STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	1	124

Plotting Date: 10/21/2026 Revised 10-21-26

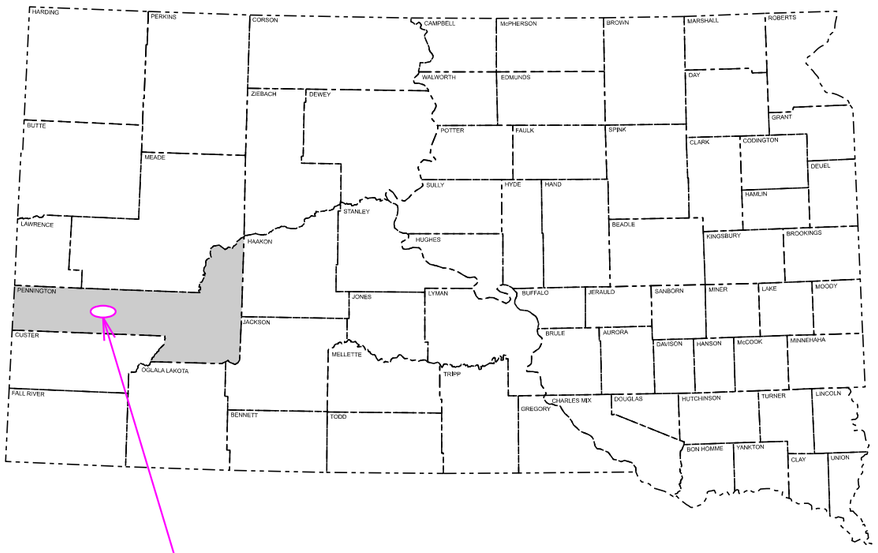
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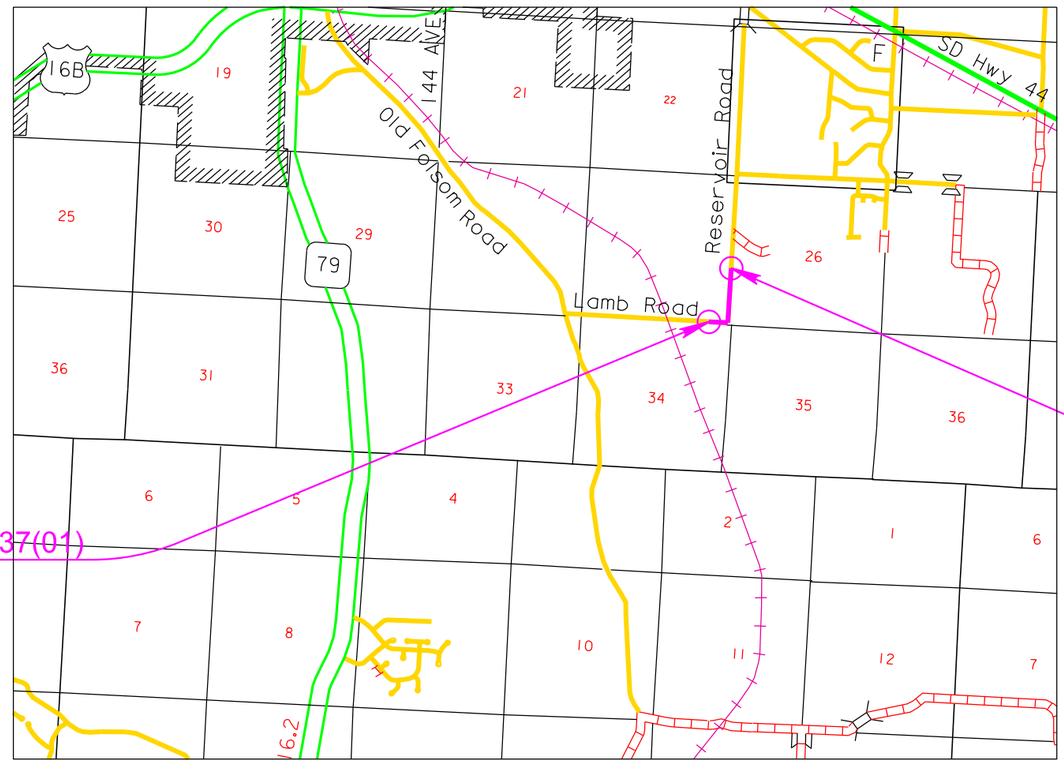
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT PH 6637(01)
Reservoir Road and Lamb Road
Pennington County

Grading, AC Surfacing,
Pavement Marking, Permanent Signing,
Water Main, and Water Storage
PCN 08W0





Project PH 6637(01)
Begin Project
102+49.06

Project PH 6637(01)
End Project
23+40.61

INDEX OF SHEETS:

1	Titlesheet
2-25	Estimate with General notes and Tables
26-30	Typical Section
31	Road Closure Sign Detail
32-33	Traffic Control Plan
34-41	Erosion and Sediment Control Layout
42	Horizontal Alignment Data
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70	Guardrail Layout
71-75	Permanent Signing and Pavement Marking
76-77	Special Details
78-112	Standard Plates
113	Soil Legend
114-124	Cross Sections

STORM WATER PERMIT
Major Receiving
Body of Water: Rapid Creek
Area Disturbed: 11 Acres
Total Project Area: 13.6 Acres
Approx. Begin Lat,Long: 44°00'33" N, 103°07'53" W

Gross Length	2,867 Feet	0.54 Miles
Length of Exceptions	0 Feet	0 Miles
Net Length	2,867 Feet	0.54 Miles

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-21-26

2

December 9, 2026

Plot Scale - 1:200
Plotted From - jschreter
File - ...\dgn\titlesheet.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	2	124

Plotting Date: 11/12/2026 Revised 11-12-26

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	8	Each
009E3230	Grade Staking	1.036	Mile
009E3250	Miscellaneous Staking	0.518	Mile
009E3280	Slope Staking	0.518	Mile
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0130	Remove Traffic Sign	4	Each
110E0135	Remove Delineator	10	Each
110E0600	Remove Fence	6,035	Ft
110E0730	Remove Beam Guardrail	78.0	Ft
110E1690	Remove Sediment	8.6	CuYd
110E1693	Remove Erosion Control Wattle	1,502	Ft
110E1695	Remove Sediment Filter Bag	18	Ft
110E1700	Remove Silt Fence	563	Ft
110E7040	Remove Gate for Reset	5	Each
110E7150	Remove Sign for Reset	1	Each
120E0010	Unclassified Excavation	95,264	CuYd
120E2000	Undercutting	7,966	CuYd
120E6000	Water for Dust Control	100.0	MGal
120E6100	Water for Embankment	495.0	MGal
120E6200	Water for Granular Material	68.6	MGal
230E0010	Placing Topsoil	6,179	CuYd
230E0020	Contractor Furnished Topsoil	1,321	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	7,009.8	Ton
260E3010	Gravel Surfacing	692.2	Ton
270E0020	Salvage and Stockpile Asphalt Mix Material	2,413.5	Ton
320E1200	Asphalt Concrete Composite	2,049.9	Ton
320E7040	Grind 6" Transverse Rumble Strip in Asphalt Concrete	816.0	Ft
450E0142	24" RCP Class 2, Furnish	64	Ft
450E0150	24" RCP, Install	64	Ft
450E0162	30" RCP Class 2, Furnish	154	Ft
450E0170	30" RCP, Install	154	Ft
450E2024	30" RCP Flared End, Furnish	1	Each
450E2025	30" RCP Flared End, Install	1	Each
450E2200	24" RCP Sloped End, Furnish	2	Each
450E2201	24" RCP Sloped End, Install	2	Each
450E2204	30" RCP Sloped End, Furnish	1	Each
450E2205	30" RCP Sloped End, Install	1	Each
450E4759	18" CMP 16 Gauge, Furnish	294	Ft
450E4760	18" CMP, Install	294	Ft
450E4769	24" CMP 16 Gauge, Furnish	120	Ft
450E4770	24" CMP, Install	120	Ft
450E5405	18" CMP Safety End with Bars, Furnish	10	Each
450E5407	18" CMP Safety End, Install	10	Each
450E5409	24" CMP Safety End with Bars, Furnish	2	Each
450E5410	24" CMP Safety End, Furnish	2	Each
451E0654	4" PVC Restrained Joint Water Main	55	Ft
451E2205	4"x4" Pipe Tee	1	Each
451E2402	4"x2" Pipe Reducer	1	Each
451E3408	2" Pipe Plug	1	Each
451E4204	4" Gate Valve with Box	3	Each
451E4920	Pipe Bedding Material	224.0	Ton
600E0200	Type II Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	2,340	Ft
620E0030	Type 3 Right-of-Way Fence	1,527	Ft
620E0260	Modified Type 6 Right-of-Way Fence	1,251	Ft
620E0300	Special Right-of-Way Fence	675	Ft
620E0505	Special Temporary Fence	682	Ft
620E0520	Type 2 Temporary Fence	1,739	Ft
620E0530	Type 3 Temporary Fence	2,185	Ft
620E0760	Modified Type 6 Temporary Fence	1,275	Ft
620E1020	2 Post Panel	78	Each
620E1030	3 Post Panel	3	Each
620E2012	12' Tubular Gate	4	Each
620E2014	14' Tubular Gate	1	Each
620E2016	16' Tubular Gate	10	Each
620E2100	Reset Gate	5	Each
630E0500	Type 1 MGS	91.6	Ft
630E2017	MGS MASH Flared End Terminal	1	Each
630E2018	MGS MASH Tangent End Terminal	1	Each
632E1320	2.0"x2.0" Perforated Tube Post	100.0	Ft
632E2020	4"x4" White Delineator with 1.12 Lb/Ft Post	13	Each
632E2028	4" Tubular White Delineator with 1.12 Lb/Ft Post	12	Each
632E2510	Type 2 Object Marker Back to Back	14	Each
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	37.5	SqFt
632E3500	Reset Sign	1	Each
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	5,120	Ft
633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	4,306	Ft
634E0010	Flagging	100.0	Hour
634E0110	Traffic Control Signs	359.6	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	8	Each
634E0640	Temporary Pavement Marking	8,601	Ft
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each
670E2030	4' x 5' Type C Drop Inlet	1	Each
670E2200	Type C Frame and Grate	1	Each
670E5400	Precast Drop Inlet Collar	1	Each
700E0110	Class A Riprap	18.0	Ton
720E1015	Bank and Channel Protection Gabion	6.0	CuYd
730E0100	Cover Crop Seeding	10.0	Bu
730E0210	Type F Permanent Seed Mixture	145	Lb
730E0251	Special Permanent Seed Mixture 1	201	Lb
732E0100	Mulching	32.0	Ton
734E0102	Type 2 Erosion Control Blanket	1,804	SqYd
734E0151	9" Diameter Erosion Control Wattle	3,432	Ft
734E0154	12" Diameter Erosion Control Wattle	316	Ft
734E0165	Remove and Reset Erosion Control Wattle	937	Ft
734E0180	Sediment Filter Bag	18	Ft
734E0325	Surface Roughening	9.2	Acre
734E0400	Rock Check Dam	1.2	CuYd
734E0510	Shaping for Erosion Control Blanket	964	Ft
734E0602	Low Flow Silt Fence	2,182	Ft
734E0604	High Flow Silt Fence	90	Ft
734E0610	Mucking Silt Fence	150	CuYd
734E0620	Repair Silt Fence	563	Ft
831E0110	Type B Drainage Fabric	37	SqYd
900E0010	Refurbish Single Mailbox	1	Each
900E0012	Refurbish Double Mailbox	1	Each
900E5250	Water Storage Tank	2	Each

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SOUTH DAKOTA
11-12-26

FOR BIDDING PURPOSES ONLY

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/doing-business/environmental/about-environmental/>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT A: AQUATIC RESOURCES

COMMITMENT A1: WETLANDS

All efforts to avoid and minimize wetland impacts from the project have resulted in approximately 0.08 acres of wetlands (includes temporary and permanent) becoming impacted. Refer to the plans for location and boundaries of the impacted wetlands.

Table of Impacted Wetlands

Wetland No.	Station	Perm. Impact Left (Acres)	Perm. Impact Right (Acres)	Temp. Impact Left (Acres)	Temp. Impact Right (Acres)	Total Impact (Acres)
1	1+50 to 2+50	0.02	0.00	0.01	0.05	0.08

Action Taken/Required:

Mitigation is required in accordance with the "*Statewide Finding Regarding Wetlands for South Dakota Federal-Aid Highway Projects (February 2018)*". Replacement of 0.08 acres of permanent wetland impacts will be completed through another wetland mitigation opportunity in a manner which considers FHWA's program-wide goal of 'net gain' of wetlands through enhancement, creation, and preservation.

Temporary impacts identified in the Table of Impacted Wetlands will not be mitigated as original contours and elevations will be re-established as designated in Section B – Grading Plans/the plans. Prior to initiating temporary work in wetlands, the Contractor will submit a plan to the Project Engineer in accordance with Section 7.18 of the Specifications.

The Contractor will notify the Project Engineer if additional easement is needed to complete work adjacent to any wetland. The Project Engineer will obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any wetlands beyond the work limits and easements shown in the plans.

COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (SDDANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Temporary permit to use public waters for highway construction purposes application can be found on the SDDANR website: https://danr.sd.gov/OfficeOfWater/WaterRights/PermitForms/default.aspx

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx >

South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:
< https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A SUDMEIER
SOUTH DAKOTA
10-22-26

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that this water body is not impacted.

Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Agriculture and Natural Resources (DANR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

The DANR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

Action Taken/Required:

If construction dewatering is required and this project is currently covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the contractor will need to submit the dewatering information to the SDDANR using the following form:

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_AddTempInfoFillable.pdf >

The Contractor will provide a copy of the approved permit or the submitted dewatering information to the Project Engineer prior to proceeding with any dewatering activities. The approved permit or submitted dewatering information must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DANR monthly. Additional information can be found at:
<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/swdpermitting/Ereporting.aspx >

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

Action Taken/Required:

The DANR General Permit for Stormwater Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DANR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DANR letter of approval is received.

The Contractor must adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State."

The Contractor will complete the DANR Contractor Certification Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DANR.

The form can be found at:
<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_CGPAppendixCCA2023Fillable.pdf >

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COMMITMENT E: STORM WATER (Continued)

The Contractor is advised that permit coverage may also be required for off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The DOT 298 Form will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly, and sediment is not tracked off the site.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: < https://dot.sd.gov/doing-business/environmental/stormwater >

DANR:<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/default.aspx >

EPA: < https://www.epa.gov/npdes >

REGISTERED PROFESSIONAL ENGINEER REG. NO. 8744 RICHARD A. SUDMEIER SOUTH DAKOTA 10-22-26

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, “No Dumping Allowed”.

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.
Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 150 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT K: RAPID CITY AREA AIR QUALITY CONTROL ZONE

Administrative Rule of South Dakota (ARSD) 74:36:18:03 states that "no state facility or state contractor may engage in any construction activity or continuous operation activity within the Rapid City air quality control zone which may cause fugitive emissions of particulate to be released into the ambient air without first obtaining a permit issued by the board or the secretary."

Construction activity is defined as any temporary activity which involves the removal or alteration of the natural or pre-existing cover of one acre or more of land. One acre of surface area is based on a cumulative area of disturbance to be completed for the entire project. Construction activity will include, but not be limited to, stripping of topsoil, drilling, blasting, excavation, dredging, ditching, grading, street maintenance and repair, or earth moving. It also includes stockpiles, access roads, and disposal areas. An off-site disposal area of excess material will require an additional permit.

Action Taken/Required:

To be considered eligible for authorization to conduct a construction activity under the terms and conditions of this permit, the owner operator must submit a Notice of Intent (NOI) form. The form must be submitted to the address below at least seven business days prior to the anticipated date of beginning the construction activity.

South Dakota Department of Agriculture and Natural Resources Air Quality Program, 523 East Capitol, Joe Foss Building, Pierre, SD 57501-3181, Phone: 605-773-3151.

The permit requires the Contractor to use reasonably available technology to control fugitive dust emissions. The Contractor is required to use control measures for track out, paved areas, unpaved roads, unpaved parking lots, disturbed areas, and for material handling and storage. The control measures that the Contractor is required to use are listed in the permit.

The Rapid City Air Quality Permit will need to be renewed annually by the Contractor until construction activities are completed.

The online form can be found at:< https://danr.sd.gov/Environment/AirQuality/PermitForms/Forms/NOIConstruction%2021.docx >

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the USACE for the permanent actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 Permit.

The Contractor will also be responsible for obtaining a Section 404 Permit for any dredge, excavation, or fill activities associated with material sources, storage areas, waste sites, and Contractor work sites outside the plan work limits that affect wetlands, floodplains, or waters of the United States.

MACHINE CONTROL GRADING & MODEL INFORMATION

Electronic design files are made available by the SDDOT Bid Letting Office through the SDDOT's SharePoint Directory for Contractors. The roadway subgrade model(s) xml file(s) provided for this project includes the following highway features: intersecting roads and entrances.

Highway features not included in the roadway subgrade model(s) xml file(s) are the following: ditch blocks, undercutting, muck excavation, and unstable excavation.

Other subgrade model and xml file provided for this project include channel waste grading area on the Lamb property.

These files are provided for informational purposes only. The information shown in the plans will govern over the provided electronic information. The Contractor assumes the risk of error if the information is used for any purposes for which the information was not intended. The Contractor assumes all risk of any assumptions or manipulations made of the electronic information.

LANDOWNER NOTIFICIATION

The Contractor will provide written notice a minimum of 30 days prior to project start date to the property owners within the project limits. The Engineer will review the notice prior to delivery.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 482 MGal. No separate payment will be made for the Water for Embankment and all costs associated will be incidental to the contract unit price per cubic yard of "Unclassified Excavation".

The estimated cubic yards of excavation and/or embankment required to construct outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

Special ditch grades and other sections of the roadway different than the typical section(s) will be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer will contact the Designer for the proposed change.

Generally, all shallow inlet and outlet ditches as noted on the plan sheets will be cut with a 10-foot wide bottom with 5:1 backslopes. However, the Engineer may direct the Contractor to adjust the ditch width for proper alignment with the drainage structure.

Temporary fence and/or permanent fence will be placed ahead of the grading operation unless otherwise directed by the Engineer.

TYPE II FIELD LABORATORY

The Contractor will provide high-speed broadband internet connection to the field lab. The multiport internet connection may be hardwired, through a cellular method, or other approved service that allows Wi-Fi connection. Prior to obtaining the internet connection, the Contractor will submit the internet connection's technical data to the Area Office to check for compatibility with the state's computer equipment. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. The internet service will be incidental to the contract unit price per each for "Type II Field Laboratory".

UTILITIES

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

WEST RIVER ELECTRIC

Due to the depth of excavation along Reservoir Road West River Electric Association (WREA) plans to temporarily relocate the overhead line located on the west side of Reservoir Road to the west edge of the temporary construction easements outside the work limits. The contractor will coordinate with West River Electric Association for the completion of a portion of the grading along the west side of Reservoir Road 10 feet either side of the right of way line so the Overhead Line may be relocated to the existing location before or near to June 1, 2027, so as to provide the necessary power for peak summer demands.

They also have underground across Lamb Road near station 107+71. They will relocate the electric box at station during grading work 107+60-L when grading work starts. The Contractor will coordinate with West River Electric to relocate their electric box.

The underground facilities at the corner of Reservoir Road and Lamb Road will be relocated before construction begins.

