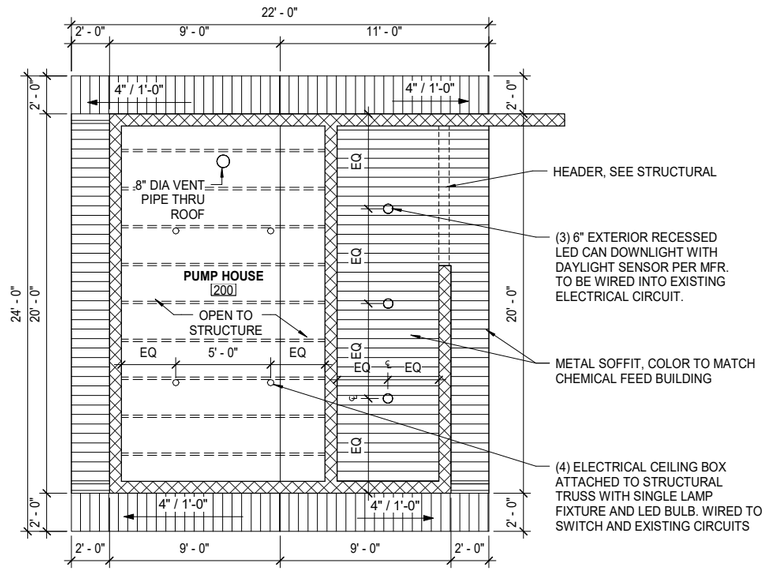
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1 FLOOR PLAN - DOSE TANK BUILDING
1/4" = 1'-0"



2 REFLECTED CEILING PLAN - DOSE TANK BUILDING
1/4" = 1'-0"

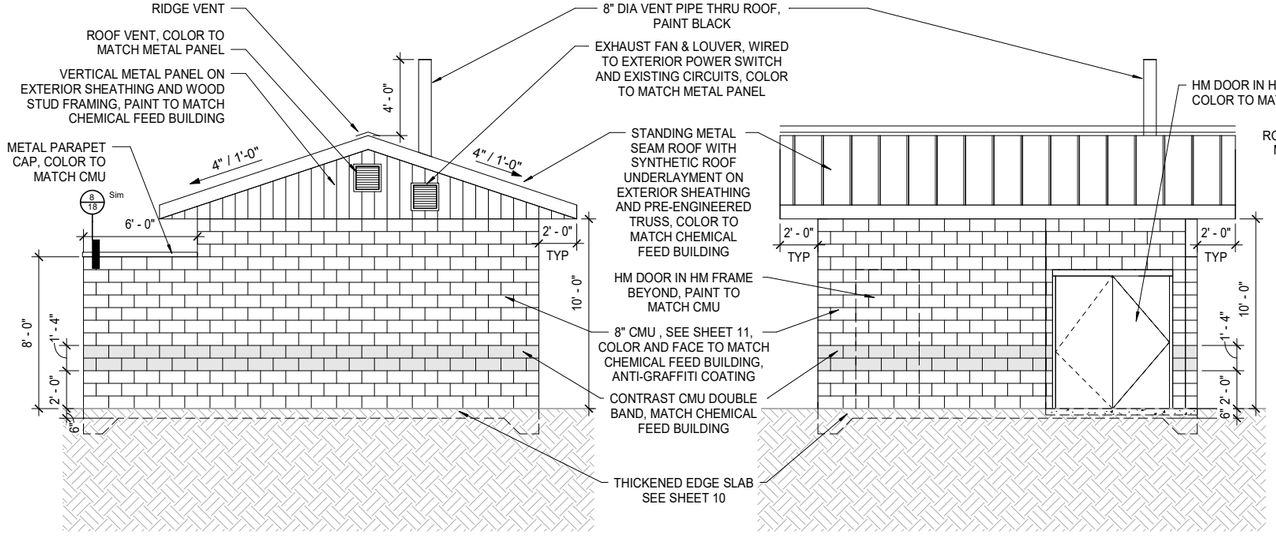
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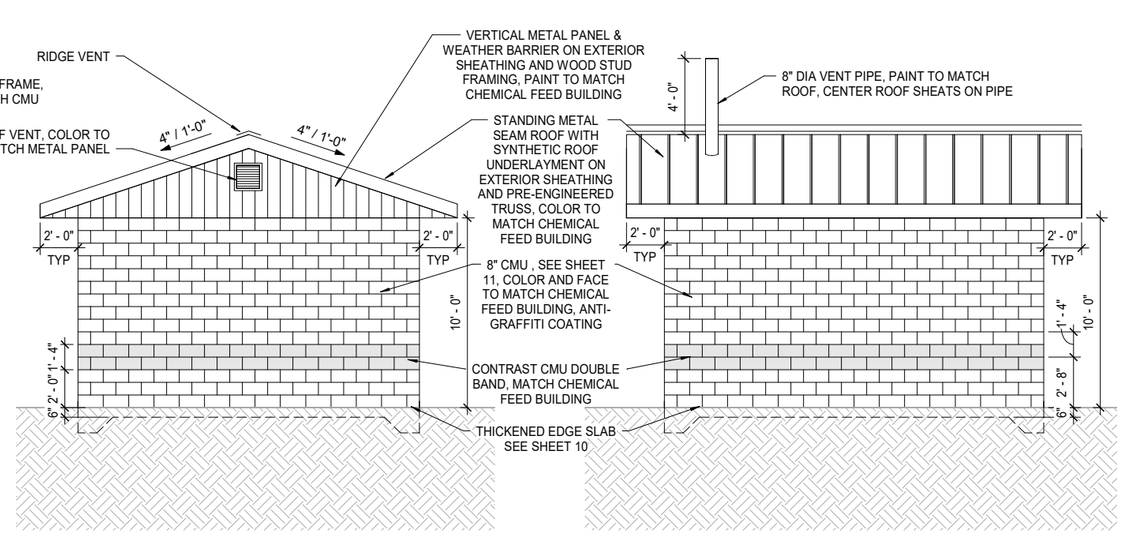
NEW WALL/ITEM/ELEMENT TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS

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



3 NORTH - DOSE TANK BUILDING
1/4" = 1'-0"

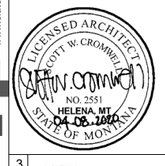
4 EAST - DOSE TANK BUILDING
1/4" = 1'-0"



5 SOUTH - DOSE TANK BUILDING
1/4" = 1'-0"

6 WEST - DOSE TANK BUILDING
1/4" = 1'-0"

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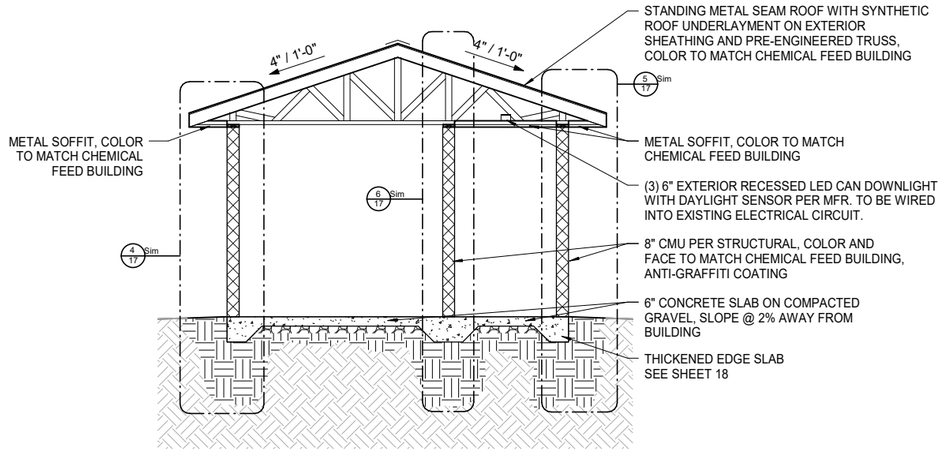
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3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE	WASTEWATER REHABILITATION PROJECT	PLANS & ELEVATIONS - DOSE TANK BUILDING	IM 90-1(236)5
2		4/2020	REVIEWED BY	TML			
1			CHECKED BY	SC	DENA MORA REST AREA	UPN 9432001	16

