WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT

MOBRIDGE
BRIDGE CITY

AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING

moore engineering, inc.
Consulting Engineering • Land Surveying
www.mooreengineeringinc.com

MOBRIDGE, SOUTH DAKOTA
WALWORTH COUNTY

VICINITY MAP

HORIZONTAL CONTROL

SOUTH DAKOTA STATE PLANE, NAD83, NORTH ZONE, US SURVEY FOOT GROUND

VERTICAL CONTROL

1988 NORTH AMERICAN VERTICAL DATUM (NAVD88)

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LICENSED PROFESSIONAL ENGINEER
REG. NO.
15942
James R. Sepp
SOUTH DAKOTA

PROJECT No. 22931

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AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
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PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

G-002

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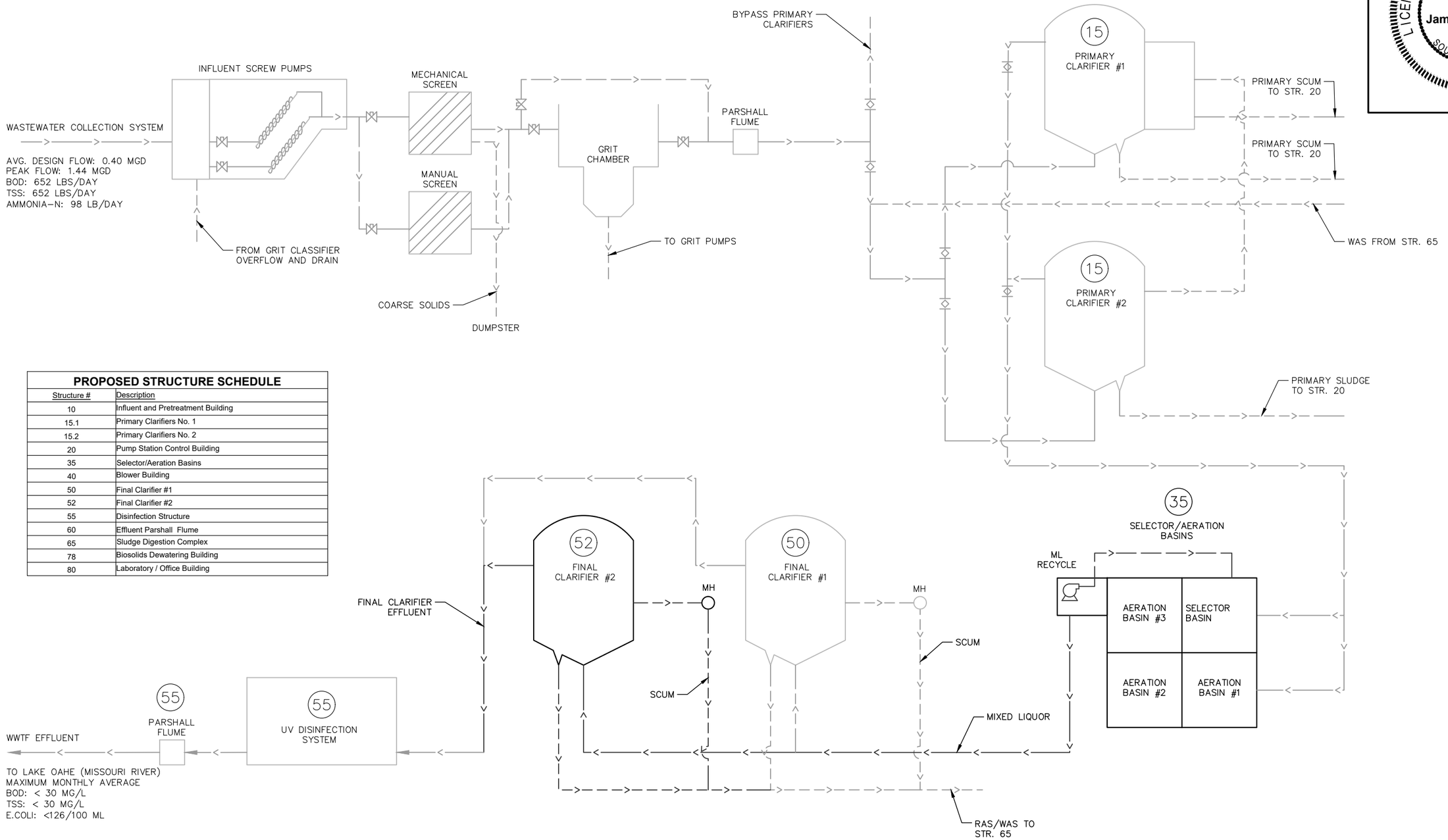
PROPOSED PROCESS FLOW AND STRUCTURE DIAGRAM



PROPOSED STRUCTURE SCHEDULE

Structure #	Description
10	Influent and Pretreatment Building
15.1	Primary Clarifiers No. 1
15.2	Primary Clarifiers No. 2
20	Pump Station Control Building
35	Selector/Aeration Basins
40	Blower Building
50	Final Clarifier #1
52	Final Clarifier #2
55	Disinfection Structure
60	Effluent Parshall Flume
65	Sludge Digestion Complex
78	Biosolids Dewatering Building
80	Laboratory / Office Building

LEGEND

EXISTING

NEW

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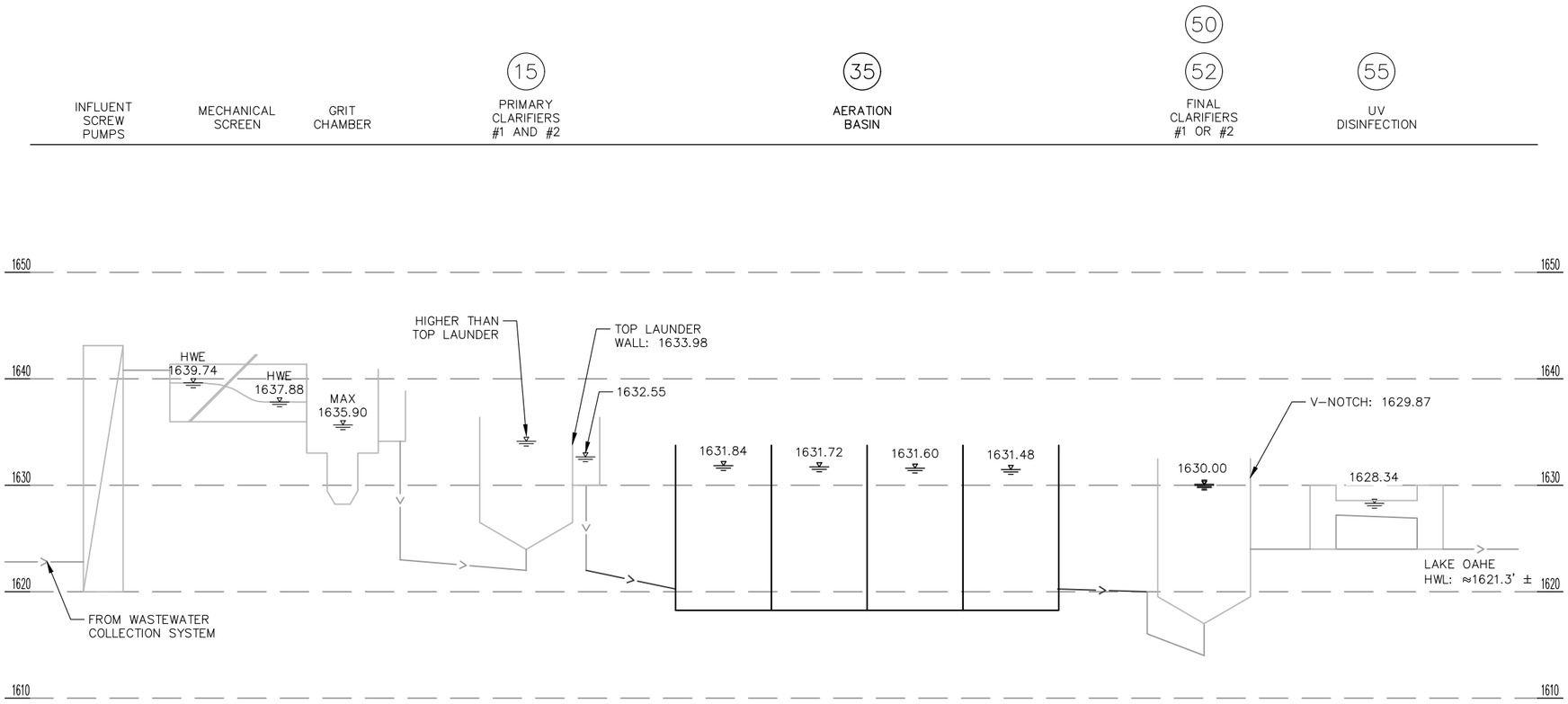

PROPOSED PROCESS FLOW AND STRUCTURE DIAGRAM

LEGEND

EXISTING

NEW

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PROPOSED HYDRAULIC PROFILE

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CIVIL LEGEND

EXISTING

- BENCHMARK
- IRON MONUMENT FOUND
- EXISTING PROPERTY LINE
- EXISTING PLAT LOT LINE
- EXISTING RIGHT OF WAY LINE
- EXISTING EASEMENT LINE
- EXISTING PLAT EASEMENT LINE
- EXISTING GAS LINE MARKER
- EXISTING GAS GATE VALVE
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE W/SIGN
- EXISTING GUY WIRE
- EXISTING TRAFFIC SIGNAL ARM
- EXISTING SIGN
- EXISTING CULVERT W/FLARED END SECTION (F.E.S.)
- EXISTING FLARED END SECTION (F.E.S.)
- EXISTING CURB STOP
- EXISTING HYDRANT W/GATE VALVE
- EXISTING GATE VALVE
- EXISTING PROPANE TANK
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER CLEANOUT
- EXISTING STORM SEWER CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING WATER MAIN
- EXISTING WATER SERVICE W/CURB STOP
- EXISTING SANITARY SEWER
- EXISTING SANITARY SEWER (RELINE W/ CIPP)
- EXISTING SANITARY FORCEMAIN
- EXISTING SANITARY SEWER SERVICE
- EXISTING STORM SEWER
- EXISTING STORM SEWER FORCEMAIN
- EXISTING STEAM PIPE
- EXISTING AIR CONDITIONER
- EXISTING UTILITY PEDESTAL
- EXISTING UTILITY MANHOLE
- EXISTING UTILITY VAULT
- EXISTING UNDERGROUND COMMUNICATIONS
- EXISTING UNDERGROUND FIBER
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD TELEPHONE
- EXISTING UNDERGROUND TELEVISION
- EXISTING OVERHEAD TELEVISION
- EXISTING UNDERGROUND GAS
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD POWER
- EXISTING BARBED WIRE FENCE
- EXISTING CHAIN LINK/STEEL FENCE
- EXISTING PVC/WOOD FENCE
- EXISTING RAILROAD
- EXISTING SHRUB
- EXISTING STUMP
- EXISTING BOULDER
- EXISTING TREE/TREE CLUSTER
- EXISTING SPRINKLER HEAD
- EXISTING CLUSTER BOX UNIT (CBU)
- EXISTING MAILBOX
- EXISTING CURB AND GUTTER

PROPOSED

- NEW PROPERTY LINE
- NEWPLAT LOT LINE
- NEW RIGHT OF WAY LINE
- NEW EASEMENT LINE
- NEW PLAT EASEMENT LINE
- CONSTRUCTION EASEMENT
- CONSTRUCTION LIMITS
- NEW LIGHT POLE
- NEW LIGHT POLE W/SIGN
- NEW GUY WIRE
- NEW SIGN
- TRAFFIC CONTROL – DRUM
- TRAFFIC CONTROL – TUBULAR MARKER
- NEW CULVERT W/FLARED END SECTION (F.E.S.)
- NEW FLARED END SECTION (F.E.S.)
- NEW CURB STOP
- NEW HYDRANT W/GATE VALVE
- NEW GATE VALVE
- NEW TAPPING SLEEVE
- NEW FITTINGS
- NEW PLUG
- NEW SANITARY SEWER MANHOLE
- NEW SANITARY SEWER CLEANOUT
- NEW STORM SEWER CATCH BASIN
- NEW STORM SEWER MANHOLE
- NEW WATER MAIN
- NEW WATER SERVICE W/CURB STOP (S.B. ELEV.)
- NEW SANITARY SEWER
- NEW SANITARY FORCEMAIN
- NEW SANITARY SEWER SERVICE (S.S. ELEV.)
- NEW STORM SEWER
- NEW STORM SEWER FORCEMAIN
- NEW STEAM PIPE
- INSULATION PER DETAIL
- NEW BARBED WIRE FENCE
- NEW CHAIN LINK/STEEL FENCE
- NEW PVC/WOOD FENCE
- NEW CLUSTER BOX UNIT (CBU)
- NEW MAILBOX
- NEW LARGE DECIDUOUS TREE
- NEW SMALL DECIDUOUS TREE
- NEW SHRUB
- NEW LARGE EVERGREEN TREE
- NEW SMALL EVERGREEN TREE

PROCESS PIPING

- SANITARY SEWER PIPING, NEW
- SANITARY SEWER PIPING, EXISTING TO REMAIN
- SANITARY SEWER PIPING, REMOVE OR ABANDON
- AIR PIPING, NEW
- AIR PIPING, REMOVE OR ABANDON
- SLUDGE PIPING, NEW
- SLUDGE PIPING, EXISTING TO REMAIN
- PROCESS PIPING, NEW
- PROCESS PIPING, EXISTING TO REMAIN

REMOVALS

- INDICATES REMOVAL
- REMOVE CURB AND GUTTER
- REMOVE ASPHALT PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE AGGREGATE SURFACE

PAVEMENT REHAB

- UNIFORM MILL & OVERLAY
- TAPERED MILL & OVERLAY
- LEVELING COURSE
- RECLAIM
- ASPHALT PATCH
- CHIP SEAL

PAVEMENT

- NEW INFLOW CURB AND GUTTER
- NEW OUTFLOW CURB AND GUTTER
- NEW ASPHALT SURFACE
- NEW CONCRETE SURFACE
- NEW GRANULAR SURFACE
- NEW CRUSHED CONCRETE SURFACE
- NEW DECORATIVE COLORED CONCRETE
- NEW ASPHALT SIDEWALK/MULTI–USE PATH
- NEW CONCRETE SIDEWALK/MULTI–USE PATH
- NEW CONCRETE APPROACH/DRIVEWAY
- NEW DETECTABLE WARNING PANEL
- NEW GRAVEL APPROACH/DRIVEWAY
- NEW CONCRETE VALLEY GUTTER
- NEW MEDIAN NOSE APRON
- NEW ADA RAMP W/WARNING PANEL

SOIL DISTURBANCE

- DISTURBANCE AREA / TOPSOIL REMOVAL
- REMOVE STOCKPILE
- EXISTING STOCKPILE
- TEMPORARY STOCKPILE
- PERMANENT STOCKPILE
- REAR YARD GRADING
- GRASS BUFFER STRIP

SOIL STABILIZATION

- DISTURBED SOIL STABILIZATION
- STRAW MULCH
- SEEDING & STRAW MULCH
- SEEDING & HYDRO MULCH
- TOPSOIL, SEEDING & STRAW MULCH
- TOPSOIL, SEEDING & HYDRO MULCH
- TOPSOIL, SEEDING & BLANKET

MISCELLANEOUS

- EXISTING RIPRAP
- NEW RIPRAP
- EXISTING LANDSCAPING AREA
- NEW LANDSCAPING AREA
- EXISTING WATER SURFACE
- NEW WATER SURFACE
- EXISTING WETLAND

EROSION CONTROL

- DRAINAGE BREAK LINE
- EXISTING DRAINAGE DIRECTION
- 2.0% FINISHED DRAINAGE DIRECTION & SLOPE
- 4:1 FINISHED GRADE
- 895 EXISTING CONTOUR ELEVATION
- 895 FINISHED CONTOUR ELEVATION
- FL: 900.07 GRADE ELEVATIONS
- SEDIMENTATION CONTROL WATTLE
- SEDIMENTATION CONTROL FENCE
- ROCK CHECK
- S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- INLET PROTECTION DEVICE

ABBREVIATIONS:

BOC	=	BACK OF CURB
BOW	=	BACK OF WALK
C	=	COMMUNICATION
CB#	=	STORM SEWER CATCH BASIN
CIPP	=	CURED IN PLACE PIPE
CL	=	CENTERLINE
CSP	=	CORRUGATED STEEL PIPE
CO#	=	SANITARY SEWER CLEANOUT
CS#	=	CONTROL STRUCTURE
DIA	=	DIAMETER
DIP	=	DUCTILE IRON PIPE
E	=	ELECTRICAL
ECC	=	EDGE OF CRUSHED CONCRETE
EG	=	EXISTING GRADE
EOC	=	EDGE OF CONCRETE
EOG	=	EDGE OF GRAVEL
EOP	=	EDGE OF PAVEMENT
EOW	=	EDGE OF WALK
EX	=	EXISTING
F	=	FIBER OPTIC
FES	=	FLARED END SECTION
FG	=	FINISHED GRADE
FL	=	FLOWLINE
FM	=	FORCEMAIN
G	=	GAS LINE
HP	=	HIGH POINT
INV	=	INVERT
LP	=	LOW POINT
MA	=	MATCH
M#	=	STORM SEWER MANHOLE
MT#	=	STORM SEWER TEE MANHOLE
MM#	=	STORM SEWER MULTI–MANHOLE
MC	=	MIDPOINT OF CURVE
OHP	=	OVERHEAD POWER
OHT	=	OVERHEAD TELEPHONE
OHTV	=	OVERHEAD TELEVISION
PC	=	POINT OF CURVATURE
PRC	=	POINT OF REVERSE CURVE
PVC	=	POLYVINYL CHLORIDE PIPE
PT	=	POINT OF TANGENCY
RIM	=	RIM OF STRUCTURE
S#	=	SANITARY SEWER MANHOLE
S.B. ELEV	=	STOP BOX ELEVATION
S.S. ELEV	=	SANITARY SEWER SERVICE INVERT
SS	=	SANITARY SEWER
ST	=	STORM SEWER
STA	=	ALIGNMENT STATION
T	=	TELEPHONE
TOC	=	TOP OF CONCRETE
TOP	=	TOP OF PAVEMENT
TOP	=	TOP OF PIPE
TOW	=	TOP OF WALK
TR#	=	SANITARY TELEVISING RISER
TRANS	=	TRANSFORMER
TV	=	TELEVISION
U	=	UTILITY (UNKNOWN UTILITY)

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CIVIL LEGEND

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C-001

THE FOLLOWING PLAN NOTES SUPPLEMENT AND AMEND THE PLAN SHEETS, SPECIFICATIONS AND MNDOT REFERENCES AS FOLLOWS:

GENERAL NOTES:

1. The drawings designate those existing items for removal, replacement, or improvement. If not designated for removal, replacement, or improvement, all other existing items within the site to be protected.
2. Any construction traffic damage to roads outside the construction area to be repaired by the contractor.
3. Sweep the roadway adjacent to the construction area at the end of each day. Sweep paved areas that were used by construction traffic before opening these areas to public traffic.
4. Coordinate a staging area location with the city for construction.
5. Concrete washout to be located within project limits and washout material to be removed and area backfilled, seeded, and mulched at completion.
6. The intent of the project is to maintain sewer service through existing facilities until a switchover to the new mechanical treatment facility can occur. Coordinate rerouting of existing sanitary sewer and switchover with Engineer and City Staff and the Drawings.
7. Reference “Geotechnical Evaluation Report” Terracon dated May 19, 2025, for guidance or requirements on foundation, building, testing and tank construction.
8. All testing to be coordinated by the contractor.

UNDERGROUND NOTES:

1. The subsurface utility information in this plan is Utility Quality Level D. This quality level was determined according to the guidelines of ASCE 38-02 entitled “Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data”.
2. Not all water main fittings required for a complete installation may be shown on the plans. Provide all required fittings. All fittings shall be ductile mechanical joint type. Cost of fittings is incidental to the corresponding new pipe items.
3. Plug, cap, or grout all abandoned lines shut. Cost of items to abandon lines shut shall be incidental to the corresponding removal item.
4. All sewer and water pipes may not be shown on the drawings. Location of pipes to be determined by Contractor and protected.
5. Provide shoring as needed to remove existing and install proposed structures and utilities.
6. Existing utility depths are approximate. Contractor to verify depth of existing water main and adjust depth of new main accordingly to make connection.
7. Before putting any out-of-service (new installation or existing) water main into service: flush, disinfect, and bacteria test main during city hours and with a city representative.
8. Flush, disinfect, and bacteria test temporary water lines prior to activation in accordance with South Dakota Department of Environment and Natural Resources.
9. Coordinate any utility relocations with appropriate utility.
10. Unless otherwise noted, any removal, relocation, replacement, or bracing of power poles or any other utilities is the responsibility of the Contractor.
11. Existing utilities (both public and private) shown on the plans are approximate and may not be complete. It is the Contractor’s responsibility to verify and locate any utilities prior to excavation. There will be no additional payment for exploratory time.
12. There is a high potential for groundwater to be encountered within excavations and trenches on the project. It shall be the Contractor’s responsibility to dewater for constructability.
13. Top of water main and wastewater pipes shall be installed at a minimum depth of 8 feet below final grade.
14. No extra payment will be made for bedding material for pipe, structures or fittings.
15. Provide safe and sanitary movement of wastewater for the duration of the project. Do not allow wastewater to back up in the mains.
16. When utilities are in roadway ditch and trenching impacts the ditch drainage the contractor shall restore to original grades and assure no low areas are created that hold water.
17. Any damaged fence and sprinkler lines shall be replaced incidental to the Project.
18. If requested by the Owner, salvage items removed from the site. Deliver to Owner at their designated storage location.
19. Maintain access for the City of Mobridge to continue normal operations of the Wastewater Treatment Plant.

DEWATERING NOTES:

1. Provide all design, installation, and operation of temporary dewatering systems of whatever type necessary to construct the Project.
2. Furnish and operate all pumps, sumps, dewatering wells, temporary piping, and all power and other equipment required to operate required dewatering.
3. Maintain water levels at or below the bottom of concrete structures, pipes, and other underground facilities to be installed.
4. Dewatering shall be handled, treated, and discharged in accordance with the Stormwater Pollution Prevention Plan (SWPPP). Groundwater Discharge Plan Application must be submitted to the South Dakota DANR.
5. Groundwater removed to temporarily dewater the Site may be discharged into the north ditch. Verify discharge location with Engineer.

SDDOT NOTES

1. COMPACTION AND DENSITY CONTROL: Compact material as specified in section 120 B.3.a, "SD 108". Moisture content no less than 1.0 percentage points below optimum and no more than 3.0 percentage points above optimum.
2. DENSITY AND MOISTURE TESTING: Field testing method for density and moisture control to be in accordance with ASTM D6938 - Standard Test Method for in-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
3. COMPACTION CONTROL: Meet the compaction control requirements below for embankment construction:

Location	Compaction Control
Work in public R.O.W.	Type A
Topsoil stockpile	Type C

4. EXCESS MATERIAL: Any remaining material following excavation and embankment to be stockpiled on the project site in location(s) shown on plans or identified by engineer in the field. No material may leave the project limits without approval of the engineer. Owner has first right to any excess material. If directed by the

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engineer and Owner, excess material (rejected by the Owner) is to become the Contractor's property, removed and disposed from the project site.

5. REMOVAL OF BITUMINOUS SURFACING: Saw cut and remove full depth asphalt. Asphalt removals to be property of City of Mobridge.

6. REMOVAL OF CONCRETE PAVEMENT: Saw cut and remove full depth sidewalk. Concrete removals to be property of City of Mobridge.

7. WATER: All water required for dust control and to obtain proper moisture content and compaction shall be incidental to the project.

8. WATER FOR GRASS ESTABLISHMENT: Immediately begin watering all seeded and mulched areas no later than 2 days after seeding and mulching to provide a minimum of 2.0-inch depth of moisture per week, no more than 2 times per week, until Final Stabilization.

   Water only during early morning hours to avoid excessive evaporation. Water at intervals such that the soil remains most and not overly soaked. Reduce water as necessary to account for rainfall during each week and increase watering during hot and/or windy periods. Provide the Engineer weekly reports of watering operations including dates, times and quantity of watering or rainfall amounts to indicate minimum moisture is being obtained.

9. TOPSOIL STRIPPING: Remove topsoil full depth and replace after utility line installation.

10. TOPSOIL: Salvage and reuse existing topsoil. Place 6 inches of topsoil at designated areas. Topsoil to be reasonably free of vegetation and stones larger than 1 inch in the greatest dimension.

11. SUBBASE: Scarify and recompact subgrade areas under the roadway section as indicated on the drawings.

    Proof roll all pavement subgrades prior to aggregate placement, along all travel lanes to verify the uniformity of the underlying subgrade throughout the roadway section and to check for the presence of localized soft or weak zones. Perform proof roll under the observation of the engineer with a fully loaded, tandem axle dump truck with a weight of approximately 25 tons, or an approved equal. Proof roll at a vehicle speed of between 1 ½ and 3 miles per hour along the pavement subgrades such that unrolled areas between wheel paths are not wider than 1 foot. Typical yielding should be limited to less than 1 1/2-inches for pavement subgrades, provided the underlying subgrade does not display permanent deformation. Correct areas that display excessive yielding, pumping or rutting during the proof roll. Repeat proof roll procedures until accepted by the engineer.

12. GRADATION: Independent Testing Firm will collect three samples for each 250 tons of material placed.

13. AGGREGATE SURFACE: Proof roll all aggregate surfaces and bases prior to along all travel lanes to verify the uniformity of the underlying base throughout the roadway section and to check for the presence of localized soft or weak zones. Perform proof roll under the observation of the Engineer with a fully loaded, tandem axle dump truck with a weight of approximately 25 tons, or an approved equal. Proof roll at a vehicle speed of between 1 ½ and 3 miles per hour along the aggregate base such that unrolled areas between wheel paths are not wider than 1 foot. Typical yielding should be limited to less than ½-inches for aggregate bases, provided the aggregate base does not display permanent deformation. Correct areas that display excessive yielding, pumping or rutting during the proof roll. Repeat proof roll procedures until accepted by the engineer.

14. SEEDING AND HYDRAULIC-MULCHING: Seed and hydraulic-mulch disturbed ground. Apply hydraulic-mulch after the seed is drilled into the topsoil. The area for seeding and hydraulic-mulch is limited to west of the field along the gravel road.

    Use fertilizer mixture of 12-24-12 applied at a rate of 220 pounds per acre. Water after placement in order to provide sufficient moisture for growth as determined by the engineer. Reseed, at no cost to the Owner, any areas not established within 6 weeks for normal seeding or not established by July 1 for dormant seeding.

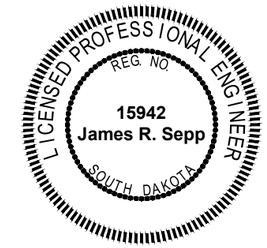
15. FINAL STABILIZATION: All disturbed areas to receive permanent stabilization within 14 days after completion of work in the specific area.

16. WEED CONTROL: If weeds of any kind are present before seeding, control them. If weeds of any kind are present after seed germination and during grass establishment, control them with a herbicide applied at the rate as labeled by the manufacturer.

Notify property owners in writing, a minimum of 5 days prior to herbicide application. When instructed by property owner, do not apply herbicide to their property and adjacent right of ways.

Herbicides will only be applied by qualified applicators, following herbicide labels and manufacturer's recommendations for application rates. A qualified applicator is an individual who had been trained regarding the product and application method, and meets any federal, state and local laws and regulations. This individual is required to hold a certified applicators license, or be under the direct supervision of a certified applicator. Supervisors of qualified applicators are required to hold a certified applicators license in the State of South Dakota. Applicators must use extreme caution when applying herbicides near water, adjacent to properties with plants that might be damaged, or other landscape areas. Remedy damage resulting from improper use of herbicides. The applicator is responsible for the purchase, storage, record keeping, and disposal of herbicides. All herbicide applications will be reported to the Engineer on a weekly basis.

Restore (seed and mulch) all disturbed areas where the finished surface is not pavement, gravel, concrete, or other type of hard surface.



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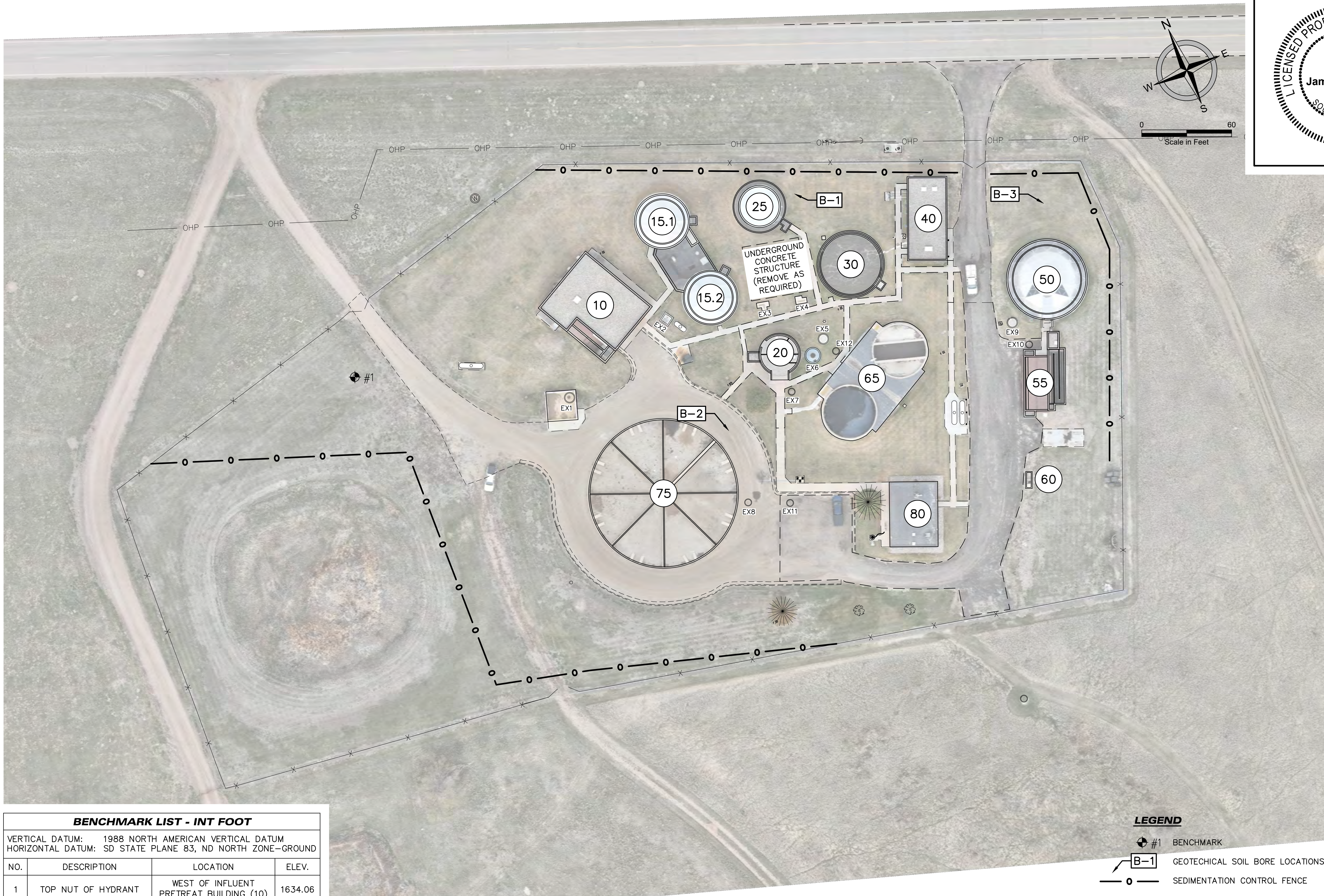

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BENCHMARK LIST - INT FOOT			
VERTICAL DATUM: 1988 NORTH AMERICAN VERTICAL DATUM HORIZONTAL DATUM: SD STATE PLANE 83, ND NORTH ZONE–GROUND			
NO.	DESCRIPTION	LOCATION	ELEV.
1	TOP NUT OF HYDRANT	WEST OF INFLUENT PRETREAT BUILDING (10)	1634.06

LEGEND

- #1 BENCHMARK
- B–1 GEOTECHICAL SOIL BORE LOCATIONS
- —o— SEDIMENTATION CONTROL FENCE

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PROJECT LAYOUTS
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BENCHMARKS, BORINGS & EROSION CONTROL

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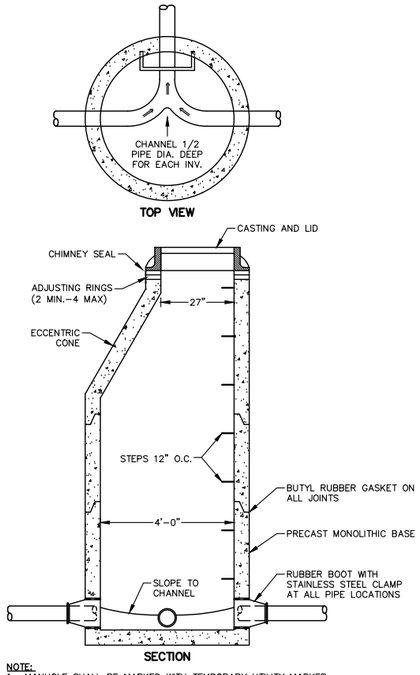
REVIEWER:	JSW

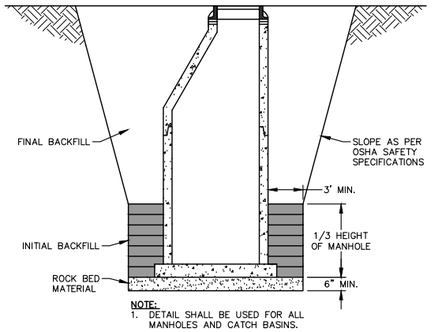
C-101



NOTE:
1. MANHOLE SHALL BE MARKED WITH TEMPORARY UTILITY MARKER.

SANITARY SEWER MANHOLE

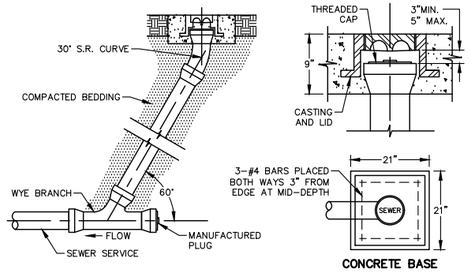
NO SCALE *MUNI-330561-1 06.21.18*



NOTE:
1. DETAIL SHALL BE USED FOR ALL MANHOLES AND CATCH BASINS.

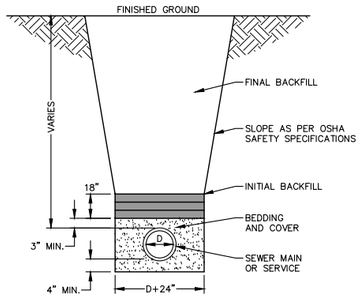
MANHOLE/CATCH BASIN TRENCH

NO SCALE *MUNI-312313.13-3 06.21.18*



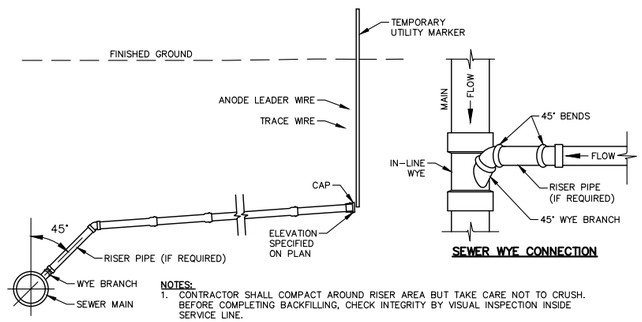
SANITARY SEWER CLEANOUT

NO SCALE *MUNI-333111-2 06.21.18*



SANITARY SEWER MAIN OR SERVICE TRENCH

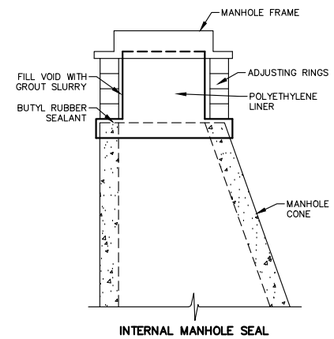
NO SCALE *MUNI-312316.13-1 06.21.18*



NOTES:
1. CONTRACTOR SHALL COMPACT AROUND RISER AREA BUT TAKE CARE NOT TO CRUSH. BEFORE COMPLETING BACKFILLING, CHECK INTEGRITY BY VISUAL INSPECTION INSIDE SERVICE LINE.
2. SEWER SERVICE GRADE SHALL NOT BE LESS THAN 1/8 INCH PER FOOT.
3. PRIOR TO INSTALLATION OF SANITARY SEWER SERVICE, CONTRACTOR SHALL VERIFY THAT NO CONFLICTS WILL OCCUR WITH OTHER UTILITY PIPES TO BE INSTALLED ON THE PROJECT.

SANITARY SEWER SERVICE

NO SCALE *MUNI-333111-5 06.21.18*



MANHOLE SEALS

NO SCALE *MUNI-330561-3 06.21.18*

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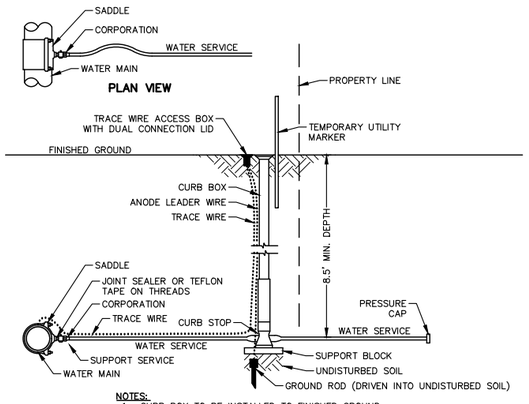
DETAILS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
SANITARY

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

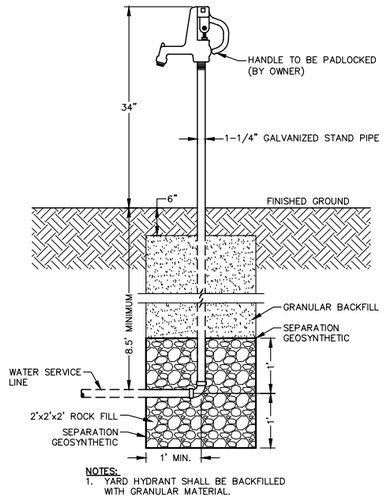
C-201



NOTES:
1. CURB BOX TO BE INSTALLED TO FINISHED GROUND ELEVATION AS SPECIFIED ON PLANS, HALFWAY EXTENDED.
2. ENTIRE SERVICE LINE TO BE PRESSURE TESTED.
3. SEE SERVICE LAYOUT DETAIL OR PLAN SHEETS FOR LOCATION OF CURB STOP AND END OF SERVICE.

WATER SERVICE

NO SCALE MUNI-331417-1 05.08.19



NOTES:
1. YARD HYDRANT SHALL BE BACKFILLED WITH GRANULAR MATERIAL.
2. YARD HYDRANT SHALL BE SELF DRAINING.

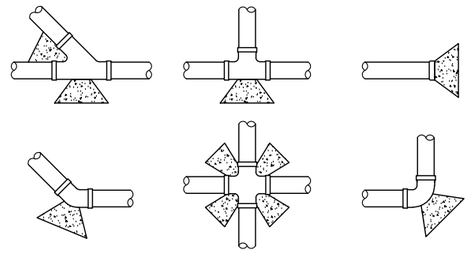
FROST-FREE YARD HYDRANT

NO SCALE MUNI-331419-2 05.08.19

MECHANICAL JOINT RESTRAINT LENGTH												
FITTING TYPE	PIPE MATERIAL	SOIL TYPE	SAFETY FACTOR	TRENCH TYPE	DEPTH OF BURY	TEST PRESSURE	NOMINAL SIZE	BEND ANGLE	BRANCH SIZE	LENGTH ALONG RUN	REDUCED SIZE	RESTRAINT LENGTH
HORIZONTAL BEND	PVC	CL	2	5	8	150	6	90				13 FT
HORIZONTAL BEND	PVC	CL	2	5	8	150	6	45				5 FT
HORIZONTAL BEND	PVC	CL	2	5	8	150	6	22.5				3 FT
HORIZONTAL BEND	PVC	CL	2	5	8	150	6	11.25				2 FT
TEE	PVC	CL	2	5	8	150	6		6	1		28 FT
REDUCER	PVC	CL	2	5	8	150	6				6	21 FT
DEAD END	PVC	CL	2	5	8	150	6					37 FT
NOTE TO DESIGNER: THIS TABLE IS FOR A SPECIFIC INSTANCE FOR PVC IN DAY SOIL. VISIT EBAA IRON RESTRAINT CALCULATOR WEB PAGE FOR OTHER TYPES OF INSTALLATION. NORMALLY, COLUMNS B–G CAN BE ELIMINATED FROM THE PLANS.												

MECHANICAL JOINT RESTRAINT LENGTH

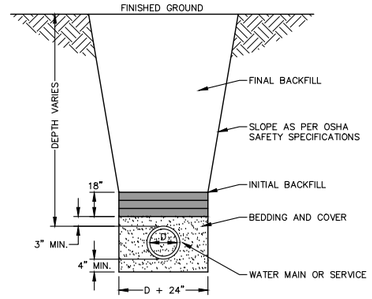
NO SCALE MUNI-330509.33 05.08.19



MINIMUM THRUST BLOCK SIZES										
	REQUIRED BEARING AREA (S.F.)									
PIPE DIAMETER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CROSS, DEAD END OR TEE	2	4	7	11	16	21	28	36	44	63
90 BEND	3	6	10	16	22	30	39	50	62	88
45 BEND	2	3	6	9	12	17	21	27	34	48
22 1/2 BEND	1	2	3	5	7	9	14	17	17	25
NOTE: ALL THRUST BLOCKS A MINIMUM OF 12" THICK AND MUST BEAR AGAINST UNDISTURBED SOIL.										

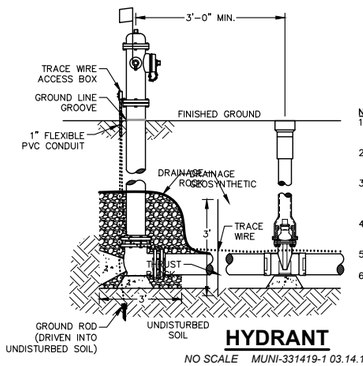
THRUST BLOCKS

NO SCALE MUNI-330509.33-1 06.21.18



WATER MAIN OR SERVICE TRENCH

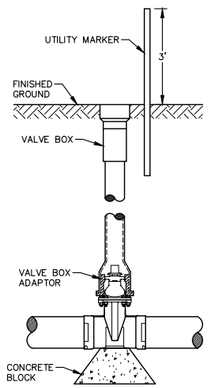
NO SCALE MUNI-312316.13-7 05.08.19



NOTES:
1. DO NOT BLOCK WEEP HOLE ON HYDRANT.
2. DO NOT COVER ANY JOINT WITH CONCRETE.
3. ALL UNDERGROUND METAL ITEMS TO BE WRAPPED WITH POLYETHYLENE.
4. NOZZLE HEIGHT SHALL BE AS SHOWN ON PLANS.
5. RESTRAIN ALL JOINTS.
6. DRAINAGE ROCK SHALL BE 1"–2" WASHED ROCK.

HYDRANT

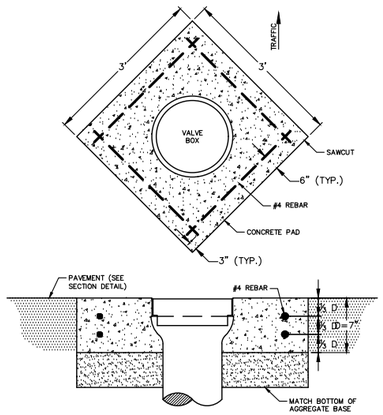
NO SCALE MUNI-331419-1 03.14.19



NOTES:
1. VALVE AND BOTTOM SECTION OF BOX SHALL BE BACKFILLED WITH GRANULAR MATERIAL.
2. PROVIDE RISER FOR NUT ON ANY VALVE OVER 7–1/2' DEEP.
3. TOP OF VALVE BOX SHALL BE SET TO PROVIDE 12" OF UPWARD ADJUSTMENT.
4. RESTRAIN ALL JOINTS.
5. A TEMPORARY UTILITY MARKER SHALL BE INSTALLED NEXT TO THE VALVE BOX. A PERMANENT UTILITY MARKER SHALL REPLACE THE TEMPORARY UTILITY MARKER ONLY AT VALVES IN OPEN FIELDS AFTER ALL CONSTRUCTION WORK IS COMPLETED.

VALVE AND BOX

NO SCALE MUNI-333111-1 06.21.18



VALVE BOX - CONCRETE PAD
NO SCALE 06.26.25

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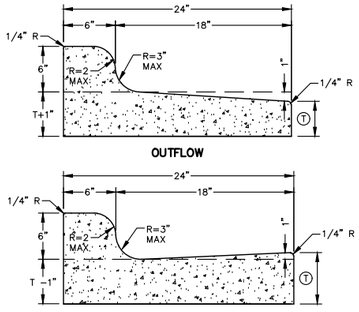
DETAILS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
WATER

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

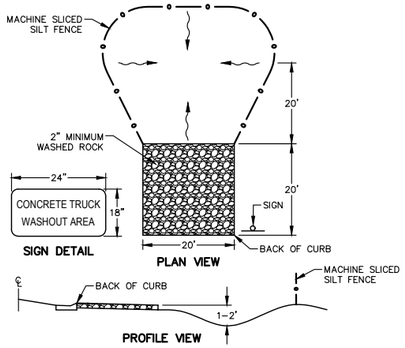
C-202



(T) 7" MIN. OR THICKNESS OF INTEGRAL CONCRETE PAVEMENT

CURB & GUTTER - HIGH BACK

NO SCALE *MUNI-321313-5 06.21.18*

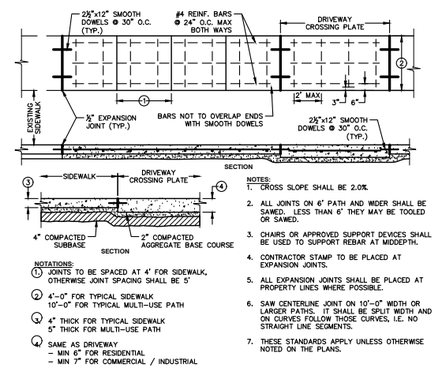


NOTES:

1. ALL WASHING OF CONCRETE TRUCKS WILL BE CONDUCTED AT THIS SITE.
2. ALL DIMENSIONS ARE APPROXIMATE AND MAY BE ADJUSTED BASED ON SITE CONSTRAINTS.
3. WHEN WASHOUT PIT IS NO LONGER NEEDED, SOLIDIFIED CONCRETE AND THE ROCK PAD SHALL BE DISPOSED OF OFF-SITE AND THE AREA SHALL BE LEVELED OUT TO MATCH THE SURROUNDING GRADE AND SEEDED.
4. COORDINATE LOCATION OF CONCRETE WASHOUT AREA WITH ENGINEER IN FIELD

CONCRETE WASHOUT AREA

NO SCALE *MUNI-312500-3 06.21.18*



NOTATIONS:

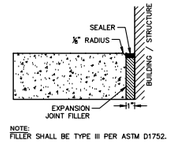
1. JOINTS TO BE SPACED AT 4' FOR SIDEWALK, OTHERWISE JOINT SPACING SHALL BE 5'
2. 4'-0" FOR TYPICAL SIDEWALK 10'-0" FOR TYPICAL MULTI-USE PATH
3. 4" THICK FOR TYPICAL SIDEWALK 5" THICK FOR MULTI-USE PATH
4. SAME AS DRIVEWAY
   - MIN 6" FOR RESIDENTIAL
   - MIN 7" FOR COMMERCIAL / INDUSTRIAL

NOTES:

1. CROSS SLOPE SHALL BE 2.0%.
2. ALL JOINTS ON 6' PATH AND WIDER SHALL BE SAWED. LESS THAN 6' THEY MAY BE TOOLED OR SAWED.
3. CHAIRS OR APPROVED SUPPORT DEVICES SHALL BE USED TO SUPPORT REBAR AT MIDDEPTH.
4. CONTRACTOR STAMP TO BE PLACED AT EXPANSION JOINTS.
5. ALL EXPANSION JOINTS SHALL BE PLACED AT PROPERTY LINES WHERE POSSIBLE.
6. SAW CENTERLINE JOINT ON 10'-0" WIDTH OR LARGER PATHS. IT SHALL BE SPLIT WIDTH AND ON CURVES FOLLOW THOSE CURVES, I.E. NO STRAIGHT LINE SEGMENTS.
7. THESE STANDARDS APPLY UNLESS OTHERWISE NOTED ON THE PLANS.