Contact Info:
Matt Schmahl
West River Electric Association, Inc.
Cell: 605-391-1956
Office: 605-791-6512

GOLDEN WEST

Golden West Communication has fiber optic lines along Lamb Road. They plan on relocating their facility from the north side of Lamb Road to the south side. The Contractor will complete the grading along the south side of Lamb Road first, the contact Ryan Cuny with Golden West to request they relocate their line onto the south side of the roadway.

Contact Info:
Ryan Cuny – Golden West
OSP Construction Specialist
Cell: 605-864-0613
Office: 605-428-1125

LUMEN

Lumen has an abandoned line on east side of the project. However, this line is still shown on the plans for the Contactor's information.

Coordination scheduling with utilities will also be discussed during the preconstruction meeting.

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SOUTH DAKOTA
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SHRINKAGE FACTOR: Embankment +25%

TABLE OF EXCAVATION QUANTITIES BY BALANCES

Station to	Station	Excavation (CuYd)	* Undercut (CuYd)	Waste from Reservoir Rd. (CuYd)	Total Excavation (CuYd)	**Out-of-Balance Exc. (CuYd)	** Waste (CuYd)
30+13	31+30	3	0		3		
0+50	11+63	7256	2457		9713		
11+63	23+40	72339	4197		76536		39316
102+49	107+50	319	1312	761	2392	761	
	Totals:	79917	7966	761	88385	761	39316

* The quantities for these items are in the Estimate of Quantities under their respective contract items.
** The quantities for these items are for information only.

TABLE OF UNCLASSIFIED EXCAVATION

	(CuYd)
Excavation	79917
Undercut	7966
Topsoil	6179
Salvaged Asphalt Mix (from cut sections)	1084
Salvaged Asphalt Mix (from fill sections)	118
Total:	95,264

PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

When plan quantities are used for payment, the Unclassified Excavation quantity will be used for final payment and the plans quantity of Topsoil and salvaged surfacing items listed in the Table of Unclassified Excavation will not be adjusted according to field measurements.

The following paragraphs are general earthwork information and information in regard to computing the Unclassified Excavation quantity when final cross sections are taken in the field:

Out-of-Balance Excavation is material obtained from waste generated from excavation from other balances. The quantity of Out-of-Balance Excavation is included in the Excavation quantity in the balance where it is excavated and is paid for once as Unclassified Excavation.

The Topsoil quantity in the Table of Unclassified Excavation is an estimate. When finaling a project, the total quantity of field measured Topsoil will be used in place of the estimated Topsoil quantity. The quantity of Topsoil from the cuts will be paid for twice as Unclassified Excavation, as it will be in both the Excavation and Topsoil quantities. This will be full compensation for Excavation, which includes necessary undercutting to provide space for placement of topsoil.

The Excavation quantities from individual balances and the Table of Unclassified Excavation have been reduced by the volume of in place surfacing that will be removed and/or salvaged.

Salvaged Asphalt Mix will be paid for at the contract unit price per ton and is also included in and paid for once as Unclassified Excavation. As shown in the Table of Unclassified Excavation, the estimated quantity of 118 cubic yards of Salvaged Asphalt Mix from fill sections will be added to the Excavation quantity to determine the Unclassified Excavation quantity. When finaling a project, the quantities of Salvaged Asphalt Mix from fill sections will not be adjusted according to field measurements. The quantity of Salvaged Asphalt Mix and Granular Base Material from cut sections will not be added to the Excavation quantity as it is already in the cuts on the final cross sections.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste.

The estimated cubic yards of excavation and/or embankment required to construct outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

Special ditch grades and other sections of the roadway different than the typical section(s) will be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer will contact the Designer for the proposed change.

Generally, all shallow inlet and outlet ditches as noted on the plan sheets will be cut with a 10-foot wide bottom with 5:1 backslopes. However, the Engineer may direct the Contractor to adjust the ditch width for proper alignment with the drainage structure.
Temporary fence and/or permanent fence will be placed ahead of the grading operation unless otherwise directed by the Engineer.

A copy of the soils report for this project is available for review at the Rapid City Region and Rapid City Area offices.

WASTE EXCAVATION

The project will produce excess excavation that will be disposed of by the Contractor. The owners of Parcels A1 and A5 will take approximately 2000 cubic yards of the waste excavation. A location for stockpiling this material is shown in the plans drawings. The Contractor will contact the owners before placement of this material.

Owner Phone Numbers:
David Lamb 605.391.8301
Andrea Anderson 605.391.8302

Any wasted material not disposed of on the Lamb's property will be disposed of at a place furnished by the Contractor.

Separate payment for waste excavation will not be made.

GENERAL GEOLOGY

Soils within the project area consist of or are derived from the Niobrara Formation and Tertiary gravel deposits overlaying the Carllie Shale. The South Dakota Geologic Survey describes these formations and deposits as outlined below:

Niobrara Formation consists of white to dark-gray argillaceous chalk, marl, and shale. Weathers yellow to orange. Contains thin, laterally continuous beds, chalky carbonaceous shale, minor sand, and small concretions.

Carille Shale consists of dark-gray to black, silty to sandy shale with several zones of septarian, fossiliferous, carbonate concretions. Contains up to three sandstone units near the middle of the formation and sandy calcareous marl at the base.

Tertiary gravel deposits consist of clay to boulder sized clasts primarily from igneous and metamorphic rocks of the central Black Hills. Alos includes Phanerozoic lithic clasts and rare vertebrate fossils. Variable depths of tertiary gravel may be encountered from station 8+00± to station 22+00±.

CLASSIFICATION OF EXCAVATION

Most of the material encountered should be able to be excavated using conventional methods associated with normal Unclassified Excavation. Blasting is not anticipated.

LANDOWNER COORDINATION

The Contractor will coordinate with the owners for Parcels A1, A2, and A5 for the removal and installation of temporary fence, access to the cattle shout, installation for the water storage tanks, and any items where construction impacts their properties.

The owners of Parcels A1 and A5 are David Lamb and Andrea Anderson.
David Lamb 605.391.8301
Andrea Anderson 605.391.8302

The owners of Parcel A5 are Jeffery Barber and Brend Shippen.
Jeffery Barber 605.390.0434

SIDE SLOPE GRADING FOR ENTRANCE AT 7+40-L

The fill slope for the entrance located at station 7+40-L shall be 6:1 from the edge entrance surfacing in lieu of the standard 10:1 shown in standard plate 120.01 for entrances without culverts.

UNDERCUTTING

In all cut sections the earthen subgrade will be undercut 2 feet below the earthen subgrade surface. The undercut material or other suitable material, as directed by the Engineer, will then be replaced and compacted to the density specified for the section being constructed.

Shallow embankment sections, fills less than 2 feet in height measured at the finished subgrade shoulders, will be undercut to ensure a minimum 2 foot height of earth embankment for the entire width of roadbed. The upper 4 inches of undercut material that consists of topsoil with a high humus content will be used as topsoil, placed in the fill slopes outside the shoulders of the earthen subgrade, or placed in the lower portion (below 4 foot depth) in fills which are greater than 4 feet in height. The remaining undercut soil and soil obtained from adjacent excavation (excluding the upper 4 inches) will then be replaced and compacted to the density specified for the section being constructed.

Intersecting roads will be undercut to the same depth as the Mainline roadway out to the limits of asphalt concrete or PCC pavement placement on the intersecting road unless specified otherwise. Quantities are included in the "Table of Undercutting".

The plan shown quantity will be the basis of payment. However, if there are additional areas of undercut other than what is shown in the plans, the Engineer will direct removal of these areas and the additional areas will be measured according to the Engineer.

TABLE OF UNDERCUTTING LOCATIONS

Station	to	Station
102+49		107+50
2+50		23+40

INCIDENTAL WORK, GRADING

Station	L/R	Remarks
105+32	L	Remove Gate
107+29 to 107+56	L/R	Take out 30" CMP
107+32 to 107+51	R	Remove Concrete Wall
2+29	R	Remove Gate
2+82	R	Remove Gate
5+40	L	Salvage Gate used for Temporary Gate for Owner
5+92	L	Salvage Gate used for Temporary Gate for Owner
6+39	L	Salvage Gate used for Temporary Gate for Owner
6+67	L	Salvage Gate for Owner
7+07	L	Remove Gates
10+62	L	Remove Gates
12+36	L	Take Out Concrete Cone w Manhole Lid

SALVAGED ITEMS

All salvaged items noted on the plans will be salvaged for future highway use and hauled to the Pennington County's Yard at 3601 S. Cambell Street as directed by the Engineer. Care will be taken not to damage the structural properties of the items during dismantling and transporting. All broken concrete and materials not salvaged will be disposed of in accordance with the Specifications. All costs for salvaging and transporting the items will be incidental to the contract lump sum price for "Incidental Work, Grading". Before preparing his/her bid, the Contractor will make a visual inspection of the project to verify the extent of the work and material involved.

CORRUGATED METAL PIPE

Corrugated metal pipes will have 2 ⅔-inch x ½-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes will have 3-inch x 1-inch or 5-inch x 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

The gauge of the corrugated metal ends will match the thickest gauge of corrugated metal pipe it is connected to.

PIPE FOR APPROACHES

High density polyethylene pipe, polypropylene pipe (will be in conformance with AASHTO M330), or steel reinforced polyethylene pipe may be substituted for corrugated metal pipe at approaches at no additional cost to the State.

If corrugated metal pipes are provided, the pipes will be as specified in the CORRUGATED METAL PIPE note.

If high density polyethylene pipe, polypropylene pipe (will be in conformance with AASHTO M330), or steel reinforced polyethylene pipe are provided, then the end sections will be metal, be compatible, and conform to the type of end section as shown in the plans.

PIPE COVER

The earthen subgrade cover for some pipe installations is less than one foot. The Contractor will take the necessary precautions to ensure the structural properties of the pipes are not damaged after installation and prior to the placement of final surfacing. Any additional costs for preventing damage to these pipes will be incidental to the contract unit price per foot for the corresponding pipe installation contract item.

STORM SEWER

Reinforced concrete pipe may be bell and spigot. The pipe sections will be adjoined such that the ends are fully entered and the inner surfaces are reasonably flush and even.

Lift holes in the reinforced concrete pipe will be plugged with grout.

Watertight joints are required for reinforced concrete pipe, drop inlets, manholes, and junction boxes where storm sewers run parallel to and within 10 feet horizontally from existing or proposed water mains.

Watertight joints are required where reinforced concrete pipes, drop inlets, manholes, or junction boxes cross water mains and are separated a distance of 18 inches or less, above or below, the water main.

If watertight joints are required then the watertight joints will extend for a distance of 10 feet beyond the water main. This measurement will be from the sealed concrete joint to the outer most surface of the water main.

Watertight joint seals will conform to the following requirements:

1. Reinforced Concrete Pipe (Circular): Gasketed pipe will conform to the requirements of ASTM C443 and the gasket will be in conformance with Section 990 of the Specifications. Non-gasketed concrete pipe will be sealed with a mastic joint seal conforming to the requirements of ASTM C990 and encased with a minimum 2-foot wide by 6-inch thick M6 concrete collar reinforced with 6x6 W2.9 x W2.9 wire mesh.

2. Reinforced Concrete Pipe (Arch): Gasketed pipe will conform to the requirements of ASTM C443 and the gasket will be in conformance with Section 990 of the Specifications. Non-gasketed concrete pipe joints will be sealed with a hydrophilic flexible water stop seal and wrapped with a 1-foot wide strip of fabric above the cradle. The fabric will conform to the requirements of Section 831 of the Specifications for Type A Drainage Fabric. The hydrophilic flexible water stop will be from the list below.

3. Drop Inlets, Manholes, and Junction Boxes: Joints will be sealed with one of the following methods:

   A. A flexible strip seal placed in the joints conforming to the requirements of ASTM C990 and the perimeter encased with a minimum 2-foot wide by 6-inch thick M6 concrete collar reinforced with 6x6 W2.9 x W2.9 wire mesh.

   B. A hydrophilic flexible water stop seal placed in the joints and a 1-foot wide strip of fabric wrapped around the perimeter of the pipe. The fabric will conform to the requirements of Section 831 of the Specifications for Type A Drainage Fabric. The hydrophilic flexible water stop will be from the list below.

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STORM SEWER (Continued)

A self-adhesive external joint seal wrap. The seal wrap will be from the list below.Approved List of Self-adhesive Joint Wrap

Product	Manufacturer
Mar Mac Seal Wrap	Mar Mac Construction Products McBee, SC 843-335-5909 www.marmac.com
ConWrap CS-212	Concrete Sealants, Inc. Tipp City, OH 800-332-7325 http://www.conseal.com

Approved List of Hydrophilic Flexible Water Stop Seal:

Product	Manufacturer
Waterstop RX	Cetco Hoffman Estates, IL 800-527-9948 www.cetco.com
Conseal CS-231	Concrete Sealants, Inc. Tipp City, OH 800-332-7325 http://www.conseal.com

Gaskets and seals (mastic, waterstop, and seal wraps) will be installed in accordance with the Manufacturer's recommendations.

The cost for furnishing and installing all gaskets, mastic joint seal, water stop seal, seal wrap, concrete collars, and for plugging the lift holes will be incidental to the contract unit price per foot for the corresponding pipe contract item.

DROP INLETS

Drop Inlets will be paid for at the contract unit price per each size of drop inlet and corresponding frame and grate.

If additions or reductions to the number of drop inlets are ordered by the Engineer, payment for the components required to construct the drop inlets will be made at the contract unit prices for the components of the drop inlets.

TABLE OF DROP INLETS AND QUANTITIES

Station	L / R	Drop Inlet Size	Drop Inlet Type	Frame and Grate/Lid Type
107+54	R	4'x5'	C	C

Total Type C Frame and Grate	1
Total 3'x4' Type C Drop Inlet	1

TABLE OF BANK AND CHANNEL PROTECTION GABIONS AND DRAINAGE FABRIC

Station	L/R	Bank and Channel Protection Gabion (CuYd)	Type B Drainage Fabric (SqYd)
108+22.21	R	6.0	19
	Totals:	6.0	19

TABLE OF RIPRAP AND DRAINAGE FABRIC

Station	L/R	Class A Riprap (Ton)	Type B Drainage Fabric (SqYd)
103+71	L	4.5	4.4
105+32	L	4.5	4.4
6+42	L	4.5	4.4
16+87	R	4.5	4.4
	Totals:	18.0	17.6

MAILBOXES

The Contractor will reset the existing mailboxes on new posts with the necessary support hardware for double mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor will coordinate with the Engineer on the proper postal representative to contact.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware will be incidental to the contract unit price per each for "Refurbish Single Mailbox" and "Refurbish Double Mailbox".

Single mailboxes will be refurnished at Sta 104+41 L.

Double mailboxes will be refurbished at Sta. 108+30 R.

TABLE OF REFURBISH MAILBOX

Station	L/R	Single (Each)	Double (Each)
104+41	L	1	
108+30	R		1
	Totals:	1	1

TEMPORARY FENCE

Temporary fence will be placed as shown on the plans. Temporary wire gates matching the adjacent fence type will be placed at entrances as shown on the plans. All temporary fence will become property of the landowner and will not be removed by the Contractor.

SPECIAL TEMPORARY FENCE

A special temporary fence located within the cattle pens between stations 104+27-L and 6+69-L will be constructed of free-standing cattle panels. Each panel will be 24' long with 2-7/8" diameter drill stem pipe for the uprights, frame with 1" bars for the horizontal members. A minimum of 5 horizontal members is required.

Heavy duty 3' chains rated up to 1300 lbs. will be used to connect the free-standing panels together.

Tubular Gates will be mounted to the standup panels.

Payment for Special Temporary Fence will be under contract unit price for "Special Temporary Fence" and will include furnishing and installing of the standup panels and will include all labor and materials necessary to construct the special temporary fence to the satisfaction of the Engineer and the landowner.

Upon completion of the project, the "Special Temporary Fence" and associated gates will become the property of the landowner and will be left in place.

TEMPORARY GATES

Existing gates noted in the table below will be removed and reset at temporary gates as shown in the plans. These temporary gates will allow for continued access to the pens while the project work is being completed. Upon completion of the project the temporary gates will be salvaged for the owner. New Special Fence will be constructed in their place.

Payment for removing, resetting, and salvaging these gates will be under their respective contract items.

TABLE OF TEMPORARY GATES

Existing Location		Reset Location	
Station	L/R	Station	L/R
5+38	L	5+40	L
5+89	L	5+92	L
6+35	L	6+39	L

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BRACE PANELS FOR ROW FENCE

The E-Z Brace or an approved equal may be utilized as an alternate horizontal brace in the brace panels if approved by the Engineer. The E-Z Brace will be attached to each wood post utilizing two 5/16" x 3" lag screws. Holes of appropriate diameter, based on wood post condition, will be drilled before placement of lag screws. The following is the contact regarding the E-Z Brace:

Charlie Mack
Macksteel E-Z Braces
415 20th Ave. SE.
Watertown, SD 57201
605-882-2177

TEMPORARY TUBULAR GATES

Along with the temporary fence between stations 3+22-L to 6+40-L, temporary tubular gates will be erected for each pen in the corral to allow the landowner to use the corral curing construction. Upon completion of construction and the permanent fence along the ROW line, the temporary tubular gates will be removed and become property of the landowner. New Special Fence will be installed where the temporary gates were located.

Payment for the temporary tubular gates will be per the contract unit price for size of tubular gate.

TABLE OF GUARDRAIL

Location	Remove Beam Guardrail (Ft)	Type 1 MGS (Ft)	MGS MASH Tangent End Terminal (Each)	MGS MASH Flared End Terminal (Each)
Sta. 106+92 to Sta. 107+69 R	78			
Sta. 105+62 to Sta. 107+52 R		91.6	1	1
Totals:	78	91.6	1	1

PUBLIC LANDS SURVEY SYSTEM, RIGHT OF WAY, AND PROPERTY CORNERS

The Contractor will have a Land Surveyor, licensed in the State of South Dakota, to set, reestablish or verify public land survey system (PLSS) corners, right of way (ROW) corners, and property corners as directed by the appropriate SDDOT Region Land Surveyor. It is estimated that 8 ROW and property corners will be set, reestablished, or verified for this project. The Contractor's Land Surveyor, under the direction of the Region Land Surveyor, will set, reestablish, or verify all corner monuments after surfacing and fencing operations are completed in accordance with the RIGHT OF WAY AND PROPERTY CORNERS section in Chapter 8 of the SDDOT Survey Manual.

<https://dot.sd.gov/doing-business/engineering-design-services/surveyors/>

All costs associated with furnishing and installing PLSS caps, rebar, and all other materials associated with setting, reestablishing, or verifying PLSS, ROW corners, and property corners in accordance with the SDDOT Survey Manual will be incidental to the contract unit price per each for "Reestablish Right-of-Way and Property Corner".

TABLE OF CONSTRUCTION STAKING

(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Grade Staking: Length (Mile)	Grade Staking: Lane Factor	Grade Staking: *Sets of Stakes	Grade Staking: **Grade Staking Quantity (Mile)	Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)
Reservoir Road (2 Lanes AC Pavement)	1+00	23+41	2	2241	0.424	1	2	0.848	0.424	0.424
Lamb Road (2 Lanes AC Pavement)	102+49	107+47	2	498	0.094	1	2	0.188	0.094	0.094
							Totals:	1.036	0.518	0.518

* 2 = Top of Subgrade Blue Top and Top of Granular Material Blue Top Stakes

** Grade Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)

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SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work.