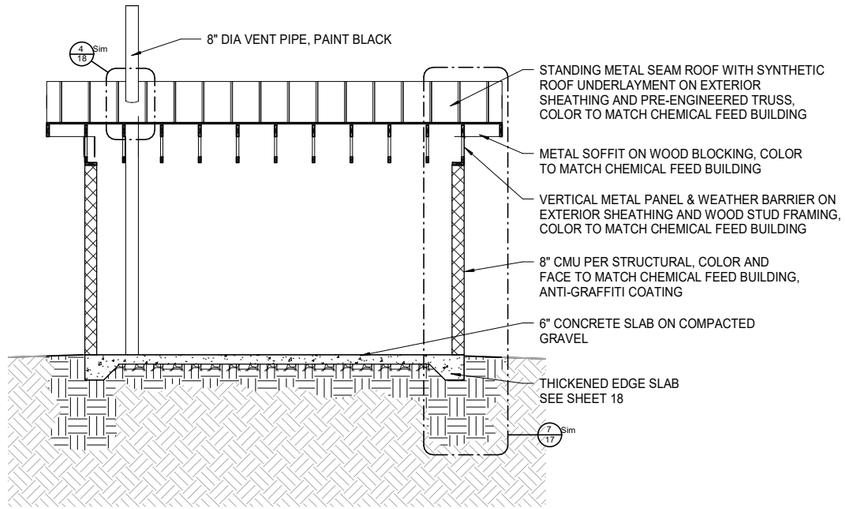
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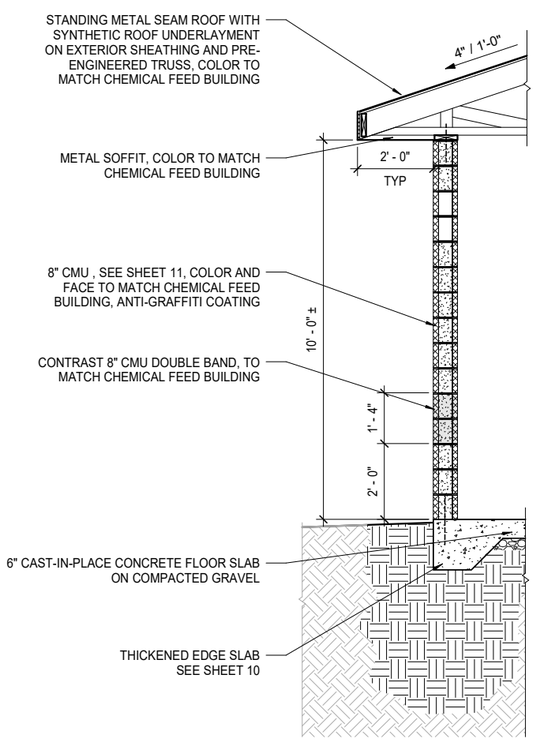
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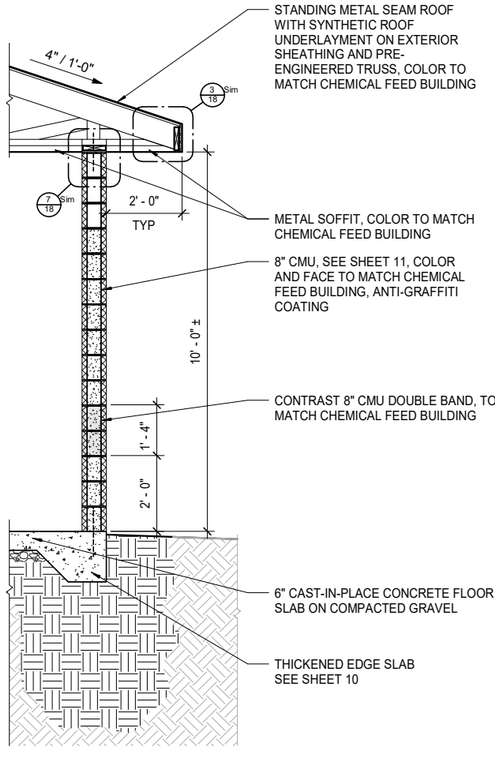
1 E/W BUILDING SECTION - DOSE TANK BUILDING
1/4" = 1'-0"