SIDEWALK / MULTI-USE PATH

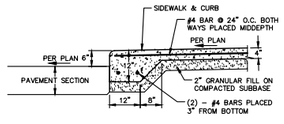
NO SCALE *06.26.25*



NOTE:
FILLER SHALL BE TYPE III PER ASTM D1752.

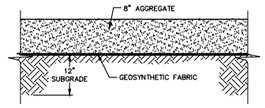
EXPANSION JOINT

NO SCALE *06.26.25*



CONCRETE SIDEWALK CURB

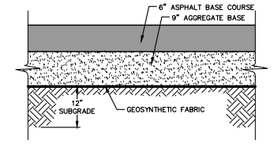
NO SCALE *SITE-PA-10 11.06.19*



NOTE:
SUBGRADE TO BE SCARIFIED TO DEPTH SHOWN AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

AGGREGATE SURFACE SECTION - REGULAR

NO SCALE *06.26.25*



NOTES:

1. SUBGRADE TO BE SCARIFIED TO DEPTH SHOWN AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
2. TACK COAT – APPLY TACK COAT UNIFORMLY AT THE RATE OF 0.05 GALLONS PER SQUARE YARD. APPLY WITHIN 24 HOURS PRECEDING PLACEMENT OF THE COVERING COURSE.

ASPHALT PAVEMENT SECTION - REGULAR

NO SCALE *06.26.25*

EARTHWORK COMPACTION SCHEDULE

	Min. % of Max. Density ASTM D698	Range from Optimum Moisture %	Fill Type	Max. Compacted Lift Thickness (in.)	Max. Loose Lift Thickness (in.)
Trenching					
Flexible Pipe Bedding and Cover	95		A5		6
Rigid Pipe Bedding and Cover	95		A5		6
Rock Bedding - 1 1/4"				6	
Initial Backfill	95	-3 to +3	S2	6	
Final Backfill	95	-3 to +3	S2		12
Top 4 feet of Final Backfill below Roadway	98	-3 to +3	S2		12
Topsoil	Lightly Compact		S4	6	
Backfill for Valve and Box and Yard Hydrant	95	-3 to +3	A5		12
Lagoon					
Import Fill	95	-1 to +3		6	
Clay Liner	95	-1 to +4		6	
Embankment	95	-1 to +3	S2		9
Topsoil	Lightly Compact		S4	6	
Spoil or Stockpile	Lightly Compact		S2		12
Manholes and Structures					
Bedding	95		A1	6	
Rock Bedding				6	
Backfill	95	-3 to +3	S2		12
Top 4 feet of Final Backfill below Roadway	98	-3 to +3	S2		12
Topsoil	Lightly Compact		S4	6	

NOTES:

1. COMPACT MATERIAL AS SPECIFIED IN SECTION 203.04 E.2.b."ND T-99".
2. MEET THE COMPACTION CONTROL REQUIREMENT TYPE A.

EARTHWORK COMPACTION SCHEDULE

NO SCALE *MUNI-310000-1 06.21.18*

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DETAILS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
ROADWAY

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-203

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PRODUCTION\22931_SITE.dwg

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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
REMOVALS SITE PLAN OVERVIEW

DATE:	1.8.26
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-301

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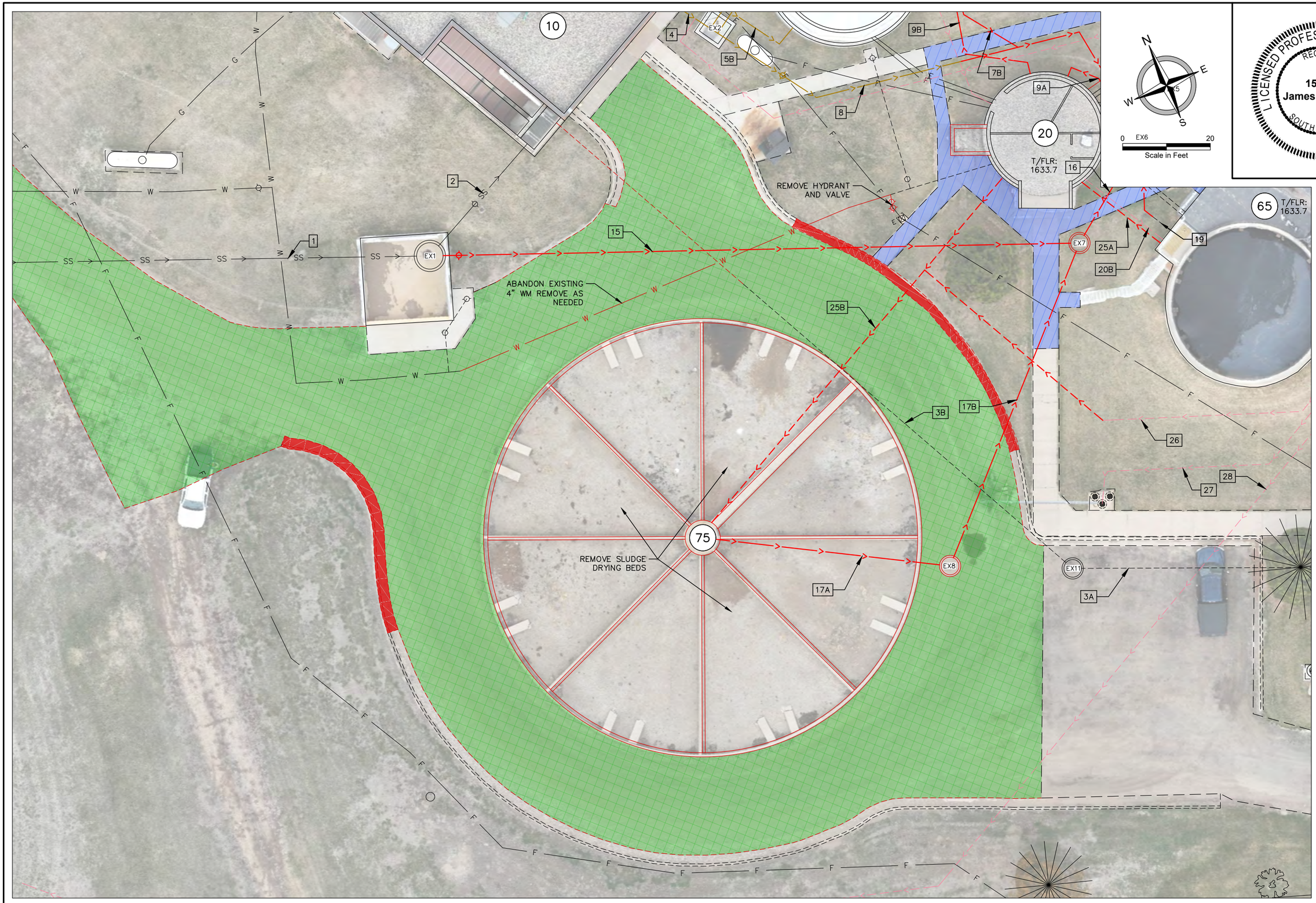

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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
REMOVALS SITE PIPING WEST

DATE:	1.8.26
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-302

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PRODUCTION\22931_SITE.dwg

REMOVE AND SALVAGE FENCE

ABANDON EXISTING 4" WM REMOVE AS NEEDED SEE C-401 FOR NEW WM

RELOCATE ELECTRICAL SECONDARY FEEDER (SEE ELECTRICAL PLANS)

REMOVE & SALVAGE SWING GATE

FORWARD FLOW THROUGH STRS. 15.2, 30, & 50 TO REMAIN ACTIVE UNTIL STR. 35 IS OPERATIONAL

MAINTAIN PIPE 29 AIR TO STR. 30 IN SERVICE FOR CONSTRUCTION

CAP PIPE 10A

MAINTAIN PIPE 22 TO STR. 30 IN SERVICE FOR CONSTRUCTION

UNDERGROUND CONCRETE STRUCTURE (REMOVE AS REQUIRED)

CONST. FORWARD FLOW PATH (EX. PIPING & THROUGH EX3/EX4)

CONST. FORWARD FLOW PATH (EX. PIPING)

CAP PIPE 25A NEAR OUTSIDE FOUNDATION WALL ELEV: 1624.2±

25 — 40 T/FLR: 1633.75 — 30 — 15.2 — 20 T/FLR: 1633.7 — 65 T/FLR: 1633.7 — 50 T/WALL: 1634.75 — 55 T/FLR: 1633.8

6A, 6B, 7A, 7B, 7C, 8, 9A, 9B, 10A, 10B, 10C, 11A, 11B, 12A, 12B, 13, 14, 16, 17B, 18, 19, 20A, 20B, 21, 22, 23A, 23B, 24, 25A, 25B, 26, 27, 28, 29

EX3, EX4, EX5, EX6, EX7, EX9, EX10, EX12

N E S W

0 20
Scale in Feet

LICENSED PROFESSIONAL ENGINEER
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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
REMOVALS SITE PIPING EAST

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-303

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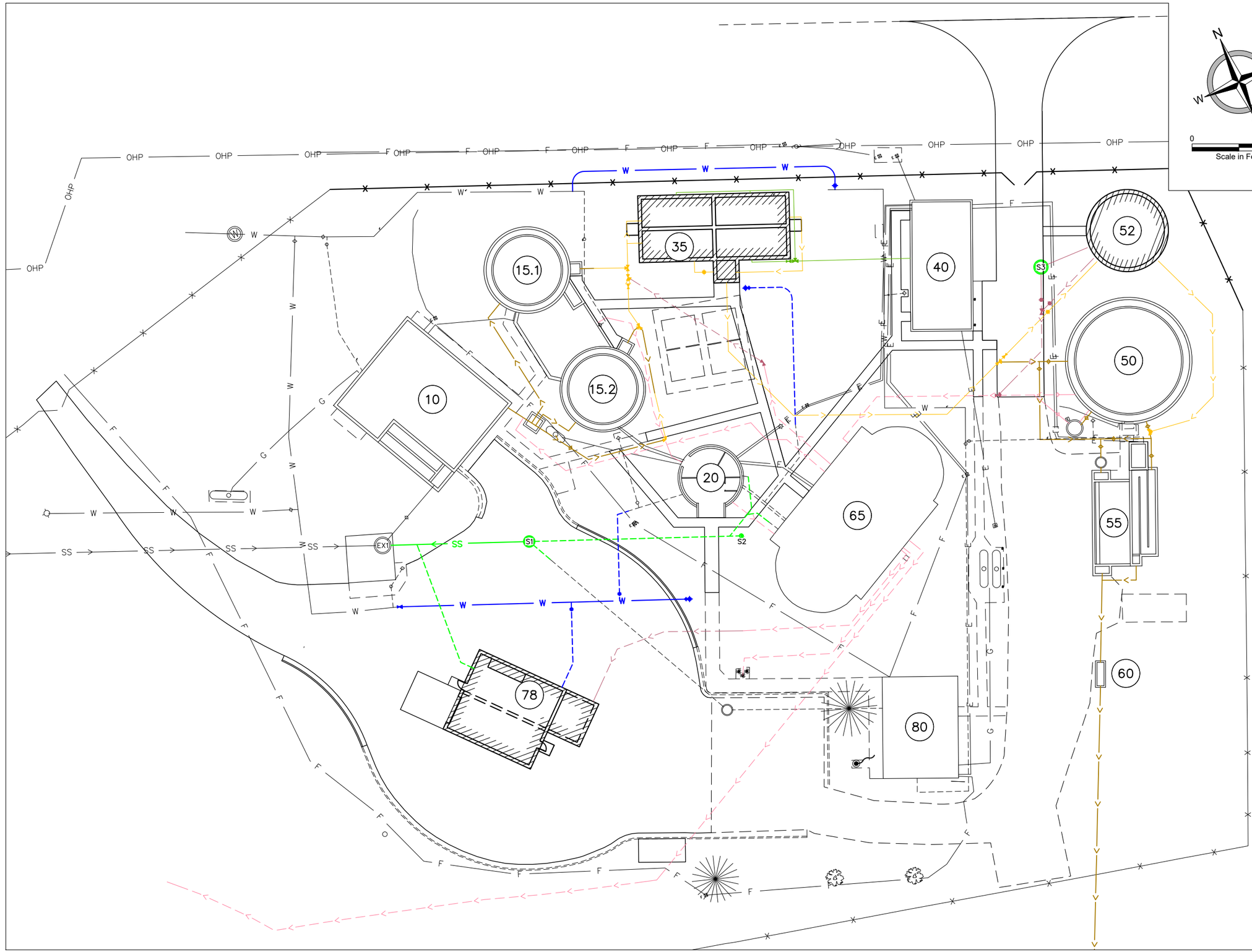

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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
PROPOSED SITE PLAN OVERVIEW

DATE:	1.8.26
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-401

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PRODUCTION\22931_SITE.dwg

SEE SHEET C-403

CONNECT TO EXISTING ℄:1624.5±

CONNECT TO EXISTING ℄:1624.0±

CONNECT TO EXISTING W/6"x4" REDUCER ℄:1624.5±

20-CS-01

78-CS-01

GROUND @ HYDRANT 1632.29 W/6" GV & BOX

CONNECT TO EXISTING ℄:1627.5±

4" WYE

℄:1627.5±

CONNECT TO EXISTING VERT. 45° BEND ℄:1627.7±

VERT. 45° BEND ℄:1624.0

T/FLR: 1633.7

T/FLR: 1633.7

T/FLR: 1632.5

℄:1624.0

℄:1624.0

0 20 Scale in Feet

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AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
PROPOSED SITE PIPING WEST

DATE:	1.8.26
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-402

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PRODUCTION\22931_SITE.dwg

MAINTAIN 2" WM REPLACE AS NEEDED

35
T/WALL: 1633.75

14"x12" TEE
℄:1626.8

8"X6" REDUCER

8"x6" TEE
℄:1628.0

14"x6" WYE
℄:1626.8

14"x12" REDUCER

CONNECT TO EX.
℄:1630.0

35-GV-01

℄:1625.0

DROP OVERHEAD PIPE DOWN TO UNDERGROUND
℄:1628.00 OUTSIDE CLOSE BLDG.

40
T/FLR: 1633.75

GROUND @ YARD HYDRANT
1632.73
W/6" GV & BOX

STR. 15.2 & 30 TO REMAIN IN SERVICE UNTIL STR. 35 IS OPERATIONAL

CONNECT TO EXISTING
W/12" TEE
℄:1626.8

CONNECT TO EXISTING
W/45° BEND
℄:1626.0±

UNDERGROUND CONCRETE STRUCTURE (REMOVE AS REQUIRED)

15.2

CONNECT TO EXISTING
℄:1626.8

CONNECT TO EXISTING
W/90° BEND
℄:1623.3

℄:1625±

℄:1627.0±

CONNECT TO EXISTING
℄:1626.0±

20
T/FLR: 1633.7

CONNECT TO EX.
℄:1627.7±

CONNECT TO EXISTING
℄:1627.5±

℄:1627.5±

65
T/FLR: 1633.7

SEE SHEET C-402

16"x14" REDUCER

CONNECT TO EXISTING
W/16" WYE
℄:1624.5

CONNECT TO EX.
W/8"x6" WYE
℄:1627.0

52
T/ENTRY: 1633.75

℄:1614.5

℄:1624.5

45° VERT. BEND

℄:1626.0

52-GV-02

52-GV-03

6" WYE
℄:1625.5

52-GV-01

50
T/WALL: 1634.75

EX9

EX10

55
T/FLR: 1633.8

52-GV-04

CONNECT TO EXISTING 18" D.I.
W/18"x12" ST. STEEL TAPPING SLEEVE AND 12" GV & BOX
CONFIRM EXISTING PIPE ARRANGEMENT
℄:1626.0

GV-01

N
E
S
W

0 20
Scale in Feet

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James R. Sepp
SOUTH DAKOTA

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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
PROPOSED SITE PIPING EAST

DATE:	1.8.26
REV DATE:	---
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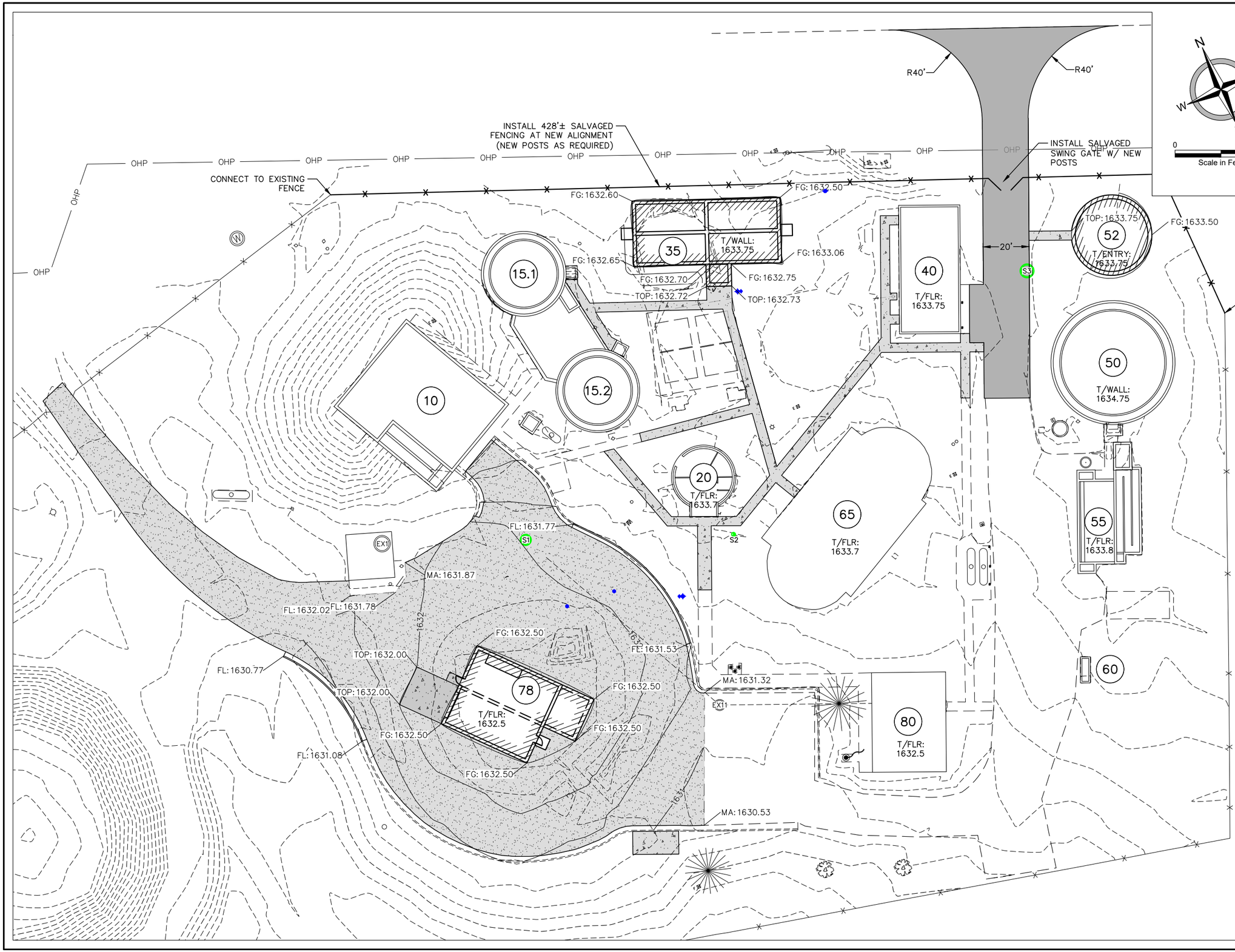
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-403

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PRODUCTION\22931_SITE.dwg



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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
SITE IMPROVEMENTS AND GRADING

DATE:	1.8.26
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-404

FILE LOCATION: R:\Projects\22000\22900\22931\CIV\LIPROCESS\PRODUCTION\22931_PROCESS NOTES VALVE AND INSTRUMENTATION SCHEDULE.dwg

PIPING SCHEDULE

Pipe #	Name	Size (inches)	Material	Standard	Rating	From	To	Notes
				EXISTING PIPING				
1	Influent WWTR	15	VCP	-	-	System	EX1	
2	Influent WWTR	18	Iron	-	-	EX1	STR10	
3A	Building Sewer	4	PVC	-	-	STR 80	EX11	
3B	Building Sewer	4	PVC	-	-	EX11	STR10	Partial Abandon/Reconnect
4	Pretreated WWTR	12	Iron	-	-	STR10	EX2	
5A	Pretreated WWTR	12	Iron	-	-	EX2	STR15.1	
5B	Pretreated WWTR	12	Iron	-	-	EX2	STR15.2	
6A	Primary Effl WWTR	12	Iron	-	-	STR15.1	PIPE6B	Partial Abandon/Reconnect
6B	Primary Effl WWTR	12	Iron	-	-	STR15.2	PIPE7A	
7A	Primary Effl WWTR	12	Iron	-	-	PIPE6B	EX3	Partial Abandon/Reconnect
7B	Primary Effl WWTR	12	Iron	-	-	PIPE7A	PIPE8	Abandon
7C	Primary Effl WWTR	12	Iron	-	-	EX3	EX4	Abandon
7D	Primary Effl WWTR	12	Iron	-	-	EX4	STR30	Abandon
8	Primary Effl WWTR	12	Iron	-	-	EX2	EX6	Partial Abandon/Reconnect
9A	Trickling Filter Infl WWTR	10	Iron	-	-	EX6	STR20	Abandon
9B	Trickling Filter Infl WWTR	12	Iron	-	-	STR20	STR25	Abandon
10A	Trickling Filter Effl WWTR	12	Iron	-	-	STR25	STR30	Abandon
10B	Trickling Filter Effl WWTR	12	Iron	-	-	STR25	EX5	Abandon
10C	Trickling Filter Effl WWTR	12	Iron	-	-	EX5	EX6	Abandon
11A	Mixed Liquor WWTR	16	Iron	-	-	STR30	STR50	Partial Abandon/Reconnect
11B	Mixed Liquor WWTR	18	Iron	-	-	PIPE11A	PIPE12A	
12A	Final Effl WWTR	18	Iron	-	-	STR50	EX10	
12B	Final Treated WWTF	18	Iron	-	-	STR55	STR60	Partial Abandon/Reconnect
12C	Final Treated WWTF	18	Iron	-	-	STR60	EX12	
13	Non-Potable Water (Boiler)	1	PVC	-	-	STR20	STR65	
14	Non-Potable Water	1	PVC	-	-	STR20	STR65	
15	Influent WWTR	15	VCP	-	-	EX1	EX7	Bypass - Partial Abandon/Reconnect
16	Influent WWTR	16	Iron	-	-	EX7	EX6	Bypass - Partial Abandon/Reconnect
17A	Decant WWTR/Drain	6	PVC	-	-	STR75	EX8	Abandon
17B	Decant WWTR/Drain	6	PVC	-	-	EX8	EX7	Abandon
18	Building Sewer	4	PVC	-	-	STR20	EX6	Partial Abandon/Reconnect
19	Building Sewer	6	Iron	-	-	STR65	EX6	Partial Abandon/Reconnect
20A	Primary Sludge	6	PVC	-	-	STR15	STR20	
20B	Primary Sludge	6	Iron	-	-	STR20	STR65	
21	Return Activated Sludge	8	Iron or PVC	-	-	STR50	STR65	
22	Return Activated Sludge	6	Iron or PVC	-	-	STR65	PIPE10	Partial Abandon/Reconnect
23A	Waste Activated Sludge	6	Iron or PVC	-	-	STR30	STR65	Abandon
23B	Waste Activated Sludge	6	Iron or PVC	-	-	STR65	PIPE4	
24	Clarifier Scum	6	Iron	-	-	EX9	PIPE21	
25A	Stabilized Sludge	6	Iron	-	-	STR65	STR20	Abandon
25B	Stabilized Sludge	6	Iron	-	-	STR20	STR75	Abandon
26	Stabilized Sludge	6	Iron	-	-	STR65	PIPE25B	Partial Abandon/Reconnect
27	Stabilized Sludge	6	Iron or PVC	-	-	STR65	Load Out	Transfer to load out pipe stand
28	Stabilized Sludge	6	Iron or PVC	-	-	STR65	Holding Cell	Transfer to sludge pond
29	Air Low Pressure	8	Iron	-	-	STR40	STR30	Abandon

MANHOLE SCHEDULE

Manhole #	Size (inches)	Rim Elevation	Invert Elevations Pipe 1	Pipe 2	Pipe 3	Pipe 4	Notes	
				EXISTING MANHOLES				
EX1	72"	1630.68	15"W: 1623.00	18"NE: 1623.00	15"E: 1623.00 (Remove)	8"E: 1623.30 (New)	Main influent	Existing
EX2	6' x 6'	1634.16	Base: 1622.90	12": 1623.90	-	-	Primary clarifier influent splitter	Existing
EX3	Irregular	1634.46	12"W: 1631.24	12"E: 1631.23	-	-	Bypass structure	Remove
EX4	Irregular	1634.43	12"W: 1630.94	12"E: 1630.71	-	-	Bypass structure	Remove
EX5	72"	1633.44	12": 1626.18	-	-	-	Trickling filter effluent recycle valve	Remove
EX6	108"	1634.25	Base:1614.25	16"SW: 1621.25	12"NE: 1626.15	-	Recycle flow wet well structure	Remove
EX7	48"	1633.03	15"W: 1622.19	16"NE: 1622.38	6"SW: 1628.36	-	Influent bypass pretreatment	Remove
EX8	48"	1631.64	6"NE: 1629.54	-	-	-	Sludge drying bed drain	Remove
EX9	72"	1634.61	8"NW: 1617.39	6"NE: 1617.56	6"NE: 1624.56	-	Final clarifier #1 scum/drain	Existing
EX10	48"	1634.00	18"N: 1625.62	18"S: 1625.62	-	-	Final clarifer effluent	Existing
EX11	48"	1631.35	4"E: 1625.78	4"NW: 1624.64	-	-	Building sewer	Existing
EX12	48"	~1633.25	N/A	N/A	~1619.62	-	Sewer	Remove

EXISTING STRUCTURE SCHEDULE

Structure #	Description
10	Influent and Pretreatment Building
15.1	Primary Clarifiers No. 1
15.2	Primary Clarifiers No. 2
20	Pump Station Control Building
25	Trickling Filter Tower
30	Aeration Basin
40	Blower Building
50	Final Clarifier
55	Disinfection Structure
60	Effluent Parshall Flume
65	Sludge Digestion Complex
75	Sludge Drying Bed
80	Laboratory / Office Building

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SITE PLANS
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AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
EXISTING SITE WORK SCHEDULES

DATE:	1.8.26
REV DATE:	----
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PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-601

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_PROCESS NOTES VALVE AND INSTRUMENTATION SCHEDULE.dwg

PIPING SCHEDULE

Pipe #	Name	Size (inches)	Material	Standard	Rating	From	To	Notes
NEW PIPING								
30A	Sanitary WWTR	8	PVC	D3034	DR35	S1	EX1	Connect to EX1 and seal opening
30B	Sanitary WWTR	4	PVC	D3034	DR35	S2	S1	
31A	Sanitary WWTR	6	PVC	D3034	DR35	STR78	S1	
31B	Sanitary WWTR	4	PVC	D3034	DR35	PIPE3B	S1	Connect to existing
31C	Sanitary WWTR	4	PVC	D3034	DR35	PIPE18	S2	Reconnect ex. w/ rubber coupling
31D	Sanitary WWTR	4	PVC	D3034	DR35	PIPE19	PIPE31C	Reconnect ex. w/ 6"x4" rubber coupling
32A	Primary Effl WWTR	12	PVC	C900	DR25	PIPE8	PIPE7A	Connect to existing
32B	Primary Effl WWTR	12	PVC	C900	DR25	PIPE6B	PIPE32C	Connect to existing
32C	Primary Effl WWTR	12	PVC	C900	DR25	PIPE6A	PIPE32B	Connect to existing
32D	Primary Effl WWTR	14	PVC	C900	DR25	PIPE32B	STR35	
33A	Mixed Liquor WWTR	16	PVC	C900	DR25	STR35	PIPE11A	Connect to pipe 11A and 33B w/16 wye
33B	Mixed Liquor WWTR	14	PVC	C900	DR25	PIPE33A	STR52	
33C	Mixed Liquor WWTR	18	PVC	C900	DR25	STR35	STR35	
33D	Mixed Liquor WWTR	6	PVC	C900	DR25	STR35	STR35	
34	Final Treated WWTF	12	PVC	C900	DR25	STR52	PIPE12A	Connect to existing w/ tapping sleeve
35A	Return Activated Sludge	6	PVC	C900	DR25	S3	PIPE21	Connect to Pipe21 w/ 8"x6" wye
35B	Return Activated Sludge	6	PVC	C900	DR25	STR52	PIPE35A	
35C	Clarifier Scum	6	PVC	C900	DR25	STR52	S3	
36	Return Activated Sludge	6	PVC	C900	DR25	PIPE22	PIPE32D	Connect to existing
37	Stabilized Sludge	6	PVC	C900	DR25	PIPE26	STR78	Reconnect to existing
38A	Air Low Pressure	8	DI	C151	CL52	STR40	PIPE38B	
38B	Air Low Pressure	6	DI	C151	CL52	PIPE38A	STR35	
38C	Air Low Pressure	4	DI	C151	CL52	PIPE38A	STR35	
38D	Air Low Pressure	4	DI	C151	CL52	PIPE38A	STR35	
39	Potable Water	6	PVC	C900	DR18	SEE PLAN		
40A	Potable Water	4	PVC	C900	DR18	SEE PLAN		Connect to existing
40B	Potable Water	2	HDPE	D2239	DR9	SEE PLAN		Reconnect existing (confirm size)
40C	Potable Water	2	HDPE	D2239	DR9	SEE PLAN		
41	Non-Potable Water	1	HDPE	D2239	DR9	SEE PLAN		

PROPOSED STRUCTURE SCHEDULE

Structure #	Description
10	Influent and Pretreatment Building
15.1	Primary Clarifiers No. 1
15.2	Primary Clarifiers No. 2
20	Pump Station Control Building
35	Selector/Aeration Basins
40	Blower Building
50	Final Clarifier #1
52	Final Clarifier #2
55	Disinfection Structure
60	Effluent Parshall Flume
65	Sludge Digestion Complex
78	Biosolids Dewatering Building
80	Laboratory / Office Building

MANHOLE SCHEDULE

Manhole #	Size (inches)	Rim Elevation	Invert Elevations				Notes	
			Pipe 1	Pipe 2	Pipe 3	Pipe 4		
NEW MANHOLES								
S1	48"	1632.02	8"W: 1623.52	6"S: 1623.52	4"E: 1623.52	4"SE: 1623.52		New
S2	Cleanout	1633.00	4"W: 1624.50	-	-	-	Cleanout w/ 4" removable threaded cap	New
S3	48"	1633.50	6"SW: 1619.50	6" E: 1624.00	-	-		New

PROCESS VALVE AND INSTRUMENTATION SCHEDULE

Tag	Service	Size (in)	Type	Body	Actuator		Valve	Note	Status
					Control	Type	Normal		
Site									
52-GV-01	Mixed liquor WWTR influent to STR 52	14	Gate	Mechanical	Manual	Nut	Open	See Detail Sheet C-202, With valve box adapter, box, and "SEWER" cap	New
52-GV-02	Return Activated Sludge	6	Gate	Mechanical	Manual	Nut	Open	See Detail Sheet C-202, With valve box adapter, box, and "SEWER" cap	New
52-GV-03	Return Activated Sludge	6	Gate	Mechanical	Manual	Nut	Open	See Detail Sheet C-202, With valve box adapter, box, and "SEWER" cap	New
52-GV-04	Final Treated WWTF effluent	12	Gate	Mechanical	Manual	Nut	Open	See Detail Sheet C-202, With valve box adapter, box, and "SEWER" cap	New
GV-01	Potable Water	4	Gate	Mechanical	Manual	Nut	Open	See Detail Sheet C-202, With valve box adapter, box, and "WATER" cap	New
20-CS-01	Water service line to STR 20	2	Curb Valve	Threaded	Manual	Nut	Open	See Detail Sheet C-202	New
78-CS-01	Water service line to STR 78	2	Curb Valve	Threaded	Manual	Nut	Open	See Detail Sheet C-202	New

*NOTE: NOT ALL EXISTING VALVES AND INSTRUMENTATION AT THE WASTEWATER TREATMENT PLANT ARE IN THE PROCESS AND INSTRUMENTATION SCHEDULE'S

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SITE PLANS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
PROPOSED SITE WORK SCHEDULES

DATE:	1.8.26
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REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

C-602

LEGEND:

OFFICE
101

ROOM NAMES
ROOM NAME
ROOM NUMBER

1
A201

BUILDING ELEVATIONS / SECTIONS
ELEVATION NUMBER
SHEET NUMBER

101
A

DOORS
DOOR NUMBER
DOOR LETTER
REFER TO SHEET A78-601 FOR SCHEDULE

A
1

WALL TYPES
WALL TYPE
WALL TYPE NOTE

1
A601

DETAIL MARK
DETAIL NUMBER
SHEET NUMBER

1
A701

INTERIOR ELEVATION
ELEVATION NUMBER
SHEET NUMBER

T1

EQUIPMENT
EQUIPMENT NUMBER

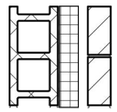
1

PLAN KEYNOTE
ITEM NUMBER - REFER TO SPECIFIC NOTES

SPECIFIC PLAN NOTES:

1. DEWATERING EQUIPMENT; REFER TO CIVIL
2. FLOOR HATCH; REFER TO CIVIL
3. SPLASHBLOCK; REFER TO DETAIL 1/A78-106
4. EXTEND FOUNDATION INSULATION 2'-0" ONTO FACE OF TANK FOUNDATION
5. FLOOR DRAIN; MECHANICAL CONTRACTOR PROVIDED, GENERAL CONTRACTOR INSTALLED; REFER TO MECHANICAL
6. 48"x48" MECHANICAL LOUVER ABOVE; REFER TO DETAILS ON A78-605
7. OPENING IN CONCRETE; REFER TO CIVIL AND STRUCTURAL
8. MECHANICAL PENETRATIONS; REFER TO MECHANICAL

WALL TYPE SCHEDULE

TYPE	STYLE	PLAN VIEW
A	16" CONCRETE WATERPROOFING MEMBRANE	
B	8" CMU FLUID APPLIED AIR INFILTRATION BARRIER 3" RIGID INSULATION AIR SPACE 4" BRICK MASONRY VENEER	
C	16" CONCRETE WATERPROOFING MEMBRANE 2" RIGID INSULATION **EXTEND RIGID INSULATION TO 5' BELOW GRADE**	

GENERAL PLAN NOTES:

1. GENERAL CONTRACTOR TO COORDINATE CONSTRUCTION ACTIVITIES WITH OWNER.
2. GENERAL CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.
3. GENERAL CONTRACTOR TO COORDINATE OWNER PROVIDED EQUIPMENT INSTALLATION.
4. ALL WORK SHALL MEET ALL APPLICABLE BUILDING CODES AND REQUIREMENTS.

CODE INFORMATION:

OCCUPANCY CLASSIFICATION:	U - UTILITY
TYPE OF CONSTRUCTION:	TYPE V-B
OCCUPANCY LOAD:	7 OCCUPANTS (PER 1004.1.2)
BASE ALLOWABLE AREA (TABLE 506.2):	5,500 SF PER FLOOR
ACTUAL AREA:	1,394 SF (MAIN FLOOR) 647 SF (LOWER FLOOR)
STORIES ALLOWED (PER 504.3):	1
ACTUAL STORIES:	1

NOTES:

1. INFORMATION BASED ON 2021 EDITION OF THE INTERNATIONAL BUILDING CODE (2021 IBC).
2. ALL CONSTRUCTION TO MEET ALL APPLICABLE CODES, INCLUDING 2021 IBC.
3. TYPE OF CONSTRUCTION IS ASSUMED BASED ON PROPOSED CONSTRUCTION.
4. FIRE EXTINGUISHERS FOR CLASS A FIRE HAZARDS. MAXIMUM FLOOR AREA FOR EACH EXTINGUISHER = 11,250 SF AND MAXIMUM TRAVEL DISTANCE OF 75 FEET. A FIRE EXTINGUISHER IS PROVIDED.
5. PER TABLE 1004.5; MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT ARE DEFINED AS FOLLOWS:
   A. MECHANICAL EQUIPMENT ROOM - 300 GROSS
6. THE BUILDING WILL NOT BE EQUIPPED WITH A FIRE SUPPRESSION SYSTEM.
7. PER 1103.2.4; GROUP U OCCUPANCIES ARE NOT REQUIRED TO BE ACCESSIBLE.
8. PER 2902.1; GROUP U OCCUPANCIES ARE NOT REQUIRED TO HAVE PLUMBING FIXTURES.
9. ADDITIONAL MECHANICAL OR ELECTRICAL INFORMATION BASED UPON THE FOLLOWING CODES:
   2021 INTERNATIONAL FIRE CODE
   2021 INTERNATIONAL MECHANICAL CODE
   2021 INTERNATIONAL FUEL GAS CODE
   2021 INTERNATIONAL ENERGY CONSERVATION CODE
   2024 INTERNATIONAL PLUMBING CODE
   2023 NATIONAL ELECTRICAL CODE
   SOUTH DAKOTA ELECTRICAL COMMISSION'S WIRING BULLETIN
   SOUTH DAKOTA CODIFIED LAW (SDCL) CHAPTER 36-16
   REFER TO MECHANICAL AND ELECTRICAL FOR MORE INFORMATION.

EQUIPMENT SCHEDULE

NO.	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING HEIGHT	NOTES
E1	FIRE EXTINGUISHER	J.L. INDUSTRIES	COSMIC 10E	48" TO TOP	PROVIDE WALL MOUNTED BRACKET MB846 COORDINATE FINAL LOCATION WITH OWNER

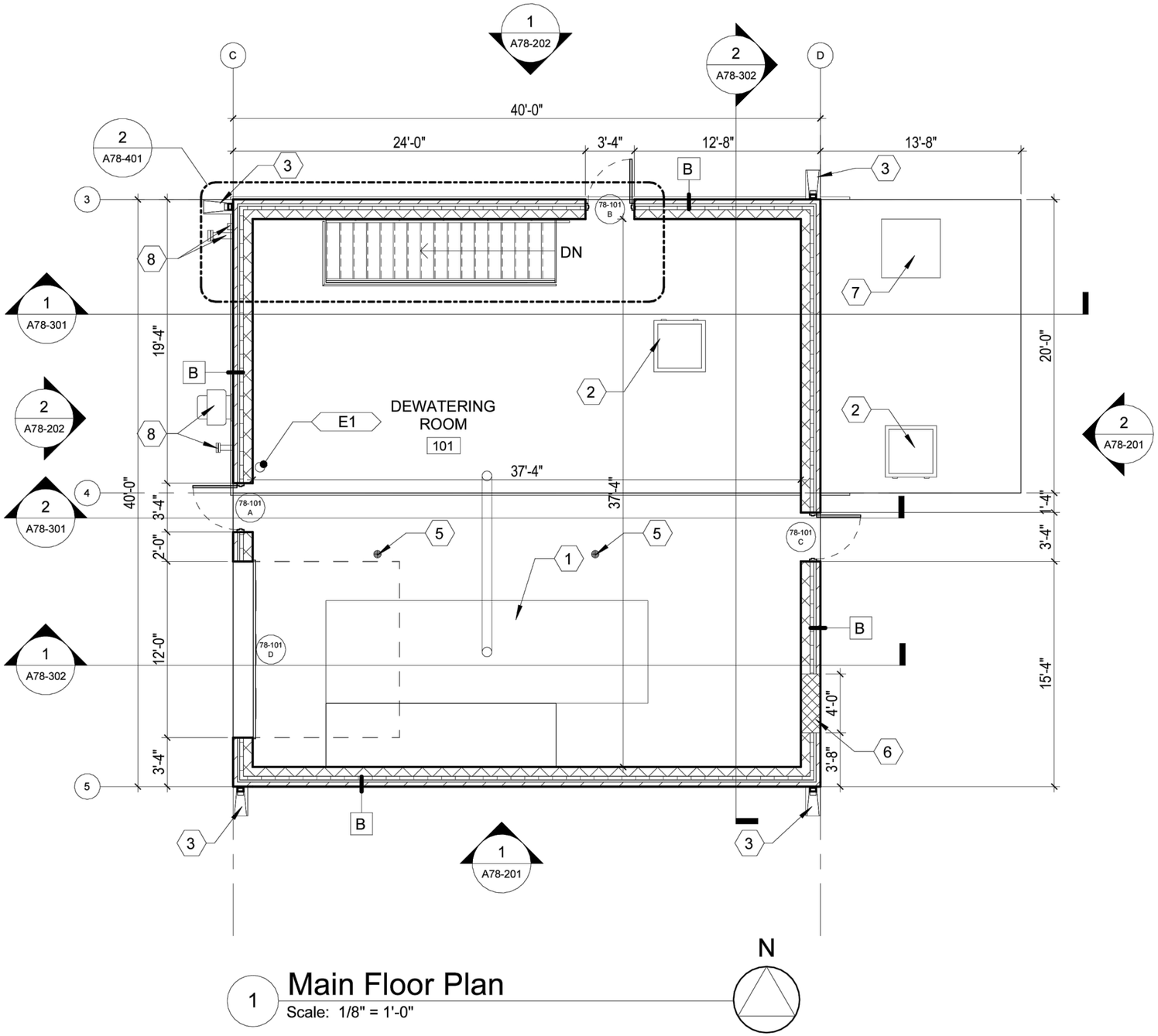
LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - SCHEDULES AND NOTES

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

J2 studio architecture + design, pc

A78-101



1 **Main Floor Plan**
Scale: 1/8" = 1'-0"

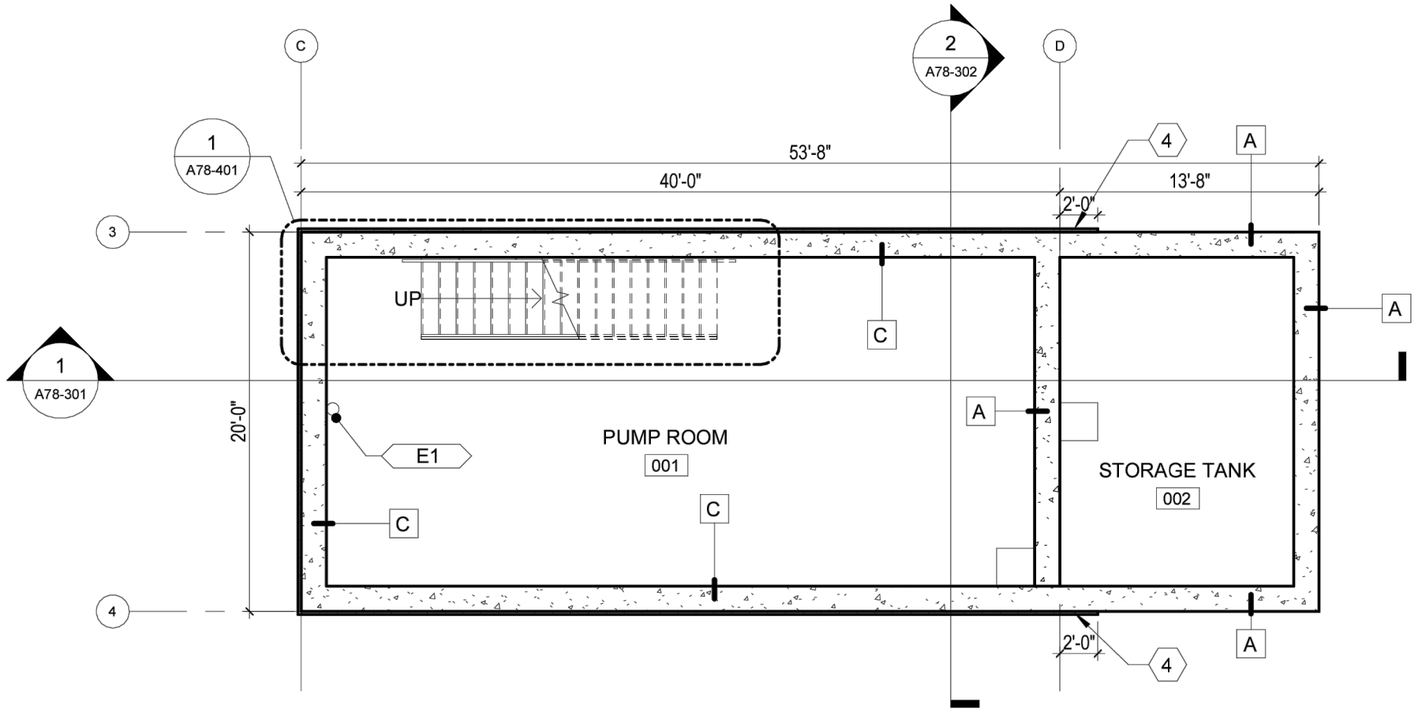
LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - MAIN FLOOR PLAN

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

J2 studio architecture + design, pc

A78-102



N

1 **Lower Floor Plan**

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

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - LOWER FLOOR PLAN

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	

PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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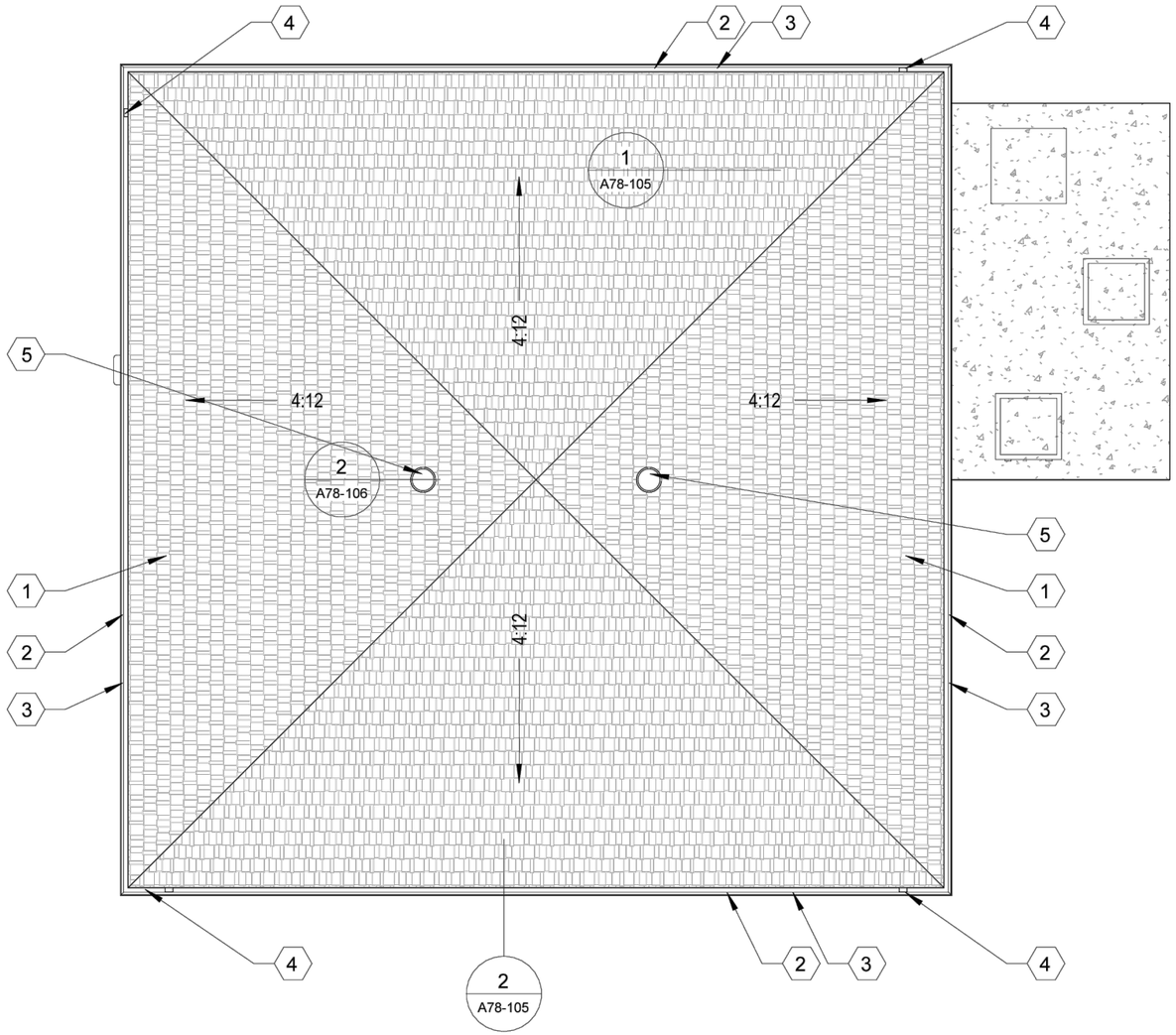
A78-103



1 Roof Plan
Scale: 1/8" = 1'-0"

N

GENERAL ROOF PLAN NOTES:

1. THE FOLLOWING REFERENCES HAVE BEEN USED AS A BASIS OF DESIGN FOR THE ROOFING WORK OF THE PROJECT AND SHALL BE USED BY THE CONTRACTOR TO DETERMINE REQUIREMENTS FOR FABRICATION AND/OR INSTALLATION WHEN NOT SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS:
   - 1.1 2021 INTERNATIONAL BUILDING CODE
   - 1.2 MATERIAL MANUFACTURER'S MOST RECENT PRINTED SPECIFICATIONS AND DETAILS.
   - 1.3 ALL OTHER APPLICABLE CODES AND REGULATIONS FOR THE CITY OF MOBRIDGE.
2. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PROVIDE AND INSTALL PROTECTION OVER, UNDER, AND/OR AROUND ALL SERVICE LINES, BUILDING COMPONENTS, SIDEWALKS, PAVEMENT, AND LANDSCAPING WHICH COULD BE DAMAGED OR SOILED WHILE PERFORMING THE WORK OF THE CONTRACT.
3. DETAILS IN THE PROJECT DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT.
   - 3.1 DETAILS NOTED ARE 'TYPICAL' AND IMPLY SIMILAR CONDITIONS TREATED SIMILARLY. MODIFICATIONS TO BE MADE BY THE CONTRACTOR TO ACCOMMODATE MINOR VARIATIONS WITHOUT ADDITIONAL COST TO THE OWNER.
4. ALL PENETRATION DETAILS PER MANUFACTURER'S STANDARD DETAILS.
5. ALL SYSTEMS SHALL BE PER MANUFACTURER'S STANDARDS FOR PRODUCT WARRANTIES. CONTRACTOR TO PROVIDE COMPLETE ROOFING SYSTEM, INCLUDING, BUT NOT LIMITED TO, UNDERLAYMENTS, ICE AND WATER BARRIERS, VAPOR RETARDERS, COVER BOARDS, AND INSULATION.
6. MECHANICAL PENETRATIONS; REFER TO MECHANICAL DRAWINGS FOR MECHANICAL PENETRATIONS.
7. PLUMBING PENETRATIONS; REFER TO PLUMBING DRAWINGS FOR PLUMBING PENETRATIONS.
8. ELECTRICAL PENETRATIONS REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL PENETRATIONS.