LOCAL ACCESS

The project will be closed to all but local residential traffic. The Contractor will provide reasonable access for the residents within the project limits.

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

Additional flagger warning signs and flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours.

It is required that the flaggers be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

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TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) will be required on the top lift of asphalt concrete surfacing.

Temporary pavement marking paint will not be allowed on the final lift of asphalt Temporary pavement marking paint will not be allowed on the final lift of asphalt surfacing. Temporary pavement marking paint will not be allowed on the chip seal, fog seal, or flush seal. Temporary flexible vertical markers (tabs) must be used on the final lift of asphalt surfacing. The Contractor may use tabs with covers, uncovering them for the chip seal, fog seal, or flush seal. As an alternative, the Contractor may install new tabs for the fog seal or flush seal.

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

Quantities of Temporary Pavement Markings consist of:

One pass on the first lift of asphalt concrete
One pass on top of the final lift of asphalt concrete
One pass after the flush seal

In the absence of a signed lane closure or pilot car operation, FLAGGER (W20-7) symbol signs and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a WORKER (W21-1) symbol sign or a BE PREPARED TO STOP (W3-4) sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work must be approved by the Engineer.

Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.

TABLE OF TEMPORARY PAVEMENT MARKINGS

Pass	Marking Type	Length (ft)
Bottom Lift	Temporary Paint	2867
Top Lift	Tabs	2867
Flush Seal	Tabs	2867
	Total:	8601

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

One week prior to starting work affecting the traveling public, portable changeable message signs (PCMS) will be installed at locations detailed in the plans to notify drivers of the upcoming construction. The Contractor will program the portable changeable message signs with the following two page message:

RESERVOIR
ROAD
CLOSED

STARTING
(Date)

When work begins that will affect traffic patterns, the Contractor will re-program the PCMS with the messages as detailed in the plans.

INCIDENTS

An incident is an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic such as a crash, hazardous materials spill, or other event.

The Contractor will set up a meeting prior to start of work to plan and coordinate responses to an incident. The Contractor will invite the Department of Transportation, the South Dakota Highway Patrol, the Pennington County Sheriff and local emergency response entities to the meeting.

The Contractor will assist to maintain traffic as required by these plan notes and as agreed to at that meeting.

Emergency vehicle access through the project will be considered and discussed at the meeting.

The Contractor may be required to modify messages on portable changeable message signs or relocate portable changeable message signs, and to provide flaggers to direct or detour traffic. The Contractor should be prepared to relocate advance warning signs if determined to be necessary for a major traffic incident lasting more than two hours. Fixed location ground mounted signs may be covered and additional portable signs provided.

No additional payment will be made for the modification of portable changeable message sign messages or the relocation of portable changeable message signs. Cost for the relocation of an advance warning sign due to an incident will be 50% of the designated sign rate. Flaggers will be paid for at the contract unit price per hour for "Flagging".

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	11	124

Plotting Date: 10/21/2026 Revised 10-21-26

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
R11-3a	ROAD CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY	3	60" x 30"	12.5	37.5
R11-4	ROAD CLOSED TO THRU TRAFFIC	1	60" x 30"	12.5	12.5
W8-11	UNEVEN LANES	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-3	ROAD CLOSED AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
SPECIAL	LAMB RD CLOSED AT RESERVIOR RD	2	168" x 38"	44.3	88.6
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		TRAFFIC CONTROL SIGNS SQFT			359.6

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PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and 6 or 10 inches within temporary easements as shown in the typical sections.

The estimated amount of topsoil to be placed is as follows:

Station	to	Station	Topsoil (CuYd)
102+49		106+50	215
30+13		3+00	151
3+00		23+40	5813
		Total:	6179

CONTRACTOR FURNISHED TOPSOIL

It is anticipated that a larger volume of topsoil will be needed for the new grade than can be salvaged from the existing grade. The Contractor will be required to furnish and place 4 inches of topsoil on roadway inslopes within the right of way and 6" or 10" within temporary easements as shown in the typical sections.

Contractor furnished topsoil will be free from stones, coarse gravel, or similar objects larger than 3/4 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, liter, or any other material which may be harmful to plant growth will not be allowed. Organic material will be decomposed.

All costs to furnish and place the Contractor furnished topsoil will be incidental to the contract unit price per cubic yard for "Contractor Furnished Topsoil".

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include a minimum 25% the fungal species *Rhizophagus intraradices*. The remaining 75% may include other endomycorrhizal fungal species.

All seed will be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The Mycorrhizal Inoculum provided will be from the approved product list. The approved product list may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer will be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The Fertilizer provided will be from the approved product list. The approved product list may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation,

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
	Total:	26

A special permanent seed mixture will be used on Parcels A1, A2, A3, and A5 including the adjacent ditches.

Special Permanent Seed Mixture 1 will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Annual Ryegrass	Gulf	6
Slender Wheatgrass	San Luis	4
Crested Wheatgrass	Ephraim	3
Hard Fescue	Durar	3
Canada Bluegrass	Ruebens	2
Big Bluestem	Pawnee	2
Side Oats Grama	Native	2
Canada Wildrye	Mandan	2
Idaho Fescue	Lakeview	1
Buffalo Grass	Sundancer	2
	Total:	27

COVER CROP SEEDING

Cover crop seeding may be used on this project as a temporary erosion control measure. The actual limits and use of cover crop seeding will be determined by the Engineer during construction.

SURFACE ROUGHENING

Surface roughening will be done after topsoil placement and before permanent seeding, fertilizing, and mulching applications. Refer to Standard Plate 734.25 for details.

TABLE OF SURFACE ROUGHENING

Station	Location	Area (Acre)
8+21 to 13+29 R	Inslope/Backslope/Ditch	0.7
9+85 to 16+19 R	Inslope/Backslope/Ditch	1.3
13+53 to 23+41 R	Inslope/Backslope/Ditch	2.4
16+55 to 23+41 L	Inslope/Backslope/Dtich	2.8
	Additional Quantity:	2.0
	Total:	9.2

MULCHING (GRASS HAY OR STRAW) FOR TEMPORARY STABILIZATION

Grass Hay or Straw Mulch for temporary stabilization is to be used on this project at locations noted in the table and at locations determined by the Engineer during construction. Two applications of Grass Hay or Straw Mulch on areas that receive temporary Grass Hay or Straw Mulch will not be required if the Engineer determines that there is sufficient Mulch remaining at the time permanent seeding takes place.

An additional 10 tons of Grass Hay or Straw Mulch has been added to the Estimate of Quantities for temporary erosion control on areas determined by the Engineer during construction.

If the Contractor uses a no-till drill, mulch may be applied prior to seeding and the mulch can then be punched into the soil by the no-till drill. If the Contractor uses this process, the no-till drill seeding will be completed immediately following the mulch application and the mulch will be punched into the soil at a 3-inch depth.

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EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles will remain on the project until vegetation has been established and then they will be removed in accordance with the Engineer.

The erosion control wattle provided will be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

TABLE OF EROSION CONTROL WATTLE

Station	Location	Diameter (Inch)	Quantity (Ft)
104+19 L	Ditch Bottom	12	10
105+71 L	Ditch Bottom	12	10
3+25 L	Ditch Bottom	12	10
3+90 R	Ditch Bottom	12	10
4+00 L	Ditch Bottom	12	10
4+60 L	Ditch Bottom	12	10
7+60 L	Culvert Inlet	12	16
9+63 L	Ditch Bottom	12	10
10+08 to 11+35 R	Side Slope	9	128
10+30 to 11+39 L	Side Slope	9	110
10+43 L	Ditch Bottom	12	10
10+83 to 15+76 R	Side Slope	9	494
11+07 to 13+26 L	Side Slope	9	219
11+35 L	Ditch Bottom	12	10
13+63 to 17+20 L	Side Slope	9	360
14+00 L	Ditch Bottom	12	10
15+00 L	Ditch Bottom	12	10
15+43 R	Culvert Inlet	12	10
16+00 L	Ditch Bottom	12	10
16+89 to 21+17 L	Side Slope	9	446
17+00 L	Ditch Bottom	12	10
17+23 R	Ditch Bottom	12	10
18+00 L	Ditch Bottom	12	10
18+48 to 19+32 L	Side Slope	9	119
19+00 L	Ditch Bottom	12	10
19+15 to 21+65 R	Side Slope	9	410
19+35 to 21+36	Side Slope	9	215
20+00 L	Ditch Bottom	12	10
20+05 to 21+89 R	Side Slope	9	336
21+00 L	Ditch Bottom	12	10
21+32 to 22+58 L	Side Slope	9	10
21+68 to 22+58 L	Side Slope	9	158
22+00 L	Ditch Bottom	12	10
22+08 to 22+77 L	Side Slope	9	127
	Additional Quantity:	9	300
	Additional Quantity:	12	100
		Total 9":	3432
		Total 12":	316

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LOW FLOW SILT FENCE

The low flow silt fence fabric provided will be from the approved product list. The approved product list for low flow silt fence may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

Low flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.04 for details.

An additional quantity of Low Flow Silt Fence has been added to the Estimate of Quantities for temporary sediment control.

TABLE OF LOW FLOW SILT FENCE

Station	Location	Quantity (Ft)
102+40 R	Ditch Bottom	21
102+56 L	Ditch Bottom	21
103+79 to 103+87 R	Ditch Bottom	28
1+19 to 1+72 R	Perimeter Control	90
2+36 to 2+76 R	Perimeter Control	51
2+97 to 3+09 R	Perimeter Control	14
6+00 to 9+23 R	Perimeter Control	327
7+63 to 9+42 L	Perimeter Control	180
9+86 to 10+11	Perimeter Control	31
18+10 to 23+54 R	Perimeter Control	727
21+55 to 22+97 L	Perimeter Control	312
30+13 L	Perimeter Control	10
30+13 R	Perimeter Control	10
	Additional Quantity:	360
	Total:	2182

HIGH FLOW SILT FENCE

The high flow silt fence fabric provided will be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

High flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

An additional quantity of high flow silt fence has been added to the Estimate of Quantities for temporary sediment control.

TABLE OF HIGH FLOW SILT FENCE

Station	Location	Quantity (Ft)
3+30 L	Inlet of Culvert	18
	Quantity from Interim Sediment Control at Inlets:	22
	Additional Quantity:	50
	Total:	90

EROSION CONTROL BLANKET

Erosion control blanket will be installed 16 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

The erosion control blanket provided will be from the approved product list. The approved product list for erosion control blanket may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

An additional quantity of Type 2 Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

TABLE OF EROSION CONTROL BLANKET

Station	Location	Type	Quantity (SqYd)
1+44 to 1+96 R	Ditch Bottom	2	92
13+87 to 18+00 L	Ditch Bottom	2	736
18+00 to 22+37 L	Ditch Bottom	2	776
	Additional Quantity:	2	200
	Total Type 2 Erosion Control Blanket:		1804

SHAPING FOR EROSION CONTROL BLANKET

The ditches will be shaped for the erosion control blanket as specified on Standard Plate 734.01.

ROCK CHECK DAM

The rock for the rock check dam will be 4"-8" and angular. The rock check dam will be constructed to the limits shown on Standard Plate 734.03. All costs for constructing the rock check dam including labor, equipment, excavation, and rock will be incidental to the contract unit price per cubic yard for "Rock Check Dam".

INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING

Refer to Standard Plate 734.05 for details of installation of high flow silt fence at drop inlets, manholes, and junction boxes.

The high flow silt fence fabric provided will be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

In addition, the Contractor will do the following for this installation:

- A space of at least 1' will be provided between the silt fence installation and the inlet. This space will be filled completely with a 2" depth of aggregate, 2" minus or smaller.
- The top elevation of the silt fence will be such that a 12" horizontal flap of silt fence will remain at the bottom.
- The base of the silt fence will conform to the natural ground profile but does not need to be trenched in at the bottom.
- The extra 12" of the silt fence material may be cut so that the material will lay flat upon the subgrade.
- Sediment filter bags will be placed on the 12" flap around the perimeter of the silt fence installation. The sediment filter bags will overlap 6" at the ends and be placed tightly together.
- The sediment filter bags will be filled with clean aggregate 2" minus or smaller.

The Sediment Filter Bag provided will be from the approved product list. The approved product list may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

All costs for furnishing and installing the sediment filter bags will be incidental to the contract unit price per foot for "Sediment Filter Bag."

All costs for removing the sediment filter bags will be incidental to the contract unit price per foot for "Remove Sediment Filter Bag".

Payment for high flow silt fence will be as stated in Section 734.5 of the Specifications.

All costs for furnishing, installing, and removing the 2" depth of aggregate will be incidental to other erosion and sediment control contract items.

All costs for removing and disposing of sediment collected by the sediment control device will be incidental to the contract unit price per cubic yard for "Remove Sediment".

The removed sediment will be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

The Contractor and Engineer will inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event greater than 1/2".

TABLE OF INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING

Station	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)	Remove Sediment Quantity (CuYd)
2+60 L	22	18	0.25
Totals:	22	18	0.25

DUST CONTROL

The application and maintenance of Dust Control products are to be utilized on exposed soil surfaces to provide temporary stabilization and prevent or minimize the creation or movement of fugitive dust generated during construction.

Dust Control will be used at locations determined by the Engineer during construction.

The Dust Control products provided will be from the approved products list. The approved products list may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

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STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

*(The numbers left of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (Stormwater Permit))*

5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- **5.3 (3a): Project Limits** (See Title Sheet)
- **5.3 (3a): Project Description** (See Title Sheet)
- **5.3 (4): Site Map(s)** (See Title Sheet and Plans)
- **Major Soil Disturbing Activities** (check all that apply)
  - ☒ Clearing and grubbing
  - ☒ Excavation/borrow
  - ☒ Grading and shaping
  - ☒ Filling
  - ☐ Other (describe):
- **5.3 (3b): Total Project Area** 17.4 acres
- **5.3 (3b): Total Area to be Disturbed** 13.6 acres
- **5.3 (3c): Maximum Area Disturbed at One Time**13.6 acres
- **5.3 (3d): Existing Vegetative Cover (%)** 90
- **5.3 (3d): Description of Vegetative Cover** Native Grasses

- **5.3 (3e): Soil Properties:** USDA-NRCS Soil Series Classification CL, Lean Clay with San and Gravel
- **5.3 (3f): Name of Receiving Water Body/Bodies** Spring Creek/Rapid Creek
- **5.3 (3g): Location of Construction Support Activity Areas**

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install stabilized construction entrance(s).	
Install perimeter protection where runoff may exit site.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Install inlet and culvert protection after completing storm drainage and other utility installations.	
Final grading.	
Final paving.	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

Perimeter Controls (See Detail Plan Sheets)

Description	Estimated Start Date
☐ Natural Buffers (within 50 ft of Waters of State)	
☒ Silt Fence	
☒ Erosion Control Wattles	
☐ Temporary Berm / Windrow	
☐ Floating Silt Curtain	
☒ Stabilized Construction Entrances	
☐ Entrance/Exit Equipment Tire Wash	
☐ Other:	

Structural Erosion and Sediment Controls

Description	Estimated Start Date
☒ Silt Fence	
☐ Temporary Berm/Windrow	
☒ Erosion Control Wattles	
☐ Temporary Sediment Barriers	
☐ Erosion Bales	
☒ Temporary Slope Drain	
☐ Turf Reinforcement Mat	
☒ Riprap	
☒ Gabions	
☒ Rock Check Dams	
☐ Sediment Traps/Basins	
☒ Culvert Inlet Protection	
☐ Transition Mats	
☐ Median/Area Drain Inlet Protection	
☐ Curb Inlet Protection	
☐ Interceptor Ditch	
☐ Concrete Washout Facility	
☐ Work Platform	
☐ Temporary Water Barrier	
☐ Temporary Water Crossing	
☐ Permanent Stormwater Ponds	
☐ Permanent Open Vegetated Swales	
☐ Natural Depressions to allow for Infiltration	
☐ Sequential Systems that combine several practices	
☐ Other:	

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Dust Controls

Description	Estimated Start Date
☐ Tarps & Wind impervious fabrics	
☒ Watering	
☐ Stockpile location/orientation	
☐ Dust Control Chlorides	
☐ Other	

Dewatering BMPs

Description	Estimated Start Date
☐ Sediment Basins	
☐ Dewatering bags	
☐ Weir tanks	
☐ Temporary Diversion Channel	
☐ Other:	

Stabilization Practices (See Detail Plan Sheets)

(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities (**3.18**))

Description	Estimated Start Date
☐ Vegetation Buffer Strips	
☒ Temporary Seeding (Cover Crop Seeding)	
☒ Permanent Seeding	
☐ Sodding	
☐ Planting (Woody Vegetation for Soil Stabilization)	
☒ Mulching (Grass Hay or Straw)	
☐ Fiber Mulching (Wood Fiber Mulch)	
☐ Soil Stabilizer	
☐ Bonded Fiber Matrix	
☐ Fiber Reinforced Matrix	
☒ Erosion Control Blankets	
☐ Surface Roughening (e.g. tracking)	
☐ Other:	

Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

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5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance and repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

Material Management

Housekeeping

- Only needed products will be stored on-site by the Contractor.
- Except for bulk materials the contractor will store all materials under cover and/or in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off-site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.

Hazardous Materials

- Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any stormwater system or stormwater treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of stormwater runoff.

Spill Control Practices

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the Contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for cleanup purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The Contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator.

Spill Response

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The Contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SDDANR.
- Personnel with primary responsibility for spill response and cleanup will receive training by the Contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

5.3 (8b): WASTE MANAGEMENT PROCEDURES

Waste Disposal

- All liquid waste materials will be collected and stored in approved sealed containers. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal and notices stating proper practices will be posted. The Contractor is responsible for ensuring waste disposal procedures are followed.

Hazardous Waste

- All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the Contractor will be responsible for seeing that these practices are followed.

Sanitary Waste

- Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.

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5.3 (9): CONSTRUCTION SITE POLLUTANTS

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

- ☐ Concrete and Portland Cement
- ☐ Detergents
- ☐ Paints
- ☐ Metals
- ☐ Bituminous Materials
- ☐ Petroleum Based Products
- ☐ Diesel Exhaust Fluid
- ☐ Cleaning Solvents
- ☐ Wood
- ☐ Cure
- ☐ Texture
- ☐ Chemical Fertilizers
- ☐ Other:

Product Specific Practices

- **Petroleum Products**
  All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

- **Fertilizers**
  Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to stormwater. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

- **Paints**
  All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

- **Concrete Trucks**
  Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

5.3 (10): NON-STORMWATER DISCHARGES

The following non-stormwater discharges are anticipated during the course of this project (check all that apply).

- ☐ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☒ Uncontaminated ground water associated with dewatering activities.

5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

7.0: SPILL NOTIFICATION

In the event of a spill, the Contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDANR immediately **if any one of the following** conditions exists:
  - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
  - The release or spill causes an immediate danger to human health or safety
  - The release or spill exceeds 25 gallons
  - The release or spill causes a sheen on surface water
  - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
  - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
  - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
  - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.

- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.