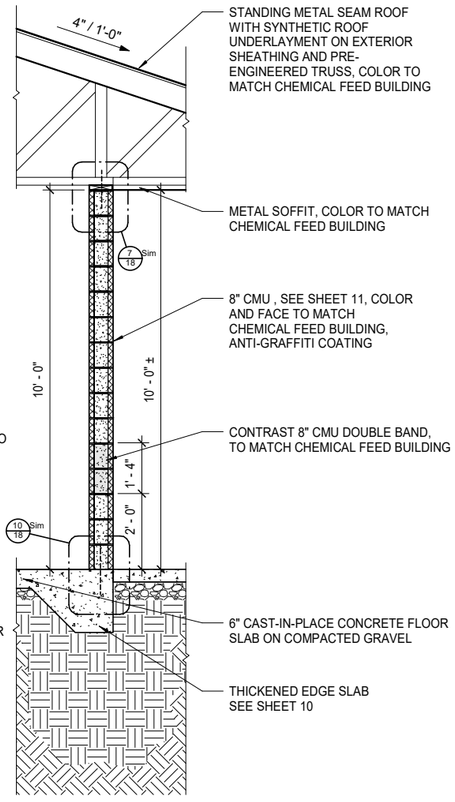
2 N/S BUILDING SECTION - DOSE TANK BUILDING
1/4" = 1'-0"



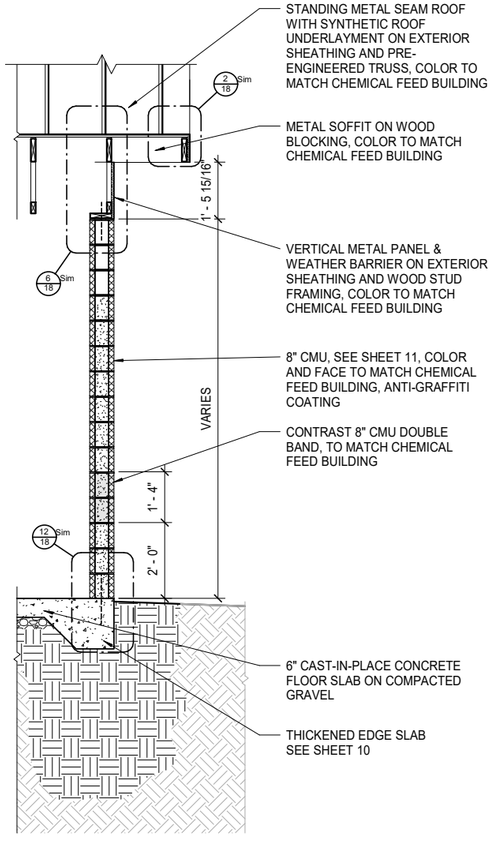
4 WALL SECTION 1
1/2" = 1'-0"



5 WALL SECTION 2
1/2" = 1'-0"



6 WALL SECTION 3
1/2" = 1'-0"



7 WALL SECTION 4
1/2" = 1'-0"

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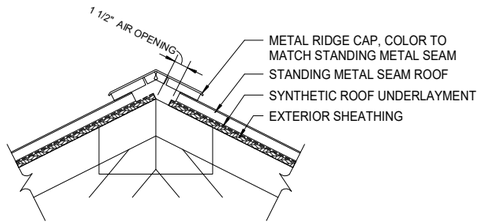
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2		4/2020	REVIEWED BY	TML				
1			CHECKED BY	SC		DENA MORA REST AREA	UPN 9432001	17

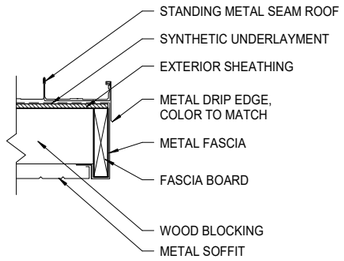
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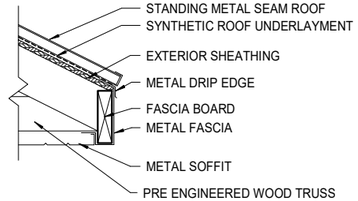
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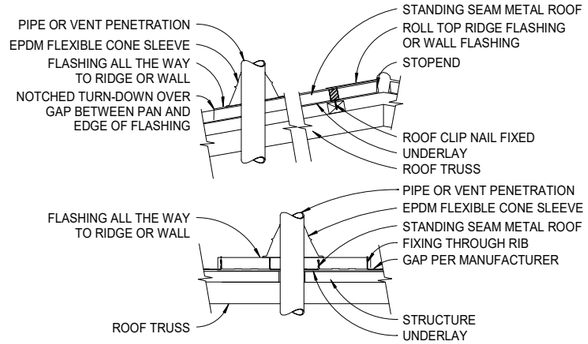
1 RIDGE VENT DETAIL (STANDING SEAM)
1 1/2" = 1'-0"