SPECIFIC ROOF PLAN NOTES:

1. ASPHALT SHINGLES; MANU - CERTAINTEED LANDMARK PRO SHINGLES; COLOR - BLACK WALNUT
2. PREFINISHED METAL FASCIA; PAC-CLAD; COLOR - MEDIUM BRONZE
3. PREFINISHED METAL GUTTER; PAC-CLAD; COLOR - MEDIUM BRONZE
4. PREFINISHED METAL DOWNSPOUT; PAC-CLAD; COLOR - MEDIUM BRONZE
5. ATTIC VENT; BASIS-OF-DESIGN WHIRLYBIRD BIB-14; WEATHERED BRONZE

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - ROOF PLAN

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MANAGER:	J. DEVINE
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DRAFTER:	C. MEYER
REVIEWER:	

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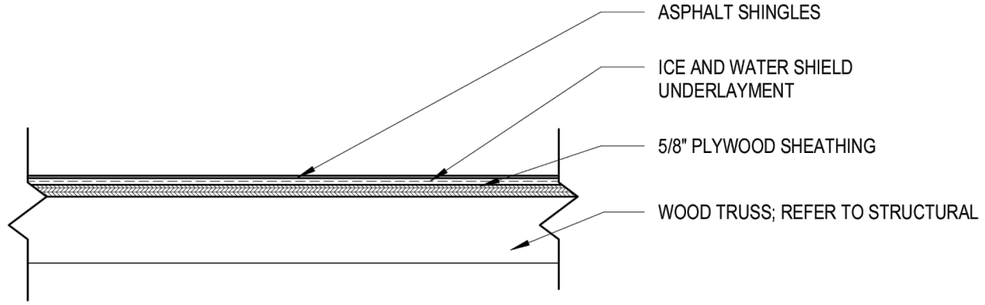
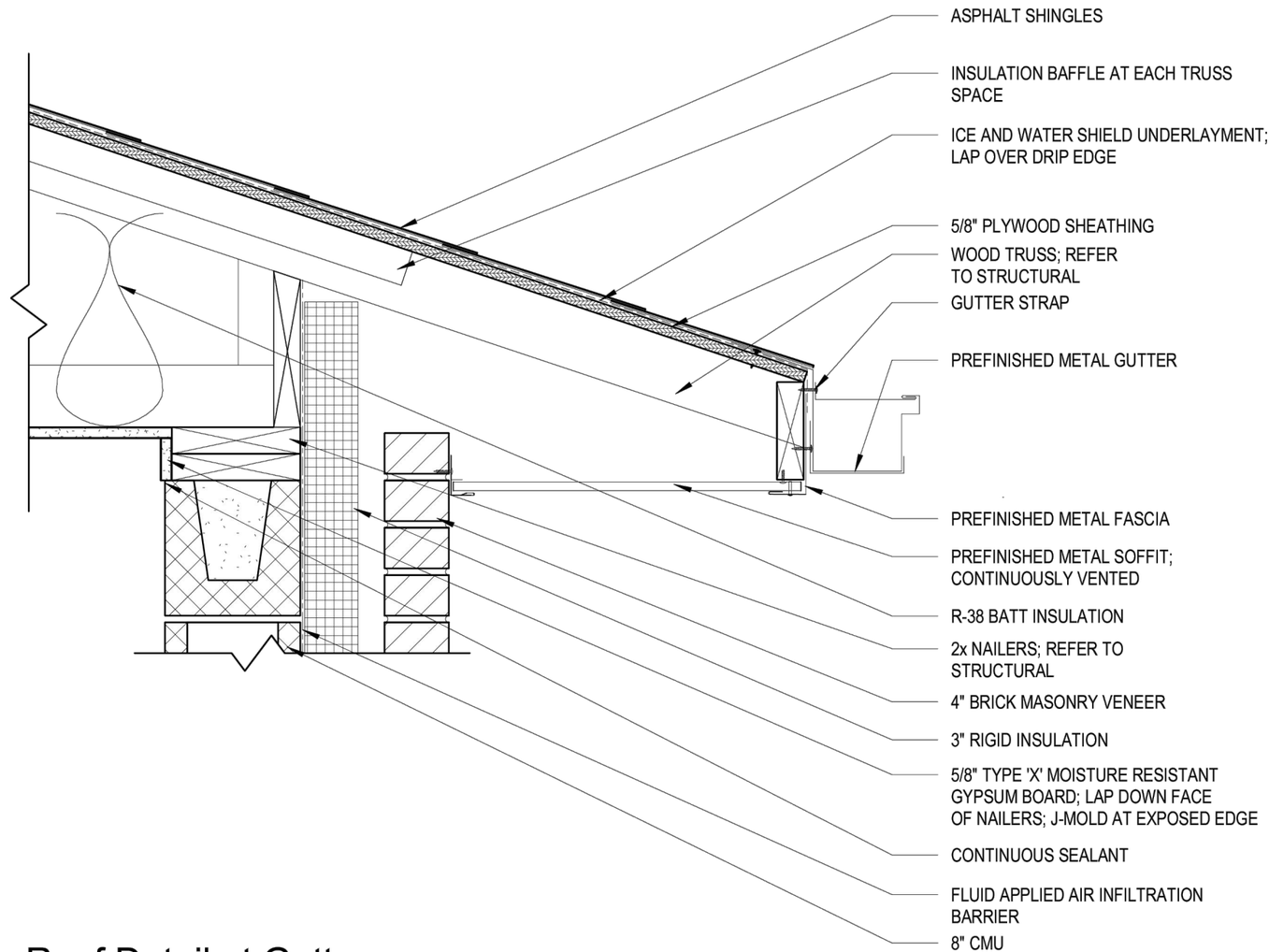
A78-104



1 Typical Roof Section at Shingle Roof

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



2 Roof Detail at Gutter

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

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MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - ROOF DETAILS

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MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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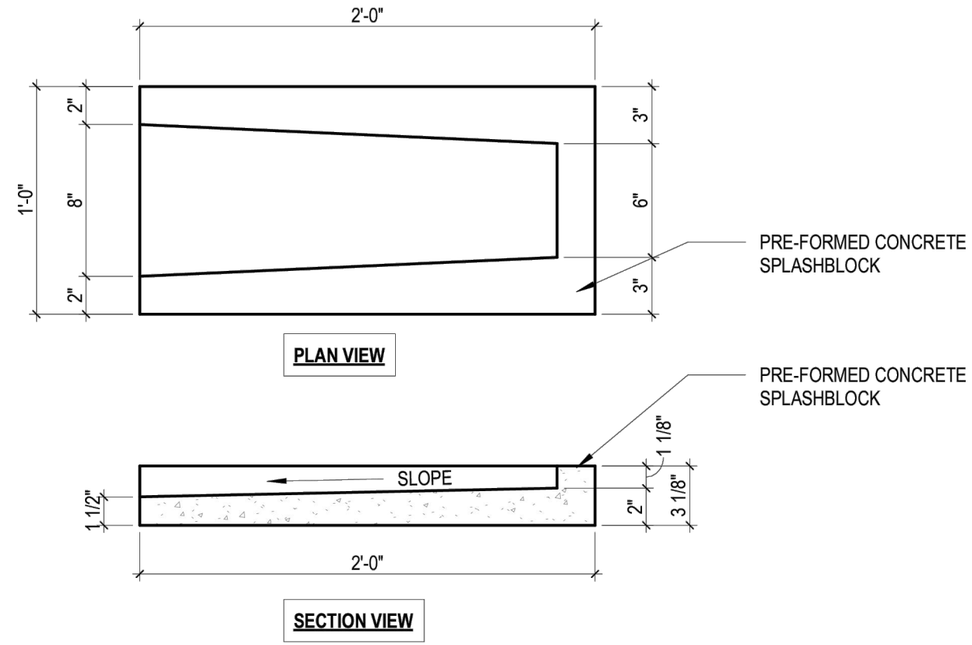
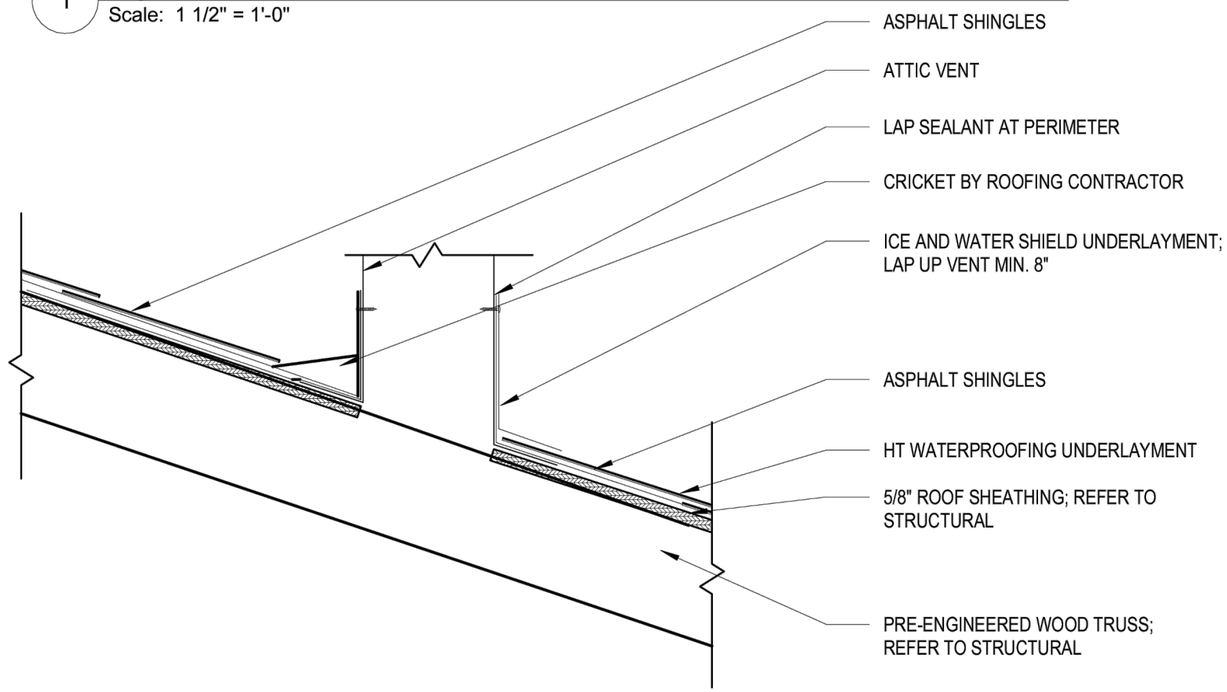


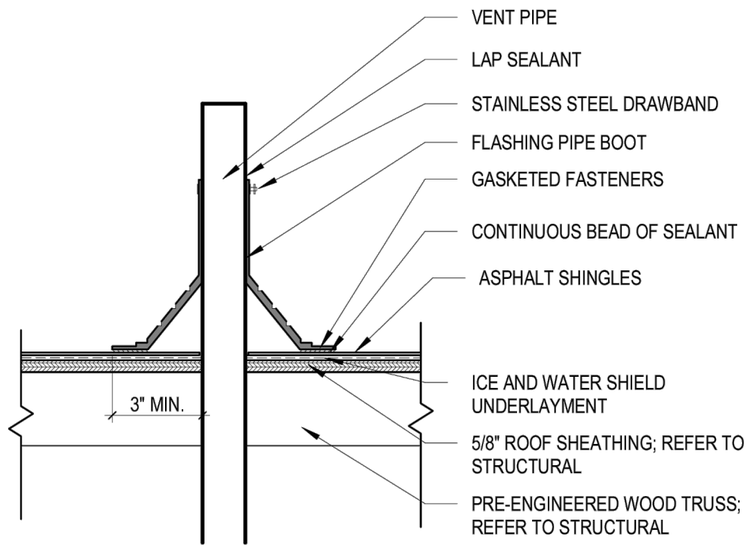
1 Splashblock Detail

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



2 Attic Vent Detail

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



3 Typical Vent Thru Roof Detail

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

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BIOSOLIDS DEWATERING BUILDING - ROOF DETAILS

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MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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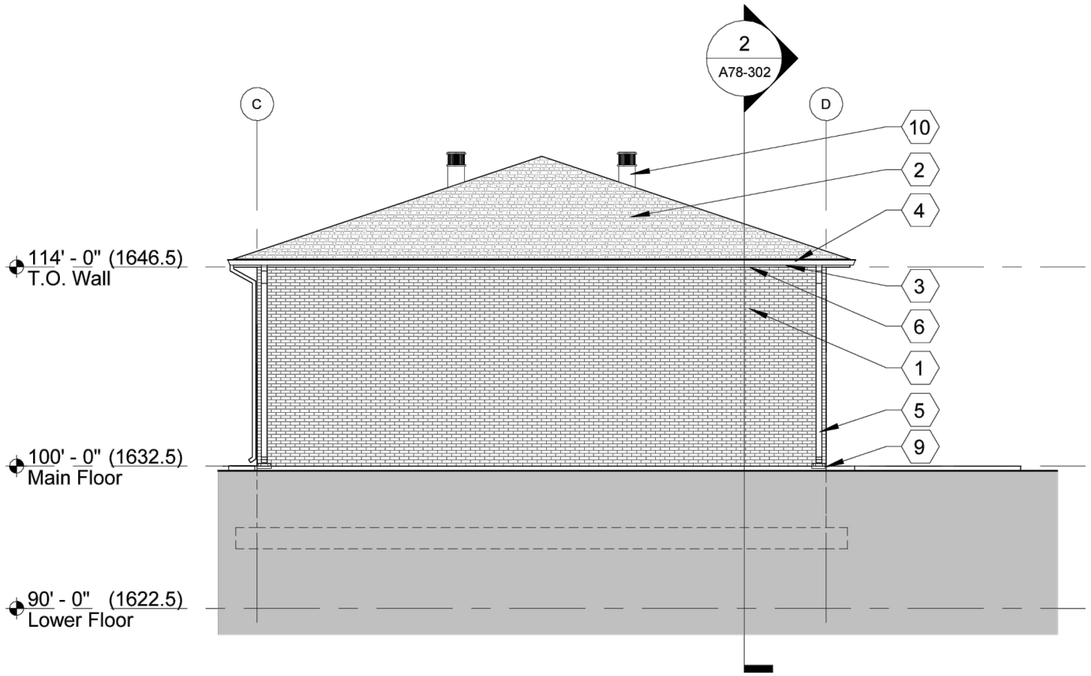
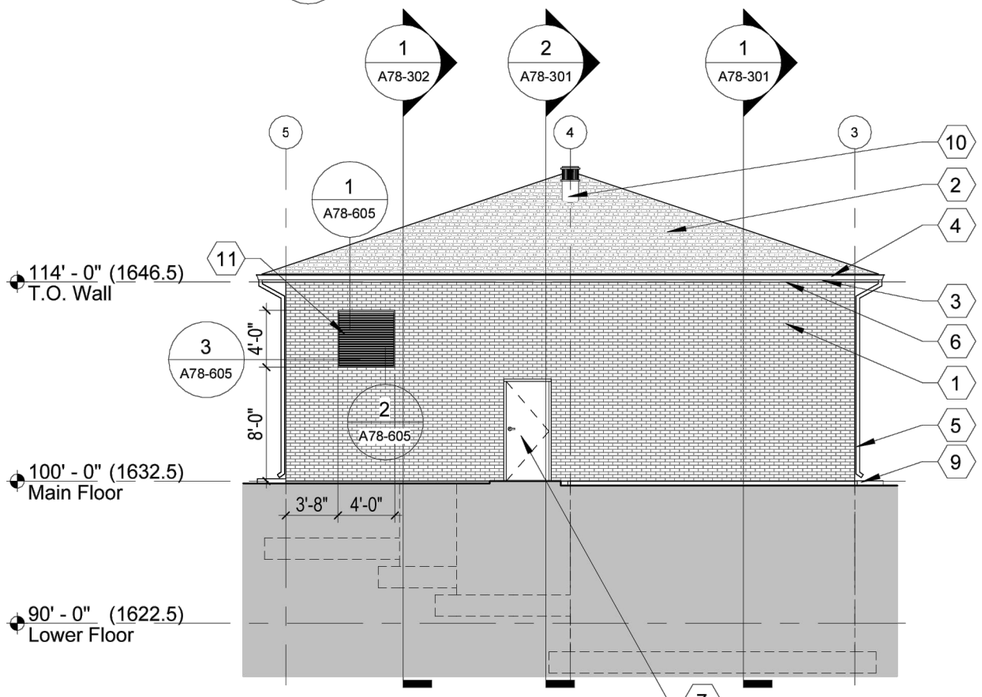
A78-106



1 South Exterior Elevation

Scale: 3/32" = 1'-0"



2 East Exterior Elevation

Scale: 3/32" = 1'-0"

SPECIFIC ELEVATION NOTES:

1. BRICK MASONRY VENEER; MANU - HEBRON BRICK; COLOR - MATCH EXISTING
2. ASPHALT SHINGLES; MANU - CERTAINTEED LANDMARK SHINGLES; COLOR - BLACK WALNUT
3. PREFINISHED METAL FASCIA; PAC-CLAD; COLOR - MEDIUM BRONZE
4. PREFINISHED METAL GUTTER; PAC-CLAD; COLOR - MEDIUM BRONZE
5. PREFINISHED METAL DOWNSPOUT; PAC-CLAD; COLOR - MEDIUM BRONZE
6. PREFINISHED METAL SOFFIT; PAC-CLAD FLUSH SOFFIT; COLOR - MEDIUM BRONZE
7. FIBERGLASS DOOR AND FRAME; TIGER DOOR LLC; COLOR - MEDIUM BRONZE
8. OVERHEAD SECTIONAL DOOR
9. SPLASHBLOCK; REFER TO DETAIL 1/A78-106
10. ATTIC VENT; BASIS-OF-DESIGN WHIRLYBIRD BIB-14; WEATHERED BRONZE
11. LOUVER; REFER TO MECHANICAL
12. PREFINISHED METAL BRAKE METAL FOUNDATION INSULATION FLASHING; MANU - PAC-CLAD; COLOR - MEDIUM BRONZE
13. MECHANICAL PENETRATION; REFER TO MECHANICAL

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - EXTERIOR ELEVATIONS

DATE:	01/08/2026
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RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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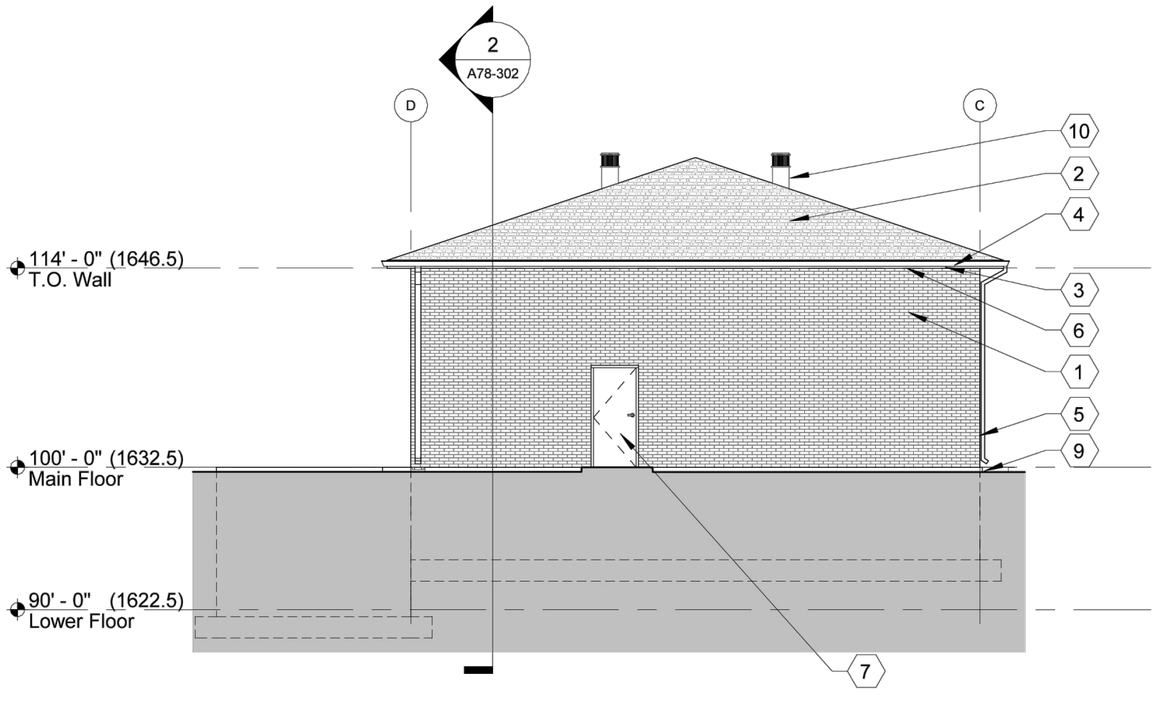
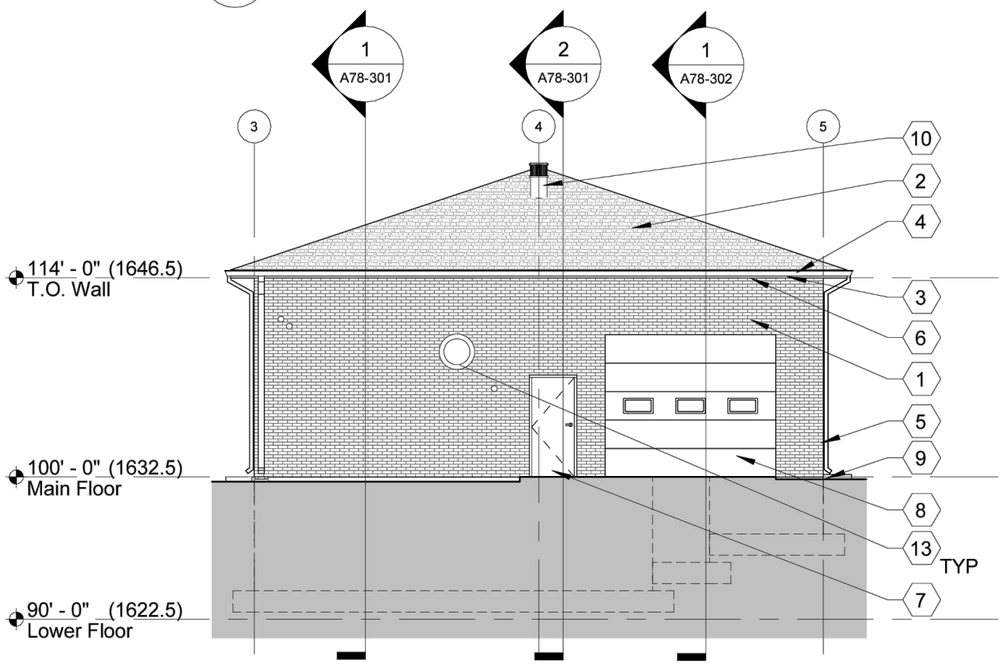
architecture + design, pc

A78-201



1 North Exterior Elevation

Scale: 3/32" = 1'-0"



2 West Exterior Elevation

Scale: 3/32" = 1'-0"

SPECIFIC ELEVATION NOTES:

1. BRICK MASONRY VENEER; MANU - HEBRON BRICK; COLOR - MATCH EXISTING
2. ASPHALT SHINGLES; MANU - CERTAINTEED LANDMARK SHINGLES; COLOR - BLACK WALNUT
3. PREFINISHED METAL FASCIA; PAC-CLAD; COLOR - MEDIUM BRONZE
4. PREFINISHED METAL GUTTER; PAC-CLAD; COLOR - MEDIUM BRONZE
5. PREFINISHED METAL DOWNSPOUT; PAC-CLAD; COLOR - MEDIUM BRONZE
6. PREFINISHED METAL SOFFIT; PAC-CLAD FLUSH SOFFIT; COLOR - MEDIUM BRONZE
7. FIBERGLASS DOOR AND FRAME; TIGER DOOR LLC; COLOR - MEDIUM BRONZE
8. OVERHEAD SECTIONAL DOOR
9. SPLASHBLOCK; REFER TO DETAIL 1/A78-106
10. ATTIC VENT; BASIS-OF-DESIGN WHIRLYBIRD BIB-14; WEATHERED BRONZE
11. LOUVER; REFER TO MECHANICAL
12. PREFINISHED METAL BRAKE METAL FOUNDATION INSULATION FLASHING; MANU - PAC-CLAD; COLOR - MEDIUM BRONZE
13. MECHANICAL PENETRATION; REFER TO MECHANICAL

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WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - EXTERIOR ELEVATIONS

DATE:	01/08/2026
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PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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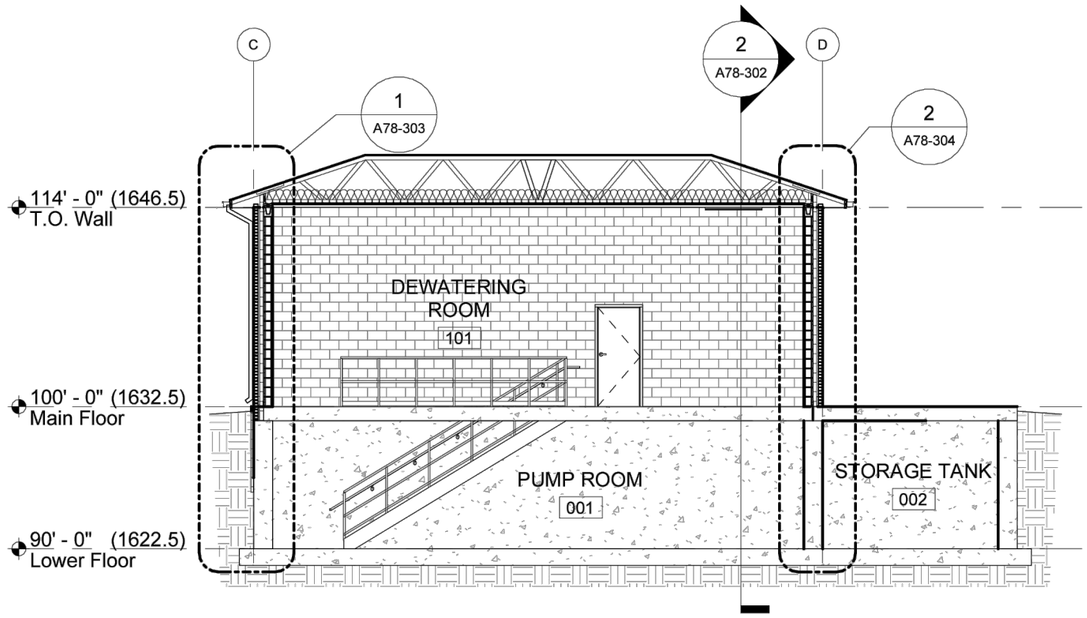
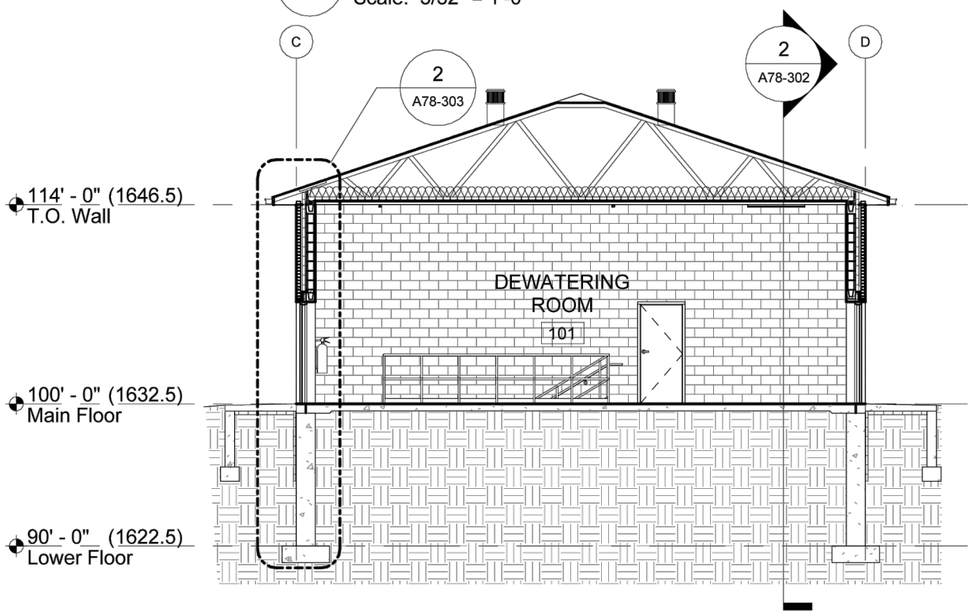
A78-202



1 Building Section

Scale: 3/32" = 1'-0"



2 Building Section

Scale: 3/32" = 1'-0"

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - BUILDING SECTIONS

DATE:	01/08/2026
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MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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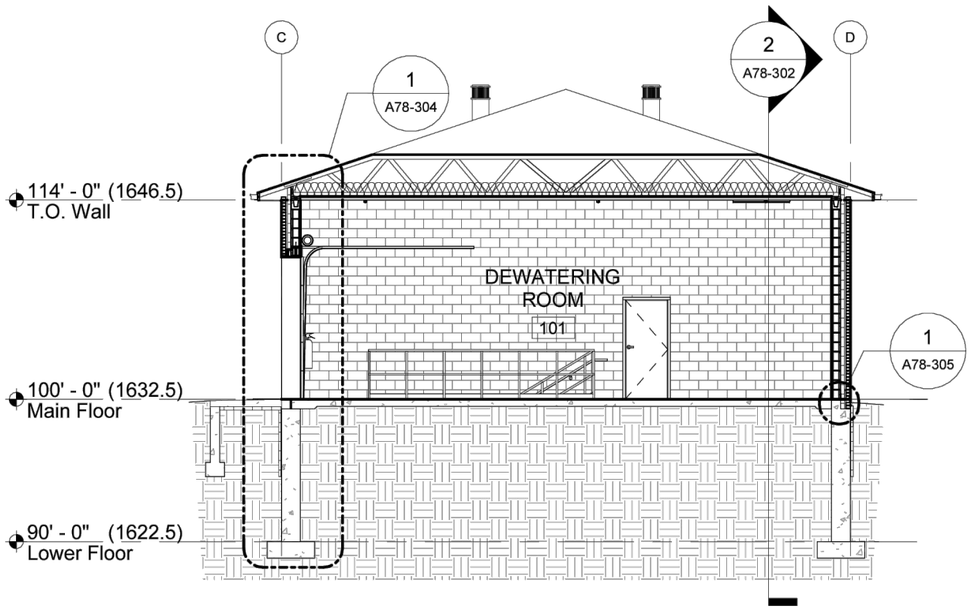
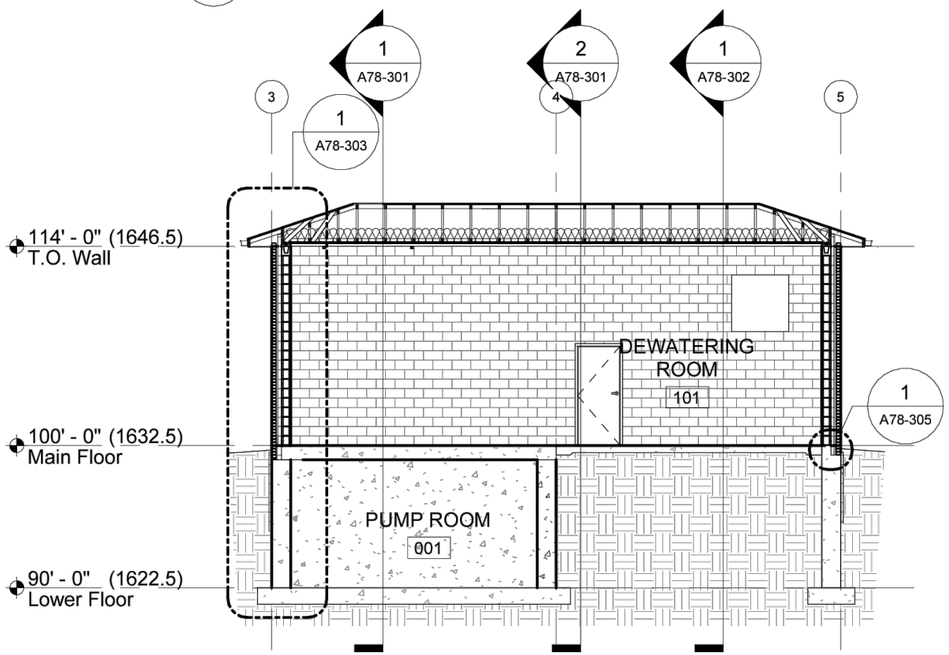
A78-301



1 Building Section

Scale: 3/32" = 1'-0"



2 Building Section

Scale: 3/32" = 1'-0"

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
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MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - BUILDING SECTIONS

DATE:	01/08/2026
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PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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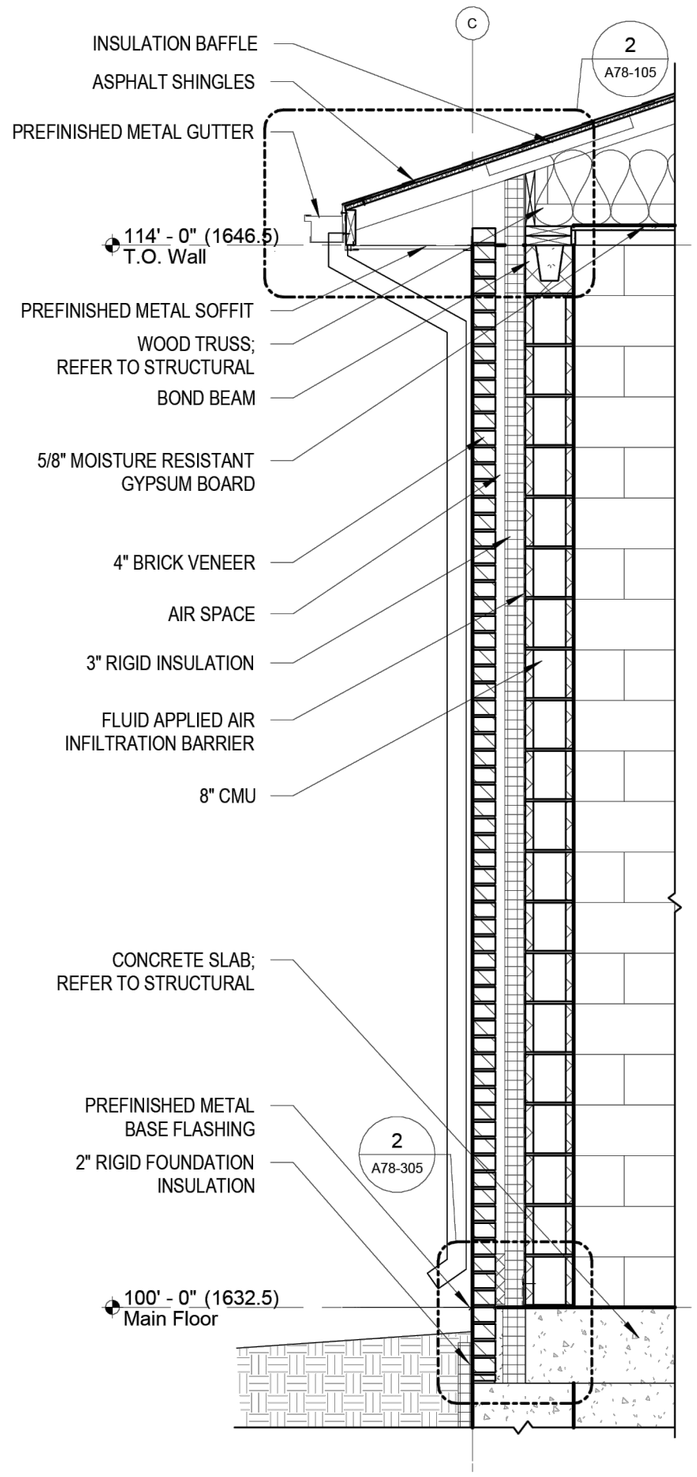
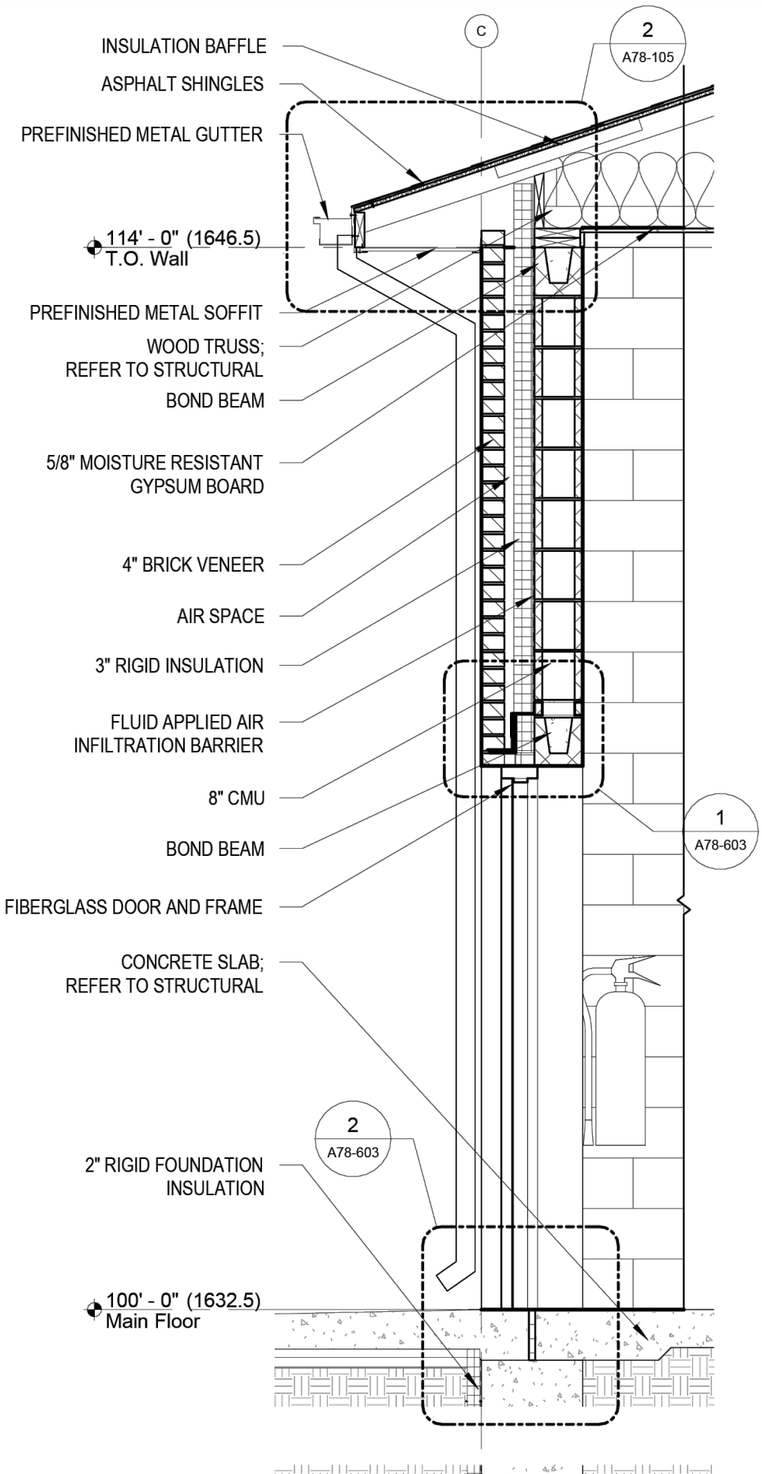
A78-302



1 **Wall Section**
Scale: 1/2" = 1'-0"



2 **Wall Section**
Scale: 1/2" = 1'-0"

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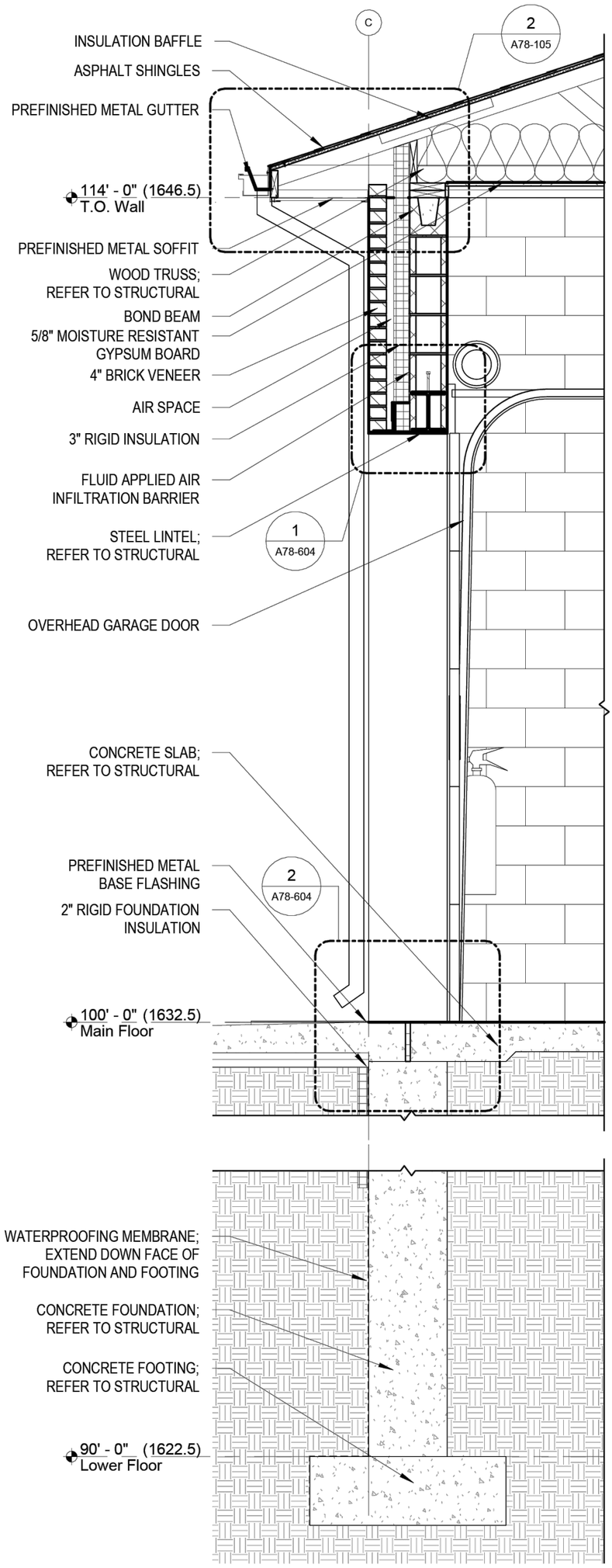
LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE 01 08 2026
SOUTH DAKOTA

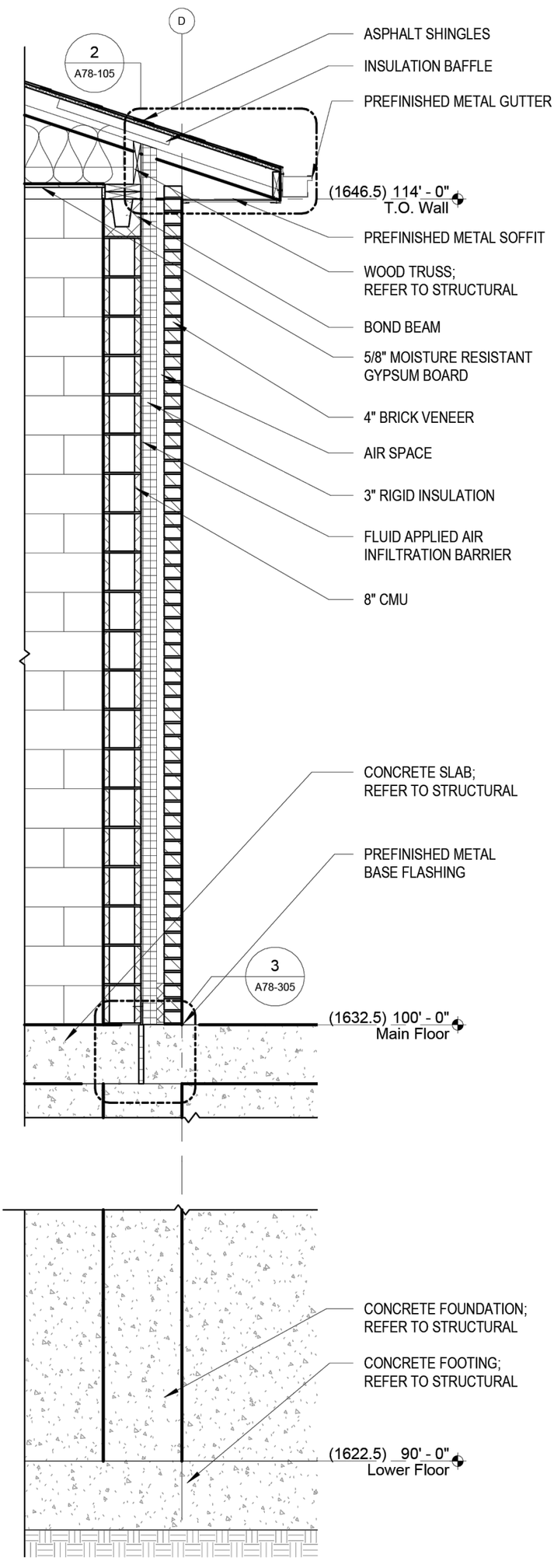
A78-303

REVIEWER:	
DRAFTER:	C. MEYER
DESIGNER:	C. MEYER
MANAGER:	J. DEVINE
PROJECT No.	J22530
RECORD:	
REV NUM:	
REV DATE:	
DATE:	01/08/2026

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - WALL SECTIONS



1 **Wall Section**
Scale: 1/2" = 1'-0"



2 **Wall Section**
Scale: 1/2" = 1'-0"

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A78-304

REVIEWER:	
DRAFTER:	C. MEYER
DESIGNER:	C. MEYER
MANAGER:	J. DEVINE
PROJECT No.	J22530
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ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
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MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - WALL SECTIONS