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5.4: SWPPP CERTIFICATIONS

➢ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➢ **South Dakota Department of Transportation**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

Authorized Signature (See the General Permit, Section 7.4 (1))

➢ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

Authorized Signature

REGISTERED PROFESSIONAL ENGINEER
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CONTACT INFORMATION

The following personnel are duly authorized representatives and have signatory authority for modifications made to the SWPPP:

➢ **Contractor Information**:

- Prime Contractor Name: _____
- Contractor Contact Name: _____
- Address: _____
- _____
- City: _____State: _____Zip: _____
- Office Phone: _____Field: _____
- Cell Phone: _____Fax: _____

➢ **Erosion Control Supervisor**

- Name: _____
- Address: _____
- _____
- City: _____State: _____Zip: _____
- Office Phone: _____Field: _____
- Cell Phone: _____Fax: _____

➢ **SDOT Project Engineer**

- Name: _____
- Business Address: _____
- Job Office Location: _____
- City: _____State: _____Zip: _____
- Office Phone: _____Field: _____
- Cell Phone: _____Fax: _____

➢ **SDDANR Contact Spill Reporting**
- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

➢ **SDDANR Contact for Hazardous Materials.**
- (605) 773-3153

➢ **National Response Center Hotline**
- (800) 424-8802.

➢ **SDDANR Stormwater Contact Information**
- SDDANR Stormwater (800) 737-8676
- Surface Water Quality Program (605) 773-3351

5.5: REQUIRED SWPPP MODIFICATIONS

➢ **5.5 (1): Conditions Requiring SWPPP Modification**

The SWPPP must be modified, including the site map(s), in response to any of the following conditions:

- When a new operator responsible for implementation of any part the SWPPP begins work on the site.
- When changes to the construction plans, sediment and erosion control measures, or any best management practices on site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered by inspections.
- To reflect areas on the site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.
- If inspections by site staff, local officials, SDDANR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with the Stormwater Permit.
- To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.
- If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, age rates, different areas, or methods of application.

➢ **5.5 (2): Deadlines for SWPPP Modification**

Any required revisions to the SWPPP must be completed within 7 calendar days following any of the items listed above.

➢ **5.5 (3): Documentation of Modifications to the Plan**

All SWPPP modification records are required to be maintained showing the dates of when the modification occurred. The records must include the name of the person authorizing each change and a brief summary of all changes.

➢ **5.5 (4): Certification Requirements**

All modifications made to the SWPPP must be signed and certified as required in Section 7.4.

➢ **5.5 (5): Required Notice to Other Operators**

If there are multiple operators at the site, the Contractor's Erosion Control Supervisor must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

When modifications as described above occur, the SWPPP will be modified to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP using the DOT 298 form and drawings on the plan will be modified to reflect the needed changes. Copies of the DOT 298 forms and the SWPPP will be retained on site in a designated place for review throughout the course of the project. A copy of the DOT 298 form will be given to the Contractor Erosion Control Supervisor and a copy will be emailed to the SDDOT Environmental Section in accordance with the DOT 298 Form.

FOR BIDDING PURPOSES ONLY

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite will include MC-70 Asphalt for Prime placed at the rate of 0.30 gallons per square yard. The Asphalt for Prime will be applied to the Base Course for the full width of the bottom layer of Asphalt Concrete Composite plus one foot additional on the outside shoulder.

The asphalt binder used in the mixture will be PG 64-28.

Asphalt for tack SS-1h or CSS1-h will be applied prior to each lift of Asphalt Concrete Composite. Asphalt for tack will be applied at a rate of 0.09 gallons per square yard on existing pavement or milled asphalt concrete surfaces at a rate of 0.06 gallons per square yard on primed base course or new asphalt concrete pavement. The Asphalt for tack will be applied for the full width of the bottom layer of Asphalt Concrete Composite plus one-half foot additional on the outside shoulder.

TABLE OF ADDITIONAL QUANTITIES

Location-Description	Water for Granular Material	Base Course	Asphalt Concrete Composite (1st / 2nd Lift)
	Mgal	Ton	Ton
Lamb Road			
Sta. 102+49 to 107+50	4.4	368.7	193 / 177
Reservoir Road			
Sta. 2+55 to 23+41	62.8	6,535.3	833 / 764
Driveways			
Sta. 103+99 – L	0.4	30.1	16.0 / 15.0
Sta. 7+40 – L	1.0	75.7	26.5 / 25.4
Totals:	68.6	7,009.8	2,049.9

TABLE OF GRAVEL FOR APPROACHES

Location	Gravel Surfacing (Ton)
Sta. 30+13 to 2+02	288.2
Sta. 2+28 – R	22.2
Sta. 2+88 – R	20.4
Sta. 7+40 – L	11.3
Sta. 9+67 – R	71.1
Sta. 13+41 – L	71.2
Sta. 16+37 – R	174.7
Sta. 103+67 – R	14.4
Sta. 105+54 – L	44.8
Total	692.2

SALVAGE AND STOCKPILE ASPHALT MIX

The Los Angeles Abrasion Loss value on the aggregate used for the in-place is not available.

An estimated 2413.5 tons (1282 Cubic Yards) of asphalt mix material will be salvaged from the existing highway according to the in-place surfacing typical sections and stockpiled at the Pennington County yard located at 3601 S. Campbell Street in Rapid City, SD. Costs for hauling will be considered incidental to the contract unit price for “Salvage and Stockpile Asphalt Mix Material”.

The Contractor will ensure that no vegetation, topsoil, subgrade, or other foreign material is incorporated into the salvaged asphalt mix material.

The quantity of salvaged asphalt mix material may vary from the plans.

The quantity of salvageable material is estimated from the in-place surfacing typical sections. This estimated quantity was included in the unclassified excavation quantities.

The following table is furnished for information only.

Station	Distance from Centerline (Feet) Lt.	Rt.	Thickness of Asphalt Mix Material (Inches)
8+40	7.0		5.0
11+90	7.0		5.0
	Average Thickness:		5.0

TABLE OF SALVAGE AND STOCKPILE ASPHALT MIX MATERIAL

Location of Removal Areas	Salvage and Stockpile Asphalt Mix Material
	Tons
Sta. 102+50 to 107+50	471.5
Sta. 2+66 to 23+40	1942.1
Total	2413.5

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	20	124

Plotting Date: 10/21/2026 Revised 10-21-26

FOR BIDDING PURPOSES ONLY

PAVEMENT MARKING PAINT

The Contractor will advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones

The application of permanent pavement marking will begin no sooner than 7 calendar days following completion of the fog or flush seal. Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer's recommendations. High build waterborne pavement marking paint will conform to Section 980.1 B.

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot. Acceptance sampling will not be required.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 22.5 Gals/Mile
Dashed 4" line = 6.2 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

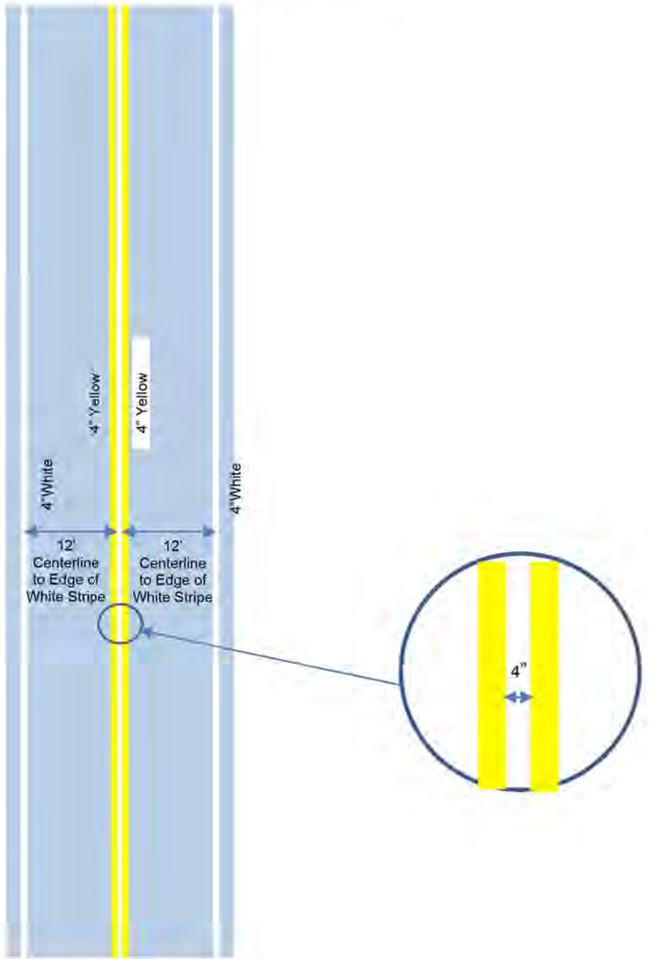
RETROREFLECTIVITY FOR PAVEMENT MARKING PAINT

The Department may take retroreflectivity readings on the pavement marking lines after 2 days and within 30 days of the line application using either a portable or mobile retroreflectometer that conforms to 30-meter geometry. If the Department chooses to take retroreflectivity readings, three retroreflectivity readings will be taken on each line at each test location. The three readings will be averaged and become the reading for that test location.

If the Department chooses to take retroreflectivity readings, three readings will be taken on the edge lines and lane lines in the direction of application. For combination solid yellow and skip yellow lines for turn lanes and for centerline markings on two-way roadways, three readings will be taken in one direction, the reflectometer will be turned 180 degrees and three more readings will be taken. The six readings for the centerline markings will be averaged and become the test reading for that test location.

If the Department chooses to take readings, the minimum retroreflectivity values will be 275 mc/m^2/lux for white and 170 mc/m^2/lux for yellow.

TYPICAL PAVEMENT MARKING LAYOUT



GENERAL PERMANENT SIGNING

New sign installations will be staked in the field by the Contractor and checked by the Engineer. The Contractor will give the Engineer a minimum of one week to check staked locations prior to signpost installation. Lateral offset of signs will be as shown in the plans or as directed by the Engineer.

The Contractor will be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

When signs are mounted in an assembly, they will be 1-2 inches apart vertically and horizontally.

The height of the post must not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign will be cut off. No separate payment will be made for cutting the post or for that length cut off.

Aluminum U-Channel stiffeners will be used on all signs 36 inches or greater in width and will conform to ASTM B221 Alloy 6063-T6 or 6061-T6. The U-Channel will be 2 inches in width and free of holes. The U-Channel stiffeners will also be used to connect various signs together so that an entire sign assembly can be erected on a single installation. Stiffeners may be fastened to signs by use of 1/4-inch diameter drive rivets.

The Contractor will use 3/8-inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts will extend through each post.

Prior to ordering signs, the Contractor will verify dimensions, background, border, and legend of the signs.

Prior to use, the Contractor will provide documentation for the sign support devices showing they meet the applicable NCHRP 350 or MASH requirements.

REMOVE SIGN FOR RESET AND RESET SIGN

Signs that are scheduled for reset will be dismantled and reassembled to the extent needed by the Contractor to properly reset the sign. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the relocation process. The Contractor will replace and pay for any reset signs damaged in their care. The Contractor will remove and dispose of any existing posts for all reset signs that require use of new posts as shown in the Table of Permanent Signing.

All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for "Remove Sign for Reset". All costs for resetting the existing signs will be incidental to the contract unit price per each for "Reset Sign". All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

REGISTERED PROFESSIONAL ENGINEER
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10-21-26

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FOR BIDDING PURPOSES ONLY

REMOVE TRAFFIC SIGN

Existing signs that are shown as being removed in the Permanent Signing Table will become the property of the Contractor. Existing signposts and bases will be removed in their entirety. All existing signs, posts, and/or hardware removed will not be reused. Holes remaining from the removal of wood posts will be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

All costs associated with the removal of existing signs, posts, hardware, and backfilled holes will be incidental to the contract unit price per each for "Remove Traffic Sign". Quantities will be per assembly at the contract unit price per each.

TABLE OF REMOVE SIGN

Station	Offset	Description
107+88	R	Large Arrow
108+25	R	Large Arrow
6+08	L	Advance Right Turn Arrow and 15 MPH Plaque
15+25	L	Advance Right Turn Arrow and 15 MPH Plaque

NEW PERMANENT SIGNING

All signs will be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films.

All Flat Aluminum Signs, Nonremovable Copy High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type IV. All Flat Aluminum Signs, Nonremovable Copy Super/Very High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type XI.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware will be incidental to the contract unit price per square foot for "Flat Aluminum Sign, Nonremovable Copy High Intensity".

DIGITALLY PRINTED SIGNS

Digitally printed signs will be allowed on this project. If the Contractor elects to provide digitally printed signs, such signs will adhere to the following specifications.

PROTECTIVE OVERLAY FILM

Permanent traffic signs printed with digital ink systems will be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlaminate will comply with the retroreflective sheeting manufacturer's recommendations to ensure proper adhesion and transparency and will also meet the reflective film durability as identified in Table 1.

Table 1: Retroreflective Film Minimum Durability Requirements

ASTM D4956 Type	Full Sign Replacement Term (years)	Sheeting Replacement Term (years)
I	0	7
III	7	10
IV	7	10
VIII	7	10
IX	7	12
XI	7	12

FABRICATION

Retroreflective sheeting will be applied to a properly cleaned and prepared aluminum sign blank in accordance with the retroreflective sheeting manufacturer's recommendations. Sign legend will be applied using digital print technologies and systems in accordance with the retroreflective sheeting manufacturer's recommendations and the requirements of these plans.

Finished signs will be free of ragged edges and must be supplied clean and free of scratches, grease, oil, lubricants or other contaminants. Minor blemishes (dirt speck, dust, etc.) may settle on the fresh ink surface or become entrapped between the sheeting surface and transparent overlay film due to static charge within the sign shop environment. Any blemish must be minor and not interfere with the communication of the sign message to the motorist. The blemish must not be visible to the naked eye when viewed from 30 feet or greater.

After application of the retroreflective sheeting, sign blanks will be stacked and packaged face to face, back to back, and protected in accordance with the sheeting manufacturer's recommendations. Finished signs will be securely packaged to prevent damage during transit or storage according to the sheeting manufacturer's recommendations.

TRAFFIC SIGN PERFORMANCE WARRANTY PROVISIONS

Based on the ASTM Type of sheeting specified, traffic control signs will be warranted for the duration shown in Table 1. Full product terms and conditions are as established by each sheeting manufacturer and may contain certain limitations based on sheeting and ink colors, and geographic exposure of the sign. A copy of the warranty document with complete details of terms and conditions will be supplied if requested by the Engineer.

CERTIFIED DIGITAL SIGN FABRICATOR

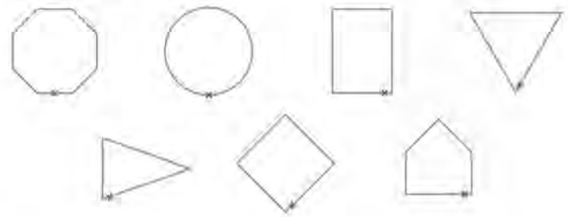
Sign fabricators using digital imaging methods to produce regulated traffic signs must be certified by the reflective sheeting manufacturer whose materials are used to produce the delivered signs.

DATE TAGGING SIGNS WITH PERTINENT INFORMATION

All digitally printed signs are required to be date-tagged with the following 2 components:

1. Date tags on the back of signs
   Tags will have the following information and be fabricated with material and printing system that are as durable as the warranted sign.
   - Name of Sign Fabricator
   - Date the sign was fabricated (month and year)
   - Process that was used for sign fabrication (digitally printed)
   - Supplier of sheeting that was used for fabricating the sign.

2. Border date
   The month and year (mm/yyyy) of sign fabrication will be printed in the border of the sign in 3/8" sans serif font. Border date will be printed with the same warranted printed system as the sign face. The date should be printed in the locations indicated below.



SQUARE TUBE ANCHOR SLEEVE

The Contractor will furnish and install new 2.5" x 2.5" x 18", 12 Gauge square tube anchor sleeve or equivalent components as approved by the Engineer for 2.0" x 2.0" perforated tube posts. A 2.25" x 2.25" x 4', 12 Gauge perforated tube post will be used as the anchor post for installation with the square tube anchor sleeve.

DELINEATORS

Delineators will be placed along the entire length of the project. The Contractor will lay out delineator locations and shall obtain Engineer approval prior to installation. Delineators will be placed with the top of the reflector unit approximately 4 feet above the near roadway edge. They will be located 2 feet outside the outer edge of the shoulder.

Where a roadside barrier or other obstruction intrudes into the space between the pavement edge and the extension of the line of delineators, the delineators will be in line with the barrier or in line with the innermost edge of the obstruction.

The standard spacing between delineators on the same side of the roadway in tangent sections will be a maximum of 528 feet with at least 3 delineators visible at all times along the alignment of the roadway with the direction of travel. When normal spacing is interrupted by structures, approaches, or intersections, delineators falling within such areas may be moved in either direction a distance not exceeding one-quarter of the standard spacing. Delineators still falling within such areas should be eliminated.

All cost for materials, labor and equipment necessary to furnish and install delineators will be incidental to the contract unit price per each for "4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post" and "4" Tubular White Delineator with 1.12 Lb/Ft Post".

The spacing for delineators on the outside radius of horizontal curves and for three spaces in advance and for three spaces beyond the curve is given in the following table:



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DELINEATORS (Continued)

Maximum Spacing for Delineators on Outside Radius of Horizontal Curves
(Distance in Feet Rounded to the Nearest 5 feet)

Radius of Curve	Spacing On Curve	Spacing in Advance & Beyond Curve (in feet)		
		1st	2nd	3rd
50	20	40	65	125
150	30	60	90	180
250	40	85	125	250
300	50	95	145	290
400	55	110	170	300
500	65	125	190	300
600	70	140	210	300
700	75	150	230	300
800	80	165	245	300
900	85	175	260	300
1000	90	185	275	300

Spacing for specific radii not shown may be interpolated from the table or computed from the formula $S = 3*\sqrt{R-50}$. The minimum spacing should be 20 feet. The spacing on curves should not exceed 300 feet. The spacing of the first delineator approaching a curve is 2xS, the second is 3xS and the third is 6xS but not to exceed 300 feet. If a spacing less than 300 feet is used approaching the curve, the distance shown above should be adjusted accordingly.

REMOVE EXISTING DELINEATORS

Existing delineators will be removed. The cost for removing existing delineators will be paid under the contract unit price for “Remove Delineator”.

OBJECT MARKERS

Existing object markers for culverts and other objects will be removed, cost for removing the existing Object Markers will be included in the contract unit price per each for Remove Delineator.

New Type 2 Object Markers and posts will be furnished and installed according to the details by the Contractor. Cost for new Type 2 Object Marker and post installation is included in the contract unit price per each for Type 2 Object Marker.

WATER STORAGE TANK AND WATER LINE SPECIFICATIONS

The water lines, fittings, valves, and bedding will conform to the 2025 Edition of the City of Rapid City Standard Specifications for Public Works projects.

The water storage tank will conform to the Special Provision for Water Storage Tank.