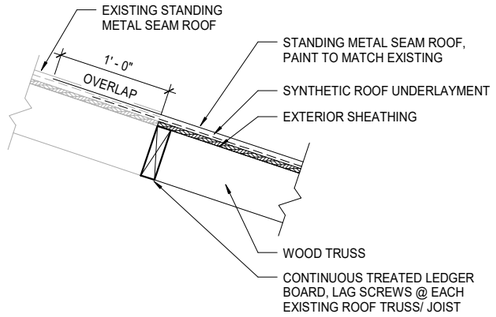
2 ROOF RAKE EDGE
1 1/2" = 1'-0"



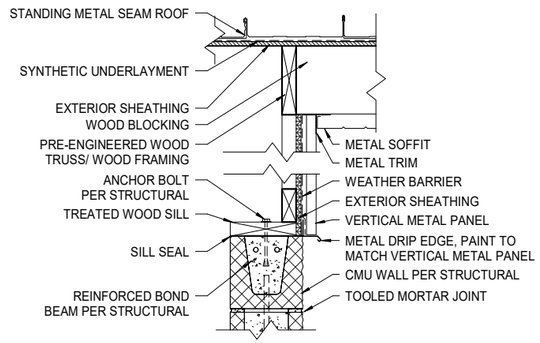
3 ROOF EDGE
1 1/2" = 1'-0"



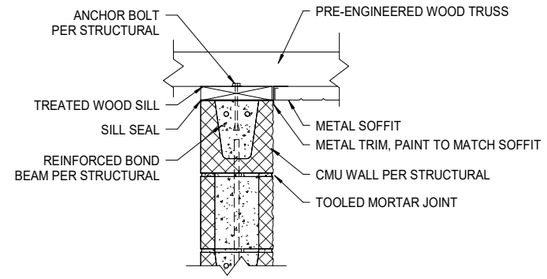
4 PIPE PENETRATION IN METAL ROOF
3/16" = 1'-0"



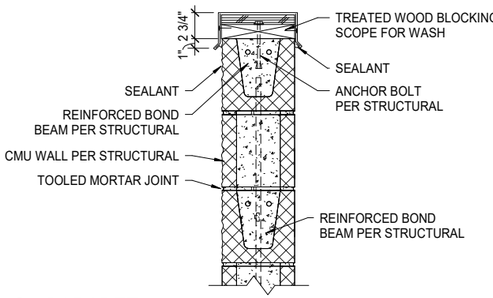
5 NEW ROOF @ EXISTING ROOF
1 1/2" = 1'-0"



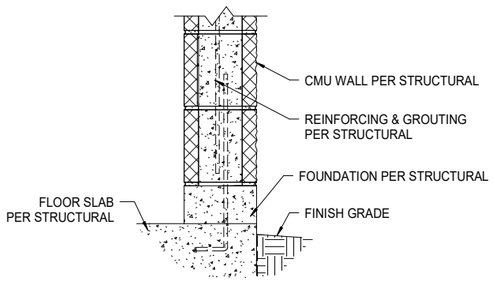
6 GABLE WALL
1 1/2" = 1'-0"



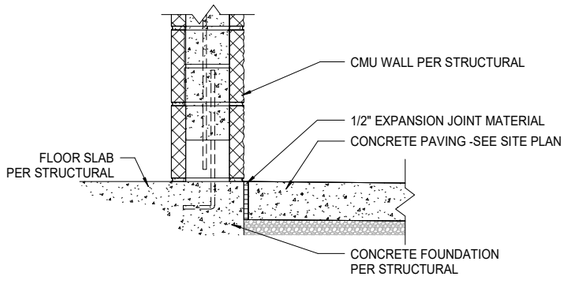
7 TOP OF CMU
1 1/2" = 1'-0"



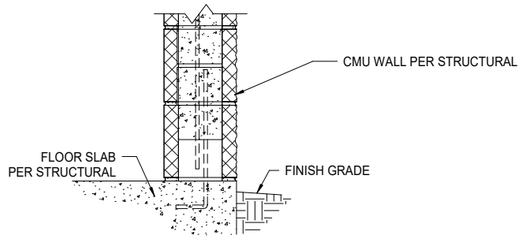
8 PARAPET
1 1/2" = 1'-0"



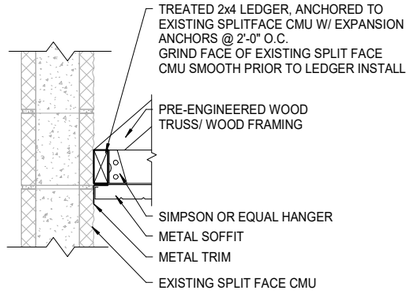
9 EXPOSED FOUNDATION
1 1/2" = 1'-0"



10 WALL AT CONCRETE PAVING
1 1/2" = 1'-0"



12 EXPOSED FOUNDATION WITHOUT 4" RISER
1 1/2" = 1'-0"



11 TRUSS @ EXISTING WALL
1 1/2" = 1'-0"

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*NOTE: SACLE SHOWN ON PLANS BASED ON 22" X 34" PRINT SIZE.