LICENSED ARCHITECT
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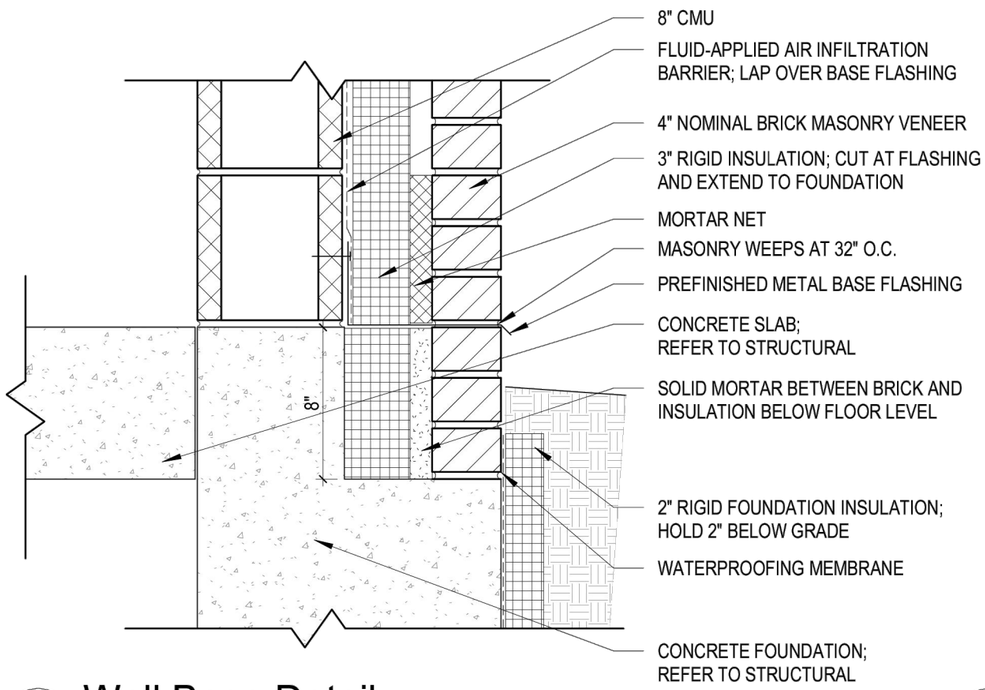
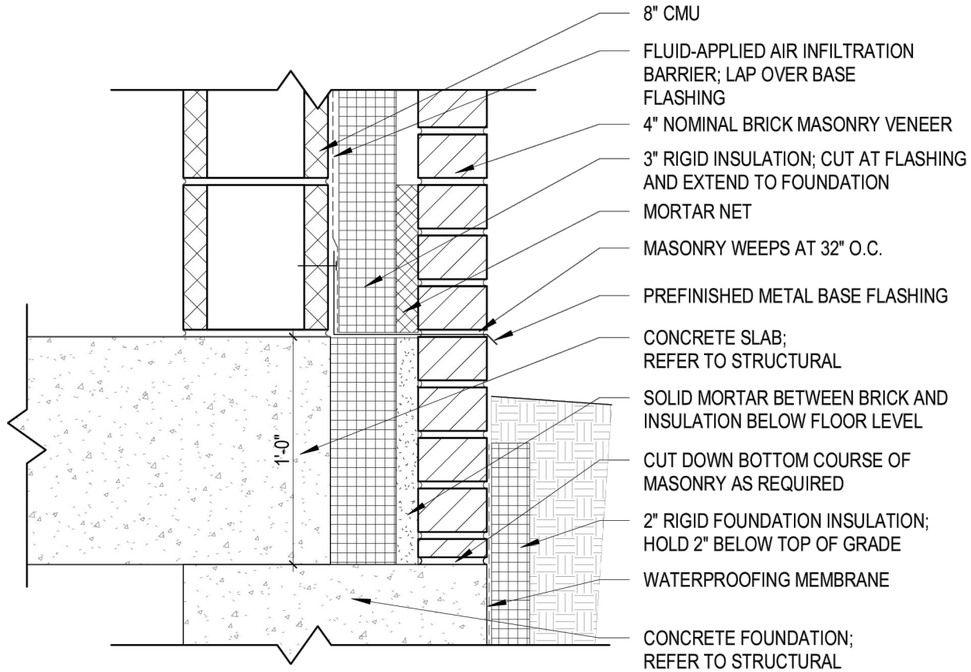
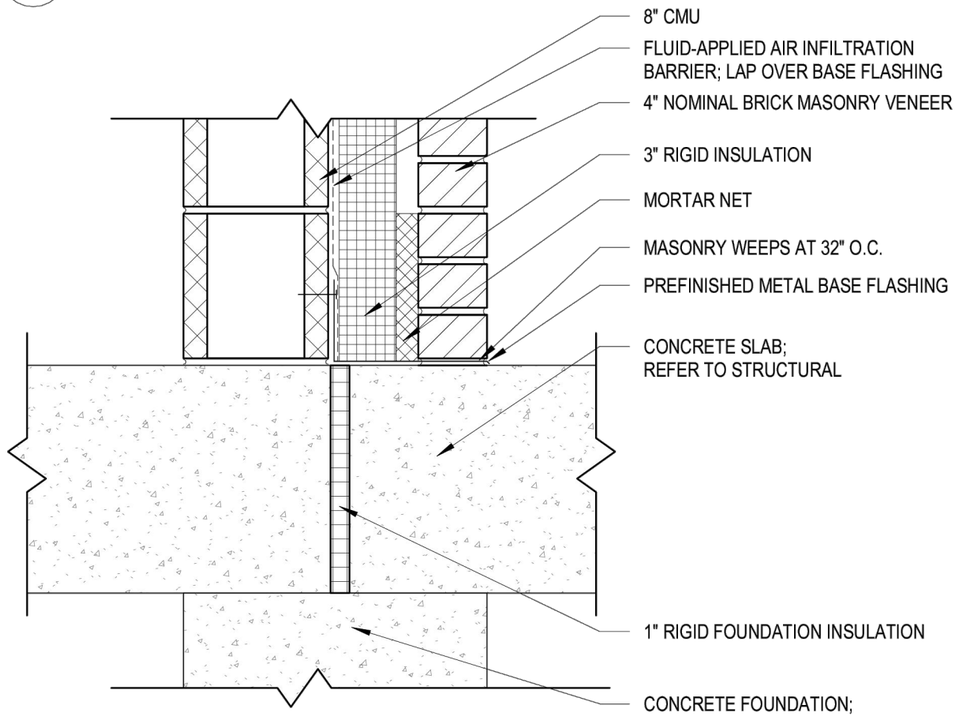
JAMES DEVINE
DATE 01 / 08 / 2026
SOUTH DAKOTA



1 **Wall Base Detail**
Scale: 1 1/2" = 1'-0"



2 **Wall Base Detail**
Scale: 1 1/2" = 1'-0"



3 **Wall Base Detail**
Scale: 1 1/2" = 1'-0"

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SOUTH DAKOTA

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MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - WALL DETAILS

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REVIEWER:	

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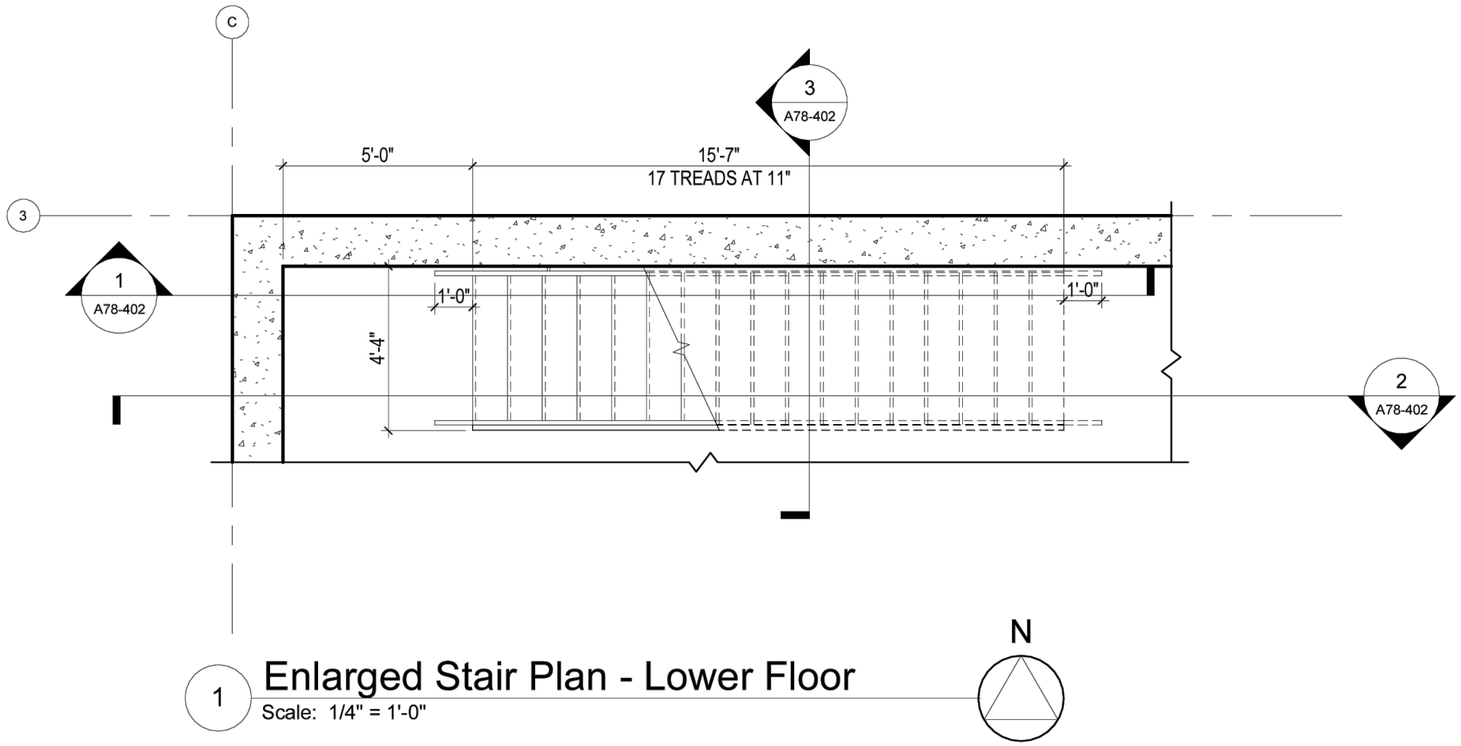
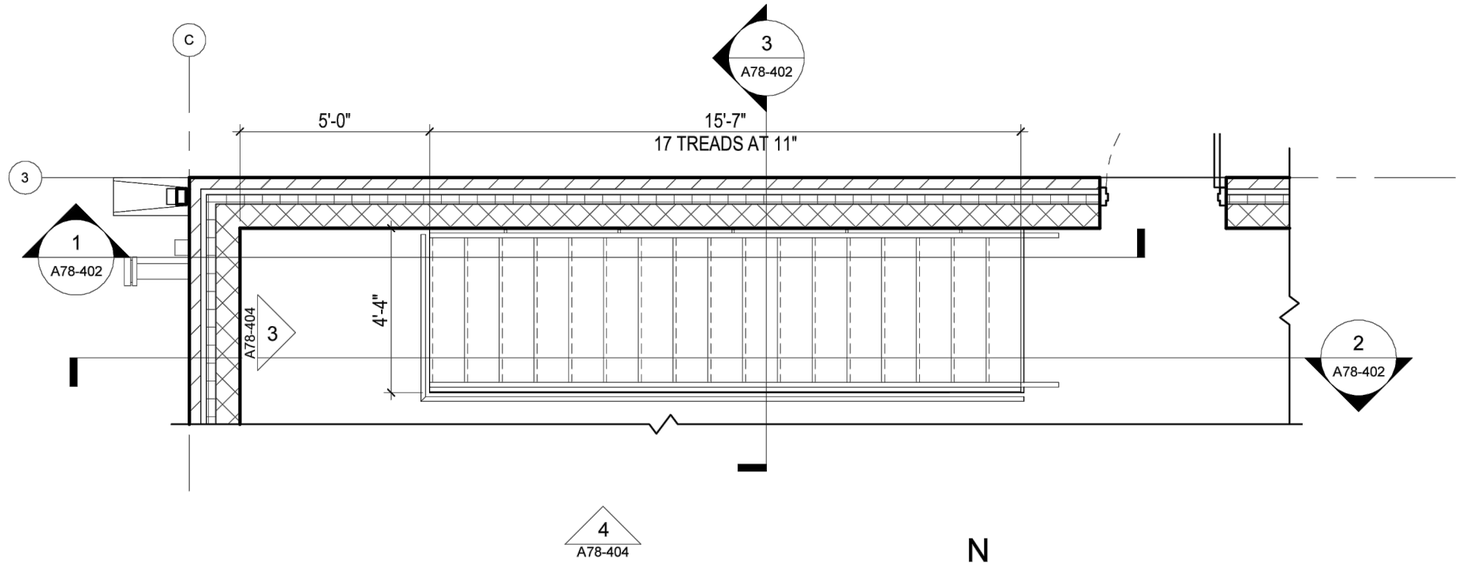


1 Enlarged Stair Plan - Lower Floor

Scale: 1/4" = 1'-0"

N



2 Enlarged Stair Plan - Main Floor

Scale: 1/4" = 1'-0"

N

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SOUTH DAKOTA

ARCHITECTURAL
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MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - ENLARGED STAIR PLANS

DATE:	01/08/2026
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PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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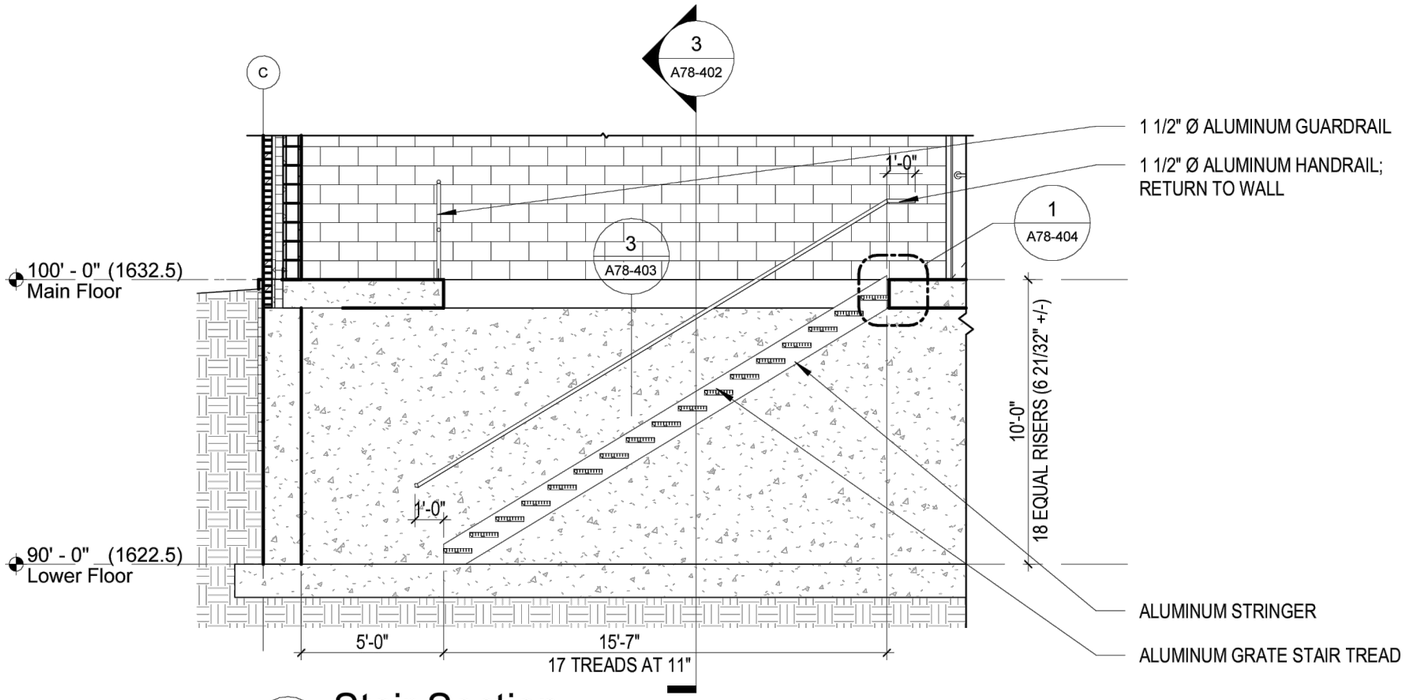
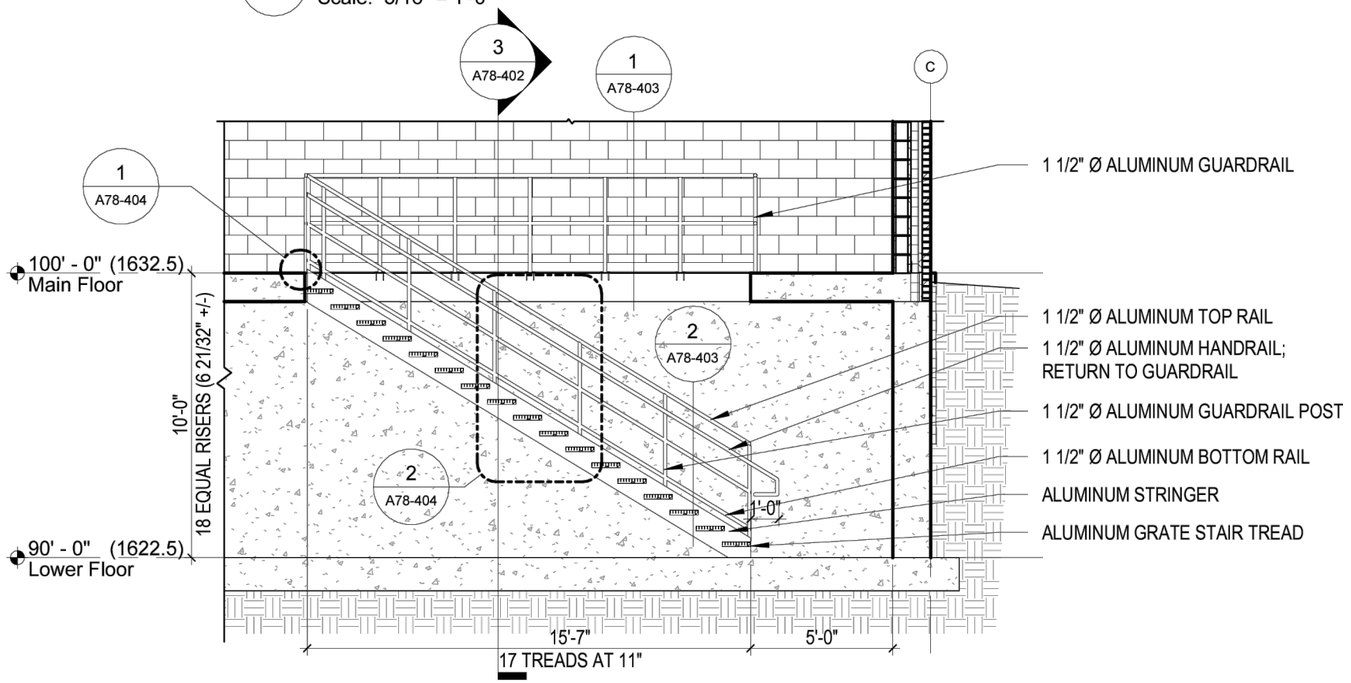
A78-401



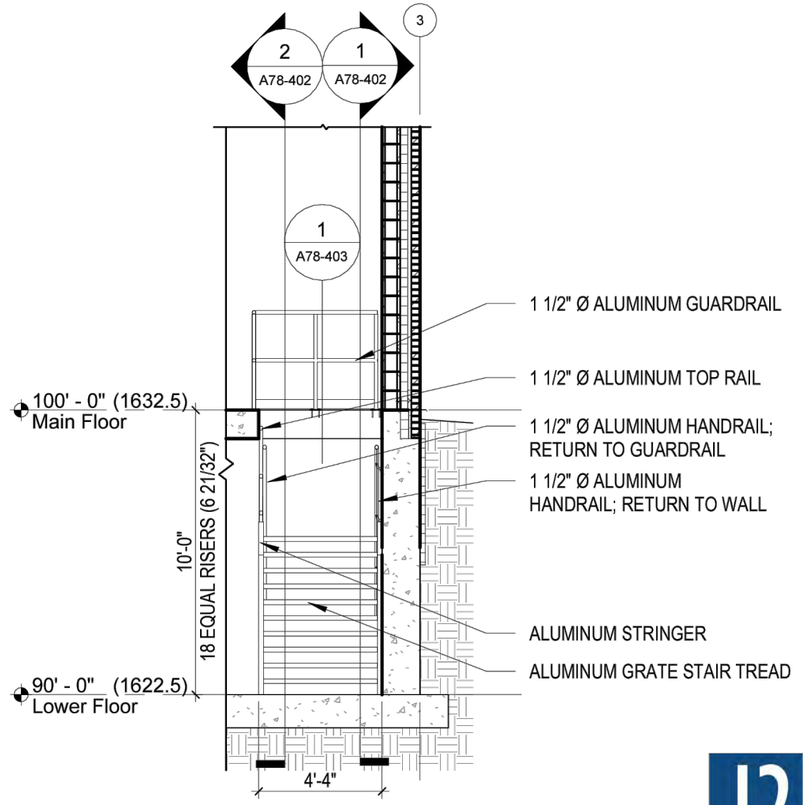
1 Stair Section

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



2 Stair Section

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



3 Stair Section

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

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - STAIR SECTIONS

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MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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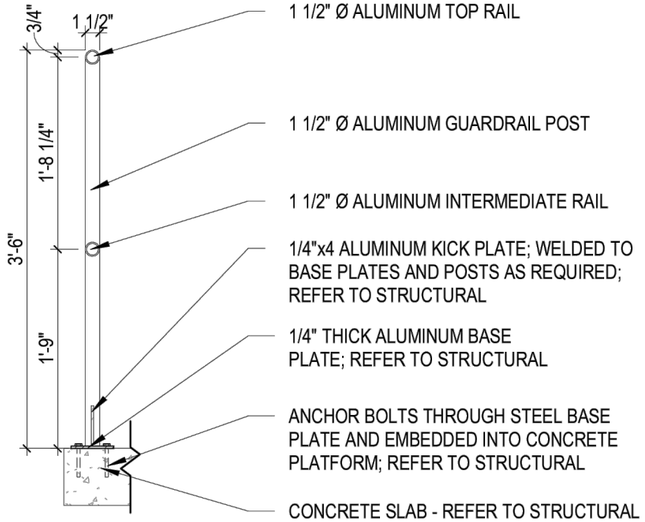
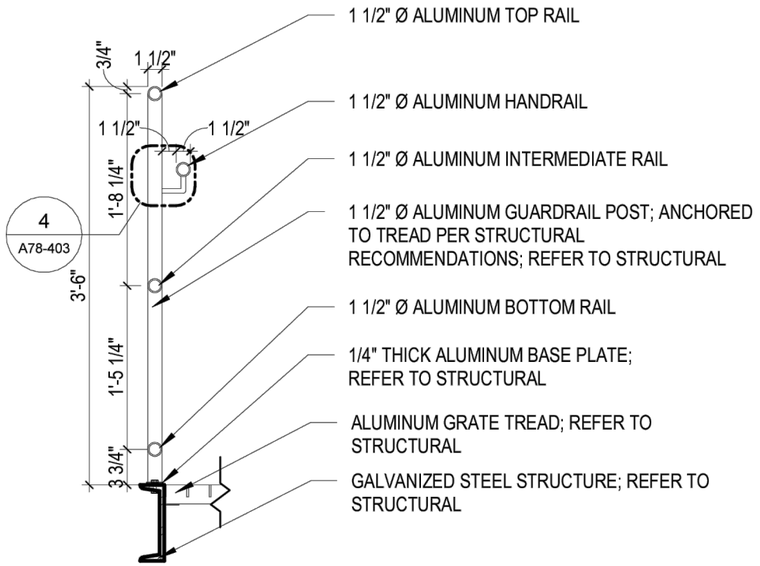
A78-402



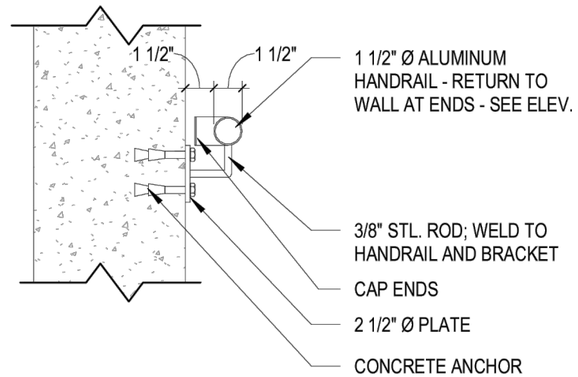
1 Guardrail Section

Scale: 3/4" = 1'-0"



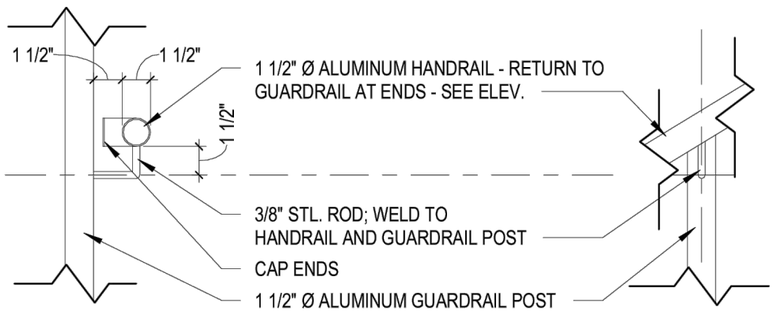
2 Guardrail Section

Scale: 3/4" = 1'-0"



3 Handrail Detail at Wall

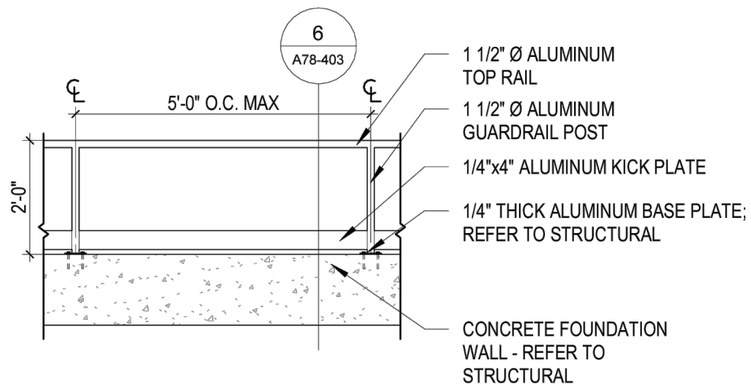
Scale: 1 1/2" = 1'-0"



4 Handrail Detail at Guardrail

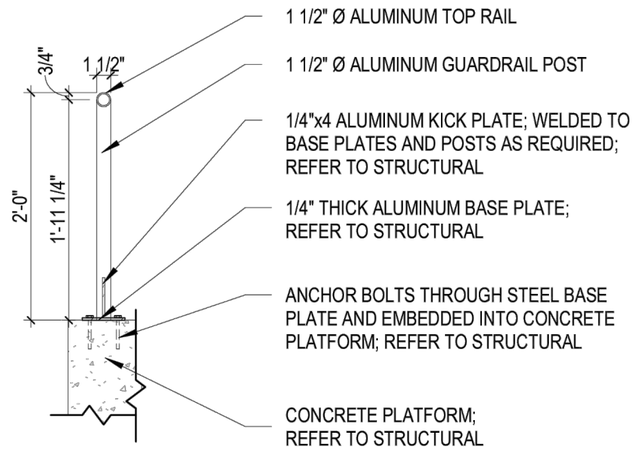
Scale: 1 1/2" = 1'-0"

NOTE: REFER TO DRAWING D52-301 FOR EXACT LOCATION AND DIMENSION OF GUARDRAIL(S)



5 Guardrail Elevation - STR 52

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



6 Guardrail Section

Scale: 3/4" = 1'-0"

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ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - STAIR DETAILS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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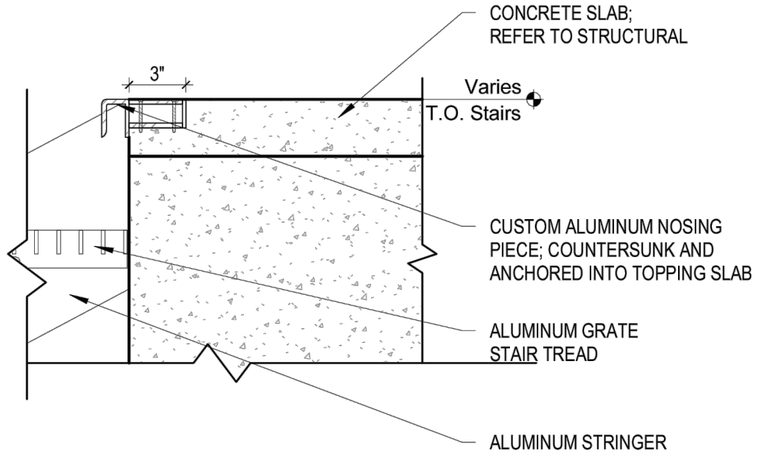
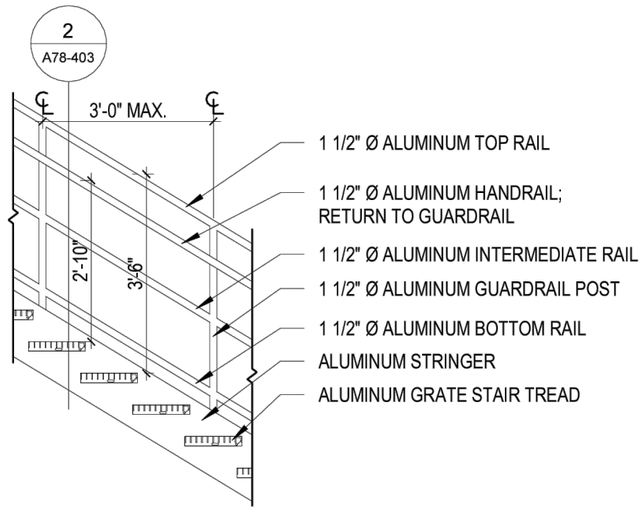


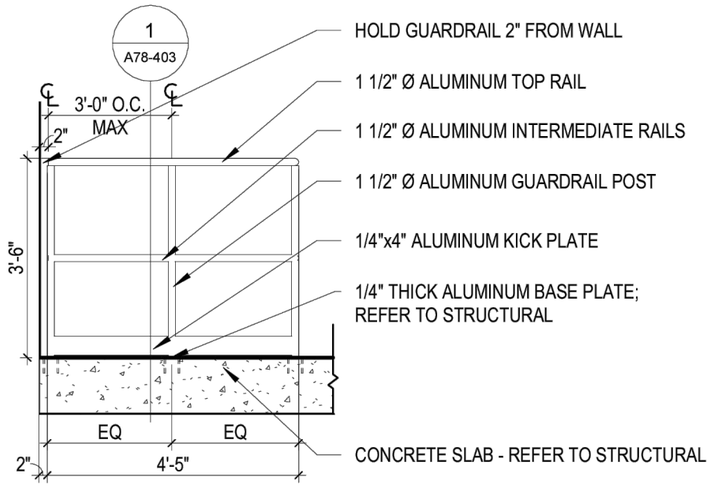
1 Nosing Detail

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



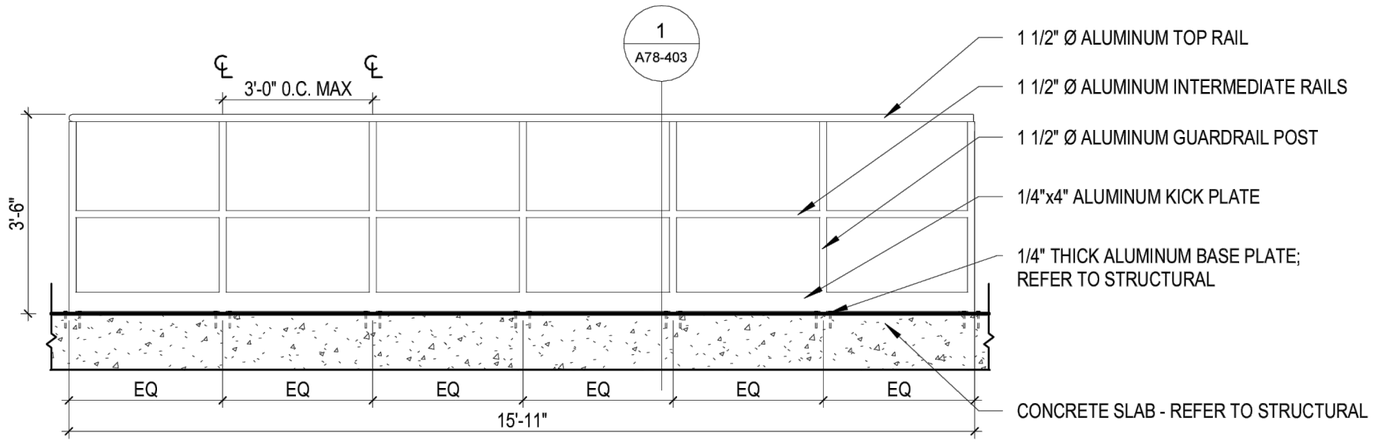
2 Guardrail Elevation

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



3 Guardrail Elevation

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



4 Guardrail Elevation

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

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - STAIR DETAILS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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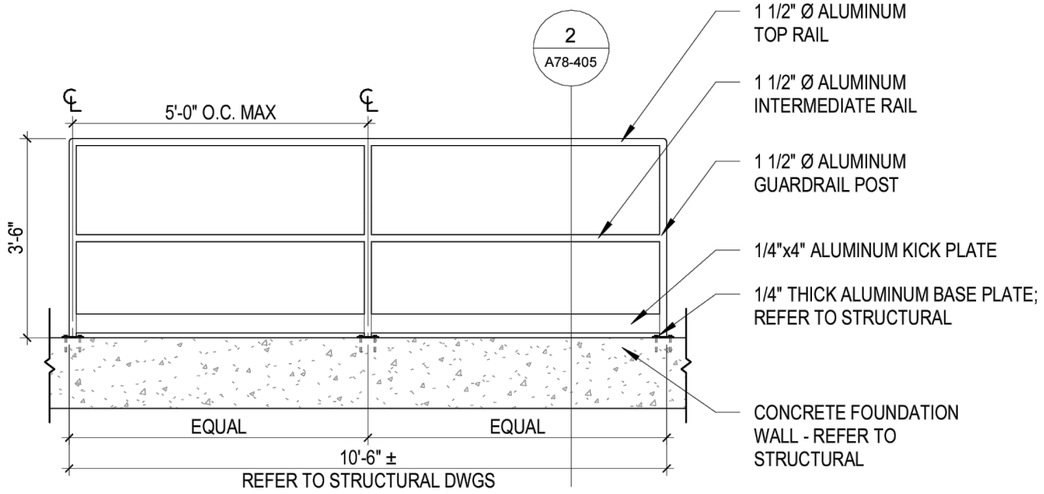
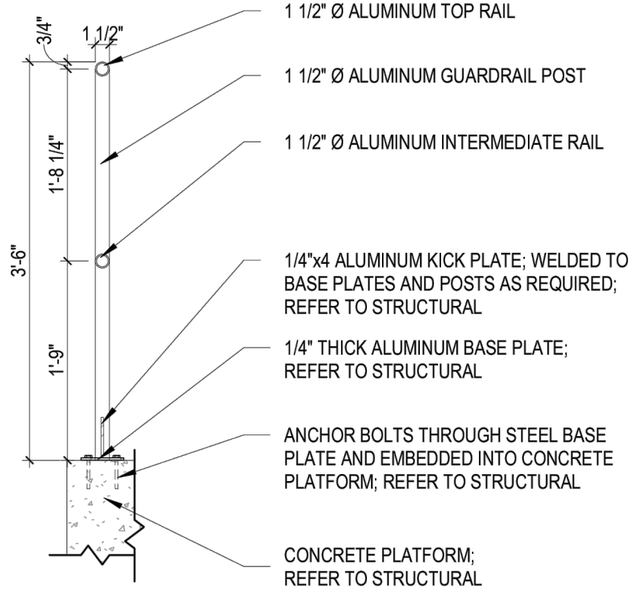


1 Guardrail Elevation - Structure 35

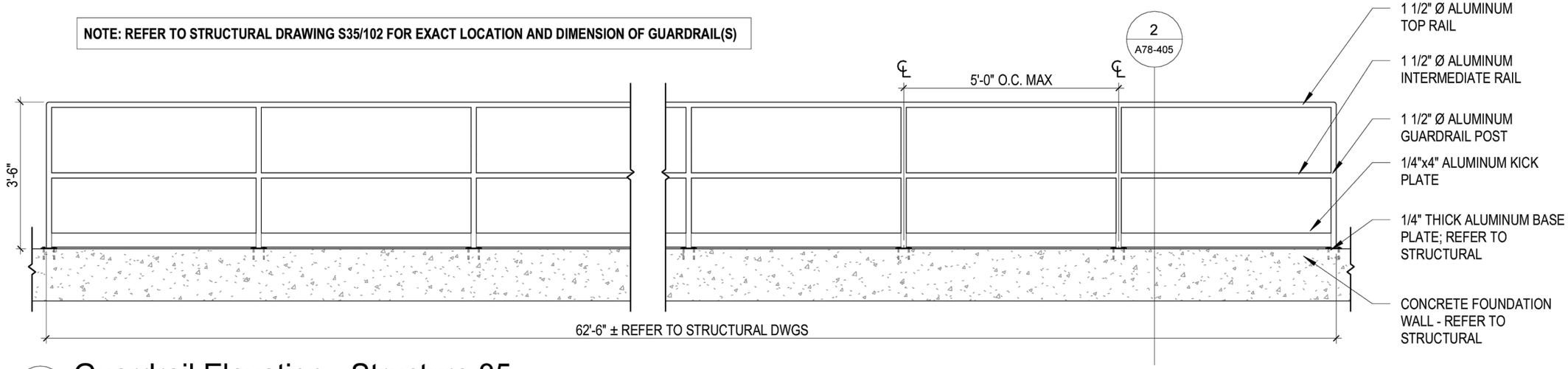
Scale: 3/8" = 1'-0"



2 Guardrail Section

Scale: 3/4" = 1'-0"

NOTE: REFER TO STRUCTURAL DRAWING S35/102 FOR EXACT LOCATION AND DIMENSION OF GUARDRAIL(S)



3 Guardrail Elevation - Structure 35

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

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 35 - GUARDRAIL ELEVATIONS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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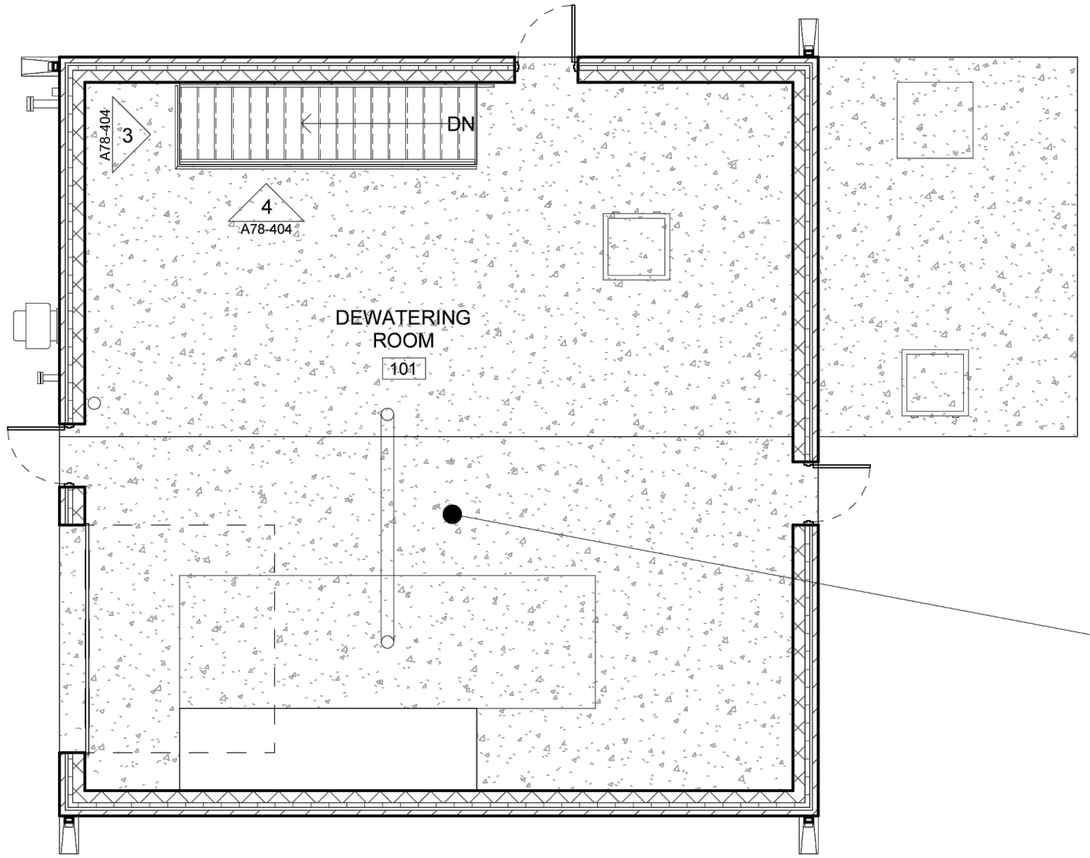

RM # 101
DEWATERING

FLOOR:	SC1
BASE:	P1
N WALL:	P1
E WALL:	P1
S WALL:	P1
W WALL:	P1
CEILING:	P2
REMARKS:	1,2

N

1 Main Floor Room Finish Plan
Scale: 1/8" = 1'-0"

ROOM FINISH LEGEND:

ROOM NUMBER	RM # 101
ROOM NAME	ROOM
FLOOR FINISH	FLOOR: -
BASE FINISH	BASE: -
NORTH WALL FINISH	N WALL: -
EAST WALL FINISH	E WALL: -
SOUTH WALL FINISH	S WALL: -
WEST WALL FINISH	W WALL: -
CEILING FINISH	CEILING: -
REMARKS	REMARKS: -

ROOM FINISHES:

MISC. FINISHES

SC1 - SEALED CONCRETE

BASE FINISHES

P1 - EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (WALL COLOR)

WALL/CEILING FINISHES

P1 - EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (WALL COLOR)

P2 - EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (CEILING COLOR)

P3 - PAINT - SHERWIN WILLIAMS; COLOR - BLACK FOX #SW7020; SEMI-GLOSS FINISH (EXTERIOR EXPOSED STEEL COLOR TO MATCH FIBERGLASS DOOR; COLOR TO BE CONFIRMED DURING SHOP DRAWING PHASE)

FINISH NOTES:

1. PAINT STEEL PLATE AT OVERHEAD DOOR 'P3'.

GENERAL NOTES:

A. CAULK DOOR FRAME AT INTERSECTION WITH CONCRETE FLOOR.
B. CAULK PERIMETER OF DOOR FRAME, LOUVER AND DUCT PENETRATION TO BOTH CMU AND BRICK VENEER.

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - MAIN FLOOR FINISH PLAN

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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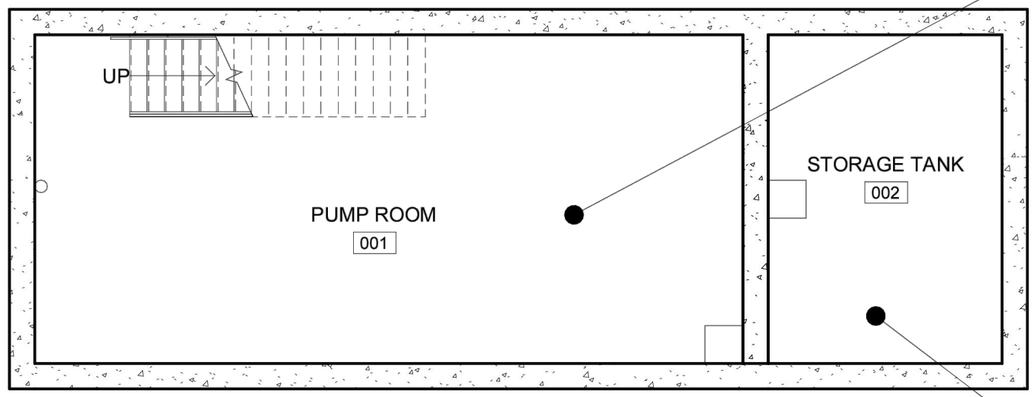

RM # 001 PUMP ROOM	
FLOOR:	SC1
BASE:	SC1
N WALL:	SC1
E WALL:	SC1
S WALL:	SC1
W WALL:	SC1
CEILING:	SC1
REMARKS:	-

RM # 002 STOR. TANK	
FLOOR:	SC1
BASE:	SC1
N WALL:	SC1
E WALL:	SC1
S WALL:	SC1
W WALL:	SC1
CEILING:	SC1
REMARKS:	-

1 Lower Floor Room Finish Plan

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

N

ROOM FINISH LEGEND:

ROOM NUMBER — RM # 101
ROOM NAME — ROOM

FLOOR FINISH	FLOOR: -
BASE FINISH	BASE: -
NORTH WALL FINISH	N WALL: -
EAST WALL FINISH	E WALL: -
SOUTH WALL FINISH	S WALL: -
WEST WALL FINISH	W WALL: -
CEILING FINISH	CEILING: -
REMARKS	REMARKS: -

ROOM FINISHES:

MISC. FINISHES

SC1 - SEALED CONCRETE

BASE FINISHES

P1 - EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (WALL COLOR)

WALL/CEILING FINISHES

P1 - EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (WALL COLOR)

P2 - EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (CEILING COLOR)

P3 - PAINT - SHERWIN WILLIAMS; COLOR - BLACK FOX #SW7020; SEMI-GLOSS FINISH (EXTERIOR EXPOSED STEEL COLOR TO MATCH FIBERGLASS DOOR; COLOR TO BE CONFIRMED DURING SHOP DRAWING PHASE)

FINISH NOTES:

1. PAINT STEEL PLATE AT OVERHEAD DOOR 'P3'.

GENERAL NOTES:

A. CAULK DOOR FRAME AT INTERSECTION WITH CONCRETE FLOOR.
B. CAULK PERIMETER OF DOOR FRAME, LOUVER AND DUCT PENETRATION TO BOTH CMU AND BRICK VENEER.

LICENSED ARCHITECT - REG. NO. 13887 - JAMES DEVINE - DATE: 01/08/2026 - SOUTH DAKOTA

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WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - LOWER FLOOR FINISH PLAN

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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DOOR AND FRAME SCHEDULE

DOOR									FRAME					HARDWARE	
DOOR #	DOOR	ROOM NAME	SIZE			MAT'L	EL	GLAZ'G	MAT'L	EL	DETAIL			SET NO	NOTES
			WD	HGT	THK						HEAD	JAMB	SILL		
#52		STRUCTURE	3' - 0"	7' - 0"	0' - 1 3/4"	FG	A	--	FRP	1	1/A78-602	2/A78-602	2/A78-603	1	1,2,3
78-101	A	DEWATERING	3' - 0"	7' - 0"	0' - 1 3/4"	FG	A	--	FRP	1	1/A78-603	3/A78-603	2/A78-603	1	1,2
78-101	B	DEWATERING	3' - 0"	7' - 0"	0' - 1 3/4"	FG	A	--	FRP	1	1/A78-603	3/A78-603	2/A78-603	1	1,2
78-101	C	DEWATERING	3' - 0"	7' - 0"	0' - 1 3/4"	FG	A	--	FRP	1	1/A78-603	3/A78-603	2/A78-603	1	1,2
78-101	D	DEWATERING	12' - 0"	10' - 0"	0' - 2"	STL	B	GL1	--	--	1/A78-604	3/A78-604	2/A78-604	--	--

HARDWARE:

GROUP 1 (EXTERIOR SINGLE DOOR - EGRESS)

HINGES:	HAGER BB1199 4-1/2" X 4-1/2" - 1 1/2 PAIR (NRP); US26D FINISH
EXIT DEVICE:	VON DUPRIN 99-L-06 3'; US26 FINISH
CLOSER/STOP:	LCN P4040XP-3077CNS; PARALLEL ARM
WEATHERSTRIPPING:	REESE DS69C
SWEEP:	REESE 967C
THRESHOLD:	REESE S424A
RAINDRIP:	REESE R201C

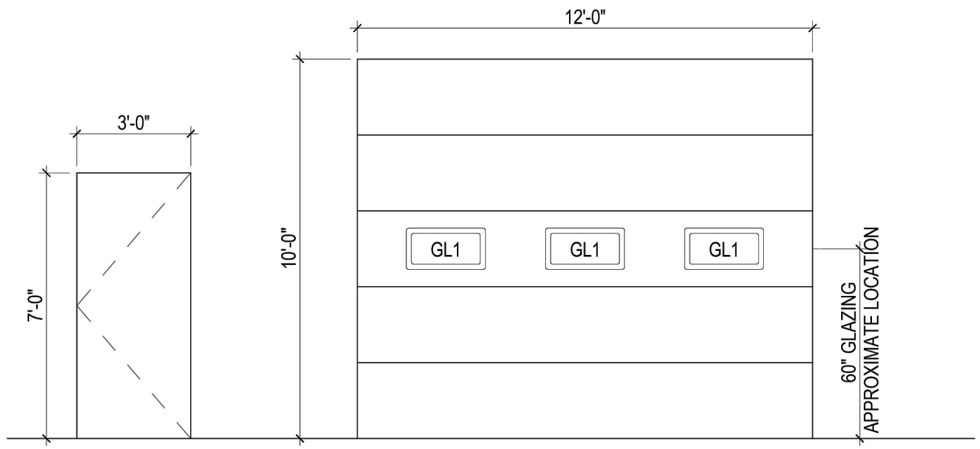
GLASS TYPES:
GL1 - LOW-E-COATED, TINTED INSULATING GLASS (EXTERIOR WINDOWS)

GROUP 2 (INTERIOR SINGLE DOOR - NON-LOCKABLE)

HINGES:	HAGER BB1199 4-1/2" X 4-1/2" - 1 1/2 PAIR; US26D FINISH
LOCKS:	SCHLAGE ND10S LATCHSET; RHODES LEVER; FINISH 626
CLOSER/STOP:	LCN P4040XP-3077CNS; PARALLEL ARM

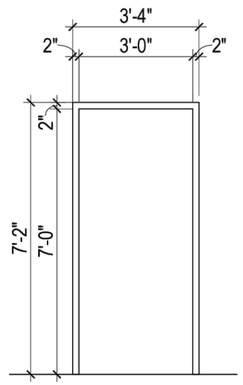
HARDWARE/DOOR SCHEDULE NOTES:

1. REFER TO SHEET A78-201 FOR DOOR AND FRAME FINISHES.
2. CORE KEYWAY TO MATCH EXISTING KEYING SYSTEM. CORE ASSUMED TO BE SCHLAGE C-STYLE, 6 PIN CONVENTIONAL. CONFIRM WITH OWNER PRIOR TO ORDERING.
3. DOOR LOCATED AT STRUCTURE #52; REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR LOCATION AND MORE INFORMATION.