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-21-26

PIPE QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	23	124

Plotting Date: 10/12/2026

		Reinforced Concrete									Corrugated Metal					
		Circular			Circular Sloped Ends			Circular Flared Ends			Circular			Circular Safety Ends		
Station	Offset (L/R)		24" Cl. 2 Ft	30" Cl. 2 Ft	18" Each	24" Each	30" Each			30" Each	18" 16 Ga Ft	24" 16 Ga Ft		18" with Bars Each	24" with Bars Each	
Lamb Road																
103+42.69-31.83 to 103+86.69-31.40	R										40			2		
103+72.42-23.51 to 104+26.41-24.48	L										54			2		
105+36.23-26.47 to 105+70.27-27.05	L										34			2		
107+20.36-22.68 to 107+54.21-28.82	L-R			62			1									
107+54.21-28.82 to 108+24.83-88.57	R			92						1						
Reservoir Road																
2+02.61-40.89 to 3+22.38-33.42	R											120			2	
8+02.03-23.88 to 8+35.61-30.58	R to L		64			2										
9+26.93-39.00 to 10+06.28-39.00	R										80			2		
15+94.83-38.00 to 16+80.83-37.96	R										86			2		
Total:			64	154		2	1			1	294	120		10	2	

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FENCE QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	24	124

Plotting Date: 11/2/2026 Revised 11-02-26

Station to Station		Side (L/R)	Right-of-Way Fence					Temporary Fence				Post Panels			Gates						
			Remove Fence (Ft)	Type 2 (Ft)	Type 3 (Ft)	Modified Type 6 (Ft)	Special (Ft)	Type 2 (Ft)	Modified Type 6 (Ft)	Type 3 (Ft)	Special (Ft)	2 Post Panel (Each)	3 Post Panel (Each)		12' Tubular Gate (Each)	14' Tubular Gate (Each)	16' Tubular Gate (Each)	Remove Gate for Reset (Each)	Reset Gate (Each)		Salvage Gate (Each)*
Lamb Road																					
102+30	103+54	R	124			124			141			2									
103+54	107+70	R	441			408			386			3						2	2		
104+27	107+60	L	375				311				303						1				
Reservoir Road																					
0+50	2+55	R	268		268					239		19			2						
2+53	23+43	R	2124	2340				1739				25	2				1				2
30+06	2+04	L	296			296			311			7									
3+06	6+68	L	627				364				379						4	3	3		3
6+68	10+69	L	401			369			397			4					2				1
10+69	10+69	L	90			54			40			4			2						
10+69	23+56	L	1289		1259					1946		14	1			1	2				
TOTALS:			6035	2340	1527	1251	675	1739	1275	2185	682	78	3		4	1	10	5	5		6

* For information only. This item is paid for under Incidental Work, Grading.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
11-02-26

Plotted From - jschreter File - ...\dgn\TableFence.dgn

PERMANENT SIGNING TABLE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	25	124

Plotting Date: 10/12/2026

EXISTING STA.	NEW STA.	SIGN							POST					DESCRIPTION	REMARKS
		Width (in)	Height (in)	Number	Facing Traffic	New Sign	Square Footage	Sheeting Type	New Post	Length (ft)	Size (in)	#	Shear Slip Base		
NA	102+47 LT	36	36	W3-1	Eastbound	Yes	7.5	XI	Yes	12.5	2	1	No	Stop Ahead	Install new Sign on New Post
NA	107+61 LT	36	36	R1-1	Eastbound	Yes	7.5	XI	Yes	12.5	2	2	No	Stop	Install new Sign on New Posts
NA	2+55 RT	36	36	R1-1	Northbound	Yes	7.5	XI	Yes	12.5	2	2	No	Stop	Install new Sign on New Posts
NA	3+22 LT	36	36	R1-1	Southbound	Yes	7.5	XI	Yes	12.5	2	2	No	Stop	Install new Sign on New Posts
NA	5+00 LT	36	36	W3-1	Southbound	Yes	7.5	XI	Yes	12.5	2	1	No	Stop Ahead	Install new Sign on New Post
6+08 RT	6+08 RT				Northbound	No			No					Adopt a Highway	Remove and Reset Signs on Existing Posts
						Totals:	37.5			100.0					

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-12-26

TYPICAL GRADING SECTION

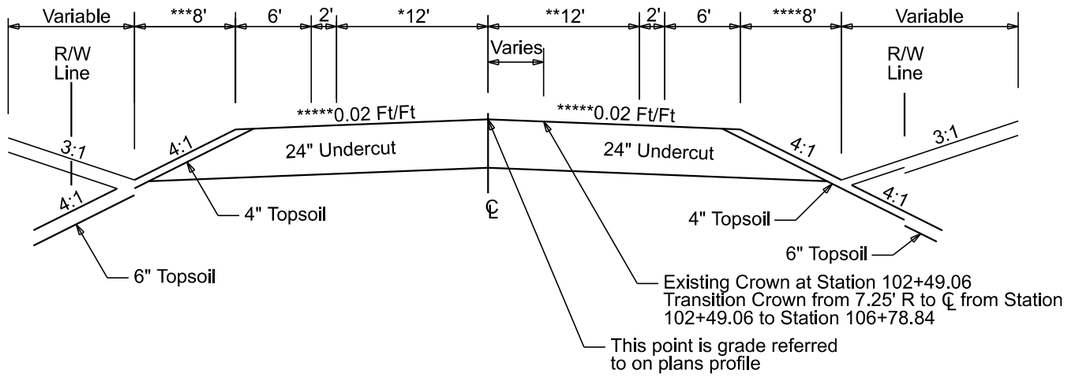
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	26	124

Plotting Date: 10/12/2026

LAMB ROAD

102+49.06 to 107+47.17



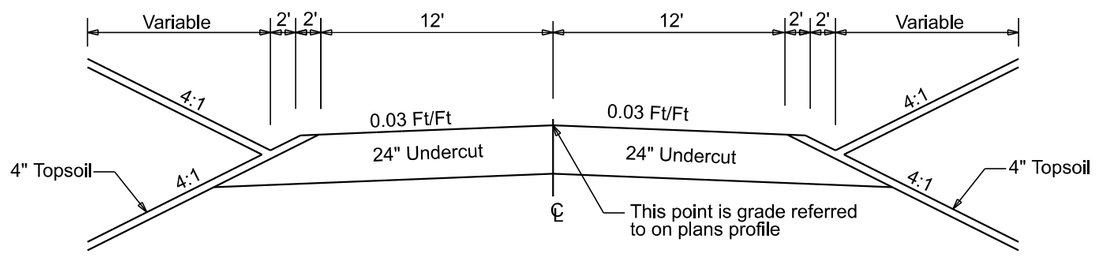
Transitions:

Sta. 102+49.06 to Sta. 106+78.84
* 4.3' to 12.0'
** 15.7' to 12.0'

Sta. 102+49.06 to Sta. 103+50.00
*** 2.0' to 8.0'
**** 3.5' to 8.0'
***** Transition from Existing Cross Slope to 0.02%

BARBER DRIVEWAY / RESERVOIR ROAD

30+53.00 to 2+01.75



Transitions:

Sta 30+13.12 to 30+53.00: Transition from existing to Typical Section

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-12-26

Plotted From - jschreter File - ...\Reservoir Rd\dgn\typ.dgn

TYPICAL GRADING SECTION

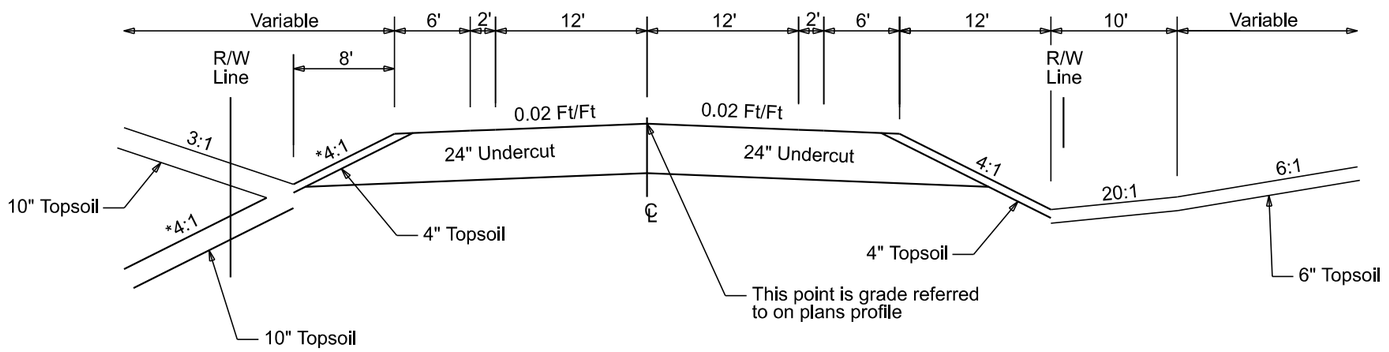
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	27	124

Plotting Date: 10/12/2026

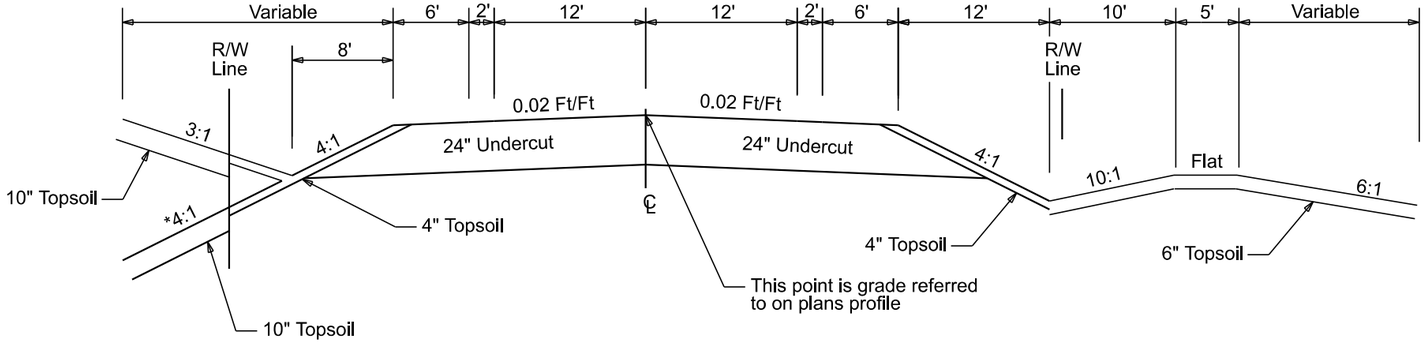
RESERVOIR ROAD

2+01.75 to 4+50.00



RESERVOIR ROAD

4+75.00 to 8+45.00

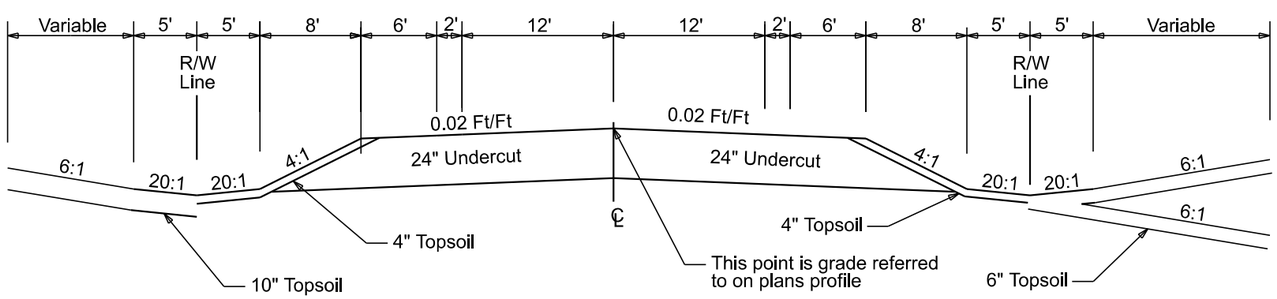


Transitions:

Sta 8+45.00 to 8+50.00, Transition between Typical Sections

RESERVOIR ROAD

8+50.00 to 17+75.00



Transitions:

Sta 17+75.00 to 18+00.00, Transition between Typical Sections

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-30-26

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TYPICAL GRADING SECTION

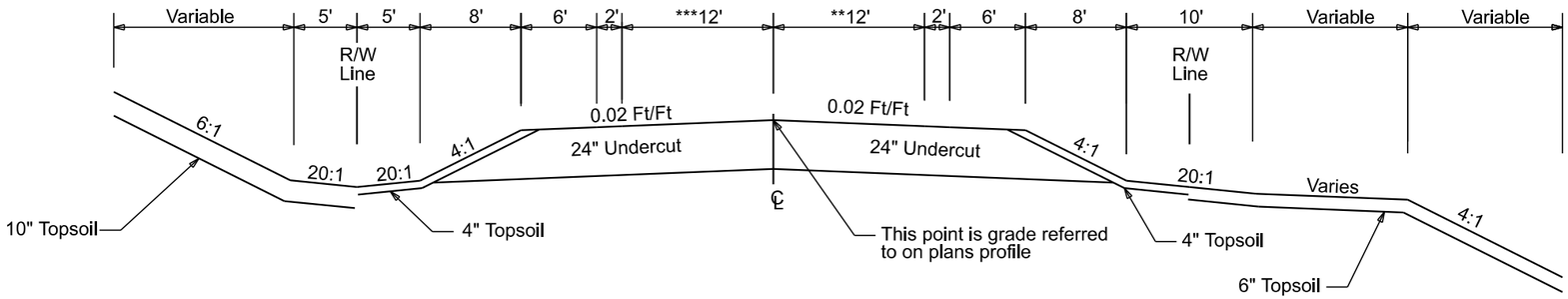
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	28	124

Plotting Date: 10/12/2026

RESERVOIR ROAD

18+00.00 to 22+00.00

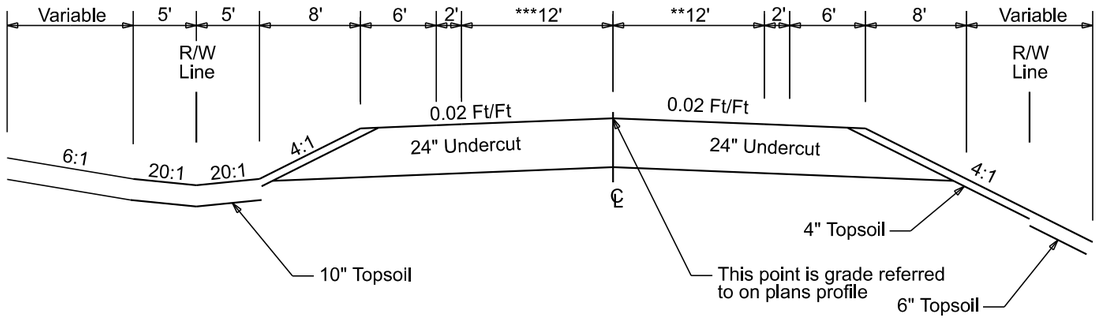


Transitions:

Sta 21+20.91 to 23+40.91
** 12.0' to 7.3'
*** 12.0' to 13.1'

RESERVOIR ROAD

22+25.00 to 2+01-75



Transitions:

Sta 21+20.12 to 23+40.91
** 12.0' to 7.3'
*** 12.0' to 13.1'

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SOUTH DAKOTA
10-12-26

Plotted From - jschreter File - ...\Reservoir Rd\dgn\typ.dgn

TYPICAL SURFACING SECTION

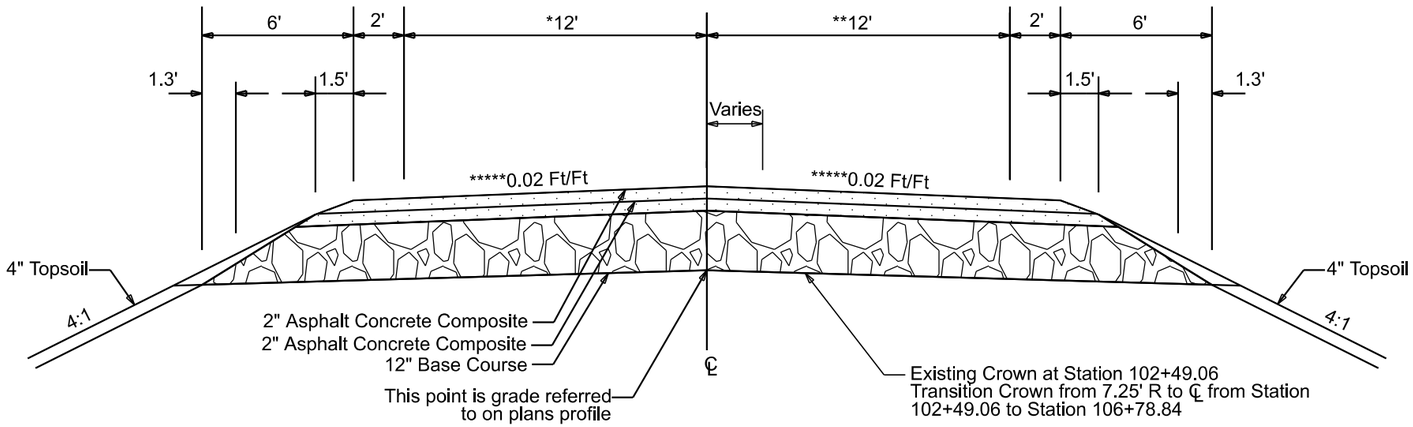
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	29	124

Plotting Date: 10/12/2026

LAMB ROAD

102+49.06 to 107+47.17



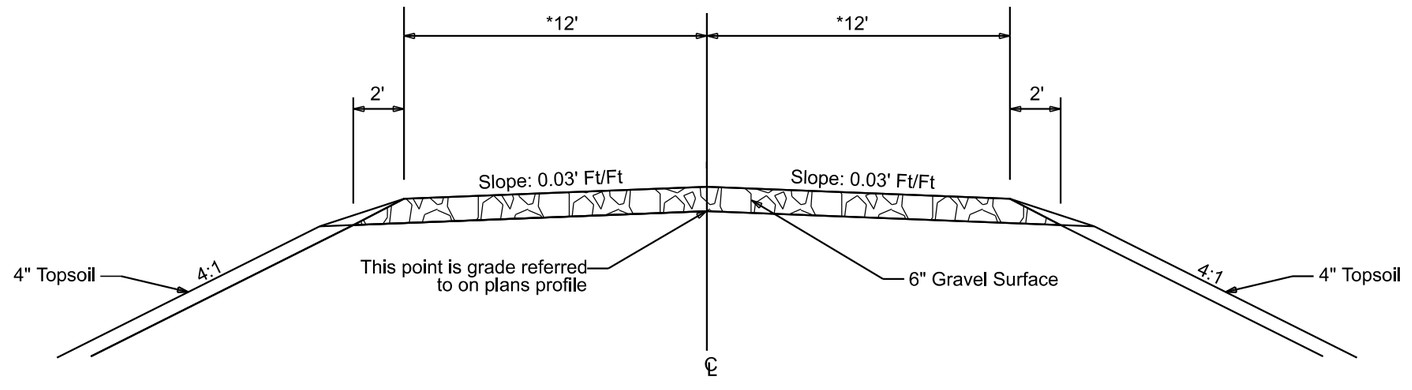
Transitions:

Sta 102+49.06 to Sta. 106+78.84
* 4.3' to 12.0'
**15.7' to 12.0'

Sta. 102+49.06 to Sta. 103+50.00
*** 2.0' to 8.0'
**** 3.5' to 8.0'
***** Transition from Existing Cross Slope to 0.02%

RESERVOIR ROAD

30+55.00 to 2+01.75



*Sta 30+13.12 to 30+53.00 Transition to Typical Section

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
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SOUTH DAKOTA
10-12-26