3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE		WASTEWATER REHABILITATION PROJECT	DETAILS	IM 90-1(236)5
2		4/2020	REVIEWED BY	TML				
1			CHECKED BY	SC		DENA MORA REST AREA	UPN 9432001	18

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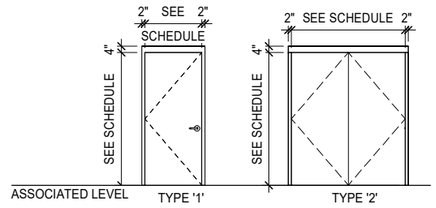
DOOR SCHEDULE

DOOR NO.	TYPE	DOOR					FRAME		GLAZING TYPE	FIRE RATING	HARDWARE	DETAILS			COMMENTS
		THICKNESS	WIDTH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH				HEAD	JAMB	SILL	
201	1	1 3/4"	3' - 0"	7' - 0"	HM	PAINT	HM	PAINT	-	-	H1	1	1	2	PAINT TO MATCH CMU
202	2	1 3/4"	6' - 0"	7' - 0"	HM	PAINT	HM	PAINT	-	-	H2	1	1	2	PAINT TO MATCH CMU

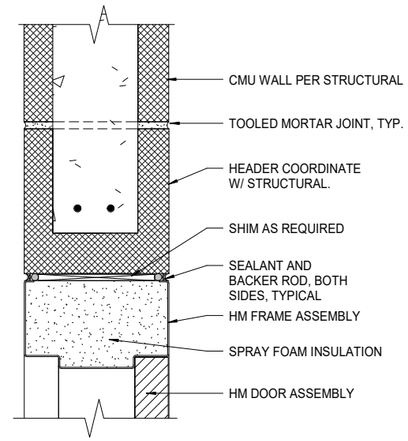
HARDWARE SCHEDULE

HARDWARE SET - "H1"
- 1 1/2 PAIR HINGES
- 1 CLOSER -EXTRA HEAVY DUTY ARM W/ HOLD OPEN
- 1 LEVEL LOCKET - STOREROOM FUNCTION
- 1 KICKPLATE
- 1 SET OF WEATHERSTRIPING
- 1 AUTOMATIC DROP BOTTOM
- 1 THERMALEY BROKEN THRESHOLD

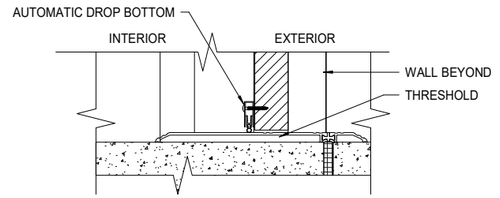
HARDWARE SET - "H2"
- 3 PAIR HINGES
- 1 LEVER LOCKSET - STOREROOM FUNCTION
- 1 MANUAL FLUSH BOLT - TOP AND BOTTOM
- 1 ASTRAGAL
- 1 SET OF WEATHERSTRIPING
- 2 AUTOMATIC DROP BOTTOMS
- 1 THERMALEY BROKEN THRESHOLD



DOOR AND FRAME ELEVATION
1/4" = 1'-0"



1 HM DOOR HEAD DETAIL (JAMB SIM)
3" = 1'-0"



2 HM DOOR THREASHOLD DETAIL
3" = 1'-0"

*NOTE: SACLE SHOWN ON PLANS BASED ON 22" X 34" PRINT SIZE.

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NO. 2551
HELENA, MT
04.08.2020
STATE OF MONTANA

3	MONTANA DEPARTMENT OF TRANSPORTATION	MDT 2019-162	DESIGNED BY	SLATE ARCHITECTURE		WASTEWATER REHABILITATION PROJECT	DOOR SCHEDULE, ELEVATIONS & DETAILS	IM 90-1(236)5
2		4/2020	REVIEWED BY	TML				
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