Door Elevations

Scale: 1/4" = 1'-0"



Frame Elevation

Scale: 1/4" = 1'-0"

LICENSED ARCHITECT
REG. NO. 13887
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SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - DOOR SCHEDULE, HARDWARE, ELEVATIONS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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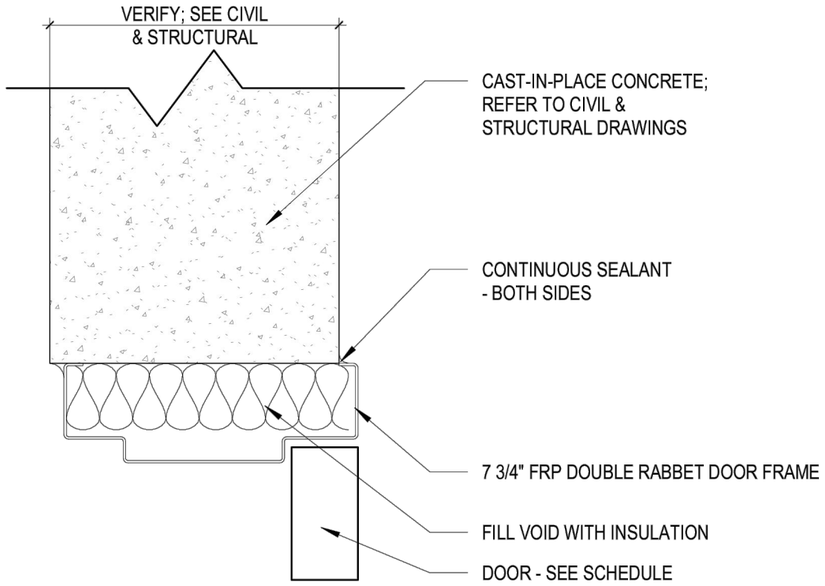
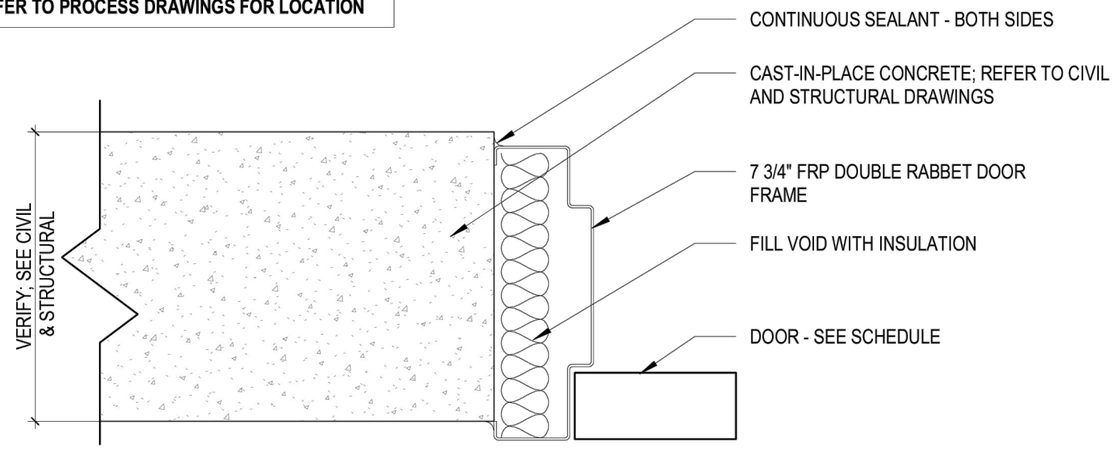
A78-601



1 Fiberglass Door Frame - Head

Scale: 3" = 1'-0"

NOTE: DOOR LOCATED AT STRUCTURE #52; REFER TO PROCESS DRAWINGS FOR LOCATION



2 Fiberglass Door Frame - Jamb

Scale: 3" = 1'-0"

NOTE: REFER TO SPECIFICATIONS FOR MASONRY ANCHOR INFORMATION

LICENSED ARCHITECT
REG. NO. 13887
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SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - DOOR DETAILS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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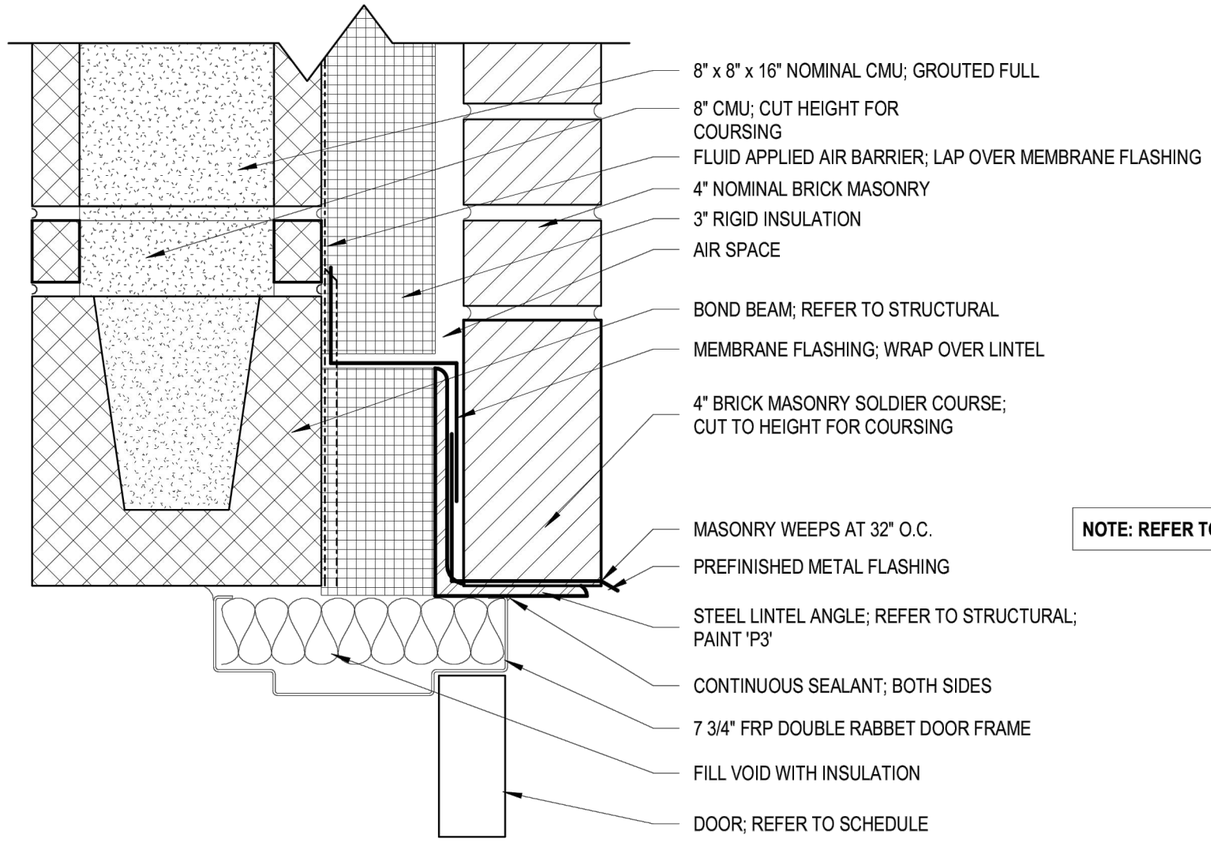
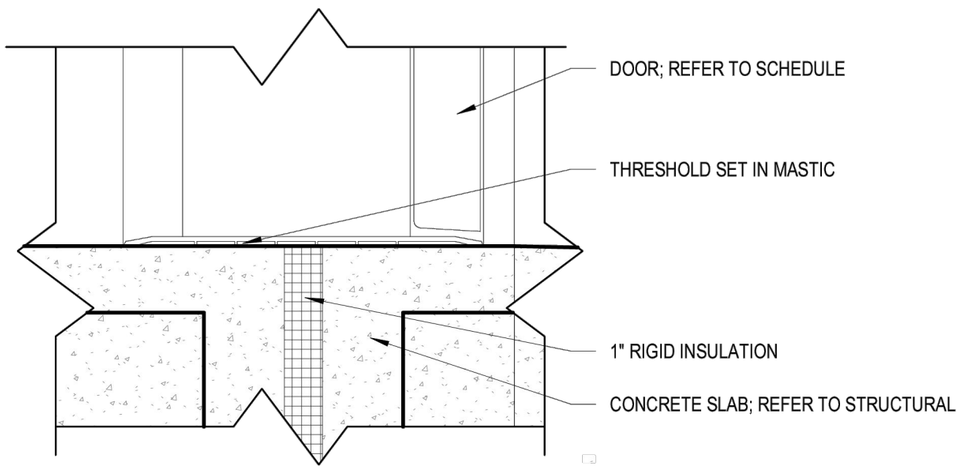
A78-602



1 Fiberglass Door Frame - Head

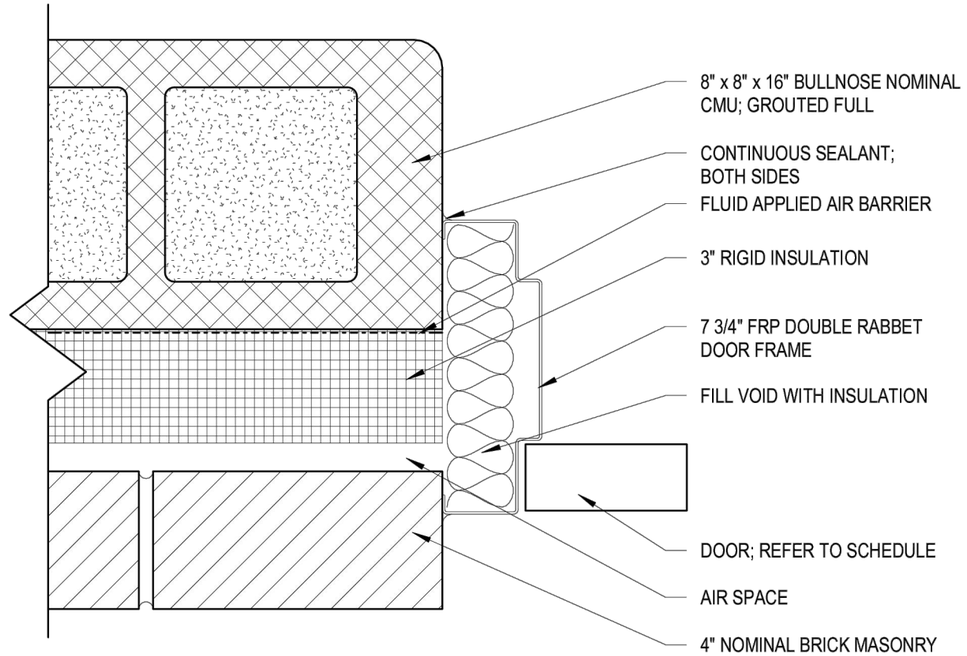
Scale: 3" = 1'-0"

NOTE: REFER TO SPECIFICATIONS FOR MASONRY ANCHOR INFORMATION



2 Fiberglass Door Frame - Threshold

Scale: 3" = 1'-0"



3 Fiberglass Door Frame - Jamb

Scale: 3" = 1'-0"

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - DOOR DETAILS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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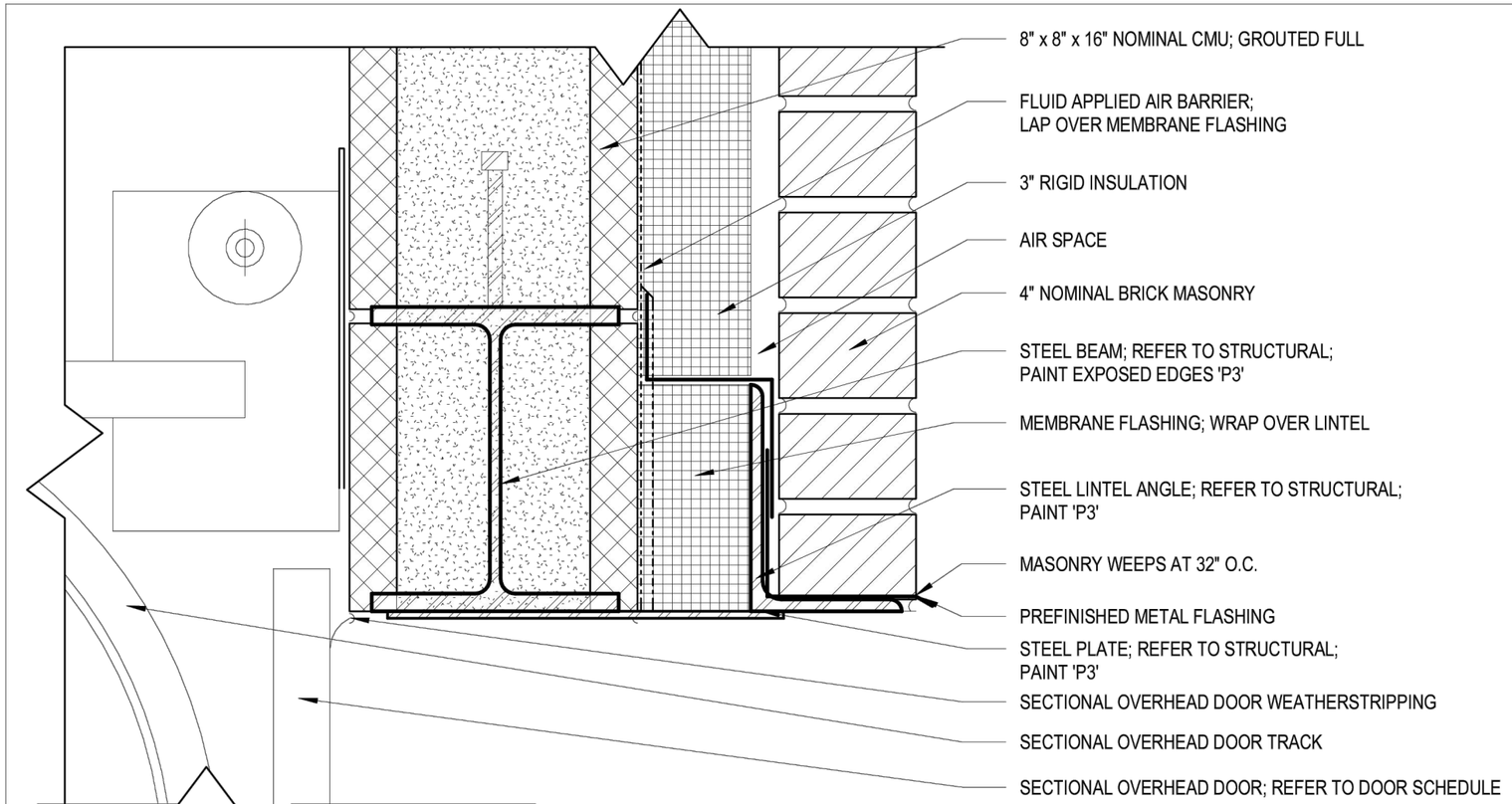
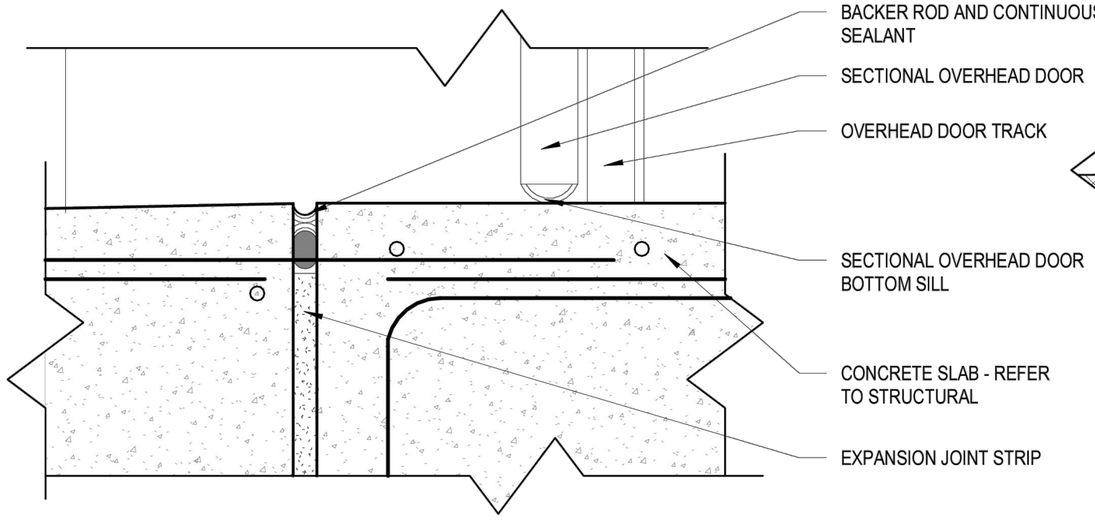
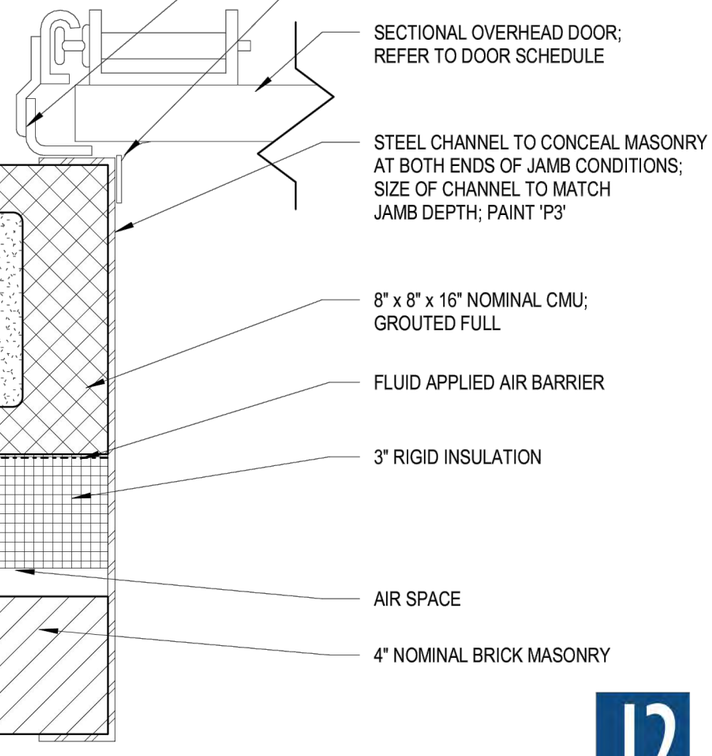


1 **Overhead Door - Head**
Scale: 3" = 1'-0"



2 **Overhead Door - Sill**
Scale: 3" = 1'-0"



3 **Overhead Door - Jamb**
Scale: 3" = 1'-0"

LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - DOOR DETAILS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

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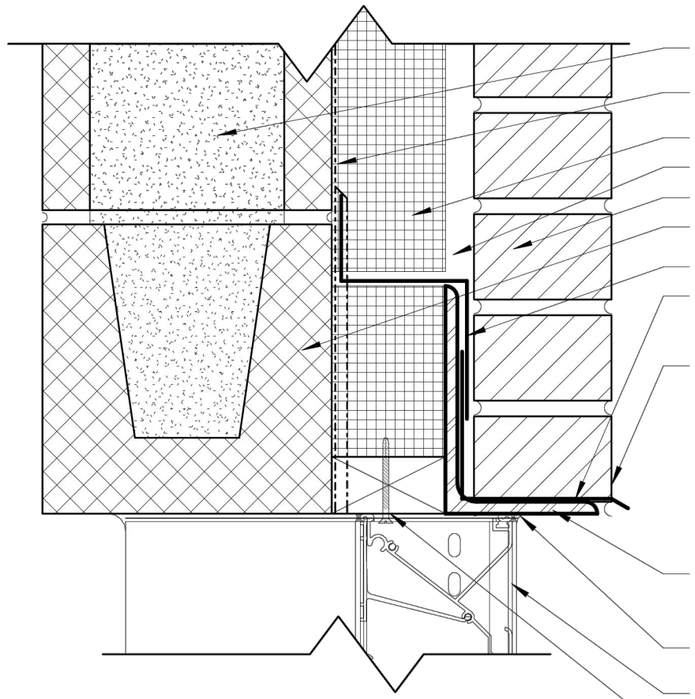
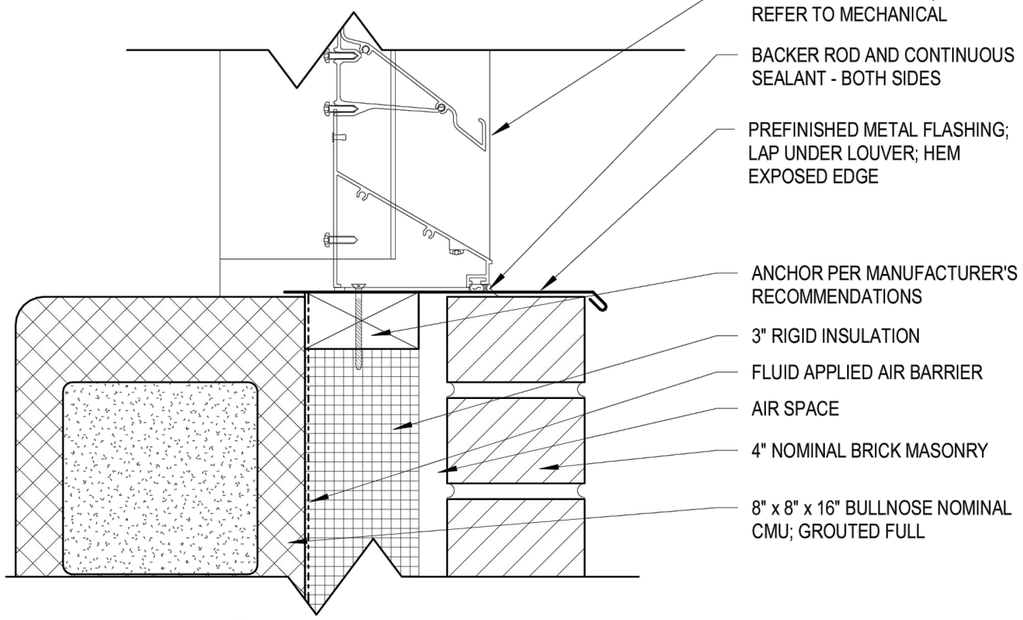
A78-604



8" x 8" x 16" NOMINAL CMU; GROUTED FULL
FLUID APPLIED AIR BARRIER; LAP OVER MEMBRANE FLASHING
3" RIGID INSULATION
AIR SPACE
4" NOMINAL BRICK MASONRY
BOND BEAM; REFER TO STRUCTURAL
MEMBRANE FLASHING; WRAP OVER LINTEL
PREFINISHED METAL FLASHING
MASONRY WEEPS AT 32" O.C.
STEEL LINTEL ANGLE; REFER TO STRUCTURAL; PAINT 'P3'
CONTINUOUS SEALANT; BOTH SIDES
MECHANICAL LOUVER; REFER TO MECHANICAL
ANCHOR PER MANUFACTURER RECOMMENDATIONS

1 Louver - Head

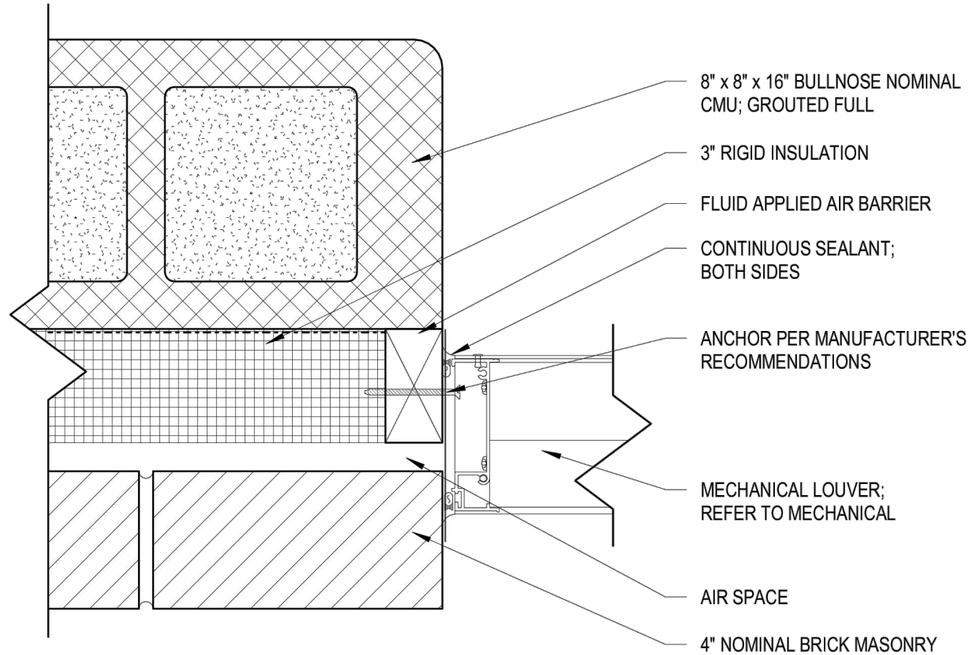
Scale: 3" = 1'-0"



MECHANICAL LOUVER; REFER TO MECHANICAL
BACKER ROD AND CONTINUOUS SEALANT - BOTH SIDES
PREFINISHED METAL FLASHING; LAP UNDER LOUVER; HEM EXPOSED EDGE
ANCHOR PER MANUFACTURER'S RECOMMENDATIONS
3" RIGID INSULATION
FLUID APPLIED AIR BARRIER
AIR SPACE
4" NOMINAL BRICK MASONRY
8" x 8" x 16" BULLNOSE NOMINAL CMU; GROUTED FULL

2 Louver - Sill

Scale: 3" = 1'-0"



8" x 8" x 16" BULLNOSE NOMINAL CMU; GROUTED FULL
3" RIGID INSULATION
FLUID APPLIED AIR BARRIER
CONTINUOUS SEALANT; BOTH SIDES
ANCHOR PER MANUFACTURER'S RECOMMENDATIONS
MECHANICAL LOUVER; REFER TO MECHANICAL
AIR SPACE
4" NOMINAL BRICK MASONRY

3 Louver - Jamb

Scale: 3" = 1'-0"

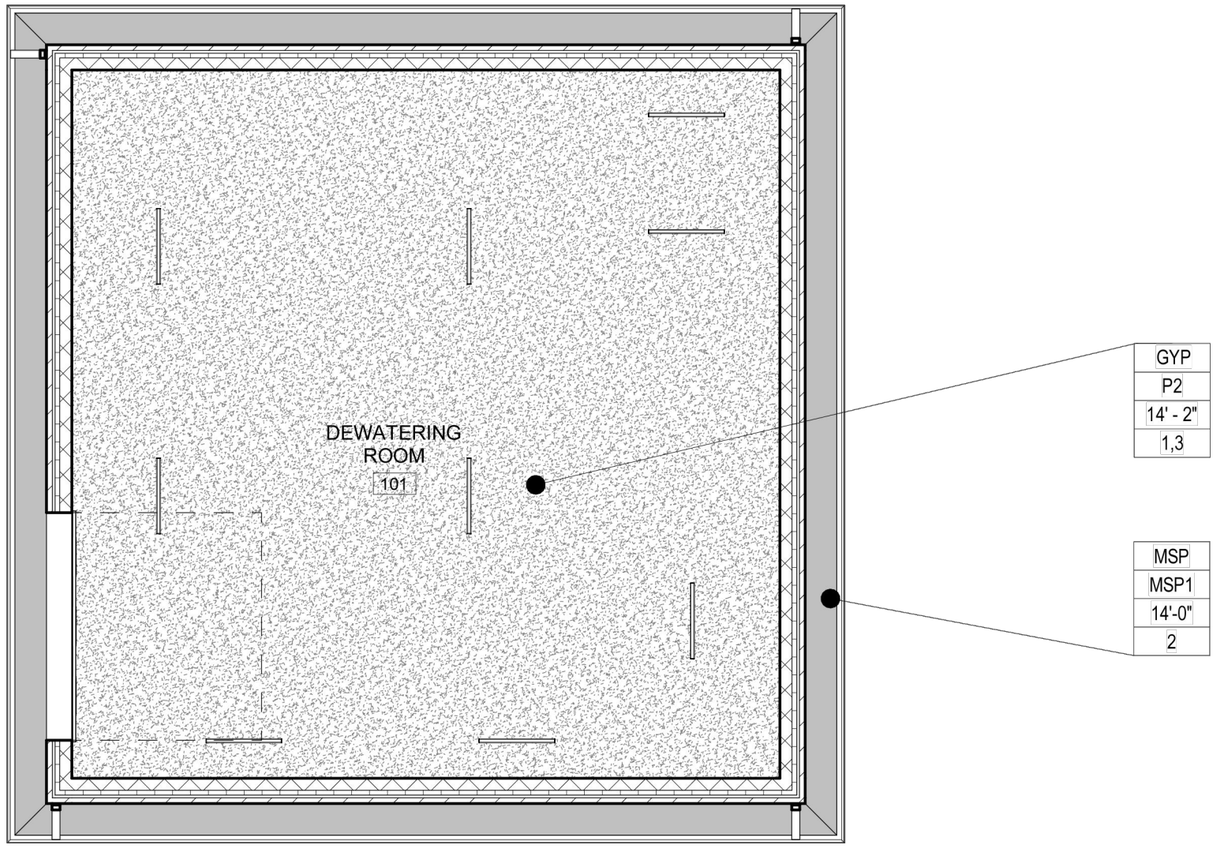
LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - LOUVER DETAILS

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

J2 studio architecture + design, pc

A78-605



1 Main Floor Reflected Ceiling Plan
Scale: 1/8" = 1'-0"

N

CEILING FINISH LEGEND:

CEILING TYPE
CEILING FINISH
CEILING HEIGHT
CEILING FINISH NOTES

GYP - GYPSUM DRYWALL CEILING

MSP - METAL SOFFIT PANEL

CONC CAST-IN-PLACE CONCRETE

LIGHTING - REFER TO ELECTRICAL

HVAC REGISTERS - REFER TO MECHANICAL

CEILING FINISHES:

P2- EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (CEILING COLOR)

MSP1 - PREFINISHED METAL SOFFIT PANEL; PAC-CLAD FLUSH SOFFIT PANEL; CONTINUOUSLY VENTED; COLOR - MEDIUM BRONZE

SC1 - SEALED CONCRETE

CEILING NOTES:

1. HEIGHT SHOWN IS APPROXIMATE. ATTACH GYPSUM BOARD TO UNDERSIDE OF WOOD TRUSS.
2. HEIGHT SHOWN IS APPROXIMATE. ATTACH SOFFIT PANEL TO BOTTOM SIDE OF FASCIA, REFER TO ROOF DETAILS.

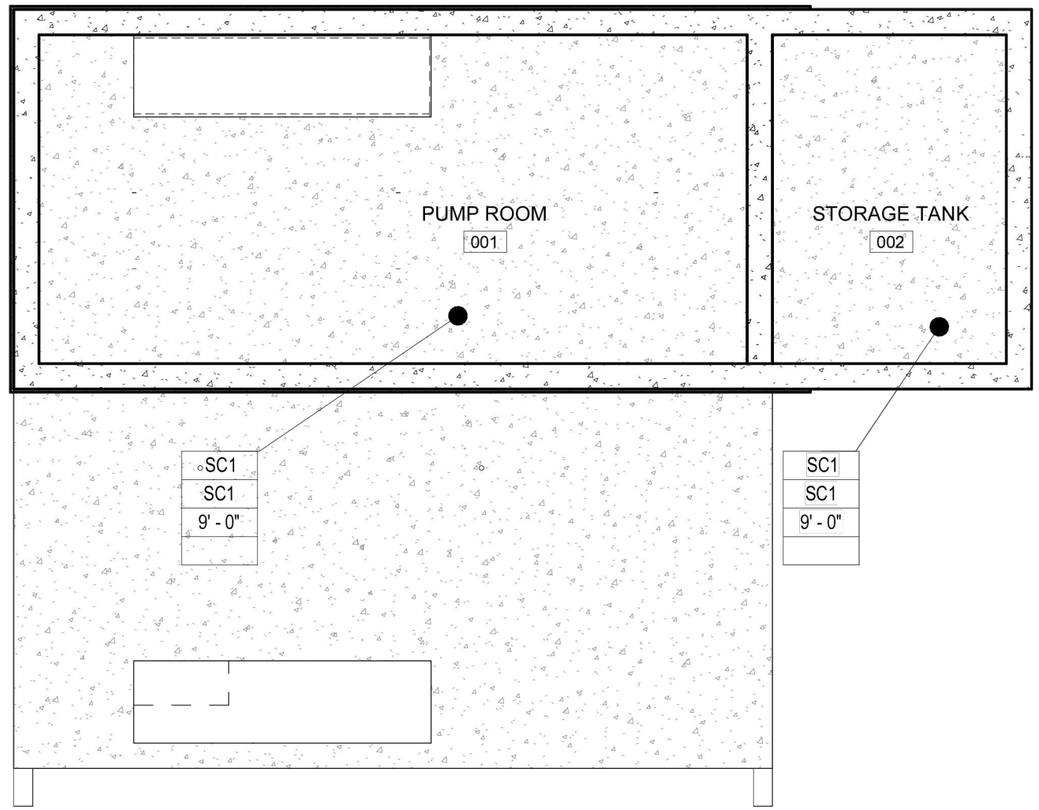
LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - MAIN FLOOR REFLECTED CEILING PLAN

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

J2 studio architecture + design, pc

A78-901



1 Lower Floor Reflected Ceiling Plan
Scale: 1/8" = 1'-0"

N

CEILING FINISH LEGEND:

CEILING TYPE
CEILING FINISH
CEILING HEIGHT
CEILING FINISH NOTES

GYP - GYPSUM DRYWALL CEILING

MSP - METAL SOFFIT PANEL

CONC CAST-IN-PLACE CONCRETE

LIGHTING - REFER TO ELECTRICAL

HVAC REGISTERS - REFER TO MECHANICAL

CEILING FINISHES:

P2- EPOXY PAINT - SHERWIN WILLIAMS; COLOR - AESTHETIC WHITE #SW7035; SEMI-GLOSS FINISH (CEILING COLOR)

MSP1 - PREFINISHED METAL SOFFIT PANEL; PAC-CLAD FLUSH SOFFIT PANEL; CONTINUOUSLY VENTED; COLOR - MEDIUM BRONZE

SC1 - SEALED CONCRETE

CEILING NOTES:

1. HEIGHT SHOWN IS APPROXIMATE. ATTACH GYPSUM BOARD TO UNDERSIDE OF WOOD TRUSS.
2. HEIGHT SHOWN IS APPROXIMATE. ATTACH SOFFIT PANEL TO BOTTOM SIDE OF FASCIA, REFER TO ROOF DETAILS.

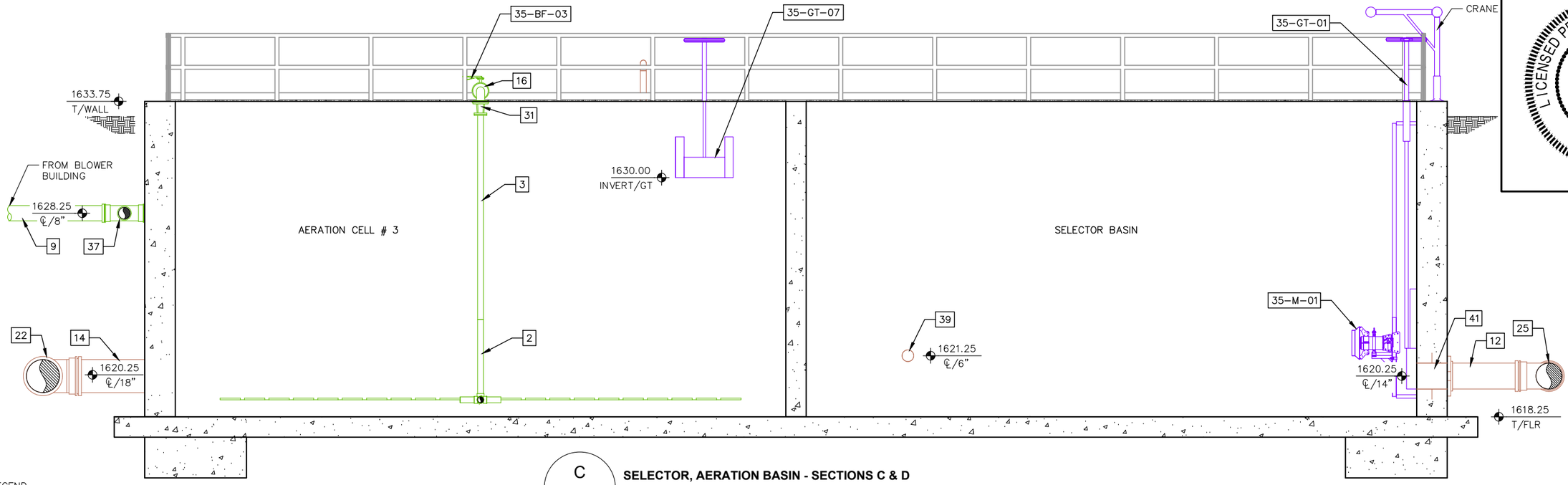
LICENSED ARCHITECT
REG. NO. 13887
JAMES DEVINE
DATE: 01/08/2026
SOUTH DAKOTA

ARCHITECTURAL
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - LOWER FLOOR REFLECTED CEILING PLAN

DATE:	01/08/2026
REV DATE:	
REV NUM:	
RECORD:	
PROJECT No.	J22530
MANAGER:	J. DEVINE
DESIGNER:	C. MEYER
DRAFTER:	C. MEYER
REVIEWER:	

J2 studio architecture + design, pc

A78-902



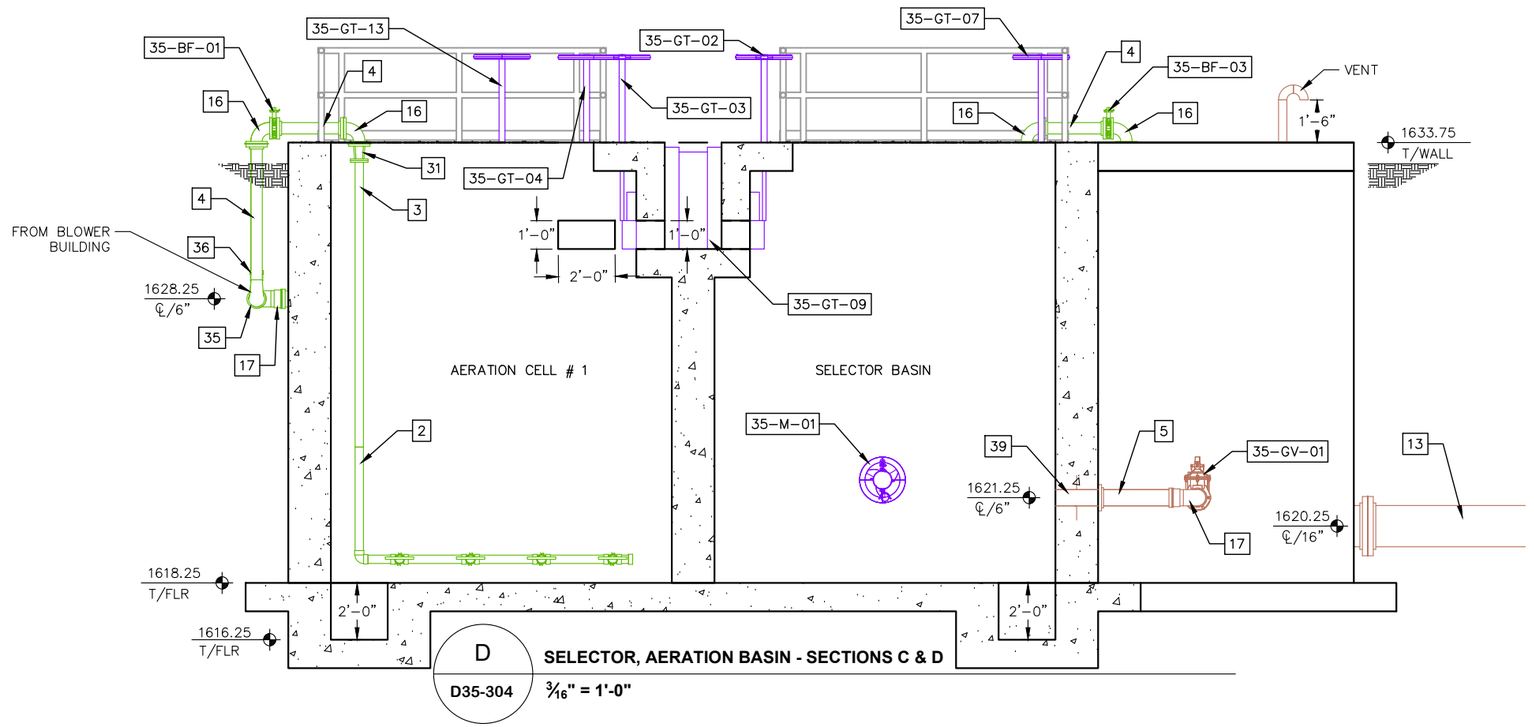
C
D35-304

SELECTOR, AERATION BASIN - SECTIONS C & D

$\frac{3}{16}$" = 1'-0"

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW PIPING
- NEW AIR PIPING



D
D35-304

SELECTOR, AERATION BASIN - SECTIONS C & D

$\frac{3}{16}$" = 1'-0"

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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
SELECTOR, AERATION BASIN - SECTIONS C & D

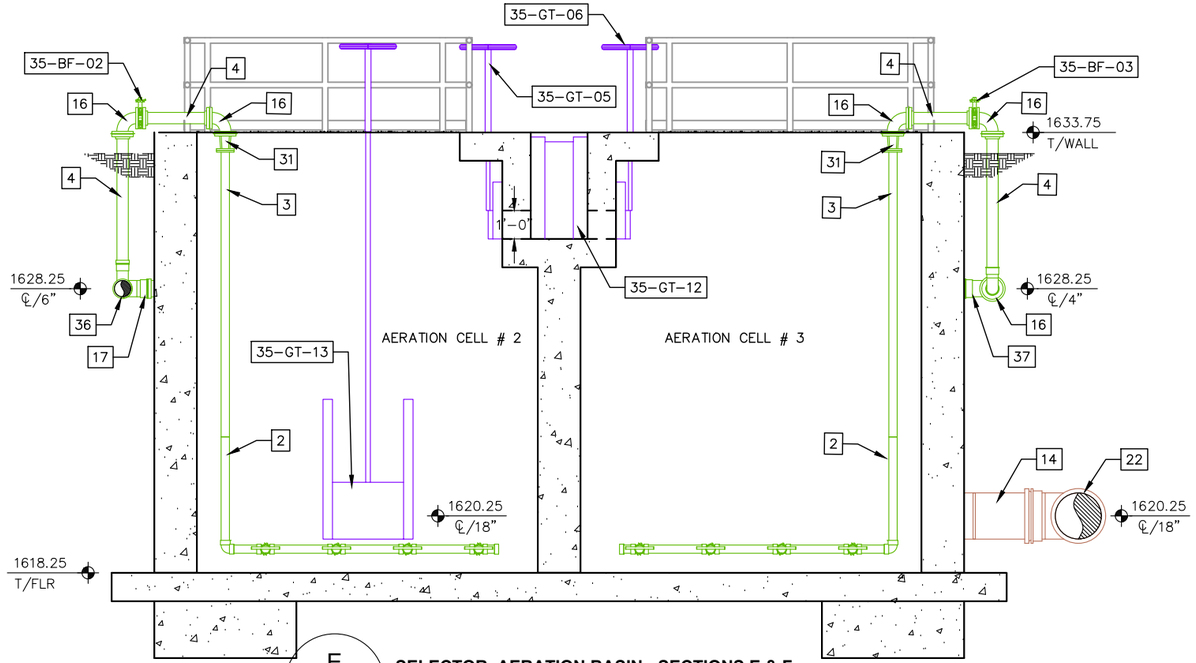
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D35-304

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Ortho\s\DWGs\D35-305 SECTIONS E & F.dwg

LEGEND

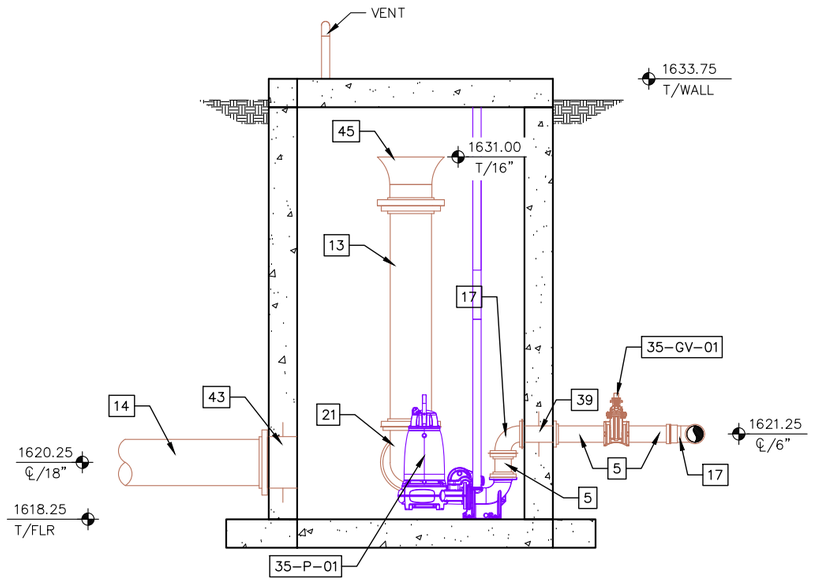
- NEW BUILDING
- NEW EQUIPMENT
- NEW PIPING
- NEW AIR PIPING



E
D35-305

SELECTOR, AERATION BASIN - SECTIONS E & F

$\frac{3}{16}$" = 1'-0"



F
D35-305

SELECTOR, AERATION BASIN - SECTIONS E & F

$\frac{3}{16}$" = 1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
SELECTOR, AERATION BASIN - SECTIONS E & F

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D35-305

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\DR40-101 - TOP VIEW - REMOVALS.dwg

LEGEND

EXISTING

REMOVALS

8" AIR PIPE 29

40–R2

REMOVE PIPING

REMOVE BLIND FLANGE

REMOVE BLIND FLANGE

REMOVE BLIND FLANGE

40–BF–02

40–BF–01

40–BF–04

40–BF–03

40–B–02

40–R1

40–B–01

RESERVED SPACE FOR GARAGE

EXISTING GENERATOR

RESERVED SPACE FOR ELECTRICAL

EXISTING ELECTRICAL

EXISTING ELECTRICAL

0 2' 4'