TYPICAL SURFACING SECTION

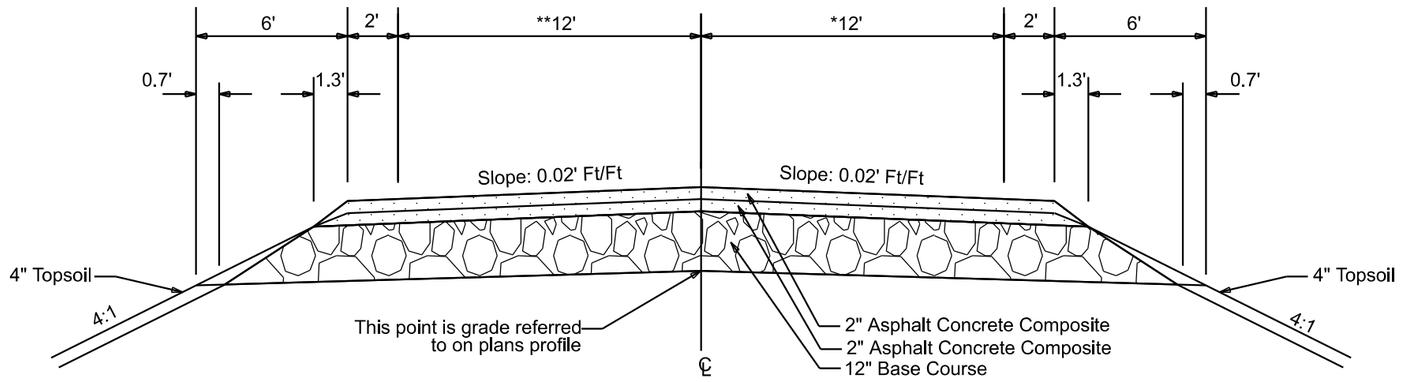
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	30	124

Plotting Date: 10/12/2026

RESERVOIR ROAD

2+01.75 to 23+40.61



Transitions:

Sta 21+20.91 to 23+40.91
* 12.0' to 7.3'
**12.0' to 13.1'

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10-12-26

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ROAD CLOSURE SIGN DETAIL

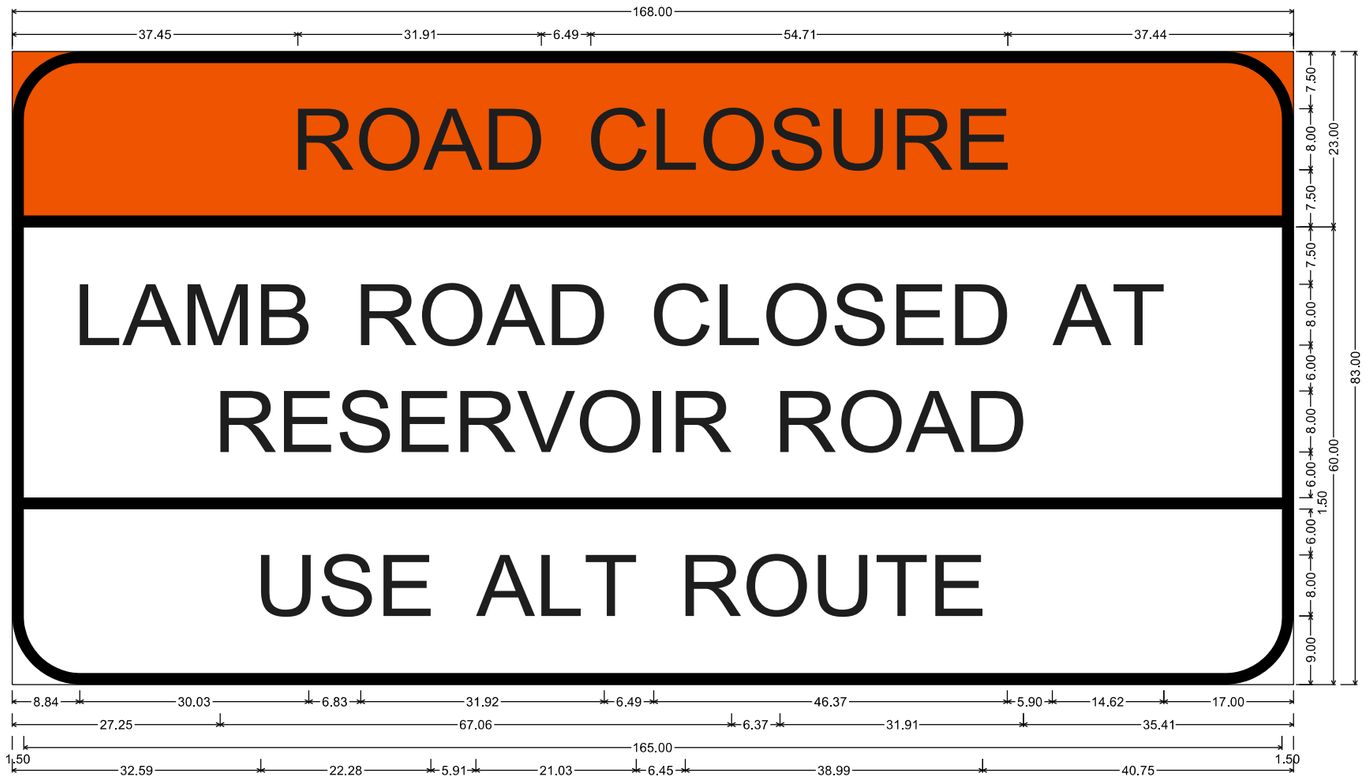
Fixed Ground Mounted, Breakaway Supports

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	31	124

Plotting Date: 10/12/2026

SPECIAL 1



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SOUTH DAKOTA
10-12-26

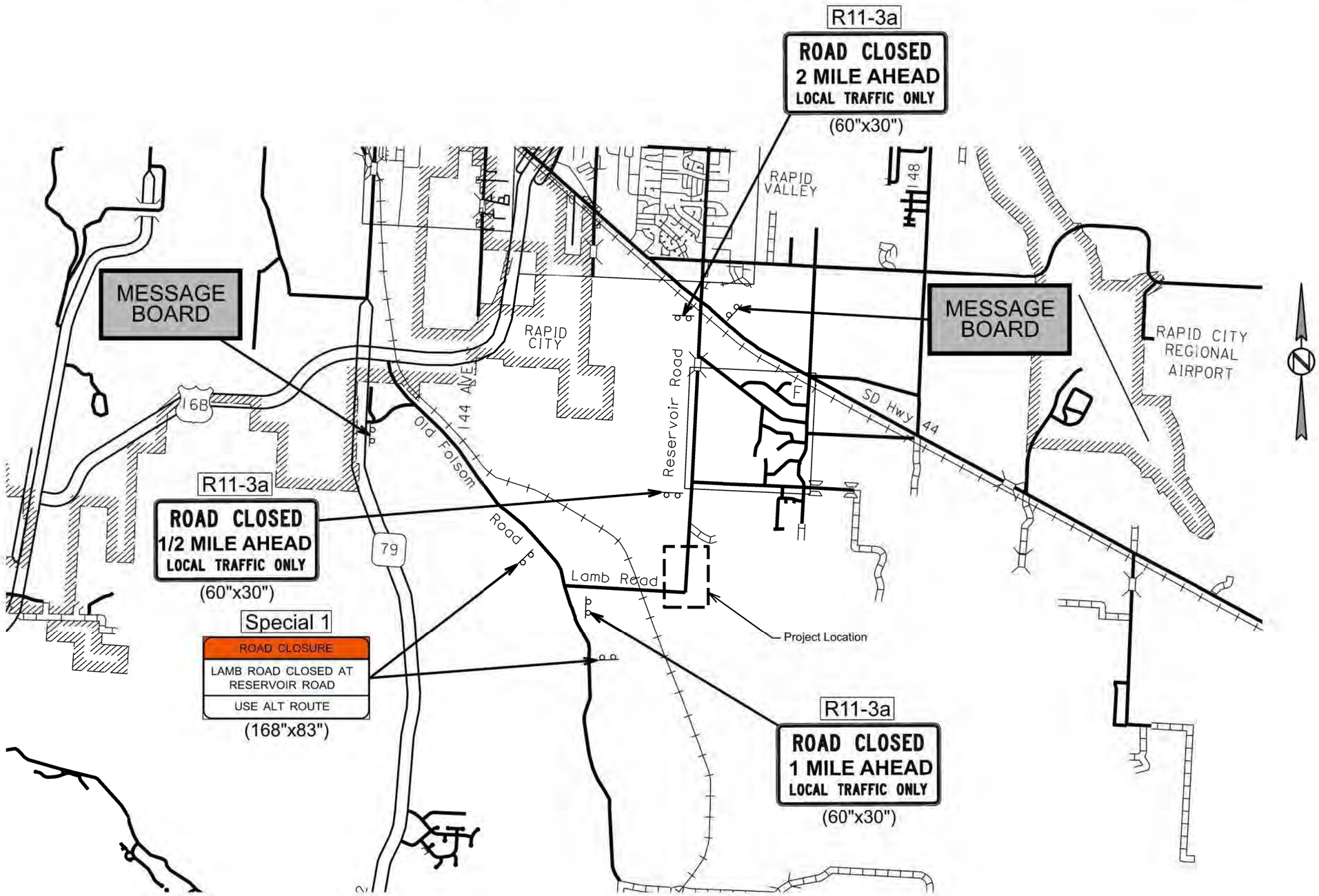
Plotted From - jschreter File - ...\dgn\Custom Sign.dgn

ROAD CLOSURE SIGNING

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	32	124

Plotting Date: 10/12/2026



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SOUTH DAKOTA
10-12-26

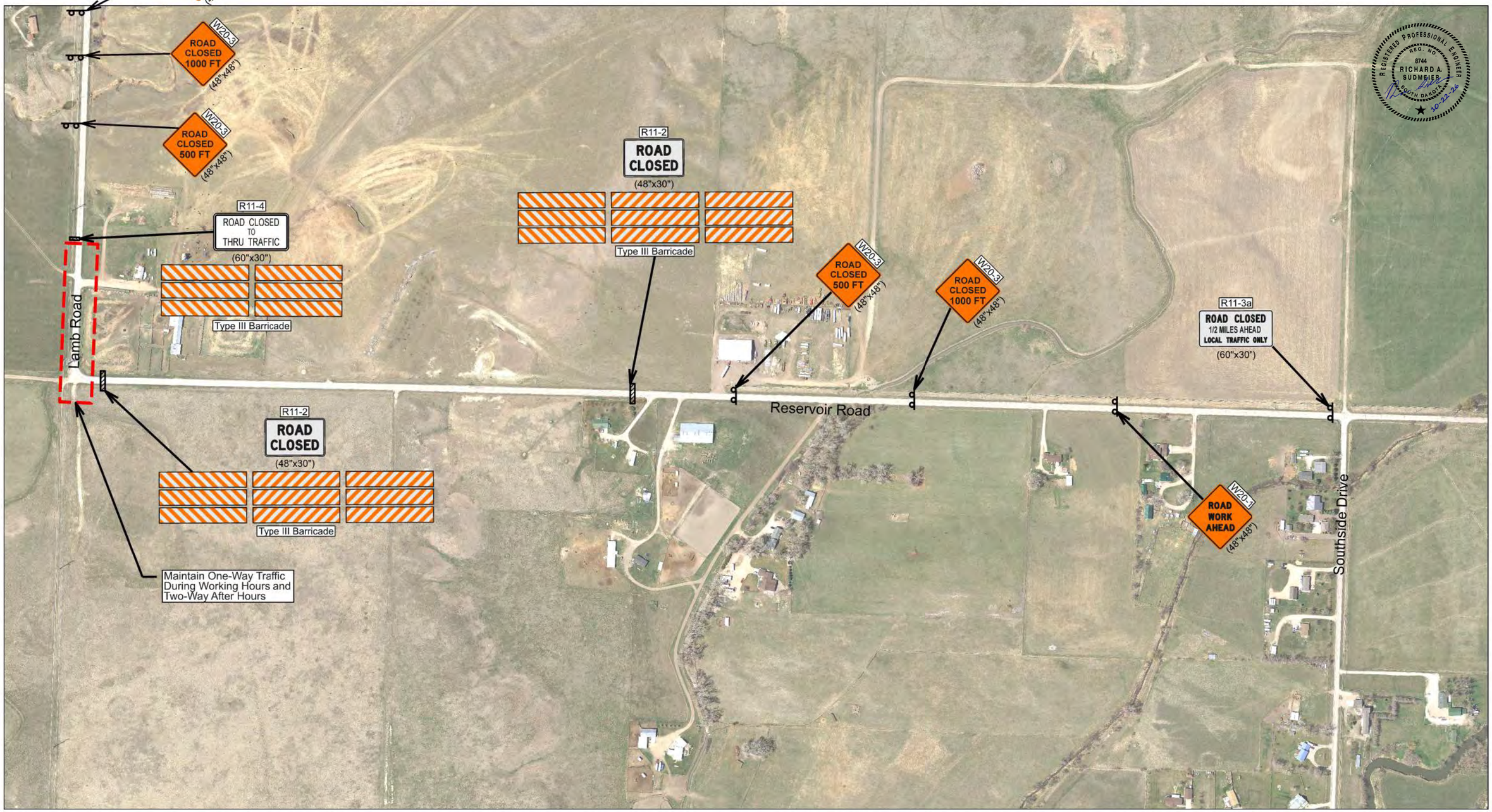
Plotted From - jschreier File= ...\Traffic Control_Fixed Signings.dgn

TRAFFIC CONTROL PLAN

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	33	124

Plotting Date: 10/22/2026 Revised 10-22-26



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REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-22-26

Plotted From - jschreter File - ...\dgn\Traffic Control Plan.dgn

EROSION AND SEDIMENT CONTROL LEGEND

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	34	124

Plotting Date: 10/12/2026

Symbology For Best Management Practices

- Storm Water Discharge Point
- Low Flow Silt Fence
- High Flow Silt Fence
- Silt Trap
- Sediment Control At Inlet When Surfacing Is In Place
- Temporary Sediment Barrier
- Temporary Water Barrier
- Floating Silt Curtain
- Sediment Filter Bags
- Triangular Silt Barriers
- Erosion Control Wattles
- Erosion Bales
- Surface Roughening
- Soil Stabilizer / Temporary Mulch / Dust Control
- Cut Interceptor Ditch
- Temporary Slope Drain
- Sediment Control At Inlet Before Placement Of Surfacing
- Hydraulic Straw Mulch / Fiber Mulching / Bonded Fiber Matrix / Fiber Reinforced Matrix
- Rock Check Dam
- Seeding
- Type 1 Erosion Control Blanket
- Type 2 Erosion Control Blanket
- Type 3 Erosion Control Blanket
- Type 4 Erosion Control Blanket
- Type 1 Turf Reinforcement Mat
- Type 2 Turf Reinforcement Mat
- Type 3 Turf Reinforcement Mat
- Synthetic Channel Protection
- TS — Topsoil Stockpiles
- B — Borrow Areas
- CE — Stabilized Construction Entrances
- CW — Concrete Washouts
- BS — Vegetated Buffer Strips
- AP — Asphalt Plant Site
- CP — Concrete Plant Site
- M — On-site Construction Material Storage Areas
- SK — Spill Kit
- WP — Work Platform
- TP — Portable Toilet
- V — Vehicle And Equipment Parking, Fueling, And Maintenance Areas
- D — Dumpster Or Other Trash And Debris Containers

BEST MANAGEMENT PRACTICES

Best management practices (BMP's) should be used throughout construction. To remind contractors and field personnell that BMP's for water quality should be utilized throughout the construction process. The symbology is colored as follows:

Red BMPs are to be installed before earth moving activities commence. Red BMPs are used for perimeter control. They prevent sediment from leaving the site or entering from another site. They may also deter water away from or around the site. They may be left in place and maintained for the remainder of construction or until vegetation has reached 70% of the background level.

Blue BMPs are to be installed during construction. Blue BMPs are used for temporary stabilization. They prevent erosion during construction. They may also be sediment controls utilized after drain pipes and storm sewers are in place. They may be left in place and maintained for the remainder of construction or until vegetation has reached 70% of the background level. Some yellow BMPs will be removed or replaced during construction.

Green BMPs are to be installed when grading is complete. Green BMPs are used for final stabilization. They are permanent erosion control measures that are not removed.

If the Contractor or Engineer decide to use additional best management practices or label the locations of them they should use the symbology shown. Other best management practices for which there is no symbology include:

Permanent seeding is done before the application of all types of mulching and hydraulically applied soil mulches and matrixs. Permanent grass hay/ straw mulch is not shown on plan sheets, but it can be assumed that all areas that are not roadways on rural projects will be seeded then mulched. Areas where an alternate to grass hay /straw mulch is used will be shown with the appropriate symbology.

Sediment basins utilized during construction will be shown on plan sheets and in Section X.

Geotextile fabric usually supplements other BMPs, but it may be used to temporarily cover areas for erosion protection until it is permenantly installed.

Street sweeping should be done as needed to keep sediment on roadways from leaving the site.

Dewatering and sediment collecting is shown on a detail sheet when it is needed. Dewatering without sediment collecting does not have a detail, just a detailed note. Sediment laden water should never be pumped off the site.

Gabions and rip rap at pipe and culvert outlets are detailed in Section B.

PROJECT PHASING

Project phasing may be one of the most important BMPs. During phasing remember the following:

Always install perimeter controls before begining earth moving activities.

Do not disturb more area than what is needed to complete each phase of construction.

If possible construct sediment basins and stabilize them before beginning roadway grading.

Temporarily stabilize areas that will not be touched within 14 days.

Permanently stabilize areas when grading in that area is complete. Permanent stabilization can be completed in phases and does not have to wait until the whole roadway has been constructed.

Continually maintain all sediment controls and monitor areas where erosion control has been installed.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
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SOUTH DAKOTA
10-12-26

EROSION AND SEDIMENT CONTROL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	35	124

Plotting Date: 10/12/2026

TEMPORARY STABILIZATION

Install 12" Diameter Erosion Control Wattles* around median drains and pipe inlets at the following locations:

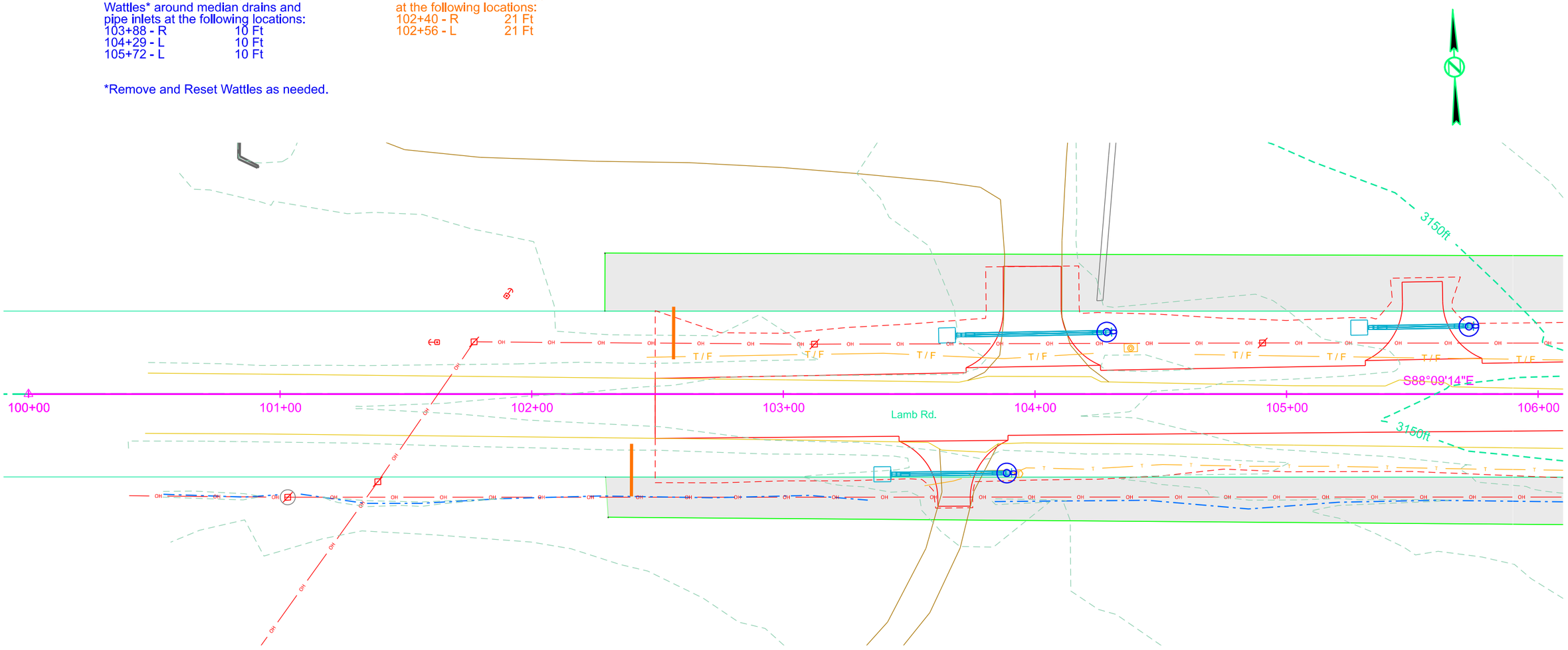
103+88 - R	10 Ft
104+29 - L	10 Ft
105+72 - L	10 Ft

*Remove and Reset Wattles as needed.