Scale in Feet

1 / DR40-101 **BLOWER BUILDING REMOVALS - TOP VIEW**

FLOOR ELEV. 1633.00

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AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BLOWER BUILDING REMOVALS - TOP VIEW

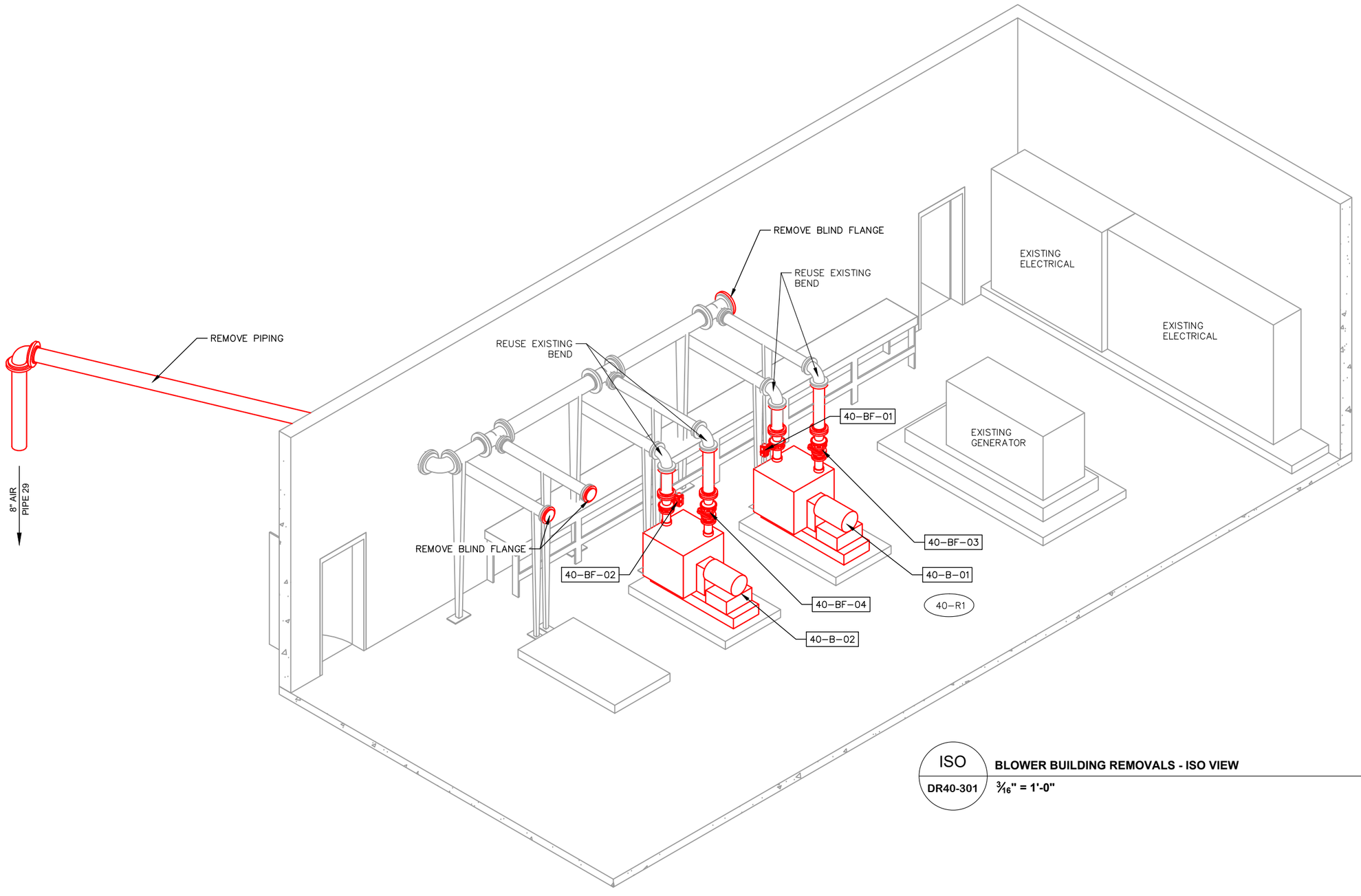
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

DR40-101

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\DR40-301 - ISO VIEW - REMOVALS.dwg

LEGEND

- EXISTING
- REMOVALS



ISO
DR40-301

BLOWER BUILDING REMOVALS - ISO VIEW

3/16" = 1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA

BLOWER BUILDING REMOVALS - ISO VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

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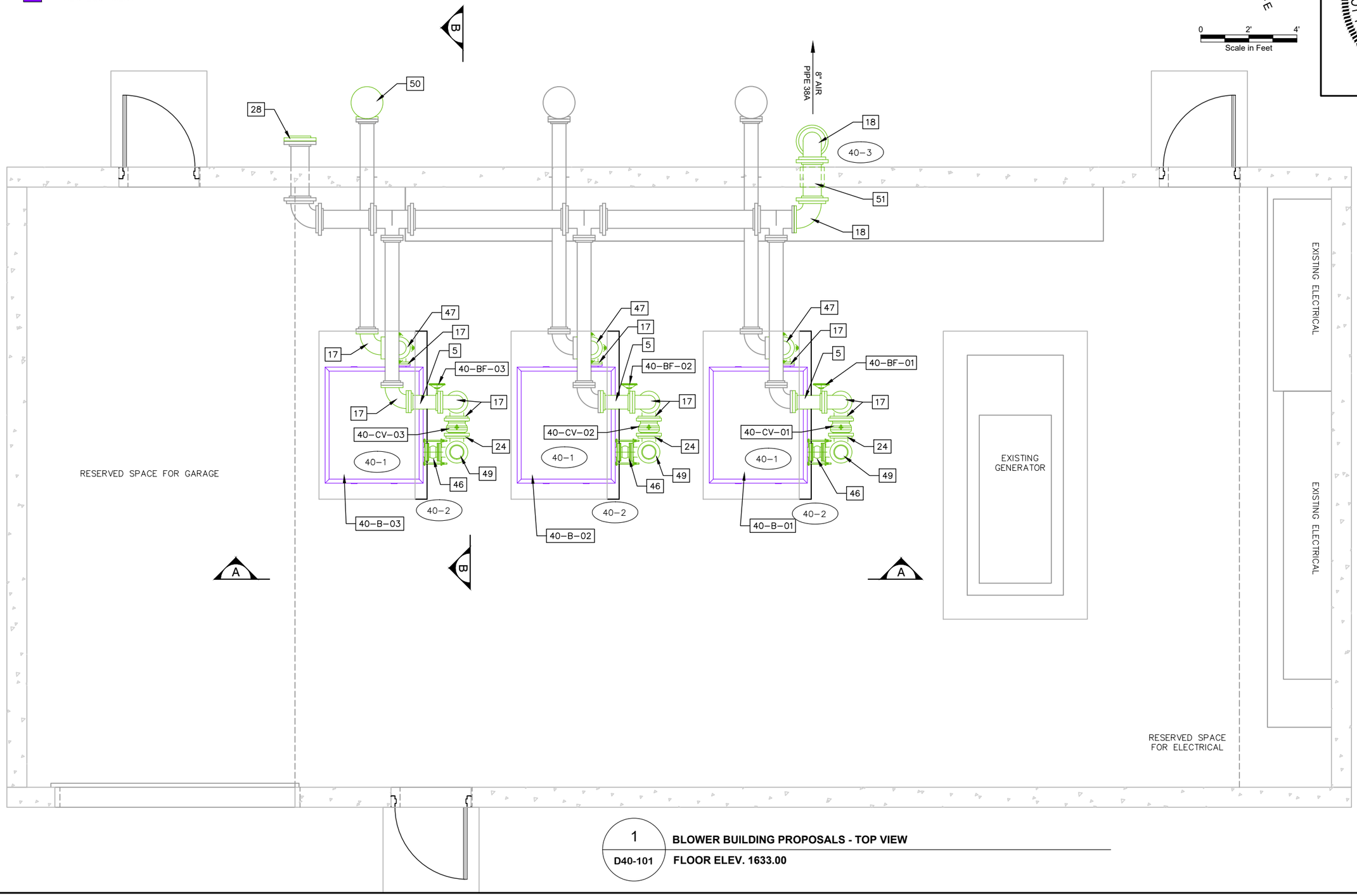
FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D40-101 - TOP VIEW - PROPOSALS.dwg

LEGEND

- EXISTING
- NEW AIR PIPING
- NEW EQUIPMENT



1 / D40-101 **BLOWER BUILDING PROPOSALS - TOP VIEW**

FLOOR ELEV. 1633.00

0 2' 4'

Scale in Feet

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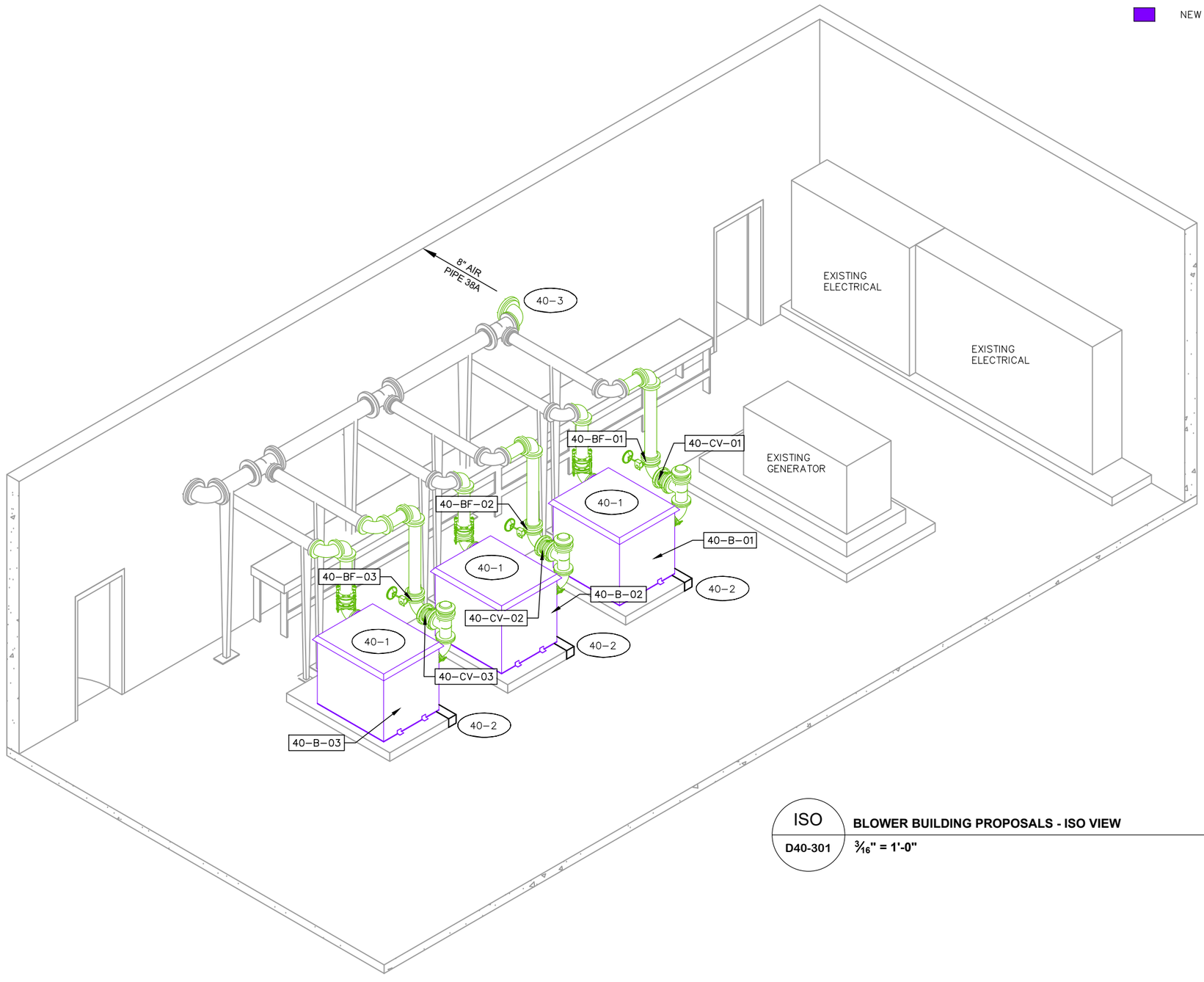
PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BLOWER BUILDING PROPOSALS - TOP VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D40-101

LEGEND

- EXISTING
- NEW AIR PIPING
- NEW EQUIPMENT



ISO
D40-301

BLOWER BUILDING PROPOSALS - ISO VIEW

$\frac{3}{16}$" = 1'-0"

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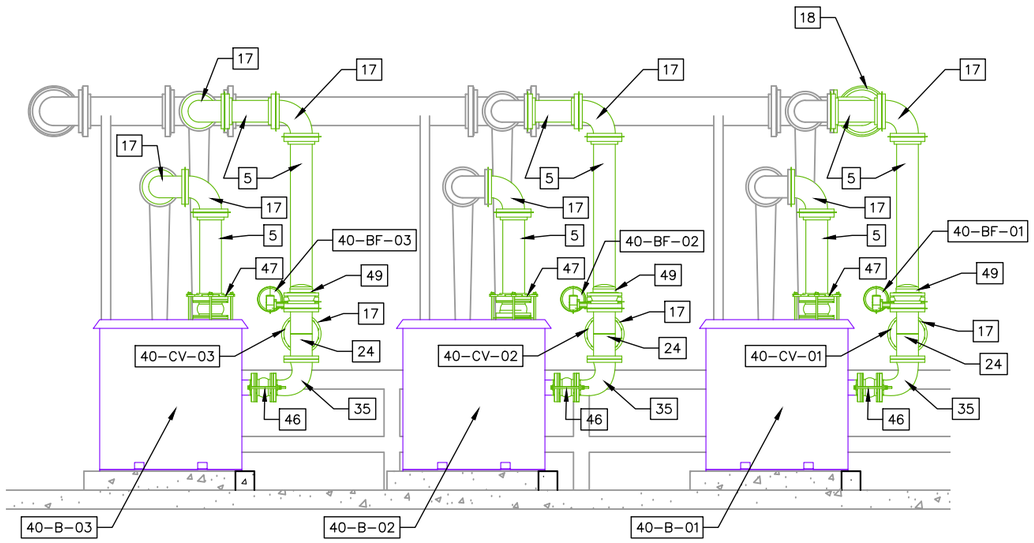
PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BLOWER BUILDING PROPOSALS - ISO VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D40-301



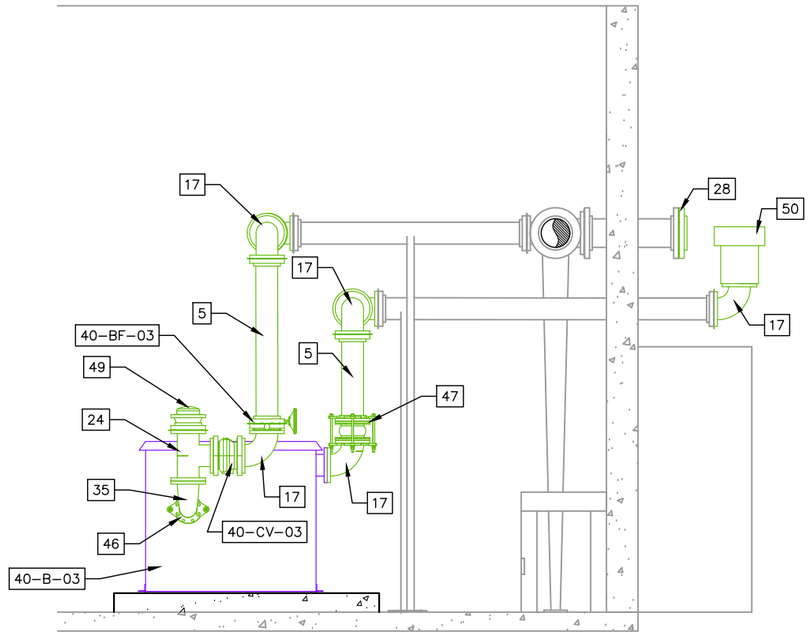
A
D40-302

BLOWER BUILDING PROPOSALS - SECTIONS A & B

¼" = 1'-0"

LEGEND

- EXISTING
- NEW AIR PIPING
- NEW EQUIPMENT



B
D40-302

BLOWER BUILDING PROPOSALS - SECTIONS A & B

¼" = 1'-0"

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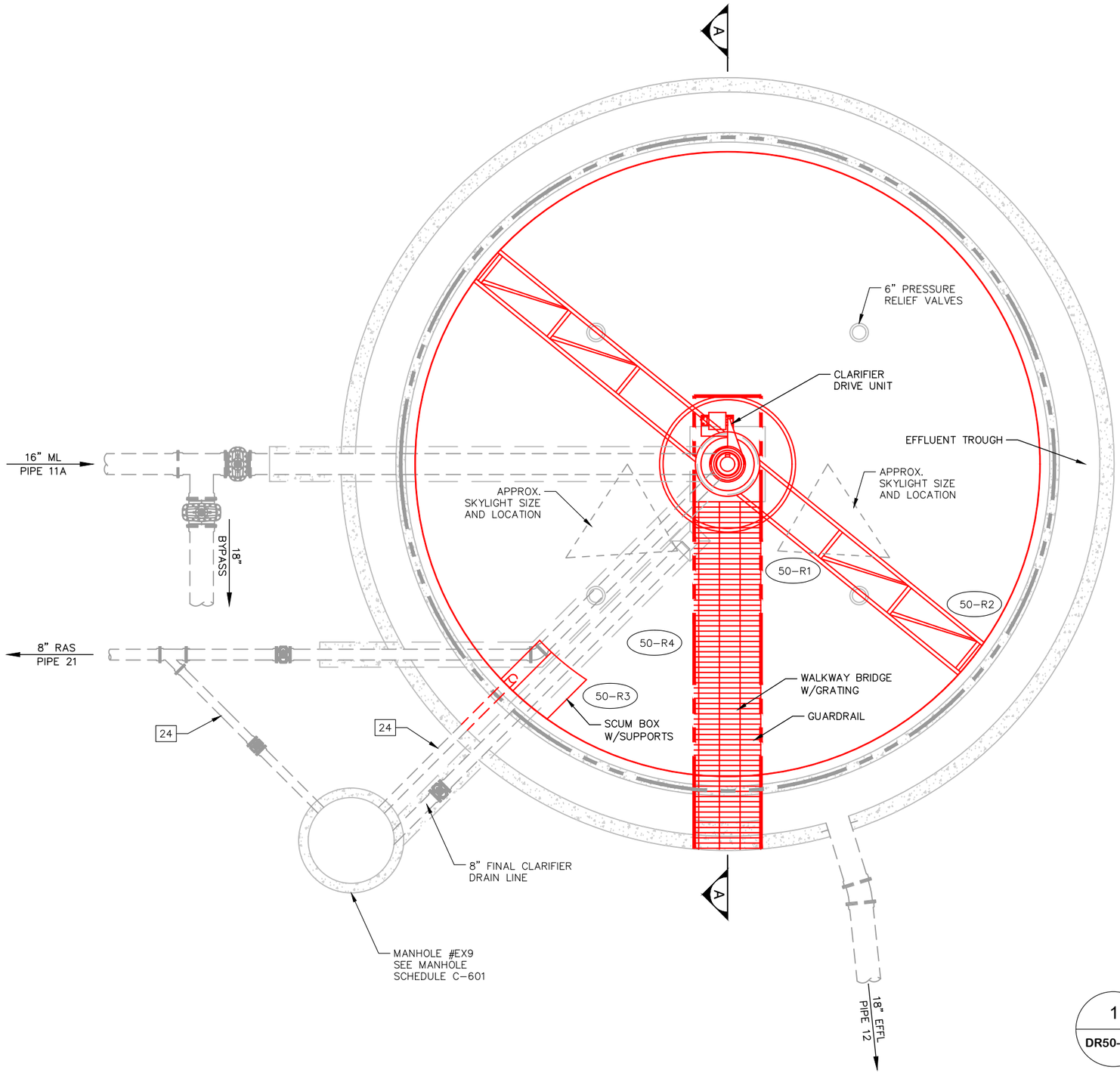
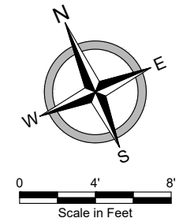
PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BLOWER BUILDING PROPOSALS - SECTIONS A & B

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D40-302

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg





LEGEND

- REMOVALS
- EXISTING

GENERAL PROCESS REMOVAL NOTES:

1. NEW CLARIFIER #2 (STR 52) NEED TO BE OPERATIONAL BEFORE TAKING FINAL CLARIFIER #1 (STR 50) IS TAKEN OFFLINE.
2. OWNER WILL DRAIN CLARIFIER BEFORE EQUIPMENT REMOVAL AND PROVIDE A LIGHT CLEANING.

1 / DR50-101 — **FINAL CLARIFIER NO. 1 REMOVALS - PLAN VIEW PLAN**

LICENSED PROFESSIONAL ENGINEER
REG. NO.
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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA

FINAL CLARIFIER NO. 1 REMOVALS - PLAN VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

DR50-101

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg

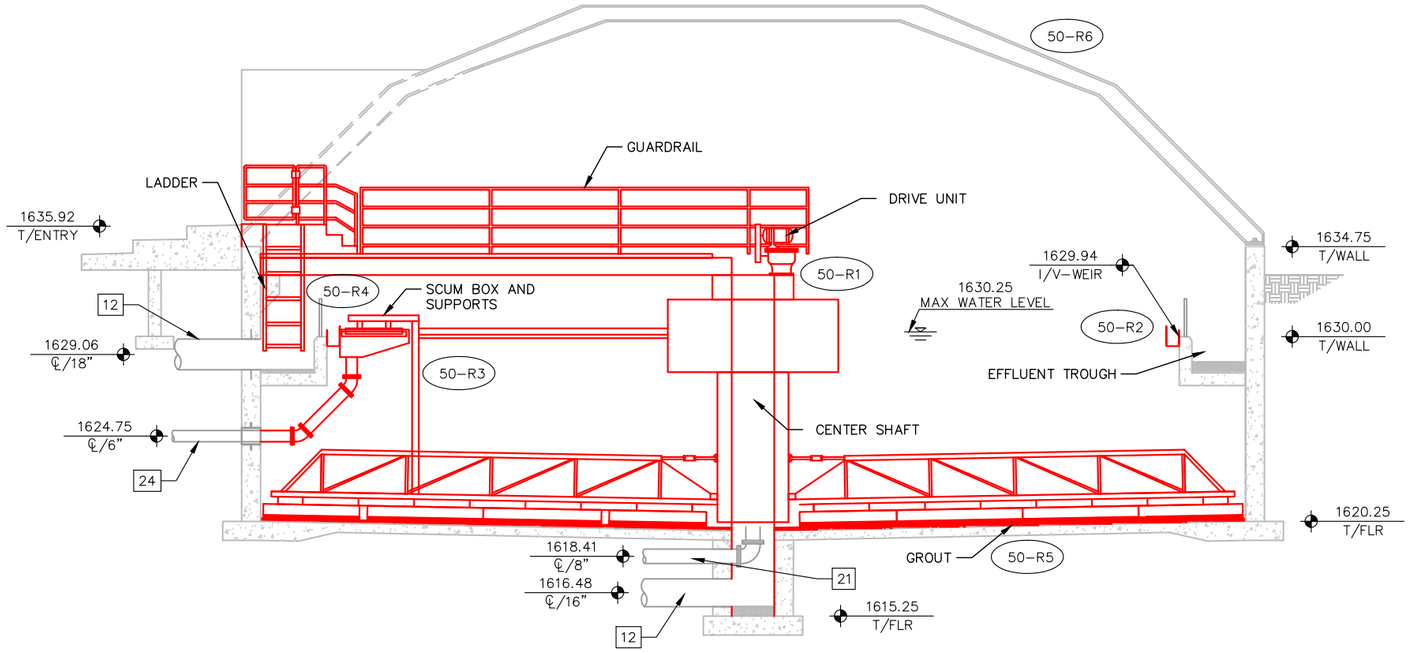
LEGEND

REMOVALS

EXISTING

0 4' 8'

Scale in Feet



A

DR50-301

FINAL CLARIFIER #1 - SECTION A - REMOVALS

LICENSED PROFESSIONAL ENGINEER
REG. NO.
15942
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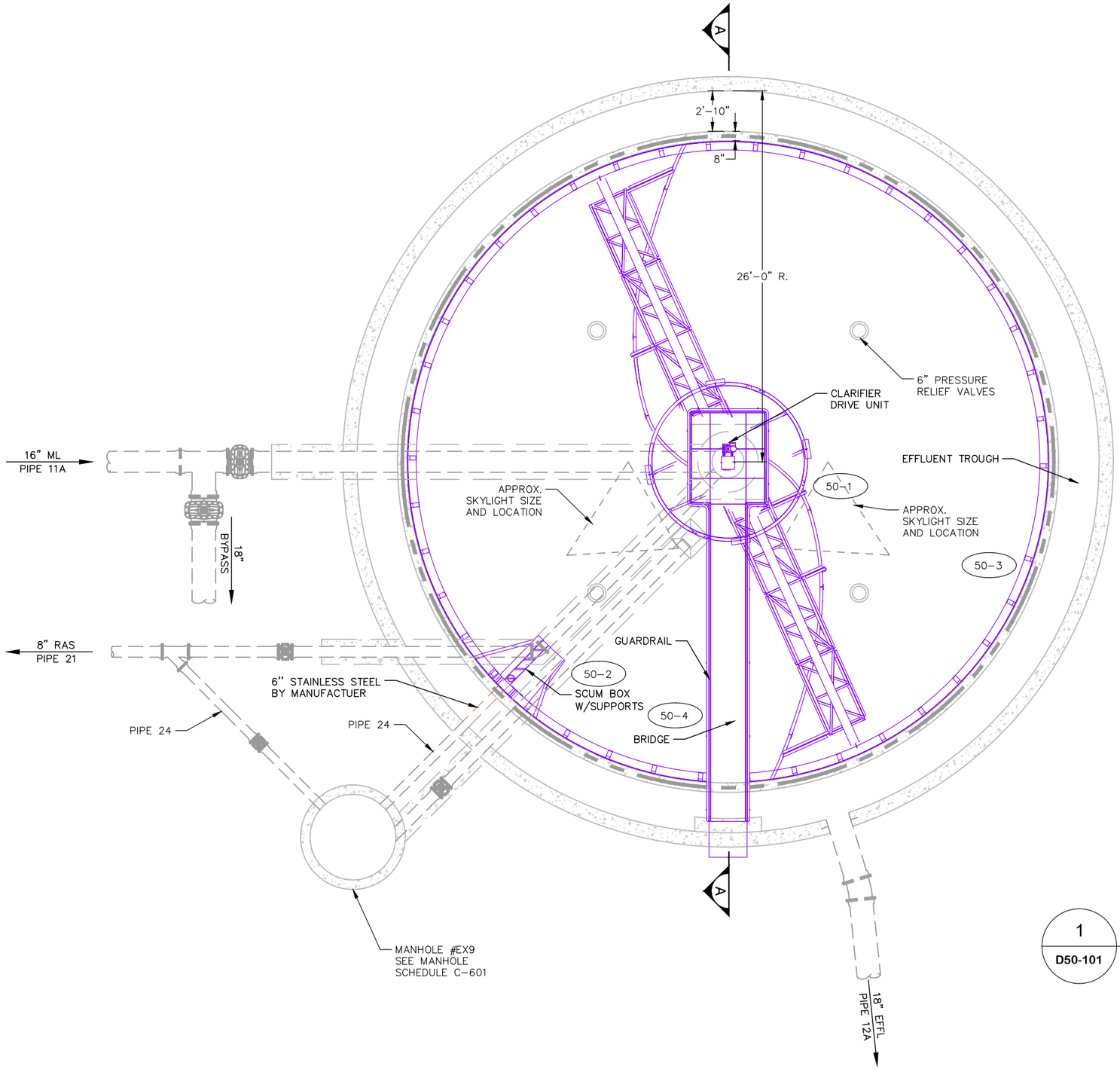
PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA

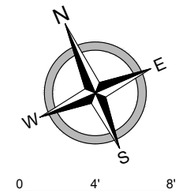
FINAL CLARIFIER NO. 1 REMOVALS - SECTION

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

DR50-301

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg

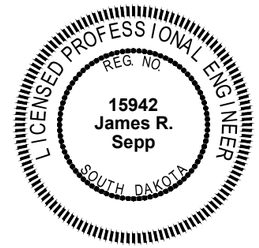




LEGEND

- EXISTING
- NEW EQUIPMENT
- NEW PIPING

1 / D50-101 **FINAL CLARIFIER NO. 1 PROPOSALS - PLAN VIEW PLAN**



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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
FINAL CLARIFIER NO. 1 PROPOSALS - PLAN VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

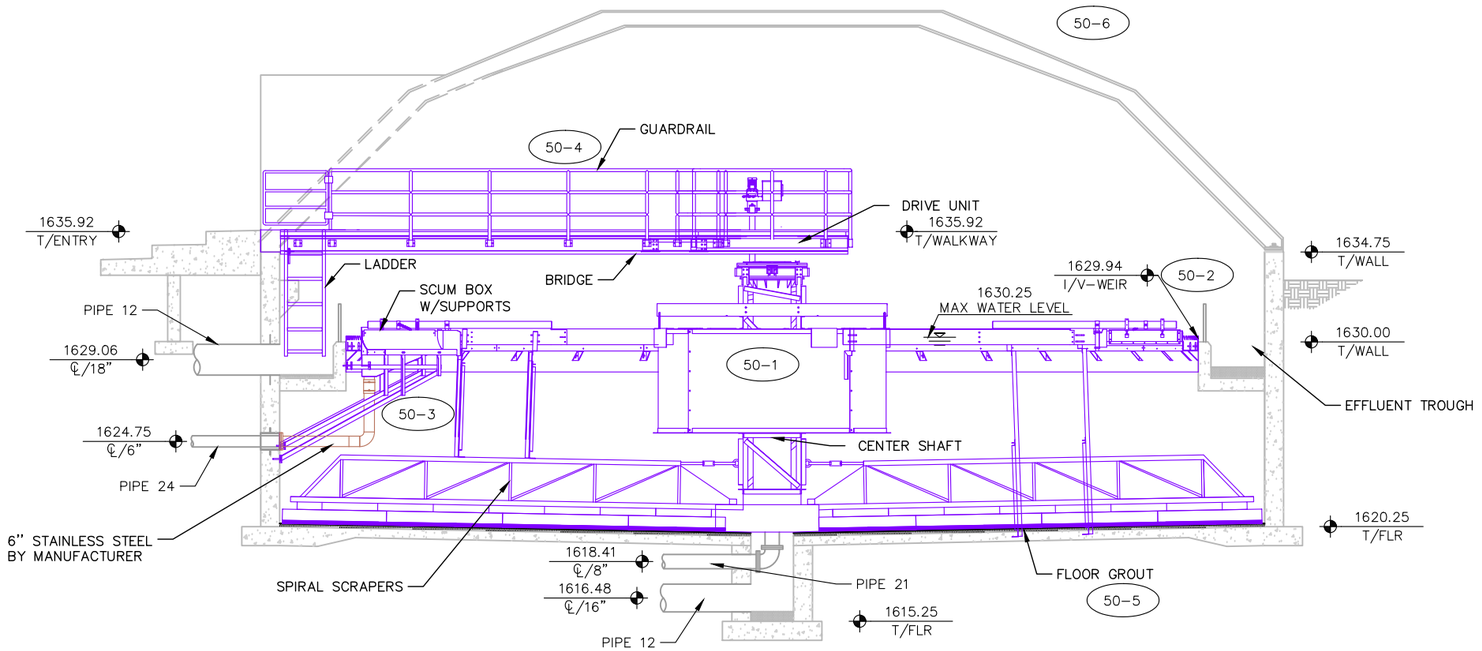
D50-101

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg

LEGEND

- EXISTING
- NEW EQUIPMENT
- NEW PIPING

0 4' 8'
Scale in Feet



A
D50-301

FINAL CLARIFIER #1 - SECTION A

LICENSED PROFESSIONAL ENGINEER
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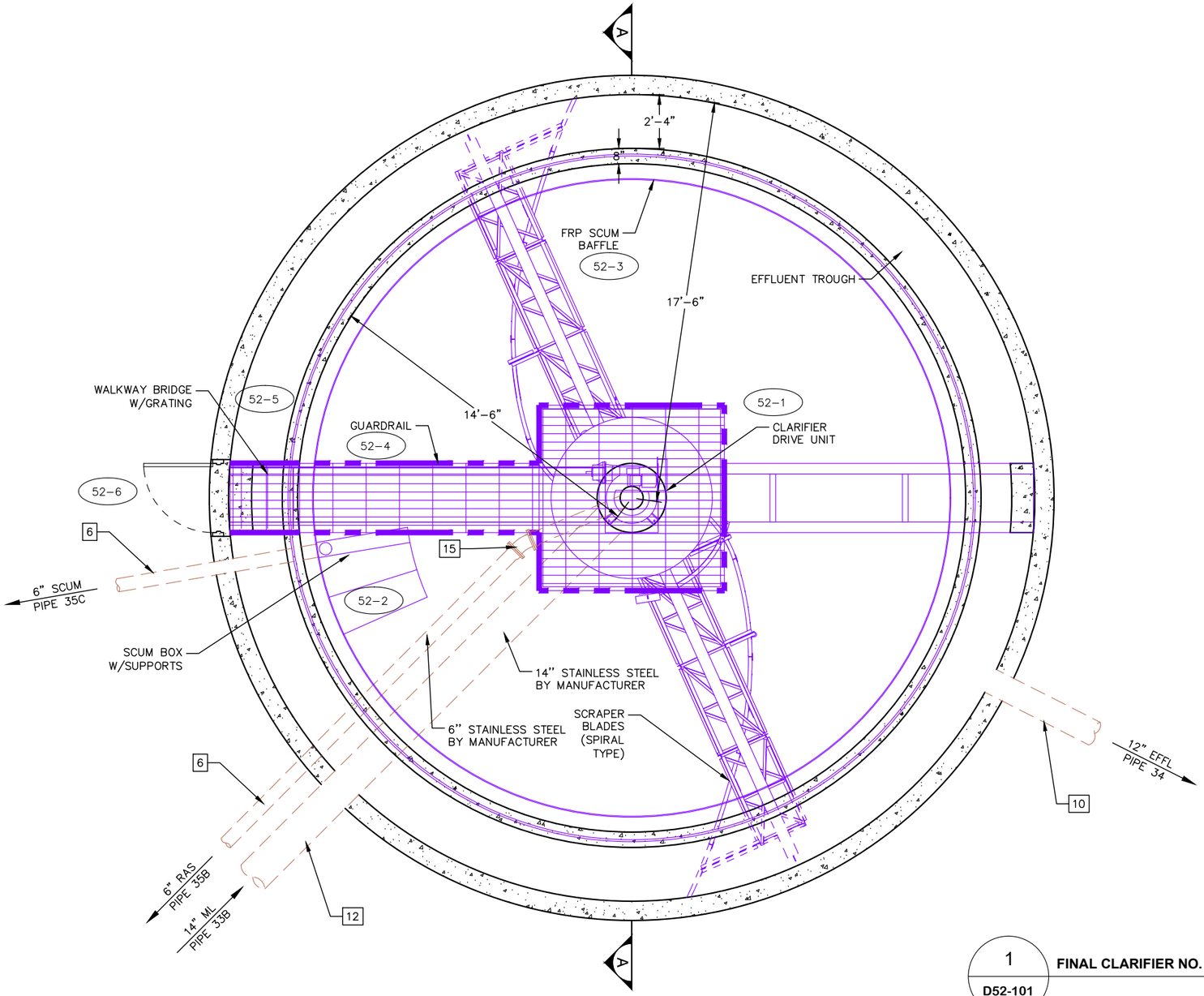
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
FINAL CLARIFIER NO. 1 PROPOSALS - SECTION

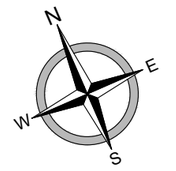
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D50-301

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg



1 / D52-101 **FINAL CLARIFIER NO. 2 - PLAN VIEW PLAN**



LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW PIPING

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REG. NO.
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James R. Sepp
SOUTH DAKOTA

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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
FINAL CLARIFIER NO. 2 - PLAN VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

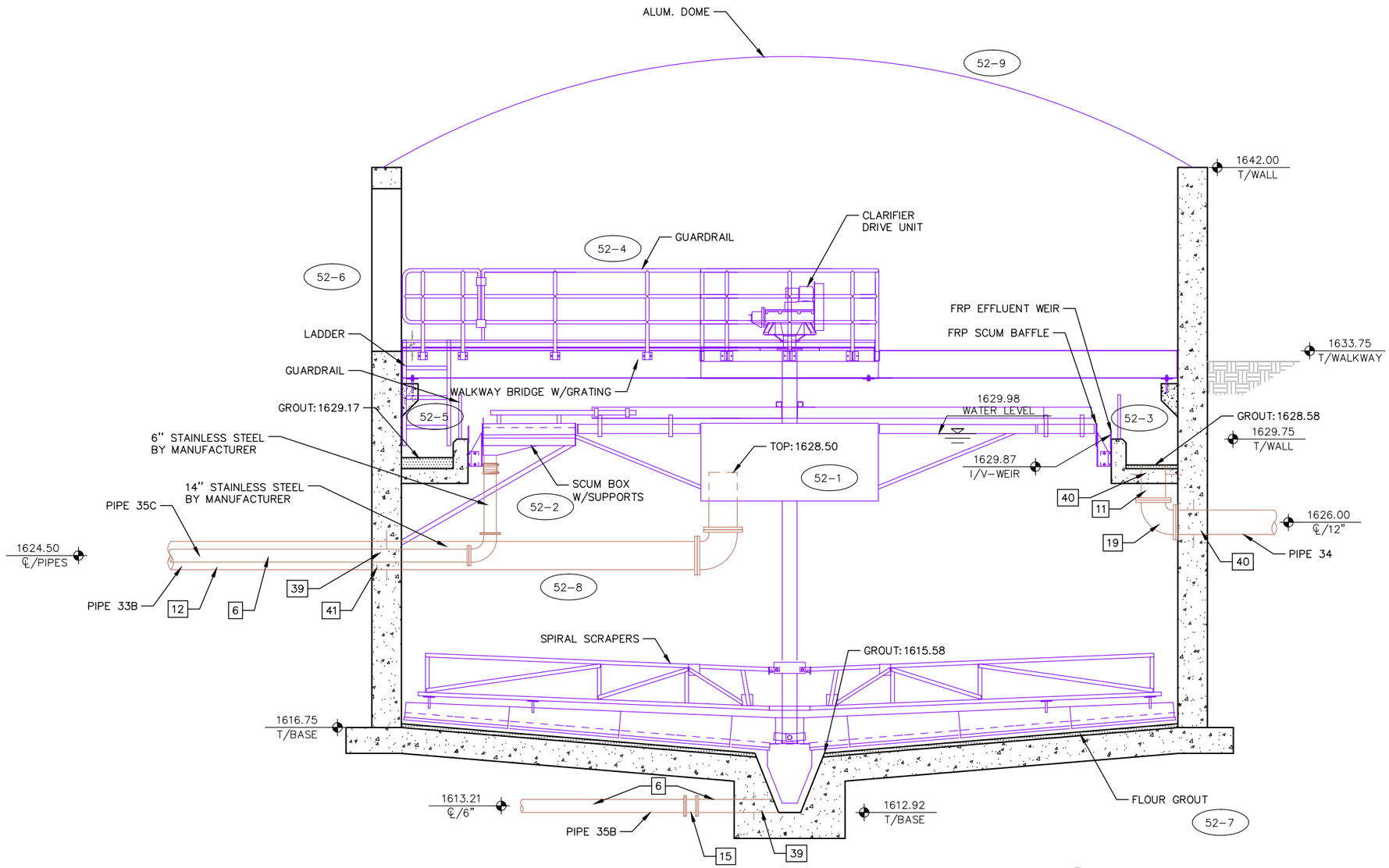
D52-101

FILE LOCATION: R:\Projects\220001229001229311\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW PIPING

0 2' 4' 6'
Scale in Feet



A
D52-301

FINAL CLARIFIER #2 - SECTION A

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AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
FINAL CLARIFIER NO. 2 - SECTION

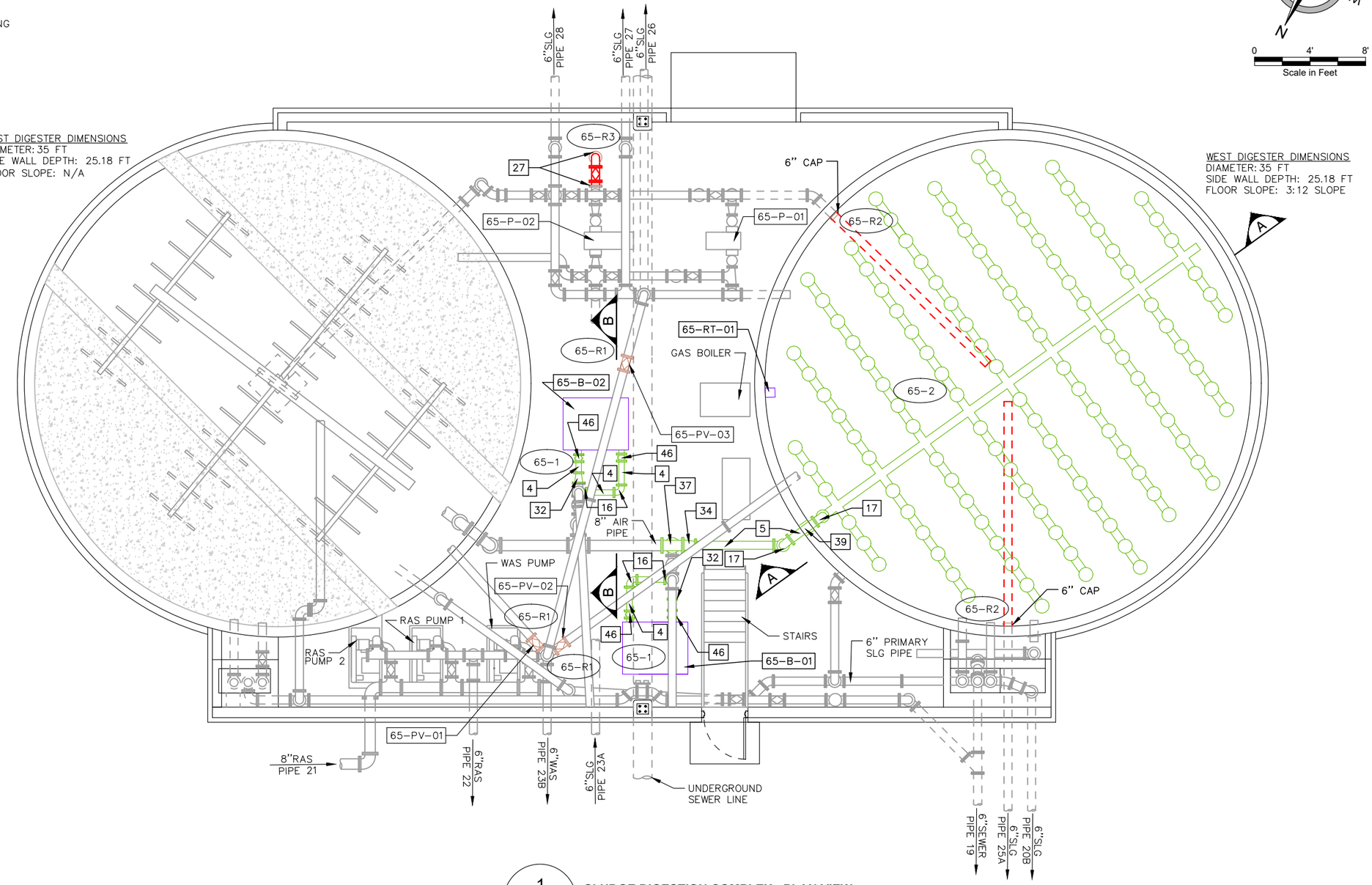
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D52-301

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\PRODUCTION\22931_Process_STRs.dwg

LEGEND

- REMOVALS
- EXISTING
- NEW EQUIPMENT
- NEW PIPING
- NEW AIR PIPING



1 — **SLUDGE DIGESTION COMPLEX - PLAN VIEW**

D65-101 — FLOOR ELEV. 1629.20

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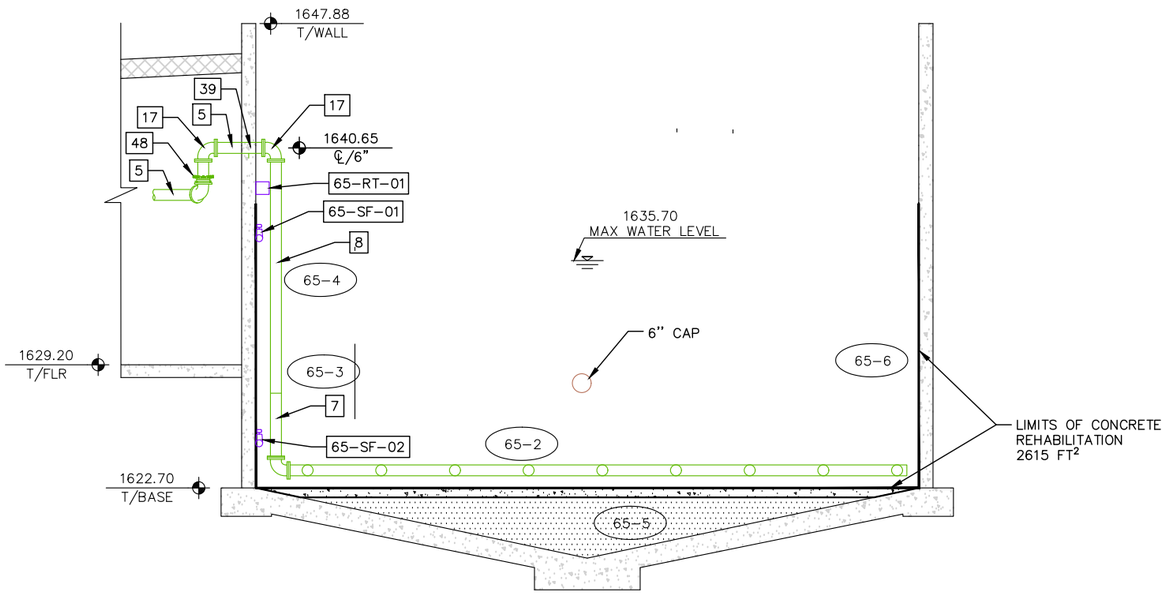
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
SLUDGE DIGESTION COMPLEX - PLAN VIEW

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	JNG
REVIEWER:	JSW

D65-101

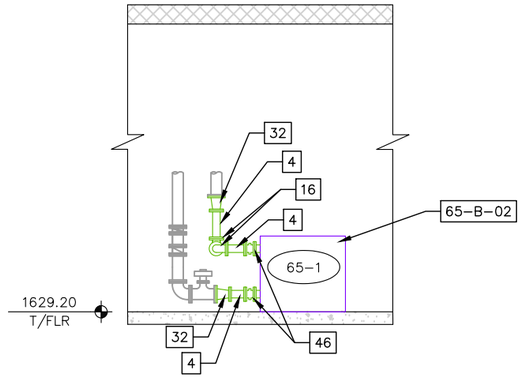
LEGEND

- REMOVALS
- EXISTING
- NEW EQUIPMENT
- NEW PIPING
- NEW AIR PIPING



A — **SLUDGE DIGESTION COMPLEX - SECTION A**

D65-301 — **⅛" = 1'-0"**



NOTES:
1. BLOWER AND PIPING TO BE THE SAME FOR 65-B-01 AND 65-B-02.

B — **SLUDGE DIGESTION COMPLEX - SECTION B**

D65-301 — **⅛" = 1'-0"**

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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
SLUDGE DIGESTION COMPLEX - SECTION A

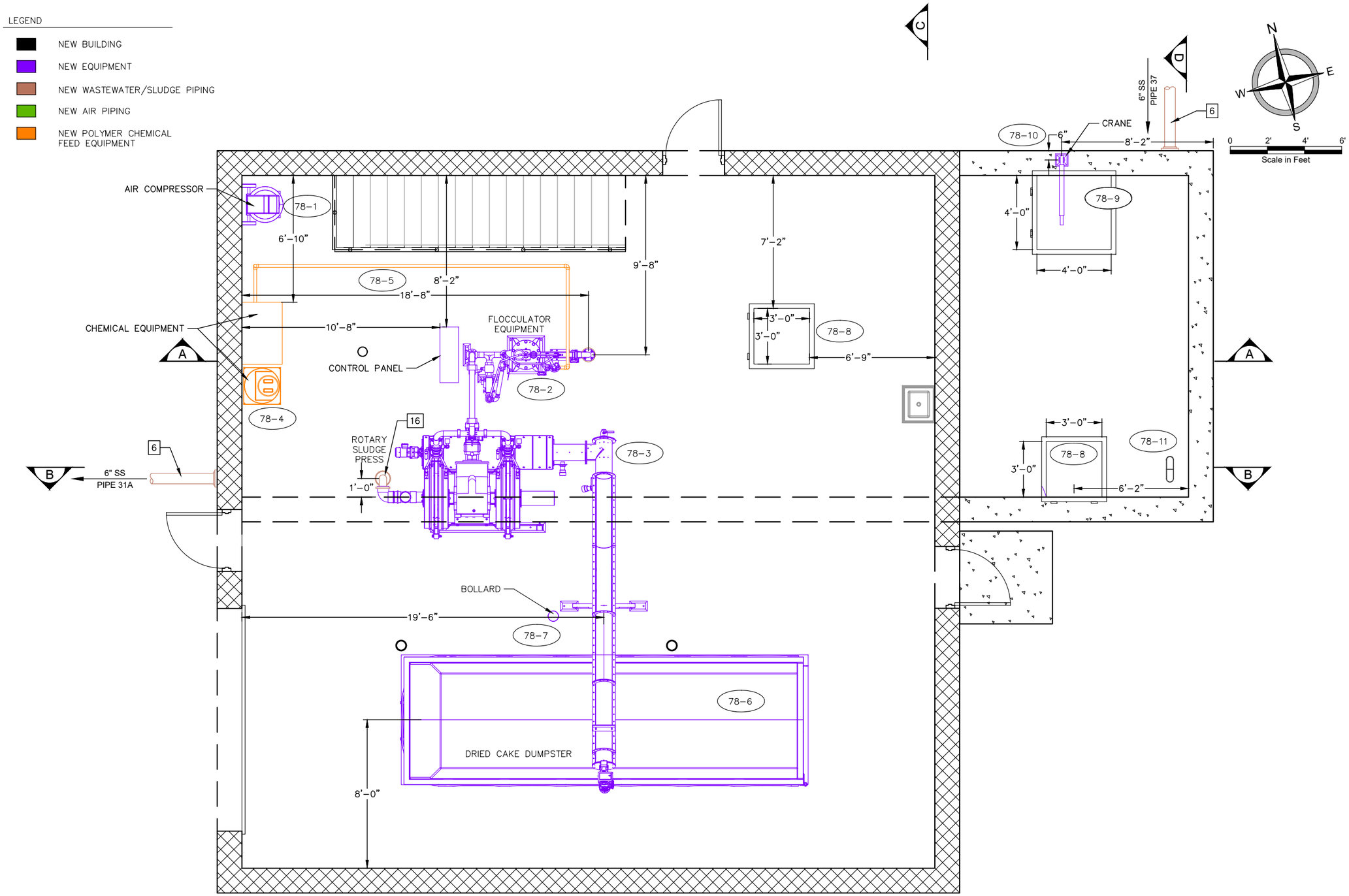
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	JNG
REVIEWER:	JSW

D65-301

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Ortho\s\DWGs\D78-101 - UPPER LEVEL PLAN VIEW.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



1 / D78-101 **BIOSOLIDS DEWATERING BUILDING - UPPER LEVEL PLAN VIEW**

FLOOR ELEV. 1632.50

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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - UPPER LEVEL PLAN VIEW

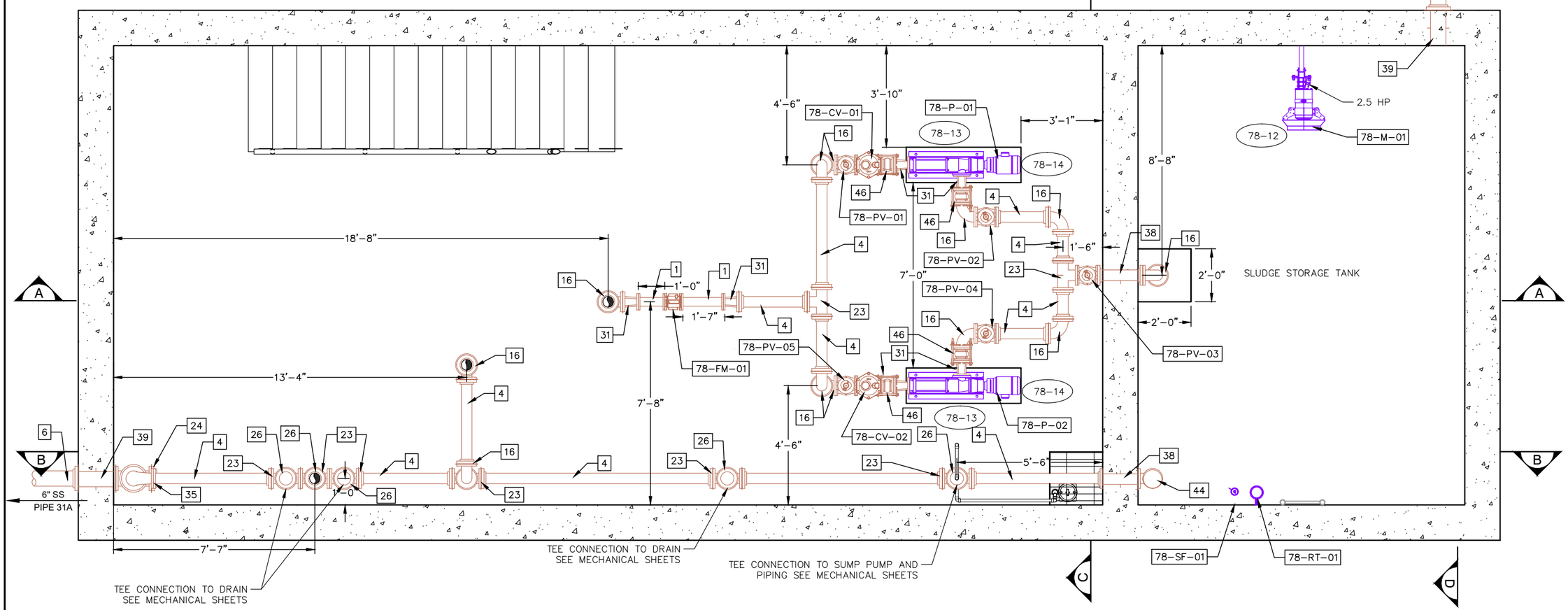
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-101

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-102 LOWER LEVEL PLAN VIEW.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



1 / D78-102 — **BIOSOLIDS DEWATERING BUILDING - LOWER LEVEL PLAN VIEW**

FLOOR ELEV. 1622.50

LICENSED PROFESSIONAL ENGINEER
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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - LOWER LEVEL PLAN VIEW

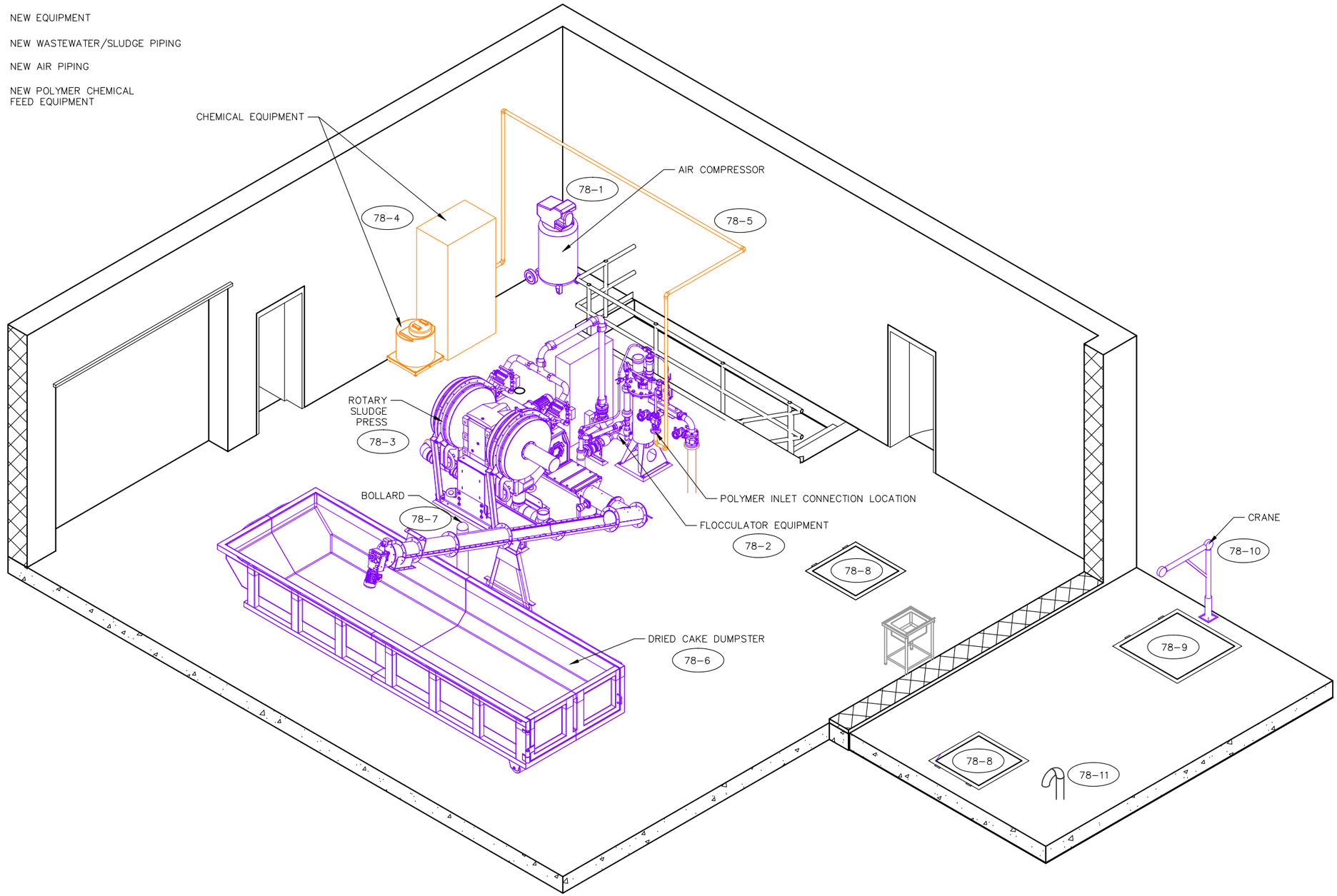
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-102

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-301 - UPPER LEVEL ISO VIEW.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



ISO
D78-301

BIOSOLIDS DEWATERING BUILDING - UPPER LEVEL ISO VIEW

3/16" = 1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - UPPER LEVEL ISO VIEW

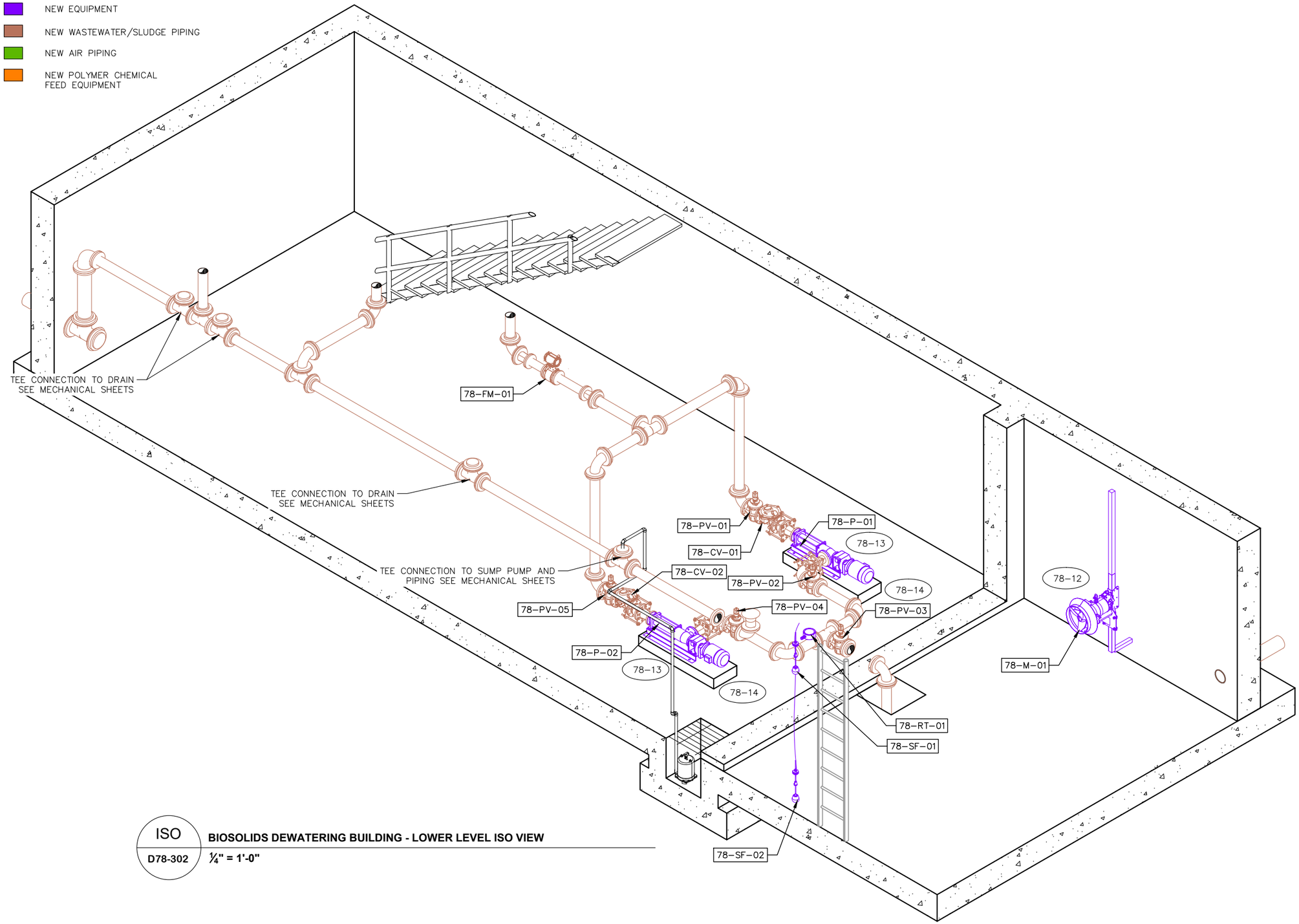
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-301

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-302 - LOWER LEVEL ISO VIEW.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



ISO
D78-302

BIOSOLIDS DEWATERING BUILDING - LOWER LEVEL ISO VIEW

¼" = 1'-0"

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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - LOWER LEVEL ISO VIEW

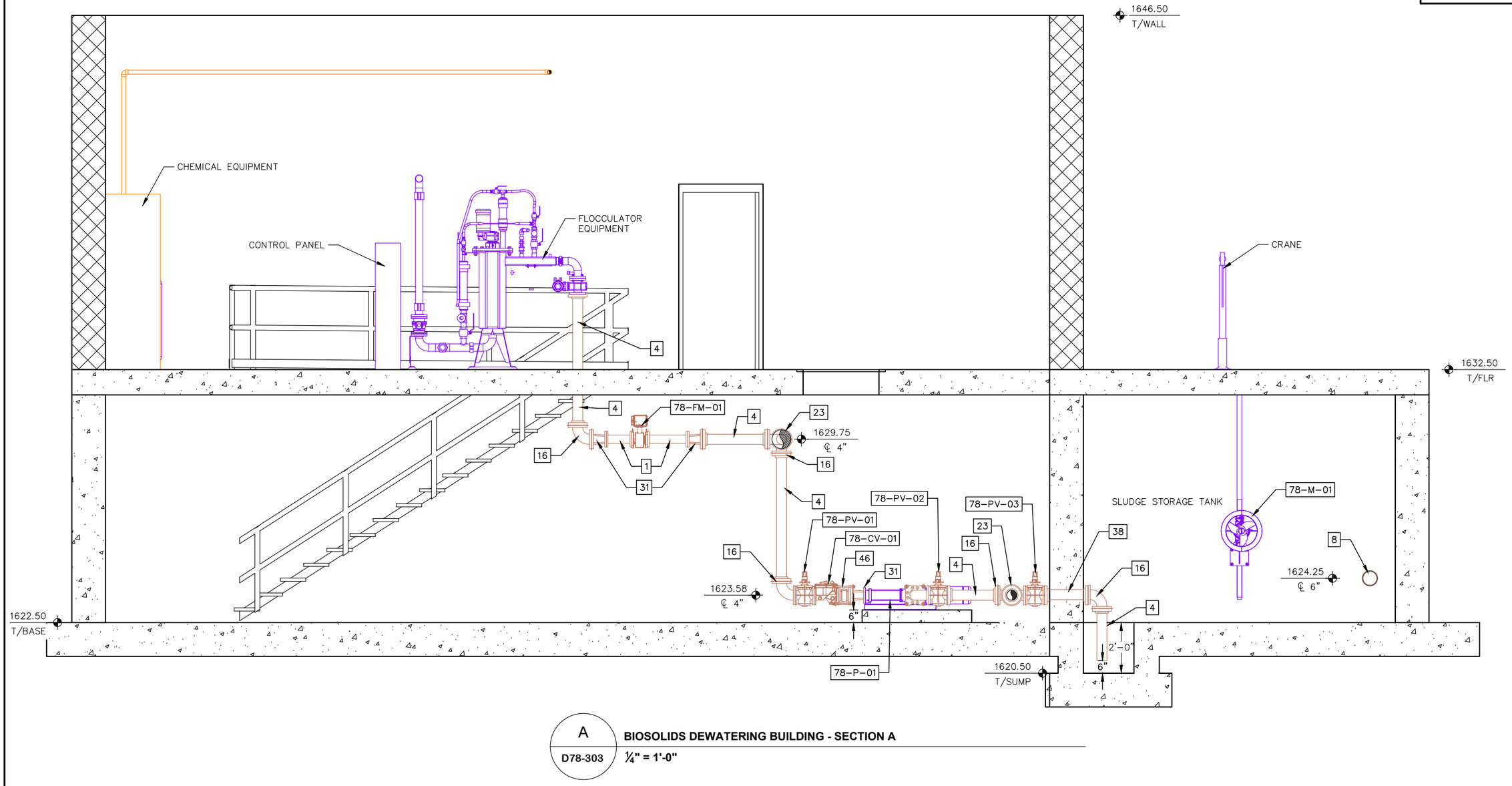
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-302

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-303 - SECTION A.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



A
D78-303

BIOSOLIDS DEWATERING BUILDING - SECTION A

¼" = 1'-0"

LICENSED PROFESSIONAL ENGINEER
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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - SECTION A

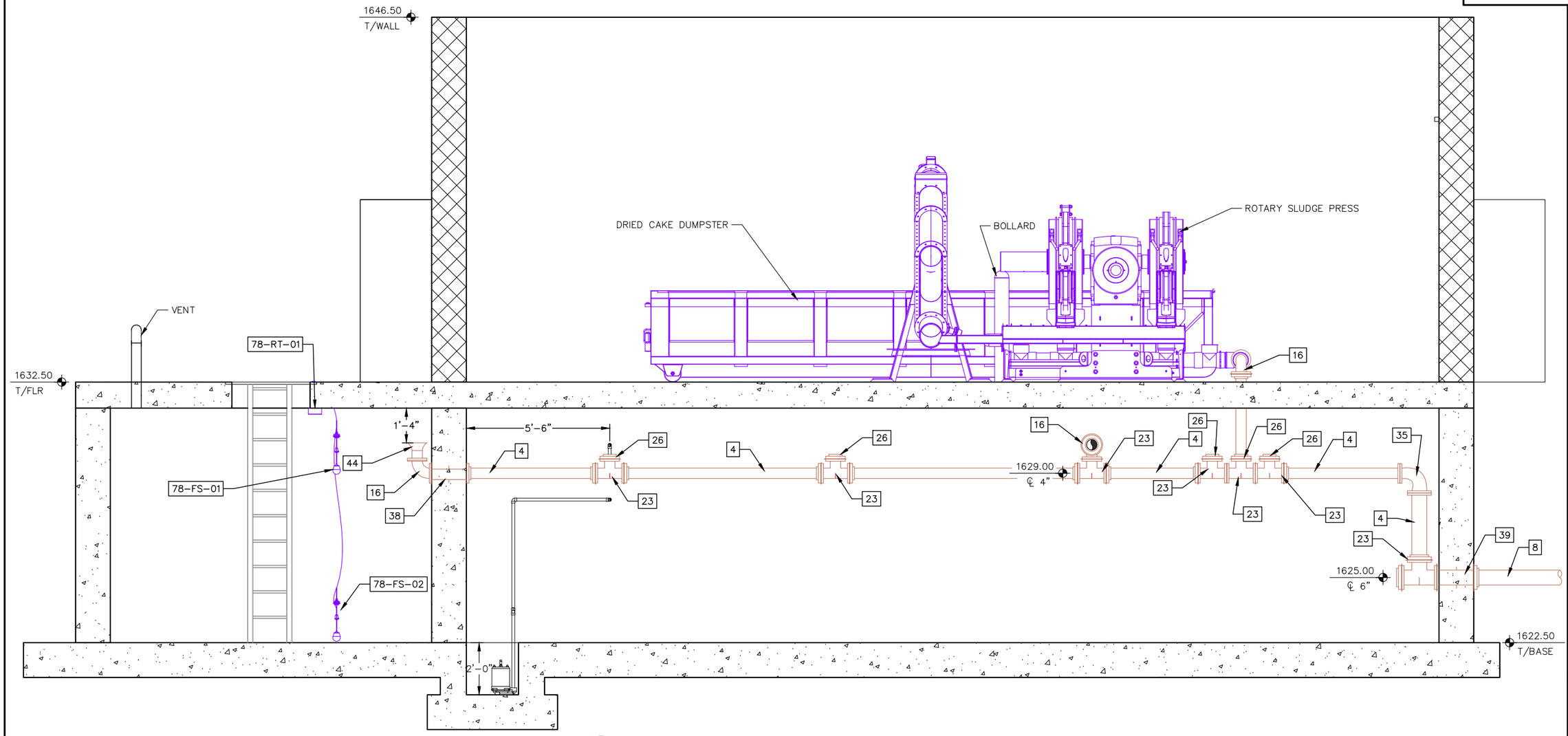
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-303

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-304 - SECTION B.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



B
D78-304

BIOSOLIDS DEWATERING BUILDING - SECTION B

1/4" = 1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - SECTION B

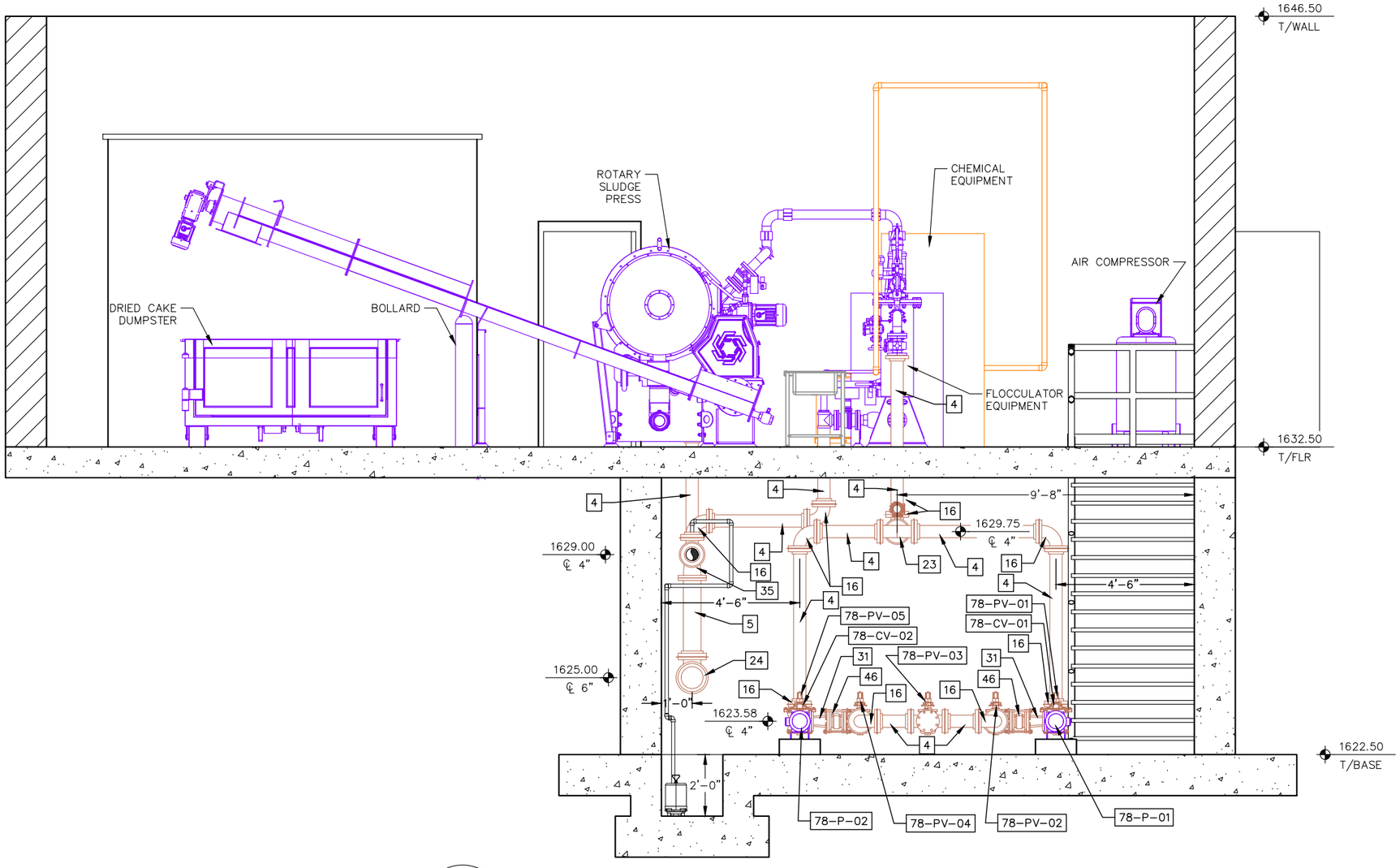
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-304

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Ortho\DWGs\D78-305 - SECTION C.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



C
D78-305

BIOSOLIDS DEWATERING BUILDING - SECTION C

¼" = 1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - SECTION C

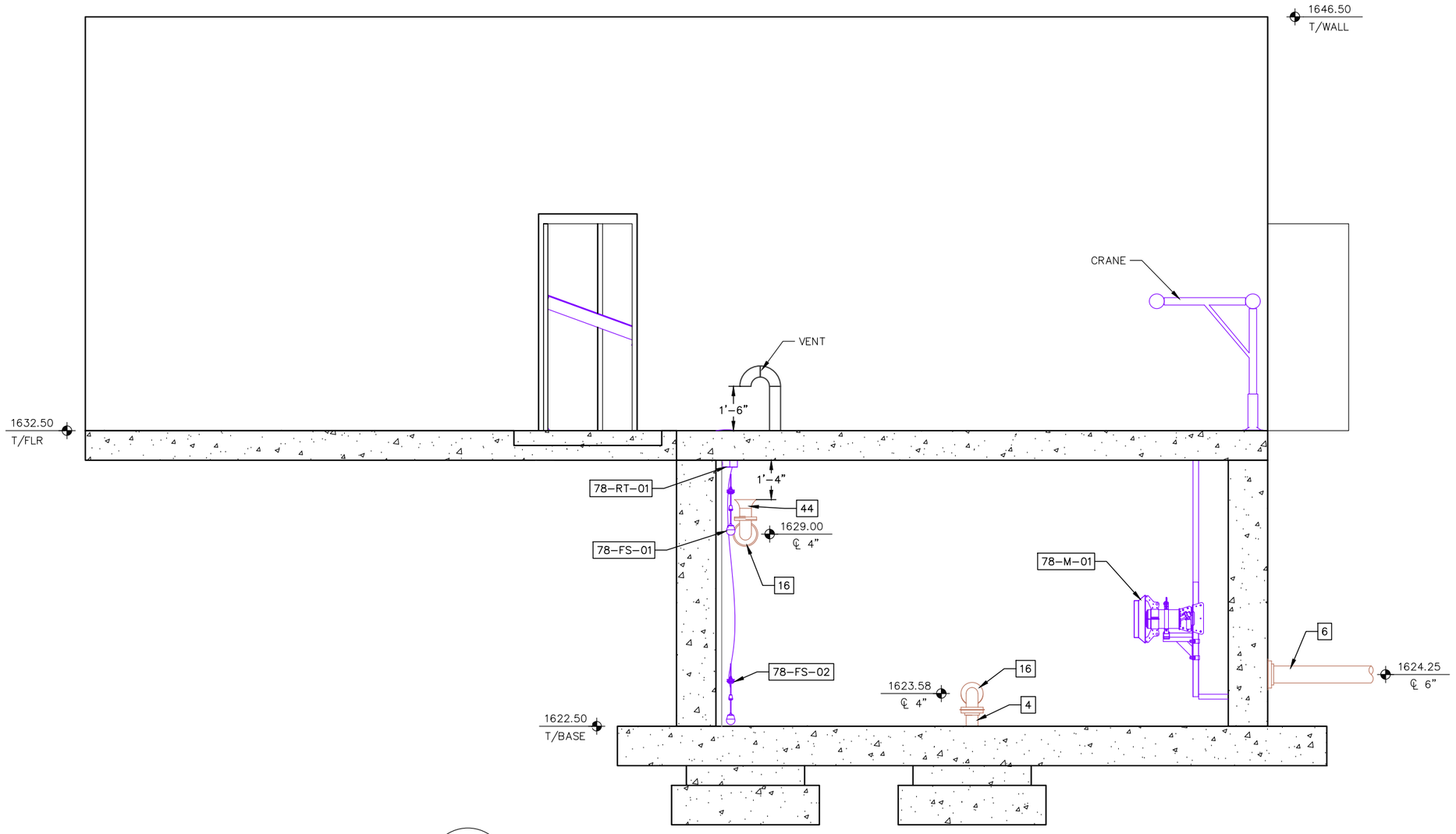
DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-305

FILE LOCATION: R:\Projects\22000\22900\22931\CIVIL\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-306 SECTION D.dwg

LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW WASTEWATER/SLUDGE PIPING
- NEW AIR PIPING
- NEW POLYMER CHEMICAL FEED EQUIPMENT



D78-306

BIOSOLIDS DEWATERING BUILDING - SECTION D

¼" = 1'-0"

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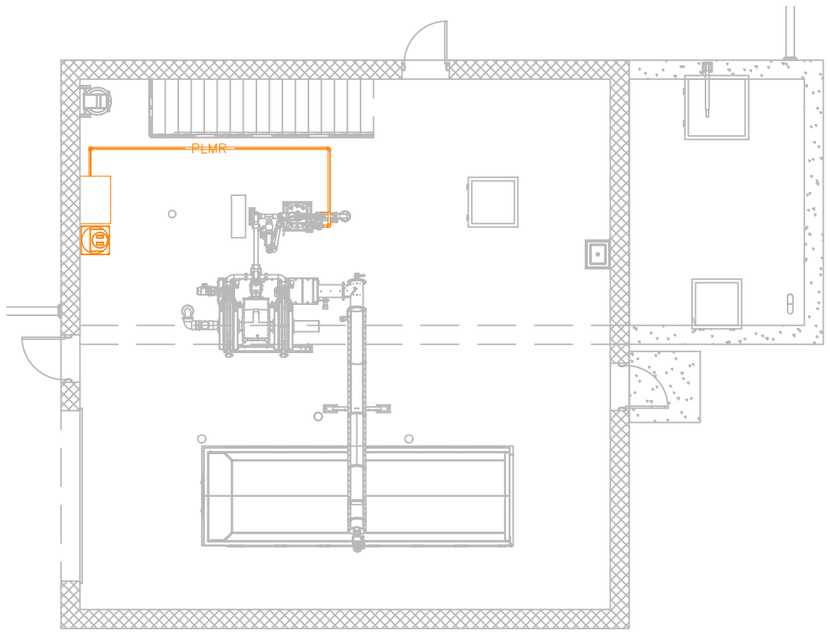
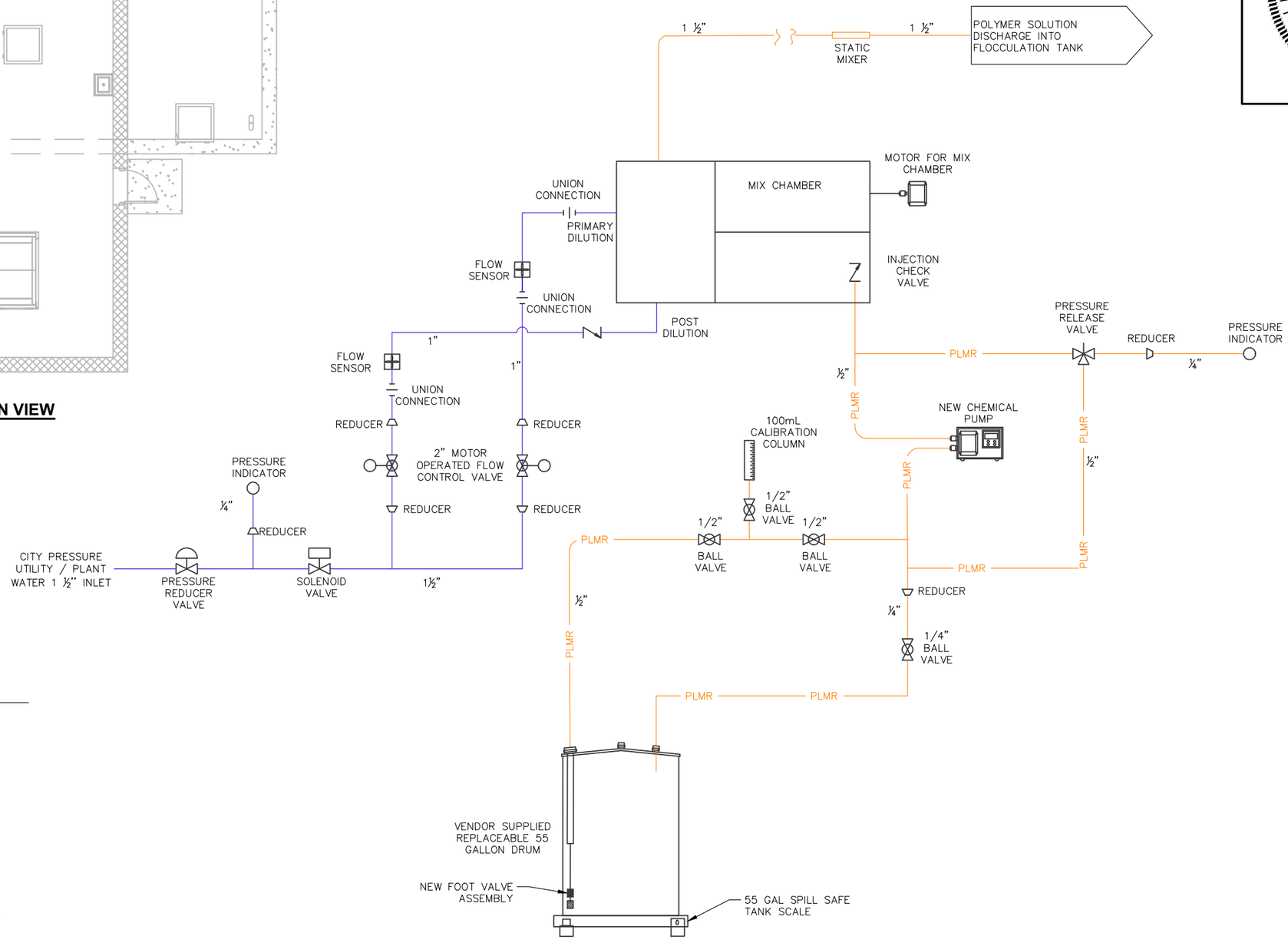
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - SECTION D

DATE:	1.8.26
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-306



STR 78 - PLAN VIEW



LEGEND

- NEW BUILDING
- NEW EQUIPMENT
- NEW POTABLE WATER
- PLMR — NEW POLYMER CHEMICAL FEED EQUIPMENT AND TUBING

GENERAL PROCESS NOTES:

1. POLYMER TUBING 1/2" O.D. UNLESS NOTED OTHERWISE.
2. PROVIDE ALL CHEMICAL EQUIPMENT AS REQUIRED AND DIRECTED BY THE ROTARY SCREW PRESS MANUFACTURER.

CHEMICAL FEED SCHEMATIC - POLYMER

NO SCALE

LICENSED PROFESSIONAL ENGINEER
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James R. Sepp
SOUTH DAKOTA

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PROCESS
WASTEWATER TREATMENT PLANT IMPROVEMENT PROJECT
AERATION BASINS, FINAL CLARIFIERS, AND BIOSOLIDS DEWATERING
MOBRIDGE, SOUTH DAKOTA
BIOSOLIDS DEWATERING BUILDING - CHEMICAL FEED SCHEMATIC

DATE:	1.8.26
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	22931
MANAGER:	JBK
DESIGNER:	JRS
DRAFTER:	HJE/MAZ/JNG
REVIEWER:	JSW

D78-601

FILE LOCATION: R:\Projects\22000\22900\22931\CIV\L\PROCESS\22931_Mobridge Wastewater Treatment Plant Rehab\Orthos\DWGs\D78-601 CHEMICAL FEED FLOW SCHEMATIC.dwg

HVAC LEGEND

- POSITIVE PRESSURE AIR DUCT
- NEGATIVE PRESSURE AIR DUCT
- MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANE
- COMB. SMOKE/FIRE DAMPER
- MOTORIZED DAMPER
- FIRE DAMPER
- REHEAT COIL
- ACCESS DOOR
- HI-EFFICIENCY TAKEOFF (W/ VOLUME DAMPER)

PIPE LEGEND

UNDER GROUND STORM DRAIN	
UNDER GROUND WASTE	
UNDER GROUND VENT	
ABOVE GROUND WASTE	
ABOVE GROUND VENT	
DOMESTIC COLD WATER	
DOMESTIC HOT WATER	
RECIRC. HOT WATER	
TEMPERED WATER	
RECIRC. TEMPERED WATER	
HOT WATER SUPPLY	HWS
HOT WATER RETURN	HWR
STEAM	STM
CONDENSATE RETURN	CR
HEAT PUMP SUPPLY	HPS
HEAT PUMP RETURN	HPR
CONDENSATE DRAIN	COND
NATURAL GAS	G
PROPANE	P
RAIN CONDUCTOR	RC
CHILLED WATER SUPPLY	CWS
CHILLED WATER RETURN	CWR
BALL VALVE	
GATE VALVE	
TEMP. CONTROL VALVE	
STRAINER	
CHECK VALVE	
UNION	
FLANGE	
BALL VALVE INDICATOR	
BUTTERFLY VALVE	
SHUTOFF VALVE IN VERTICAL	

STANDARD ABBREVIATIONS

AD	-	ACCESS DOOR
AFF	-	ABOVE FINISHED FLOOR
AFG	-	ABOVE FINISHED GRADE
ATC	-	AUTOMATIC TEMPERATURE CONTROLS
BDD	-	BACK DRAFT DAMPER
BFG	-	BELOW FINISHED GRADE
BFF	-	BELOW FINISHED FLOOR
CA	-	COMBUSTION AIR
CO	-	CLEAN OUT
CW	-	COLD WATER
EC	-	ELECTRICAL CONTRACTOR
FA	-	FRESH AIR
FCO	-	FLOOR CLEAN OUT
FD	-	FLOOR DRAIN
FDR	-	FIRE DAMPER
GC	-	GENERAL CONTRACTOR
HW	-	HOT WATER
MC	-	MECHANICAL CONTRACTOR
OBD	-	OPPOSED BLADE DAMPER
PRV	-	POWER ROOF VENTILATOR
RA	-	RETURN AIR
RD	-	ROOF DRAIN
RHW	-	RECIRCULATING HOT WATER
SA	-	SUPPLY AIR
SFD	-	SMOKE/FIRE DAMPER
VD	-	VOLUME DAMPER
VT	-	VENT
VTR	-	VENT THRU ROOF
W	-	WASTE
WCO	-	WALL CLEAN OUT
WH	-	WALL HYDRANT

PROFESSIONAL ENGINEER
REG. NO.
15538
BLAKE
WAGNER
SOUTH DAKOTA
01/08/2026

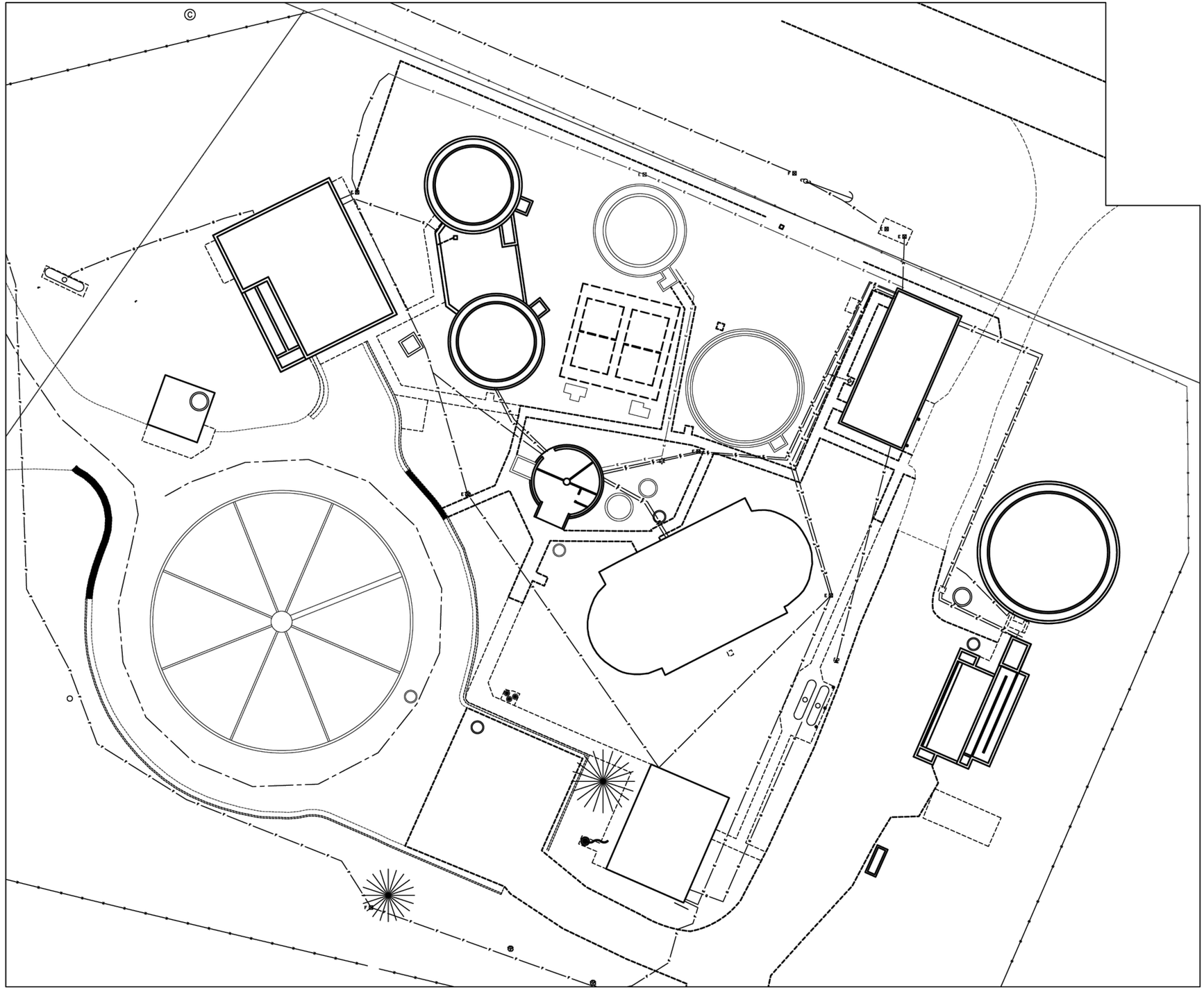
moore engineering, inc.