PERIMETER CONTROL

Install Low Flow Silt Fence at the following locations:

102+40 - R	21 Ft
102+56 - L	21 Ft



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10-12-26

EROSION AND SEDIMENT CONTROL PLANS

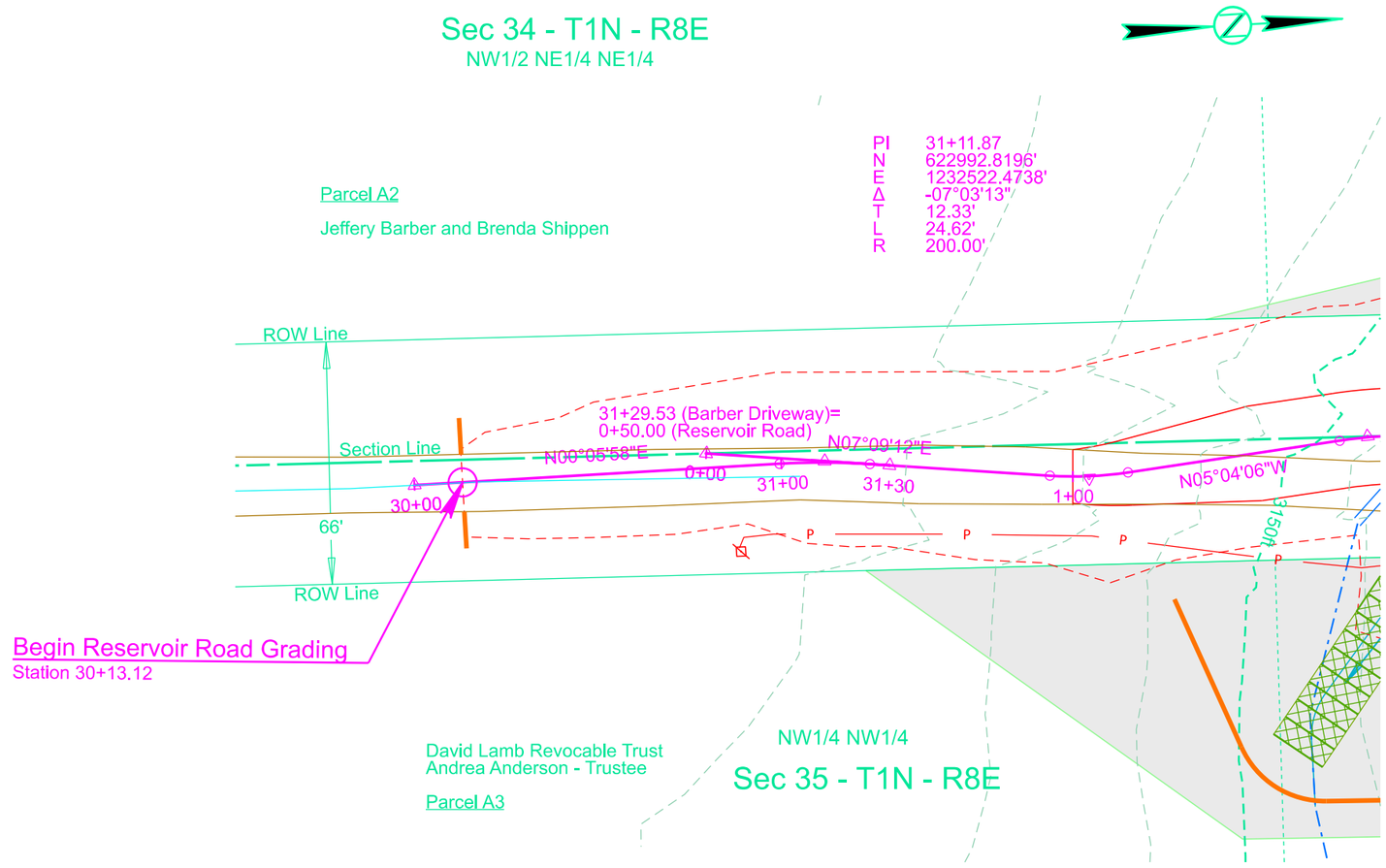
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	36	124

Plotting Date: 10/12/2026

PERIMETER CONTROL

Install Low Flow Silt Fence
at the following locations:
30+13-8 L to 30+13-18 L 10ft
30+13-8 R to 30+13-18 R 10ft



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SOUTH DAKOTA
10-12-26

EROSION AND SEDIMENT CONTROL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	37	124

Plotting Date: 10/12/2026

PERIMETER CONTROL

Install Low Flow Silt Fence
at the following locations:

1+22 R to 1+72 R	90 Ft
2+36 R to 2+76 R	51 Ft
2+97 R to 3+09 R	14 Ft

FINAL STABILIZATION

Install (12") Diameter Erosion Control Wattles
across the highway ditch channel bottom
at the following locations:

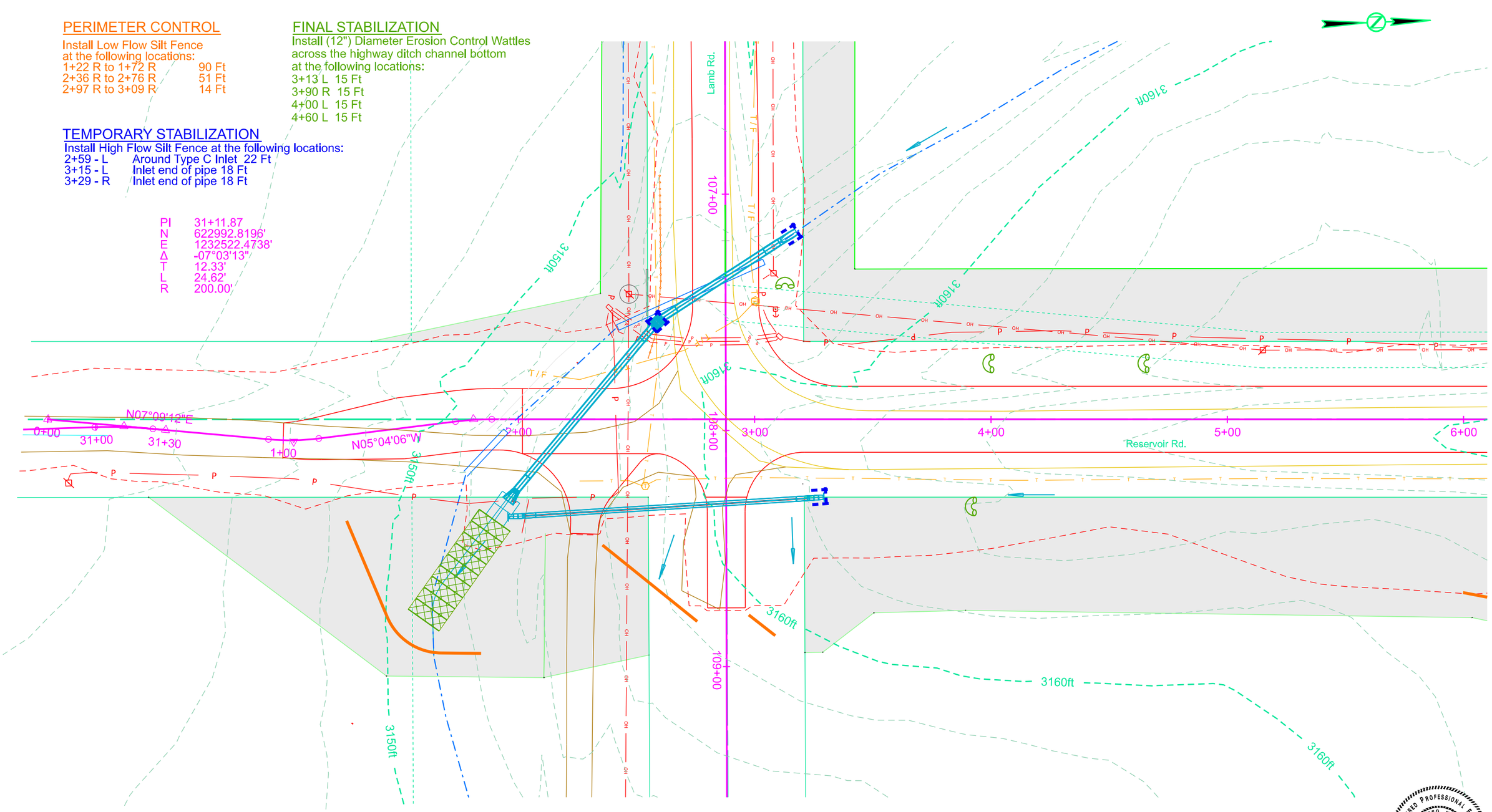
3+13 L 15 Ft
3+90 R 15 Ft
4+00 L 15 Ft
4+60 L 15 Ft

TEMPORARY STABILIZATION

Install High Flow Silt Fence at the following locations:

2+59 - L	Around Type C Inlet 22 Ft
3+15 - L	Inlet end of pipe 18 Ft
3+29 - R	Inlet end of pipe 18 Ft

PI	31+11.87
N	622992.8196'
E	1232522.4738'
Δ	-07°03'13"
T	12.33'
L	24.62'
R	200.00'



FINAL STABILIZATION

Install Type 2 Erosion Control Blanket
at the following locations:
1+44 to 1+96 - L 92 SqYd Ditch Bottom, 16' Wide

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-12-26

EROSION AND SEDIMENT CONTROL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	38	124

Plotting Date: 10/12/2026

TEMPORARY STABILIZATION

Install 12" Diameter Erosion Control Wattles* pipe inlets at the following locations:

8+40 - L	16 Ft
10+09 - R	16 Ft

*Remove and Reset Wattles as needed.

PERIMETER CONTROL

Install Low Flow Silt Fence at the following locations:

6+00 to 9+43 - R	348 Ft
6+39 to 7+71 - L	133 Ft
8+20 to 9+61 - L	151 ft

PI	40+32.18
N	623770.2723'
E	1232475.9651'
Δ	19°01'09"
T	5.03'
L	9.96'
R	30.00'

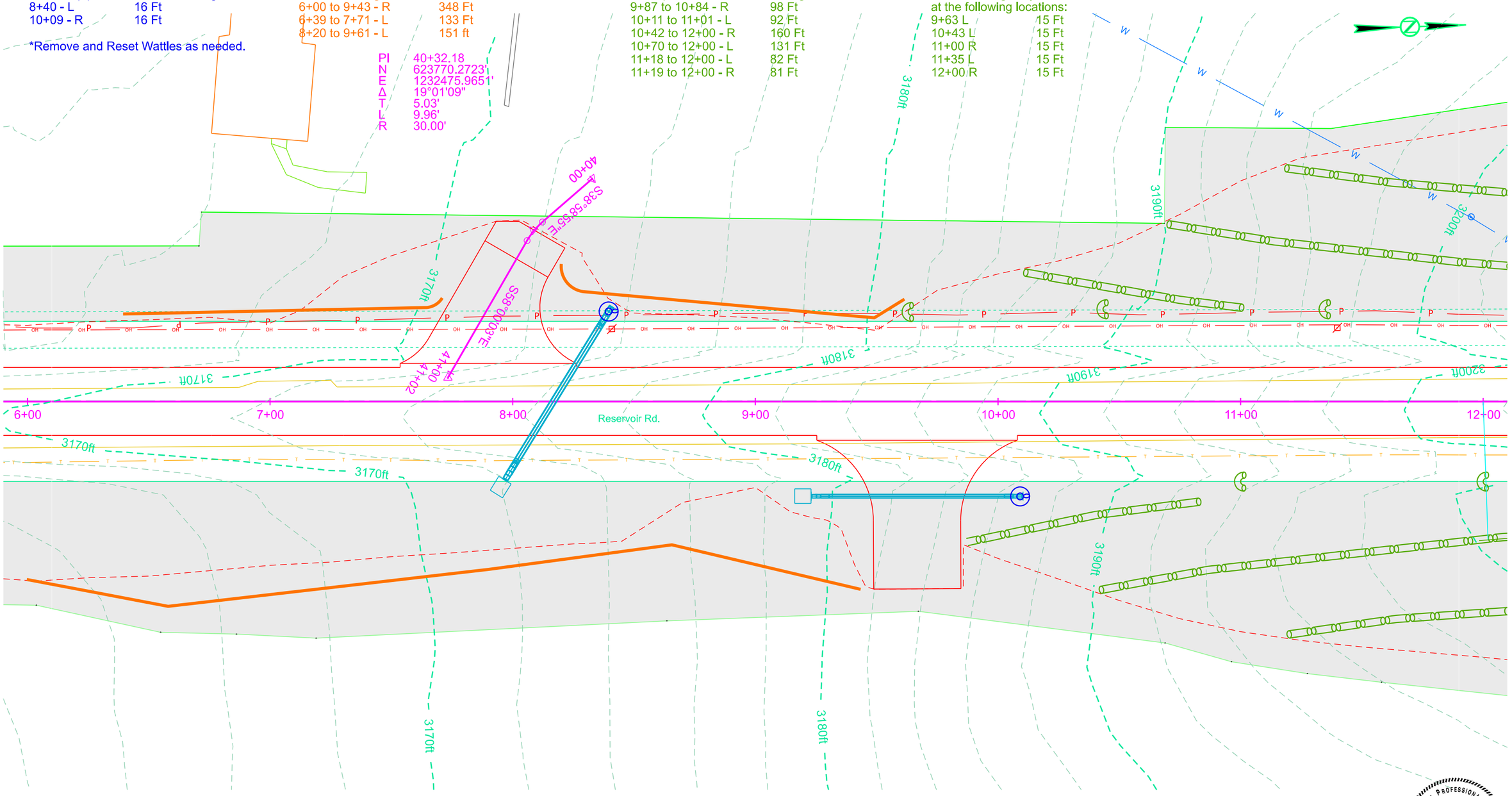
FINAL STABILIZATION

Install 9" Diameter Erosion Control Wattles on slope contour at the following locations:

9+87 to 10+84 - R	98 Ft
10+11 to 11+01 - L	92 Ft
10+42 to 12+00 - R	160 Ft
10+70 to 12+00 - L	131 Ft
11+18 to 12+00 - L	82 Ft
11+19 to 12+00 - R	81 Ft

Install 12" Diameter Erosion Control Wattles across the highway ditch channel bottom at the following locations:

9+63 L	15 Ft
10+43 L	15 Ft
11+00 R	15 Ft
11+35 L	15 Ft
12+00 R	15 Ft



REGISTERED PROFESSIONAL ENGINEER
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EROSION AND SEDIMENT CONTROL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	39	124

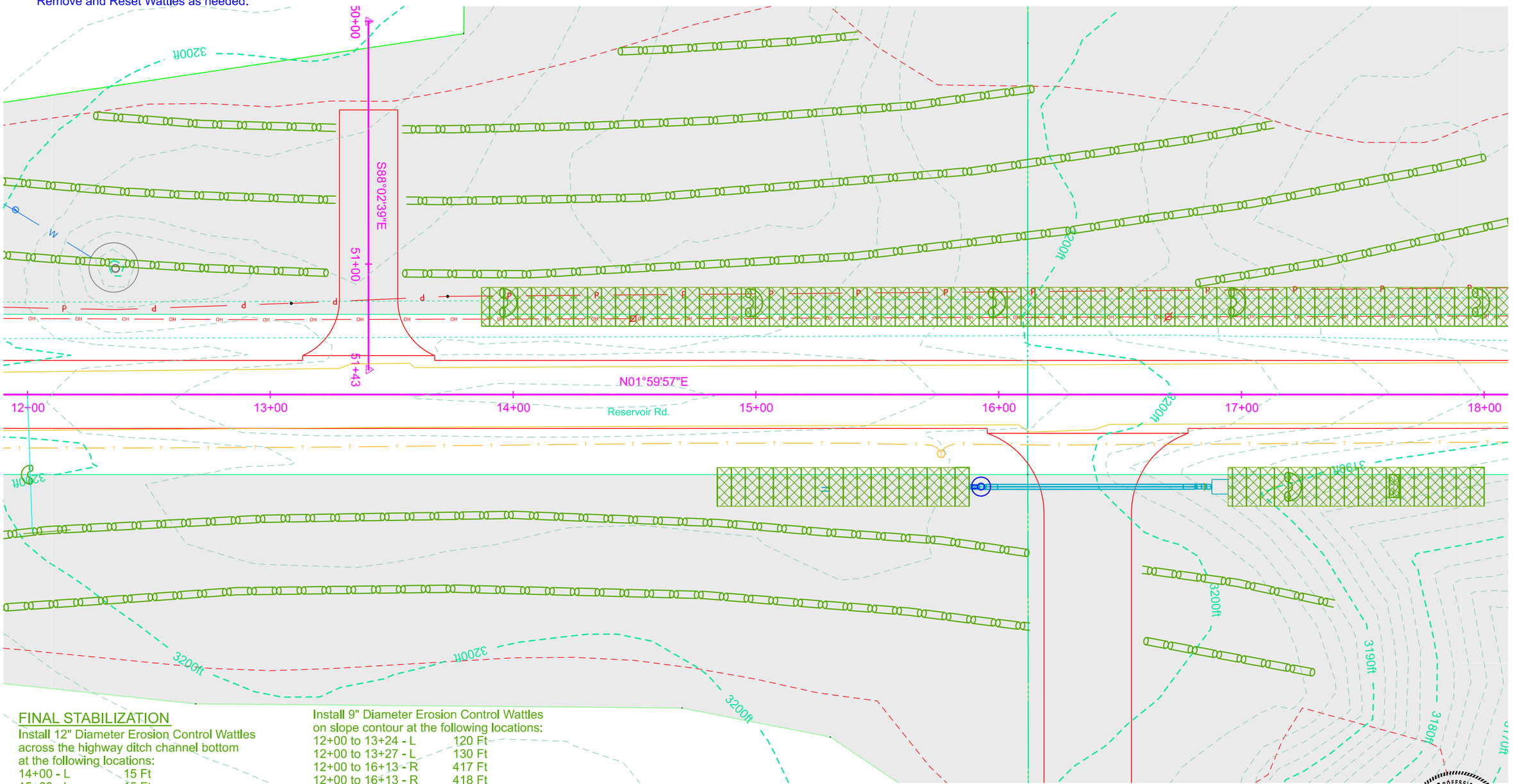
Plotting Date: 10/12/2026

TEMPORARY STABILIZATION

Install 12" Diameter Erosion Control Wattles* around median drains and pipe inlets at the following locations:

15+93 - R 16 Ft

*Remove and Reset Wattles as needed.