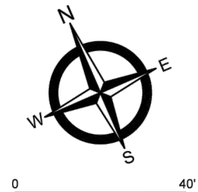
MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - MECHANICAL SYMBOL LEGEND

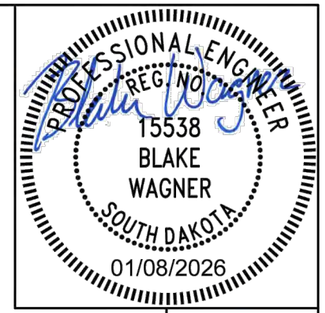
DATE:	1/08/2026
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-100

FILE LOCATION: Q:\2025\25547 Mobridge WWTF\Mechanical\Drawings\25547 Mechanical.dwg







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1 EXISTING SITE PLAN

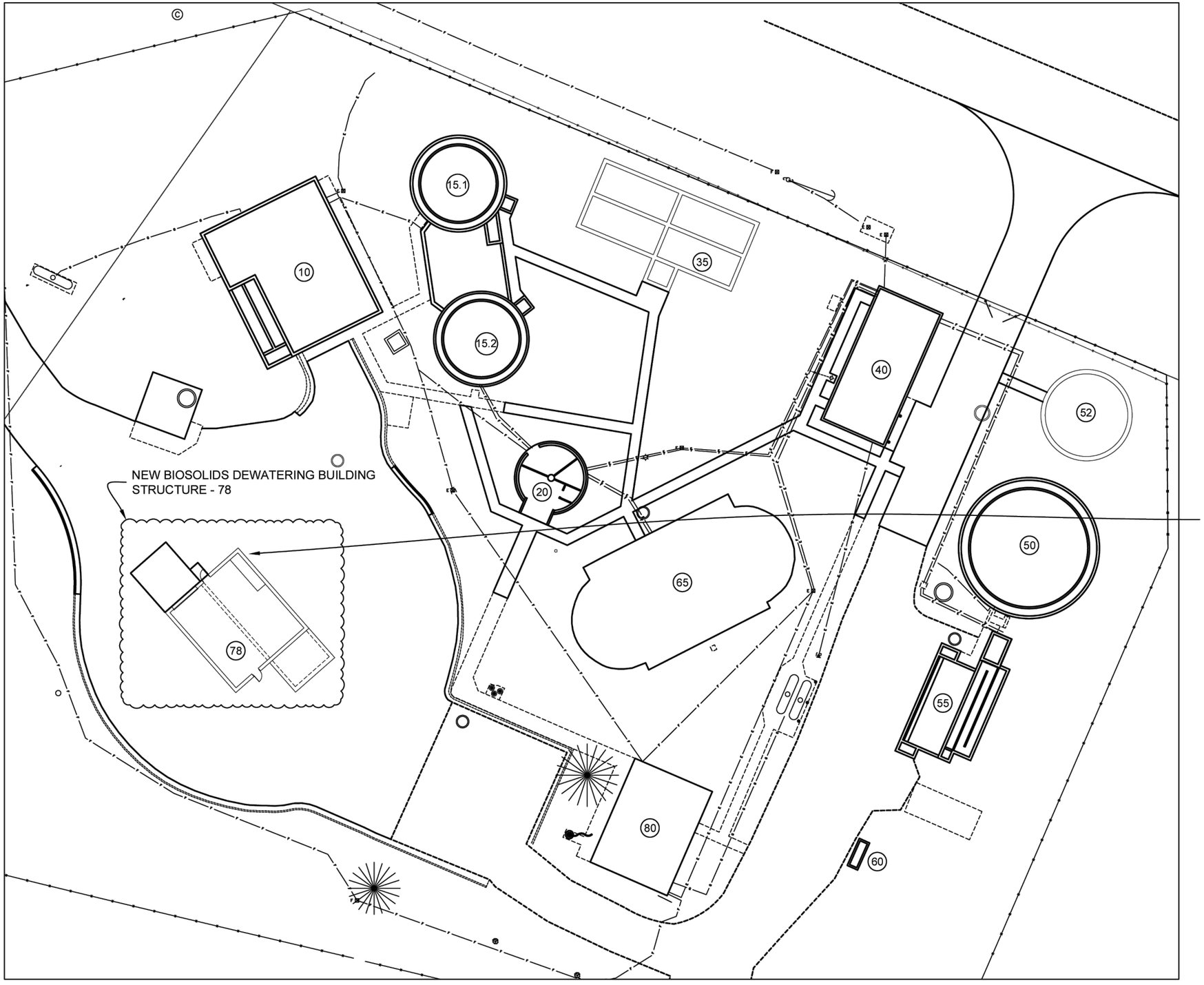
1" = 40'-0"

MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - EXISTING SITE PLAN

DATE:	1/08/2026
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-101

FILE LOCATION: Q:\2025\25547 Mobridge WWTF\Mechanical\Drawings\25547 Mechanical.dwg



1 REVISED SITE PLAN

1" = 40'-0"

N E S W

0 40'

Scale in Feet

PROFESSIONAL ENGINEER
REG. NO.
15538
BLAKE
WAGNER
SOUTH DAKOTA
01/08/2026

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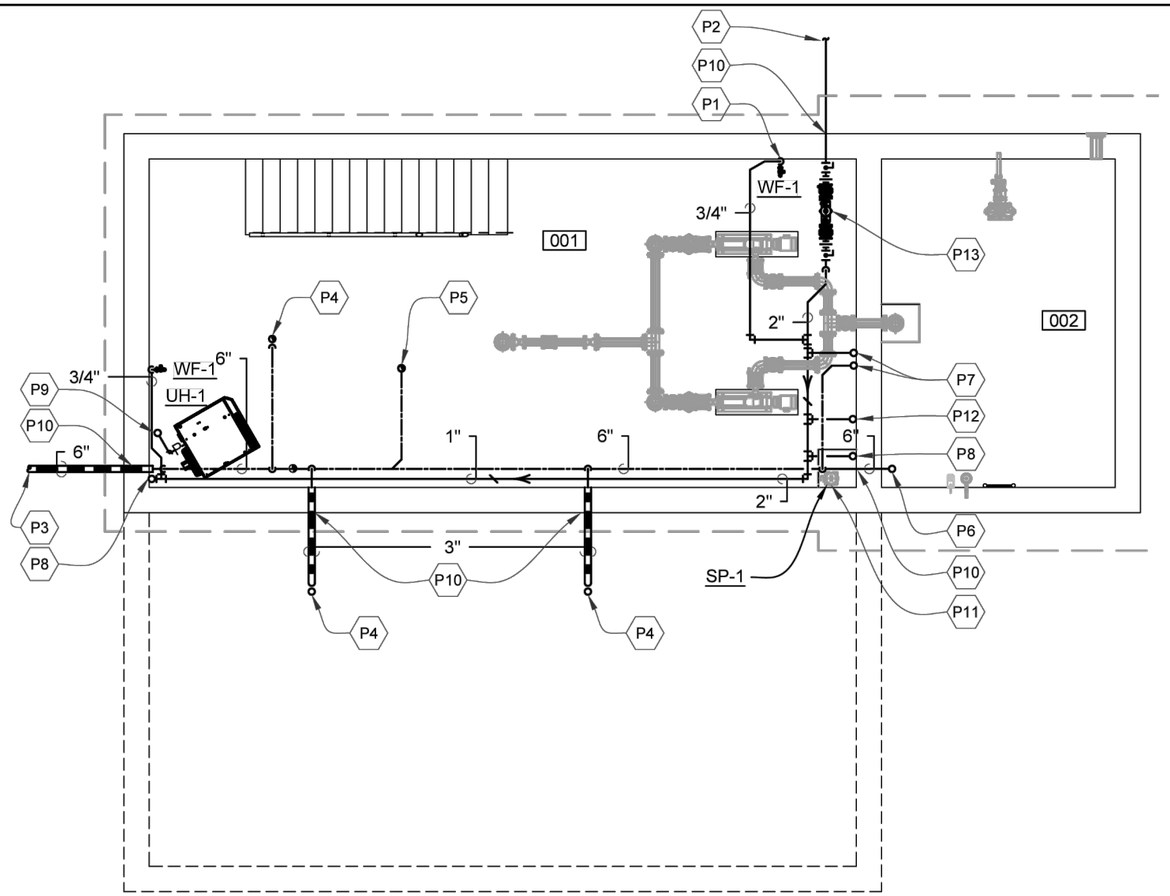
MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - REVISED SITE PLAN

DATE:	1/08/2026
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-102

FILE LOCATION: Q:\2025\25547 Mobridge WWTF\Mechanical\Drawings\25547 Mechanical.dwg



1

LOWER LEVEL BUILDING PLUMBING PLAN

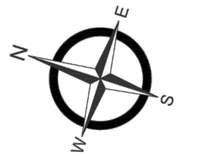
1/8"=1'-0"

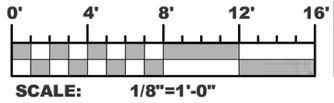
GENERAL NOTES

1. **THIS PROJECT WILL NEED TO MEET THE REQUIREMENT OF THE AMERICAN IRON AND STEEL PROVISIONS OF P.L. 113-76 CONSOLIDATED APPROPRIATIONS ACT, 2014 (AIS) FOR ALL DUCTWORK, PIPING AND MISCELLANEOUS MATERIALS. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO PROVIDE A BASIS OF DESIGN. THE CONTRACTOR SHALL PROVIDE AIS COMPLIANT MATERIALS. IN THE EVENT THE CONTRACTOR CANNOT PROVIDE SUCH, THE CONTRACTOR IS TO FILL OUT AN EXEMPTION FORM AS REQUIRED BY AIS.**
2. PROVIDE A STEEL SLEEVE A MINIMUM OF 1" AFF IN THE CONCRETE FLOOR AS REQUIRED FOR ANY PIPE/DUCT PENETRATION, SLEEVE SHALL BE LARGE ENOUGH TO ACCEPT THE PIPE/DUCT INSULATION IF INSULATION IS REQUIRED. THE SLEEVE IS TO AID IN REDUCING ANY WATER LEAKING THRU TO THE FLOOR BELOW. SEAL THE PERIMETER OF THE SLEEVE WATER TIGHT.

ROOM SCHEDULE

#	NAME	#	NAME
001	PUMP ROOM	101	DEWATERING ROOM
002	STORAGE TANK	N/A	NOT USED





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

KEYNOTES

- P1 PROVIDE A "COLD" WATER FAUCET WITH GARDEN HOSE CONNECTION AND VACUUM BREAKER NEAR THIS LOCATION. ROUTE PIPING EXPOSED ON THE WALL AND DOWN TO THE WALL FAUCET.
- P2 2" WATER SERVICE BROUGHT INTO THE BUILDING BY THE M.C. CONNECT INTO THE WATER SERVICE 5'-0" OUTSIDE THE BUILDING AND COORDINATE WITH SITE CONTRACTOR FOR CONNECTION LOCATION AND ADJUST AND MAKE THE FINAL CONNECTION AS REQUIRED.
- P3 6" WASTE SERVICE BROUGHT INTO THE BUILDING BY THE M.C. CONNECT INTO THE SANITARY SEWER SERVICE 5'-0" OUTSIDE THE BUILDING AND COORDINATE WITH SITE CONTRACTOR FOR CONNECTION LOCATION AND ADJUST AND MAKE THE FINAL CONNECTION AS REQUIRED.
- P4 CONNECT 3" W WITH P-TRAP UP TO THE 2" FLOOR DRAIN ON THE FLOOR ABOVE.
- P5 4" UP THRU THE FLOOR TO THE DE-WATERING EQUIPMENT COORDINATE THE EXACT LOCATION AND CONNECTION SIZE WITH THE ACTUAL INSTALLED CONDITIONS AND EQUIPMENT.
- P6 6" WASTE PIPING FOR TANK OVERFLOW COORDINATE THE EXACT ELEVATION WITH THE PROCESS CONTRACTOR.
- P7 3/4" CW, 2" WASTE UP TO THE WASH TUB ABOVE.
- P8 3/4" CW TO THE WALL FAUCET ABOVE.
- P9 3/4" PROPANE PIPING UP TO THE FLOOR ABOVE AND TO THE CONNECTION ON THE UNIT HEATER.
- P10 PROVIDE A PROPERLY SIZED SLEEVE AND ASSOCIATED LINK SEAL AT THE PIPING PENETRATION IN THE CONCRETE BELOW GRADE WALL TO ENSURE A WATERTIGHT SEAL.
- P11 SUMP PUMP SP-1 BY THE M.C., INSTALL IN THE FORMED CONCRETE SUMP (SUMP BY OTHERS). PUMP AND PIPING BY THE M.C. SEE DETAIL FOR ADDITIONAL INFO.
- P12 2" CW WATER UP TO SERVE THE WASTE WATER PROCESS EQUIPMENT.
- P13 PROVIDE 2" REDUCED PRINCIPLE BACK FLOW PREVENTOR NEAR THIS LOCATION INSTALL PER LOCAL CODE. ROUTE THE DRAIN TO THE SUMP.

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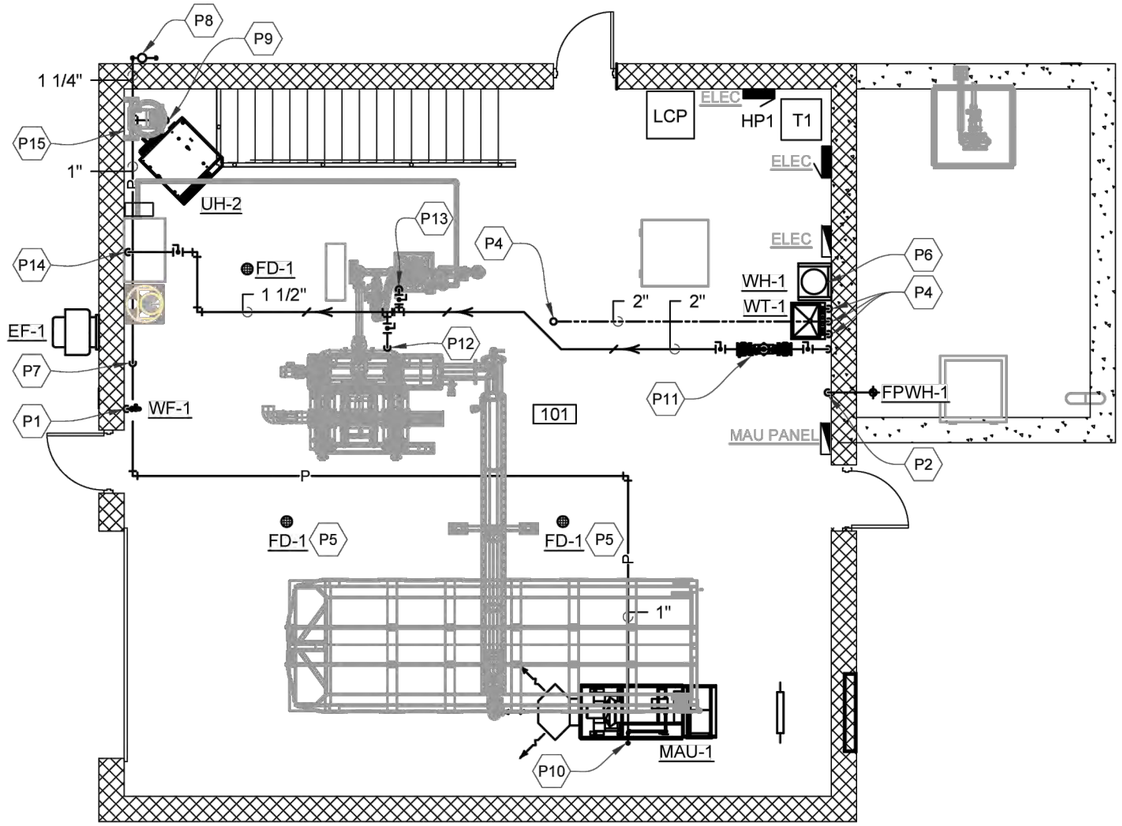
MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - LOWER LEVEL PLUMBING PLAN

DATE:	1/08/2026
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-200



UPPER LEVEL PLUMBING PLAN

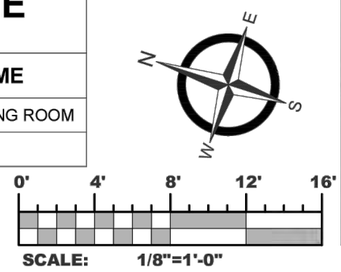
1/8"=1'-0"

GENERAL NOTES

1. **THIS PROJECT WILL NEED TO MEET THE REQUIREMENT OF THE AMERICAN IRON AND STEEL PROVISIONS OF P.L. 113-76 CONSOLIDATED APPROPRIATIONS ACT, 2014 (AIS) FOR ALL DUCTWORK, PIPING AND MISCELLANEOUS MATERIALS. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO PROVIDE A BASIS OF DESIGN. THE CONTRACTOR SHALL PROVIDE AIS COMPLIANT MATERIALS. IN THE EVENT THE CONTRACTOR CANNOT PROVIDE SUCH, THE CONTRACTOR IS TO FILL OUT AN EXEMPTION FORM AS REQUIRED BY AIS.**
2. PROVIDE A STEEL SLEEVE A MINIMUM OF 1" AFF IN THE CONCRETE FLOOR AS REQUIRED FOR ANY PIPE/DUCT PENETRATION, SLEEVE SHALL BE LARGE ENOUGH TO ACCEPT THE PIPE/DUCT INSULATION IF INSULATION IS REQUIRED. THE SLEEVE IS TO AID IN REDUCING ANY WATER LEAKING THRU TO THE FLOOR BELOW. SEAL THE PERIMETER OF THE SLEEVE WATER TIGHT.

ROOM SCHEDULE

#	NAME	#	NAME
001	PUMP ROOM	101	DEWATERING ROOM
002	STORAGE TANK	N/A	NOT USED



KEYNOTES

P1 PROVIDE A "COLD" WATER FAUCET WITH GARDEN HOSE CONNECTION NEAR THIS LOCATION. ROUTE PIPING EXPOSED ON THE WALL AND DOWN THRU THE FLOOR TO THE LOWER LEVEL.

P2 3/4" CW ROUTE PIPING EXPOSED ON THE WALL AND DOWN THRU THE FLOOR TO THE LOWER LEVEL, AND UP TO THE FREEZE PROOF OUTDOOR WALL HYDRANT. MOUNT THE HYDRANT AT 2'-0" AFG.

P3 4" VENT UP THRU THE ROOF, SEE DETAIL FOR ADDITIONAL INFORMATION.

P4 3/4" CW ROUTE PIPING EXPOSED ON THE WALL AND DOWN THRU THE FLOOR TO THE LOWER LEVEL. ROUTE 3/4" CW UP AND TEE OFF A 3/4" CW TO THE FAUCET CONNECTION FOR WT-1 AND CONTINUE 3/4" CW UP TO THE CONNECTION ON THE POINT OF USE WATER HEATER HUNG OFF THE WALL. ROUTE 3/4" HW FROM THE WATER HEATER BACK DOWN TO HW CONNECTION ON THE FAUCET.

P5 MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE FLOOR DRAIN.

P6 INSTALL THE ELECTRIC POINT OF USE TANK WATER HEATER ON A WALL MOUNTED STAND A MINIMUM OF 6' AFF. PROVIDE AND FABRICATE A STEEL STAND AND SUPPORT OFF THE CONCRETE BLOCK WALL, PRIME AND PAINT THE STAND FLAT BLACK. SET THE WATER HEATER IN A GALVANIZED STEEL DRIP PAN AND PROVIDE A DRAIN FROM THE PAN DOWN TO THE FLOOR. ROUTE THE T&P VALVE OUTLET TO THE DRAIN PAN.

P7 3/4" PROPANE PIPING DOWN THRU THE FLOOR TO THE UNIT HEATER IN THE BASEMENT.

P8 PROPANE SERVICE BY THE OWNERS PROPANE SUPPLIER. VERIFY THE EXACT LOCATION WITH ACTUAL INSTALLED CONDITIONS. SEE THE PROPANE PIPING SCHEMATIC FOR ADDITIONAL INFORMATION.

P9 3/4" PROPANE TO THE UNIT HEATER CONNECTION.

P10 1" PROPANE TO THE MAKE-UP AIR UNIT CONNECTION.

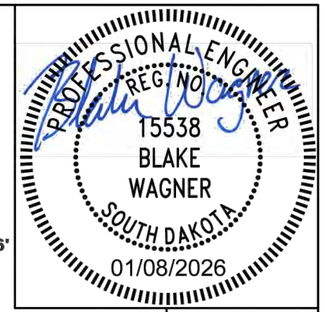
P11 PROVIDE 2" REDUCED PRINCIPLE BACK FLOW PREVENTOR NEAR THIS LOCATION DOWN STREAM OF THE PROCESS EQUIPMENT, INSTALL PER LOCAL CODE. ROUTE THE DRAIN TO THE WASH TUB.

P12 ROUTE A 1" WATER CONNECTION TO THE PROCESS EQUIPMENT (ROTARY SLUDGE PRESS), VERIFY THE EXACT CONNECTION LOCATION WITH INSTALLED EQUIPMENT.

P13 ROUTE A 1 1/2" WATER CONNECTION TO THE PROCESS EQUIPMENT (FLOCCULATOR), VERIFY THE EXACT CONNECTION LOCATION WITH INSTALLED EQUIPMENT.

P14 ROUTE A 1 1/2" WATER CONNECTION TO THE PROCESS EQUIPMENT (CHEMICAL EQUIPMENT), VERIFY THE EXACT CONNECTION LOCATION WITH INSTALLED EQUIPMENT.

P15 ROUTE A 3/4" COMPRESSED AIR PIPE FROM THE AIR COMPRESSOR (FURNISHED BY OTHERS) TO THE PROCESS EQUIPMENT (FLOCCULATOR) VERIFY THE EXACT CONNECTION LOCATION WITH INSTALLED EQUIPMENT.



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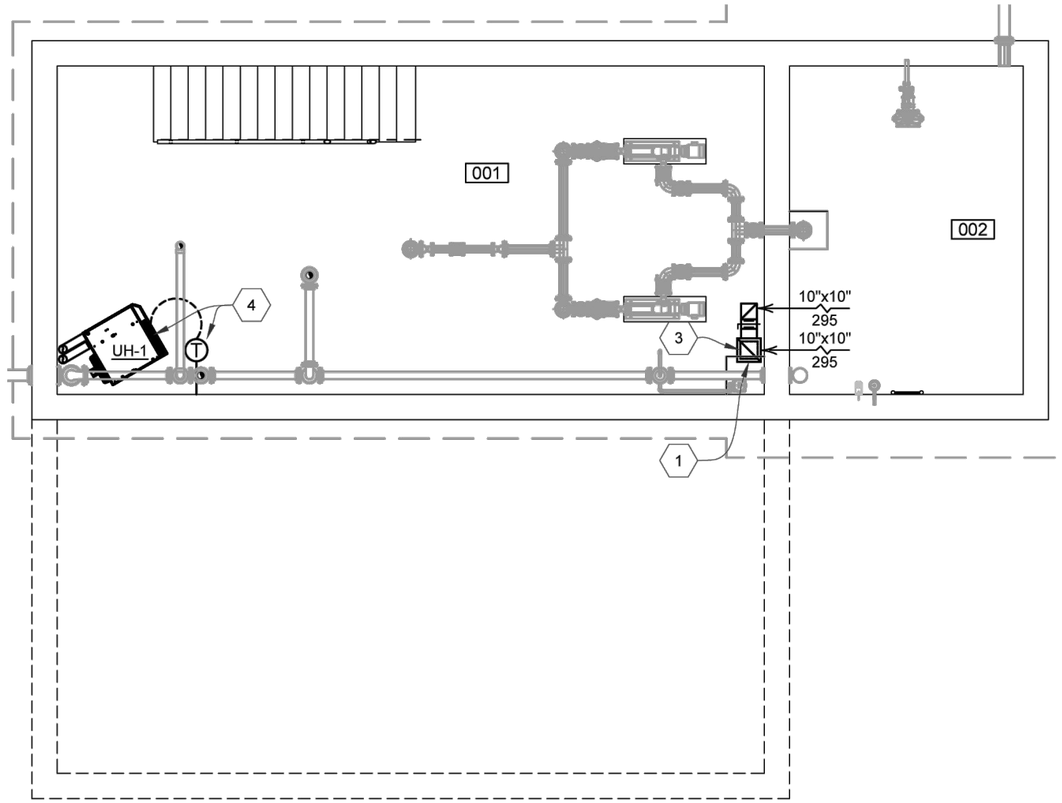
MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - UPPER LEVEL PLUMBING PLAN

DATE:	1/08/2026
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

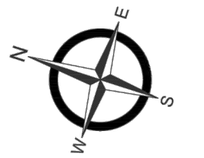
M78-201

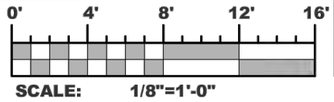
FILE LOCATION: Q:\2025\25547 Mobridge WWTF\Mechanical\Drawings\25547 Mechanical.dwg



ROOM SCHEDULE

#	NAME	#	NAME
001	PUMP ROOM	101	DEWATERING ROOM
002	STORAGE TANK	N/A	NOT USED





PROFESSIONAL ENGINEER
REG. NO.
15538
BLAKE
WAGNER
SOUTH DAKOTA
01/08/2026

moore engineering, inc.

KEYNOTES

1. 14/14 E.A. DUCT UP THRU THE FLOOR TO THE UPPER LEVEL. COORDINATE THE DUCT PENETRATION WITH ALL TRADES AND ADJUST ACCORDINGLY. PROTECT THE DUCT BY INSTALLING 1 1/2" x 1 1 /2" x 1/8" ANGLE IRON FROM THE FLOOR TO 6'-0" AFF.
2. 10/10 E.A. DUCT ELBOWED UP TO WITH-IN 6" OF THE FLOOR ABOVE, INSTALL BIRD SCREEN IN OPEN DUCT.
3. 10/10 E.A. DUCT DOWN TO WITH-IN 12" OF THE FLOOR, INSTALL BIRD SCREEN IN OPEN DUCT. PROTECT THE DUCT BY INSTALLING 1 1/2" x 1 1 /2" x 1/8" ANGLE IRON FROM THE FLOOR TO 6'-0" AFF.
4. INSTALL GAS FIRED UNIT HEATER NEAR THIS LOCATION COORDINATE ALL FLOOR PENETRATIONS WITH ALL TRADES. SEE DETAIL FOR ADDITIONAL INFORMATION. DIV. 23 TO PROVIDE THERMOSTAT, DIV 26 TO MOUNT AND WIRE THERMOSTAT.

1

LOWER LEVEL MECHANICAL PLAN

1/8"=1'-0"

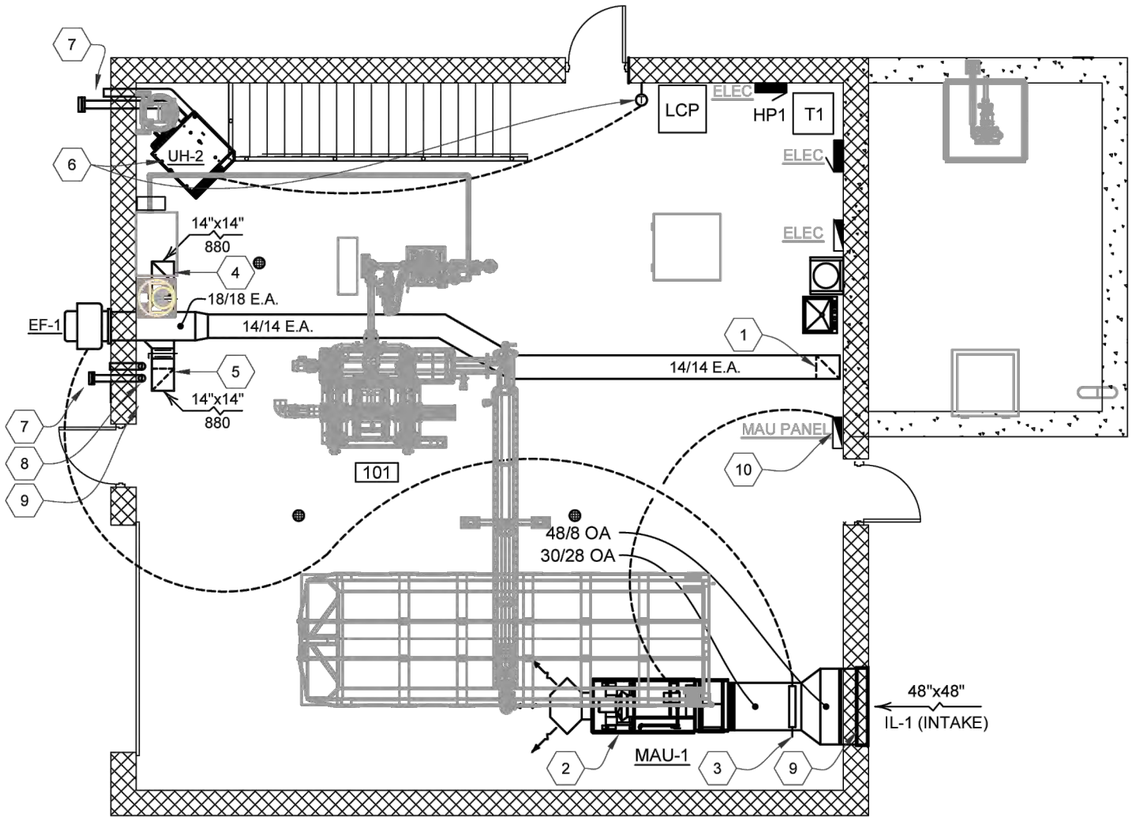
GENERAL NOTES

1. **THIS PROJECT WILL NEED TO MEET THE REQUIREMENT OF THE AMERICAN IRON AND STEEL PROVISIONS OF P.L. 113-76 CONSOLIDATED APPROPRIATIONS ACT, 2014 (AIS) FOR ALL DUCTWORK, PIPING AND MISCELLANEOUS MATERIALS. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO PROVIDE A BASIS OF DESIGN. THE CONTRACTOR SHALL PROVIDE AIS COMPLIANT MATERIALS. IN THE EVENT THE CONTRACTOR CANNOT PROVIDE SUCH, THE CONTRACTOR IS TO FILL OUT AN EXEMPTION FORM AS REQUIRED BY AIS.**
2. PROVIDE A STEEL SLEEVE A MINIMUM OF 1" AFF IN THE CONCRETE FLOOR AS REQUIRED FOR ANY PIPE/DUCT PENETRATION, SLEEVE SHALL BE LARGE ENOUGH TO ACCEPT THE PIPE/DUCT INSULATION IF INSULATION IS REQUIRED. THE SLEEVE IS TO AID IN REDUCING ANY WATER LEAKING THRU TO THE FLOOR BELOW. SEAL THE PERIMETER OF THE SLEEVE WATER TIGHT.

MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - LOWER LEVEL MECHANICAL PLAN

DATE:	1/08/2026
REV DATE:	----
REV NUM:	----
RECORD:	----
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-300



UPPER LEVEL MECHANICAL PLAN

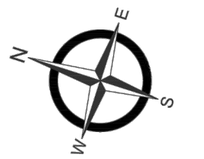
1/8"=1'-0"

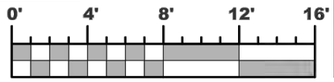
GENERAL NOTES

1. **THIS PROJECT WILL NEED TO MEET THE REQUIREMENT OF THE AMERICAN IRON AND STEEL PROVISIONS OF P.L. 113-76 CONSOLIDATED APPROPRIATIONS ACT, 2014 (AIS) FOR ALL DUCTWORK, PIPING AND MISCELLANEOUS MATERIALS. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO PROVIDE A BASIS OF DESIGN. THE CONTRACTOR SHALL PROVIDE AIS COMPLIANT MATERIALS. IN THE EVENT THE CONTRACTOR CANNOT PROVIDE SUCH, THE CONTRACTOR IS TO FILL OUT AN EXEMPTION FORM AS REQUIRED BY AIS.**
2. PROVIDE A STEEL SLEEVE A MINIMUM OF 1" AFF IN THE CONCRETE FLOOR AS REQUIRED FOR ANY PIPE/DUCT PENETRATION, SLEEVE SHALL BE LARGE ENOUGH TO ACCEPT THE PIPE/DUCT INSULATION IF INSULATION IS REQUIRED. THE SLEEVE IS TO AID IN REDUCING ANY WATER LEAKING THRU TO THE FLOOR BELOW. SEAL THE PERIMETER OF THE SLEEVE WATER TIGHT.

ROOM SCHEDULE

#	NAME	#	NAME
001	PUMP ROOM	101	DEWATERING ROOM
002	STORAGE TANK	N/A	NOT USED

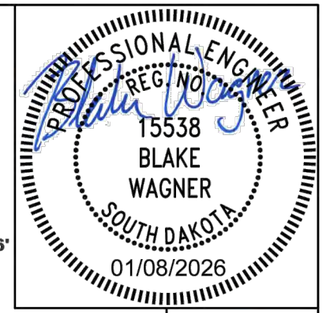




SCALE: 1/8"=1'-0"

KEYNOTES

1. 14/14 E.A. DUCT DOWN THRU THE FLOOR TO THE LOWER LEVEL. COORDINATE THE DUCT PENETRATION WITH ALL TRADES AND ADJUST ACCORDINGLY. PROTECT THE DUCT BY INSTALLING 1 1/2" x 1 1/2" x 1/8" ANGLE IRON FROM THE FLOOR TO 6'-0" AFF.
2. PROVIDE A MAKE-UP AIR UNIT AS SCHEDULED, INSTALL/COORDINATE THE UNIT HUNG FROM THE STRUCTURE AS HIGH AS POSSIBLE TO AVOID INTERFERENCE WITH THE PORTABLE DUMPSTER AS WELL COORDINATING THE HORIZONTAL LOCATION WITH THE CONVEYOR/AUGER FEEDING THE DE-WATERED CONTAMINANTS TO THE PORTABLE DUMPSTER. ADJUST THE LOCATION OF THE MAU-1 AS REQUIRED.
3. MOTORIZED DAMPER BY DIV 23, DAMPER SHALL OPEN UPON ACTIVATION OF THE EXHAUST FAN EF-1. COORDINATE POWER REQUIREMENTS WITH DIV 26.
4. 14/14 E.A. DUCT ELBOWED UP TO WITH-IN 6" OF THE ROOF DECK, INSTALL BIRD SCREEN IN OPEN DUCT.
5. 14/14 E.A. DUCT ELBOWED DN TO WITH-IN 12" OF THE FLOOR, INSTALL BIRD SCREEN IN OPEN DUCT. PROTECT THE DUCT BY INSTALLING 1 1/2" x 1 1/2" x 1/8" ANGLE IRON FROM THE FLOOR TO 6'-0" AFF.
6. INSTALL GAS FIRED UNIT HEATER NEAR THIS LOCATION COORDINATE ALL WALL PENETRATIONS WITH ALL TRADES. SEE DETAIL FOR ADDITIONAL INFORMATION. DIV. 23 TO PROVIDE THERMOSTAT, DIV 26 TO MOUNT AND WIRE THERMOSTAT.
7. INSTALLED SEALED COMBUSTION VENTING PER THE UNIT HEATER MANUFACTURERS INSTALLATION INSTRUCTIONS. SEE DETAIL FOR ADDITIONAL INFORMATION.
8. INSTALL VENT AND COMBUSTION AIR DUCT DOWN THRU THE FLOOR TO THE LOWER LEVEL TO SERVE THE GAS FIRED UNIT HEATER. COORDINATE THE DUCT PENETRATION WITH ALL TRADES AND ADJUST ACCORDINGLY. PROTECT THE DUCTING BY INSTALLING A 1 1/2" x 1 1/2" x 1/8" ANGLE IRON FRAME WITH EXPANDED METAL SPANNING THE DISTANCE BETWEEN ANGLE IRON FRAMES SO BOTH DUCT ARE WITH-IN THE CONFINES OF THE PROTECTION, VERIFY THE EXACT SIZE REQUIRED WITH ACTUAL INSTALLED CONDITIONS. WELD EVERYTHING TOGETHER AND PROVIDE FOUR 4" x 4" x 1/4" STEEL FEET AND ANCHOR THE FEET TO THE FLOOR. PROTECTION SHALL EXTEND FROM THE FLOOR TO 6'-0" AFF.
9. INSTALL LOUVER AT 10'-0" TO THE CENTER OF THE LOUVER, COORDINATE WITH THE BLOCK COURSES.
10. COORDINATE THE INSTALLATION OF THE MAU-1 TOUCH SCREEN CONTROL PANEL WITH THE E.C. TOUCH SCREEN CONTROL PANEL IS FACTORY FURNISHED. COORDINATE THE EXACT LOCATION OF THE PANEL WITH ALL TRADES.

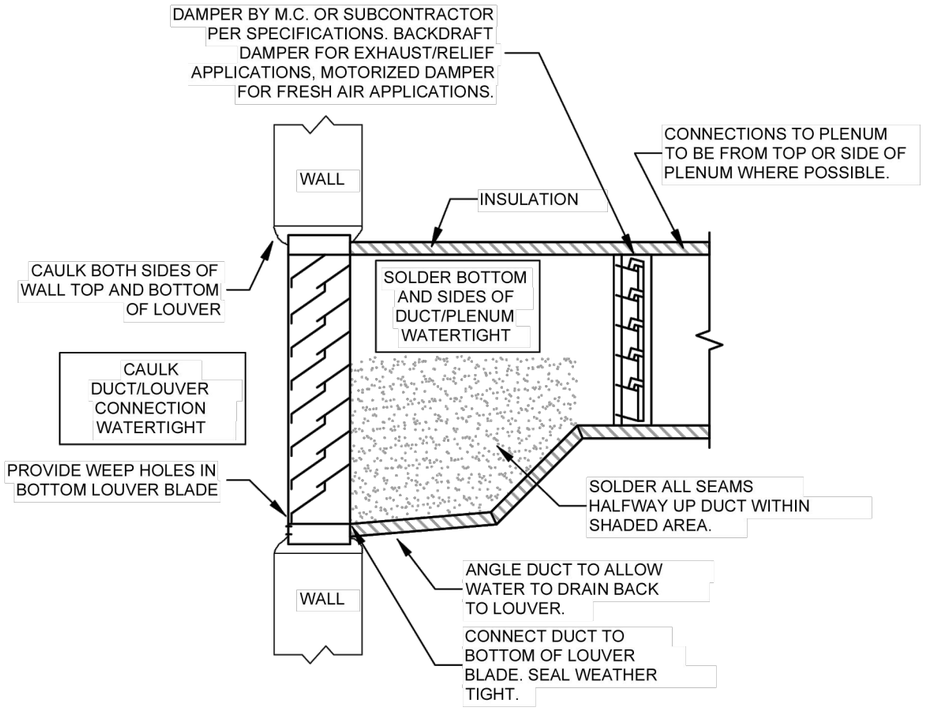


moore engineering, inc.

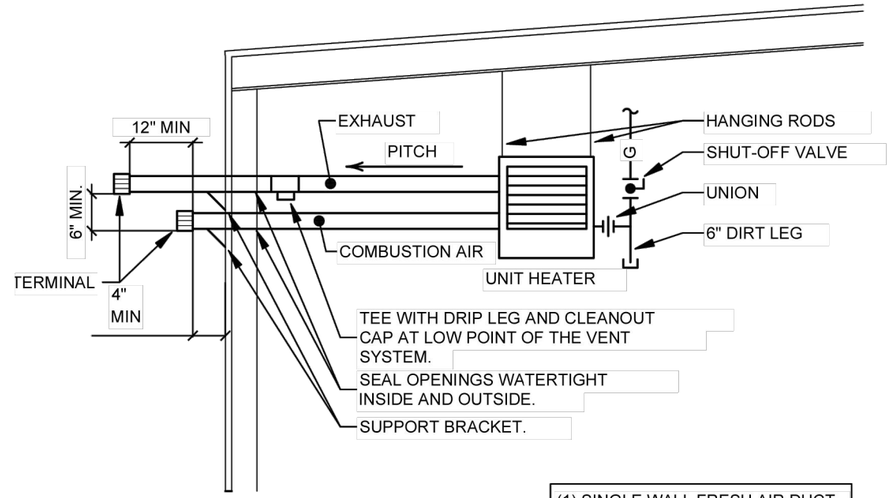
MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - UPPER LEVEL MECHANICAL PLAN

DATE:	1/08/2026
REV DATE:	---
REV NUM:	---
RECORD:	---
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-301



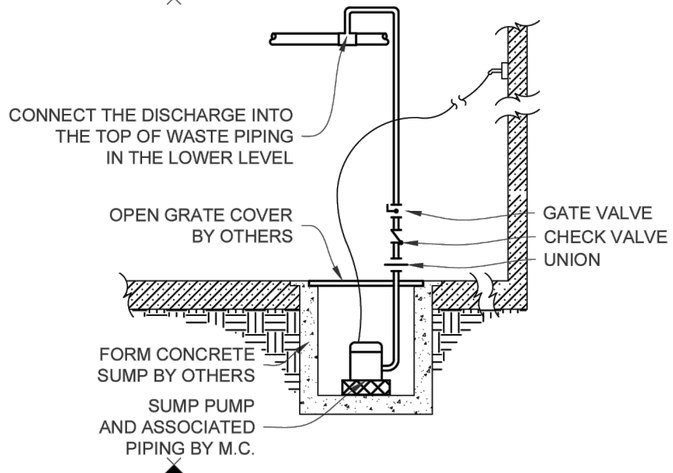
1 **LOUVER DETAIL**
NTS



(1) SINGLE WALL FRESH AIR DUCT
(1) SINGLE WALL EXHAUST VENT

1. FRESH AIR INTAKE AND EXHAUST VENTING SHALL BE INSTALLED PER MFR RECOMMENDATIONS. INSULATE FRESH AIR DUCT IF CALLED OUT BY MFR.
2. THIS DETAIL IS ONLY APPLICABLE TO SPECIFIED UNIT HEATER. AT CONTRACTOR'S OPTION OF USING APPROVED EQUAL UNIT, CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED VENTING/COMBUSTION AIR MATERIALS. PVC AND CPVC ARE NOT ALLOWED FOR ANY CLOSED COMBUSTION UNIT HEATER VENTING.

2 **GAS FIRED UNIT HEATER DETAIL**
NTS



3 **SUMP PUMP DETAIL**
NTS

PROFESSIONAL ENGINEER
REG. NO.
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WAGNER
SOUTH DAKOTA
01/08/2026

moore engineering, inc.

MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - MECHANICAL DETAILS

DATE:	1/08/2026
REV DATE:	---
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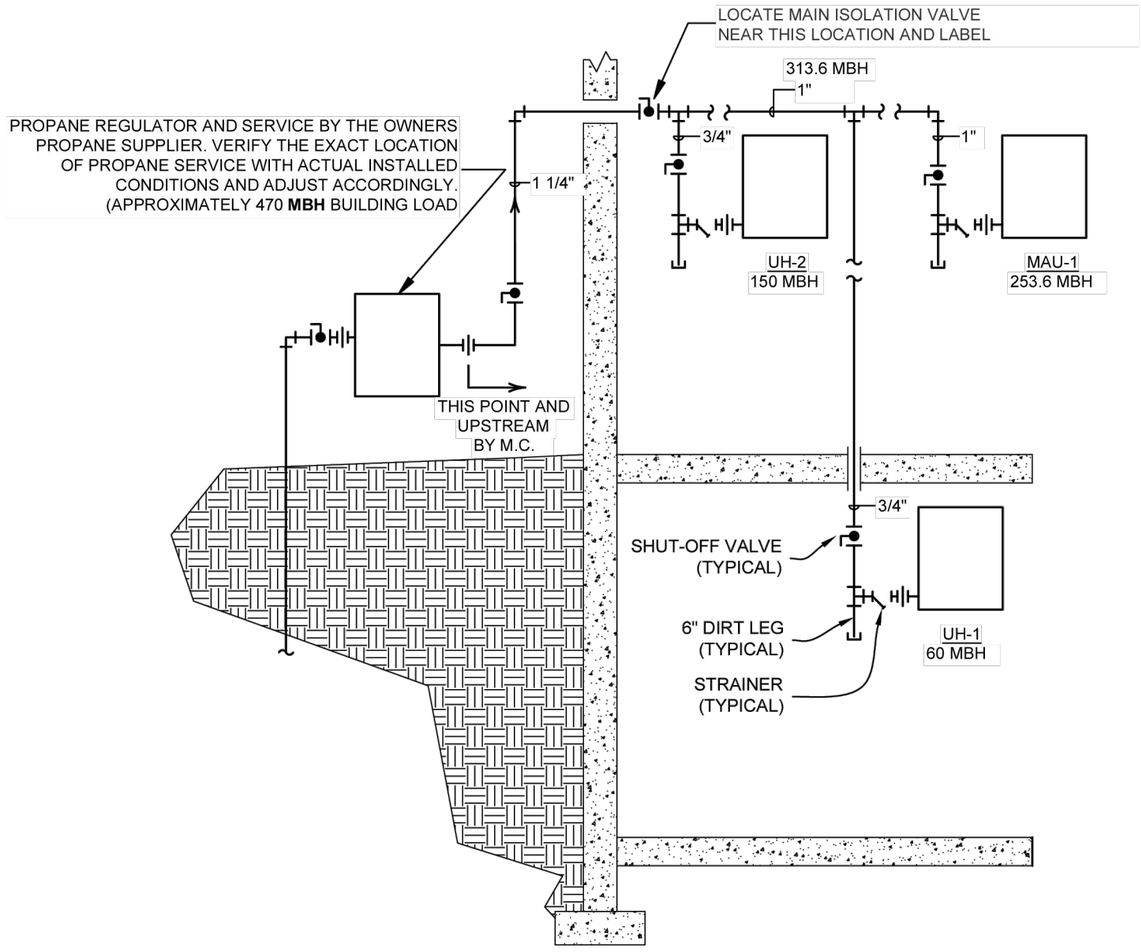
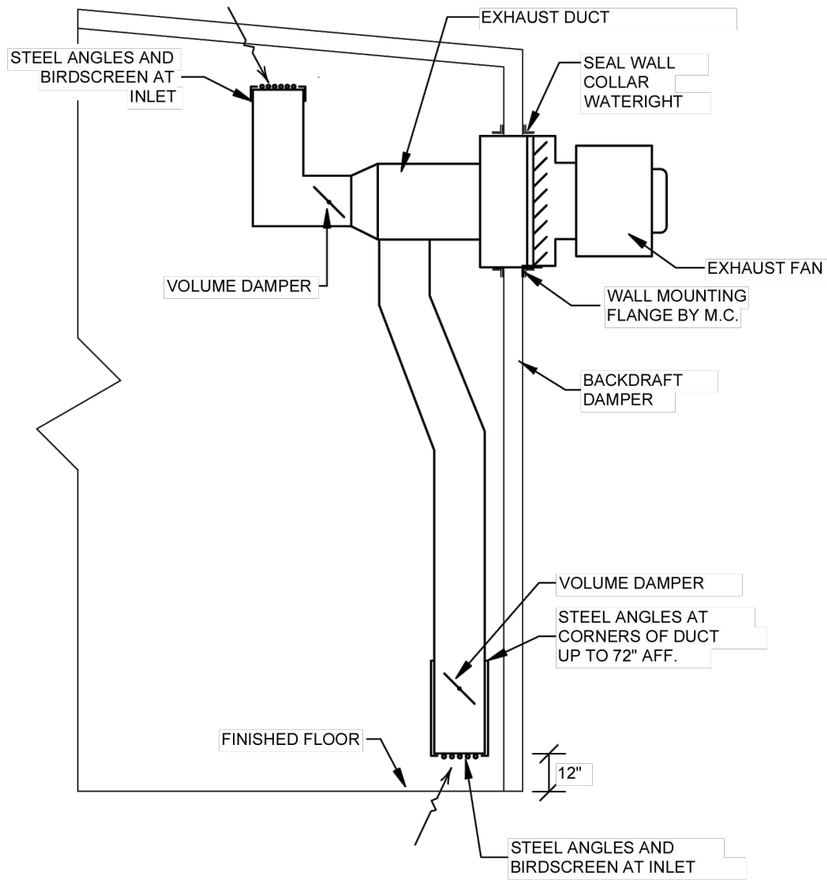
RECORD:	---
PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-501



1 **PROPANE PIPING SCHEMATIC**
NTS



2 **WALL MOUNTED EXHAUST FAN DETAIL**
NTS

PROFESSIONAL ENGINEER
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MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - MECHANICAL DETAILS

DATE:	1/08/2026
REV DATE:	----
REV NUM:	----
RECORD:	----

PROJECT No.	25547
MANAGER:	BAW
DESIGNER:	MJF
DRAFTER:	MJF
REVIEWER:	BAW

M78-502

223000 - ELECTRIC WATER HEATER SCHEDULE

SCHEDULE NOTES:

1. MOUNT UP ON THE WALL A MINMUM OF 5'-0" ABOVE FINISHED FLOOR ON A FIELD FABRICATED WALL MOUNTED STAND. PROVIDE THE STAND, PRIME AND PAINT THE STAND FLAT BLACK.
2. SET TEMPERATURE TO 120 DEGREES

MARK	MANUFACTURER	MODEL	HEATING ELEMENT KW	NUMBER OF ELEMENTS	TANK VOLUME	TEMP RISE	RECOVERY	ELECTRICAL				NOTES
								VOLTS	Ph	Hz	SCCR	
WH-1	RHEEM	EGSP6	6	1	6 GALLON	100°F	24	208	1	60	5	1,2

224000 - PLUMBING FIXTURE SCHEDULE - COMMERCIAL

SCHEDULE NOTES:

1. SCHEDULE IS ABBREVIATED. SEE PLUMBING SPECIFICATIONS SECTION 224000 FOR FULL SPECIFICATIONS.
2. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS
3. SEAL JOINTS BETWEEN FIXTURES AND FLOORS/WALLS WITH MILDEW RESISTANT SEALANT. MATCH COLOR TO FIXTURE.
4. PROVIDE A WALL CLEANOUT FOR EACH LAVATORY AND SINK.

TAG	FIXTURE			ADA	FAUCET/VALVE			DESCRIPTION
	TYPE	MFR	MODEL		MFR	MODEL	OPTION	
FPWH-1	FREEZEPROOF WALL HYDRANT CONCRETE BLOCK WALLS	N/A	N/A	N/A	ZURN	Z1322-EZ	FREEZE-PROOF HYDRANT	NON-FREEZE WALL HYDRANT, ANTI-SIPHON, SELF-DRAINING, KEYED LOCK OPERATION, FOR FLUSH INSTALLATION IN A 6" DIAMETER CORDED HOLE CONCRETE EXTERIOR WALL, GARDEN HOSE OUTLET.
WF-1	COLD WATER FAUCET	N/A	N/A	NO	CHICAGO FAUCET	952-12CP	"T" HANDLE	FURNISH AND INSTALL A POLISHED CHROME-PLATED FAUCET WITH ATMOSPHERIC VACUUM BREAKER, GARDEN HOSE CONNECTION ON OUTLET, "T" BLADE HANDLE.
WT-1	WASH TUB	FIAT	SF-1-W	NO	CHICAGO FAUCETS	526-ABCP	MANUAL	SINGLE COMPARTMENT POLYMER LAUNDRY TUB, WALL HUNG, DECK MOUNTED FAUCET WITH 2 3/8" HANDLES. PROVIDE WITH FACTORY FURNISED WALL BRACKET CAPABLE OF 250LBS LOADS.

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STRUCTURE 78 - MECHANICAL SCHEDULES

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M78-601

221300 - WASTE FIXTURE SCHEDULE

SCHEDULE NOTES:

1. SCHEDULE IS ABBREVIATED. SEE SPECIFICATION FOR FULL OPTIONS REQUIRED.
2. NOT ALL CLEANOUTS ARE SHOWN OR TAGGED ON THE DRAWINGS. THOSE LISTED ARE THE BASIS OF DESIGN FOR ALL FLOOR CLEAN OUTS REQUIRED BY CODE.

TAG	TYPE	MFR	MODEL	NOTES
CO	CLEANOUT	WATTS	CO-200-R	FLOOR CLEAN OUT WITH ROUND TOP. CLEANOUT SHALL MATCH THE PIPE SIZE UP TO 4", ANYTHING LARGER THAN A 4" SHALL RECEIVE A 4" CLEANOUT. MODEL CO-200-RC FOR CLEANOUTS INSTALLED BELOW CARPET.
FD-1	FLOOR DRAIN	WATTS	FD-102	FINISHED AREA FLOOR DRAIN WITH STRAINER. VERIFY ROUND OR SQUARE STRAINER, ANY TILED FLOOR SHALL RECEIVE A SQUARE STRAINER ALL OTHER FLOOR TYPES MAY RECEIVE A ROUND STRAINER.

223000 - SUMP PUMP SCHEDULE

SCHEDULE NOTES:

1. SEE DETAIL FOR ACCESSORIES. SUMP WILL BE FORMED CONCRETE BY OTHERS, OPEN GRATE COVER BY OTHERS. COORDINATE THE PIPE PENETRATIONS THRU THE GRATING AS REQUIRED.
2. AUTOMATIC PUMP CONTROL WITH HIGH WATER ALARM AND CONTACT FOR BAS ALARM.
3. PROVIDE PUMP WITH 15' CORD.

MARK	MANUFACTURER	MODEL	TYPE	SHUTOFF HD	MOTOR INFORMATION					NOTES
					AMPS	HP	V	Ph	Hz	
SP-1	ZOELLER	N152	SUMP	38	8.5	4/10	120	1	60	1,2,3

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