FINAL STABILIZATION

Install 12" Diameter Erosion Control Wattles across the highway ditch channel bottom at the following locations:

14+00 - L	15 Ft
15+00 - L	15 Ft
16+00 - L	15 Ft
17+00 - L	15 Ft
17+23 - R	15 Ft
18+00 - L	15 Ft

Install 9" Diameter Erosion Control Wattles on slope contour at the following locations:

12+00 to 13+24 - L	120 Ft
12+00 to 13+27 - L	130 Ft
12+00 to 16+13 - R	417 Ft
12+00 to 16+13 - R	418 Ft
12+27 to 13+26 - L	99 Ft
13+54 to 16+15 - L	260 Ft
13+54 to 18+00 - L	450 Ft
13+56 to 17+13 - L	358 Ft
14+43 to 15+42 - L	99 Ft
16+59 to 17+39 - R	71 Ft
16+60 to 17+30 - R	81 Ft
16+81 to 18+00 - L	121 Ft

Install Type 2 Erosion Control Blanket at the following locations:

13+87 to 18+00 - L 736 SqYd Ditch Bottom, 16' Wide
14+84 to 15+88 - R 184 SqYd Ditch Bottom, 16' Wide
16+95 to 18+00 - R 188 SqYd Ditch Bottom, 16' Wide

Install Rock Check Dams across the highway ditch channel bottom at the following locations:

17+63 - R Class A Riprap 1.2 CuYd

REGISTERED PROFESSIONAL ENGINEER
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10-12-26

Plotted From - jschreter File - ...\Reservoir Rd\dgn\012ec.dgn

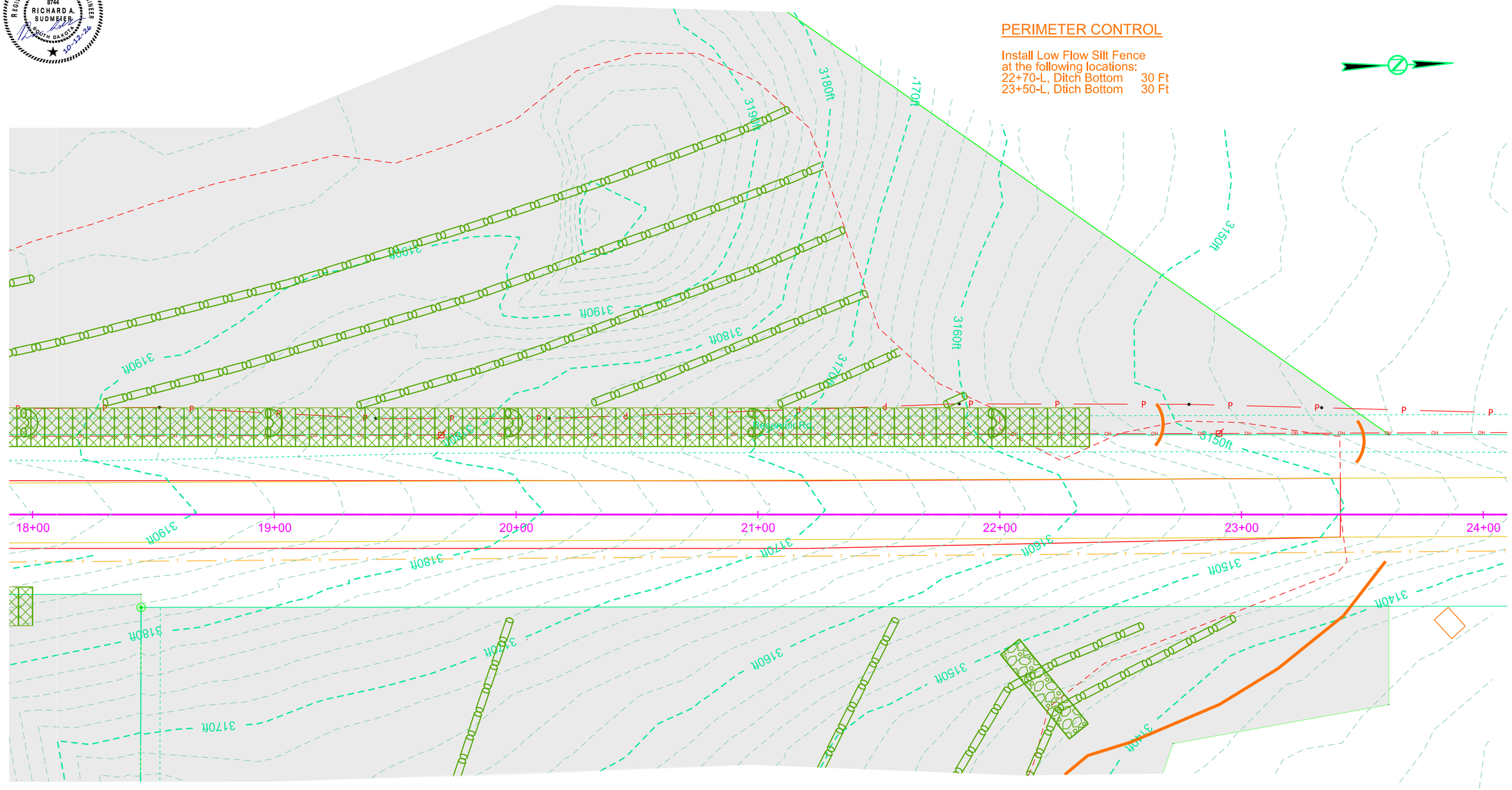
EROSION AND SEDIMENT CONTROL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	40	124

Plotting Date: 10/12/2026

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26



FINAL STABILIZATION

Install 12" Diameter Erosion Control Wattles across the highway ditch channel bottom at the following locations:

19+00 - L	15 Ft
20+00 - L	15 Ft
21+00 - L	15 Ft
22+00 - L	15 Ft

Install Type 2 Erosion Control Blanket at the following locations:
18+00 to 22+37 - L Ditch Bottom 16' Wide 776 SqYd

Install 9" Diameter Erosion Control Wattles on slope contour at the following locations:

18+00 to 21+13 - L	328 Ft
18+29 to 21+26 - L	313 Ft
19+34 to 21+36 - L	215 Ft
20+31 to 21+45 - L	123 Ft
21+08 to 21+58 - L	55 Ft
21+77 to 21+86 - L	10 Ft

Install 2.5' Thick Class B Riprap, 71 Tons and Type B Drainage Fabric, 50 SqYd at the following locations:
22+00 to 22+37 - R

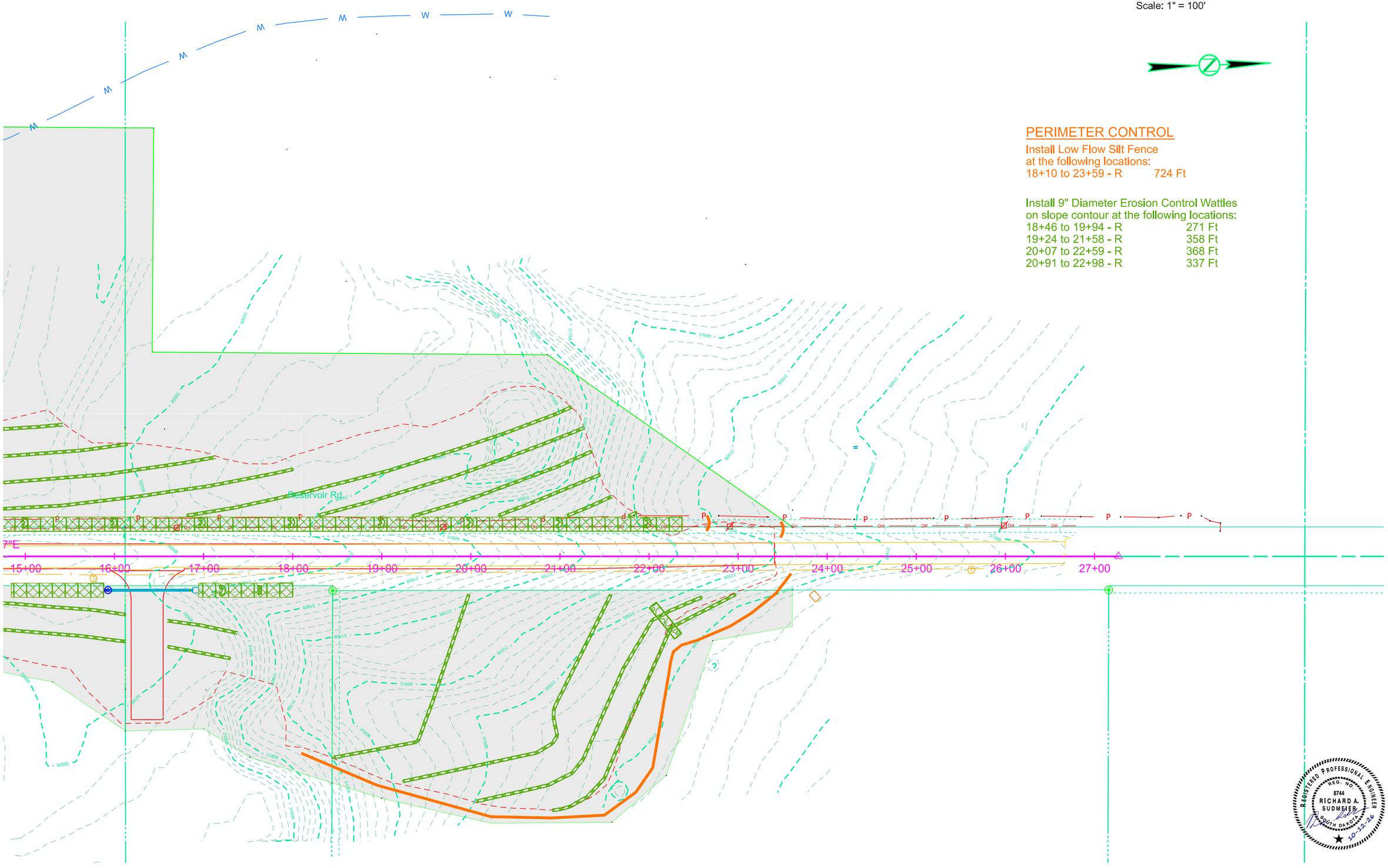
EROSION AND SEDIMENT CONTROL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	41	124

Plotting Date: 10/12/2026

Scale: 1" = 100'



PERIMETER CONTROL

Install Low Flow Silt Fence
at the following locations:
18+10 to 23+59 - R 724 Ft

Install 9" Diameter Erosion Control Wattles
on slope contour at the following locations:

18+46 to 19+94 - R	271 Ft
19+24 to 21+58 - R	358 Ft
20+07 to 22+59 - R	368 Ft
20+91 to 22+98 - R	337 Ft

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SOUTH DAKOTA
10-12-26

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HORIZONTAL ALIGNMENT DATA

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	42	124

Plotting Date: 10/12/2026

RESERVOIR RD

Type	Station			Northing	Easting
POB	0+00.00			622960.7640	1232518.4510
		TL= 155.850	N 06°15'18" E		
PC	1+55.85			623115.6870	1232535.4320
PI	1+68.14	R = 100.00	Delta = 14°04'44" L	623127.9610	1232536.7780
PT	1+80.42			623140.1940	1232535.0970
		TL= 50.59	N 07°49'23" W		
PC	2+31.02			623190.3160	1232528.2110
PI	2+41.78	R = 125.00	Delta = 09°49'23" R	623200.9580	1232526.7490
PT	2+52.45			623211.6930	1232527.1230
		TL= 2474.97	N 02°00'00" E		
POE	27+27.42			625685.1580	1232613.4940

LAMB RD

Type	Station			Northing	Easting
POB	100+00.00			623273.160	1231733.5190
		TL= 1120.60	S 88°09'14" E		
POE	111+20.60			623237.0570	1232853.5330

x007

Type	Station			Northing	Easting
POB	40+00.00			623795.2896	1232455.7200
		TL= 27.16	S 38°58'54.8" E		
PC	40+27.16			623774.1788	1232472.8040
PI	40+32.18	R = 30.00	Delta = 19°01'09" L	623770.2723	1232475.9650
PT	40+37.12			623767.6093	1232480.2270
		TL= 65.24	S 58°00'03.3" E		
POE	41+02.35			623733.0402	1232535.5510

x013

Type	Station			Northing	Easting
POB	50+00.00			624304.8224	1232411.4765
		TL= 143.48	S 88°02'38.9" E		
POE	51+43.48			624299.9254	1232554.8766

BARBER DRIVEWAY

Type	Station			Northing	Easting
POB	30+00.00			622880.9485	1232522.2795
		TL= 99.54	N 00°05'58.2" E		
PC	30+99.54			622980.4929	1232522.4524
PI	31+11.87	R = 200.00	Delta = 07°03'13" R	622992.8196	1232522.4738
PT	31+24.17			623005.0503	1232524.0087
		TL= 5.37	N 07°09'11.7" E		
POE	31+29.53			623010.3739	1232524.6768

WATER LINE

Type	Station			Northing	Easting
POB	0+00.00			624556.8110	1232207.8950
		TL= 50.00	S 31°24'48" W		
POE	0+50.00			624514.1395	1232181.8346

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/11); Geoid 2018; SF = 0.999784730

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-12-26

CONTROL DATA

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	43	124

Plotting Date: 10/12/2026

HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	**STATION**	**OFFSET**	**DESCRIPTION**	**NORTHING**	**EASTING**	**ELEVATION**
CP 12	NA	NA	5/8” Rebar, 1300’ west of project on Lamb Rd.	623334.6610	1230655.4840	3145.75
CP 13	17+64.05	271.77’R	5/8” Rebar	624712.8945	1232851.4817	3196.20
CP 2	12+79.54	21.92’L	City of Rapid City Benchmark 1053	624238.9233	1232541.0646	3204.00

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/11); Geoid 2018;
SF = 0.999784730
The elevations shown on this sheet are based on NAVD 88.

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
10-12-26

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LEGEND

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	44	124

Plotting Date: 10/12/2026

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- BBQ Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Control Point
- Commercial Sign Double Face
- Commercial Sign One Post
- Commercial Sign Overhead
- Commercial Sign Two Post
- Concrete Symbol
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Deck Edge
- Ditch Block
- Doorway Threshold
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Elec. Trans./Power Jct. Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Misc.
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Guide Sign One Post
- Guide Sign Two Post
- Gutter
- Guy Pole
- Haystack
- Hedge
- Highway ROW Marker
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Misc
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Misc. Line
- Misc. Property Corner
- Misc. Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pedestrian Push Button Pole
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad R.O.W. Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Regulatory Sign One Post
- Regulatory Sign Two Post
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Subsurface Utility Exploration Test Hole
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground High Pressure Gas Line — HG —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer — S —
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Warning Sign One Post
- Warning Sign Two Post
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner

- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- ROW Line
- New ROW Line
- Cut and Fill Limits
- Control of Access
- New Control of Access
- Proposed ROW (After Property Disposal)

- Drainage Arrow

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SOUTH DAKOTA
10-12-26

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	45	124

Plotting Date: 11/2/2026

FOR BIDDING PURPOSES ONLY

Revised By: RS 11/2/2026

103+69 R
Remove 2 - Gates for Reset

103+42.69-31.87'R
Install Culvert Outlet Protection
4.5 Tons Class A Riprap
4.4 Sq Yd Type B Drainage Fabric

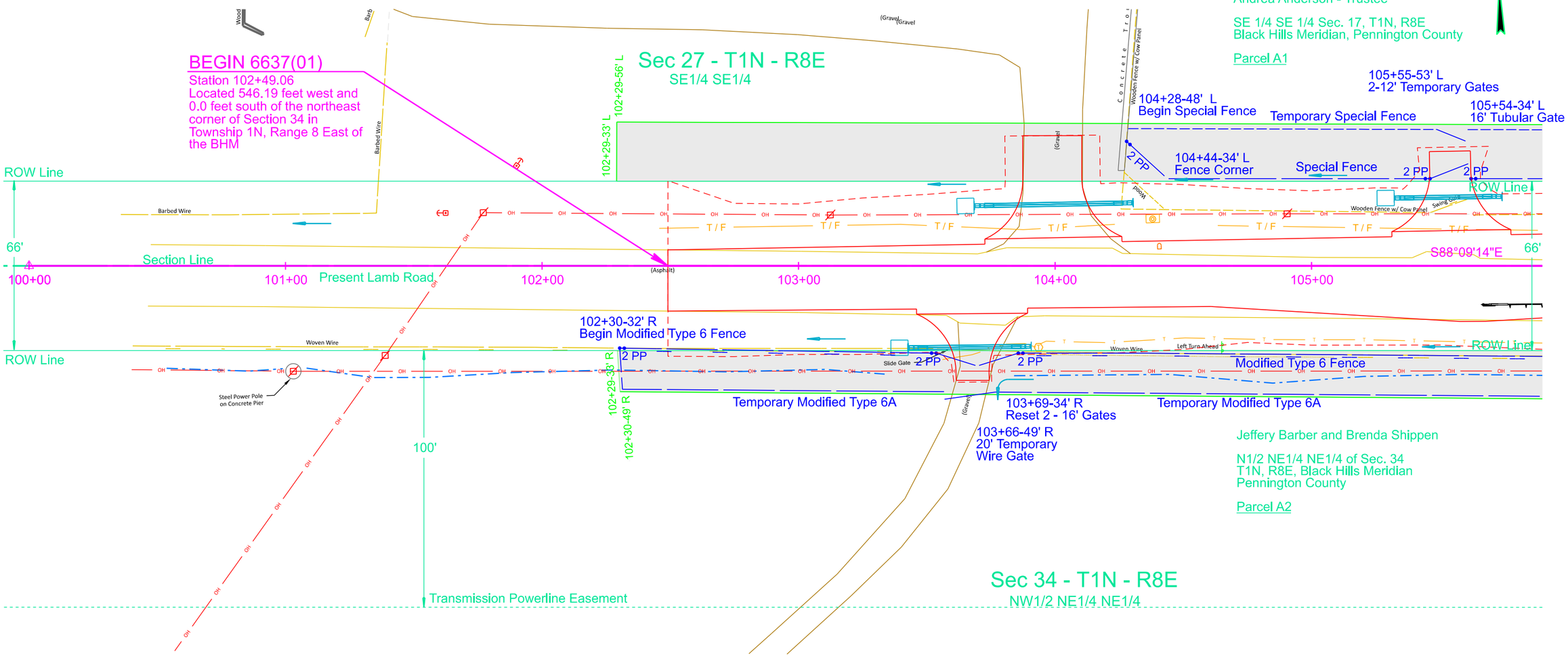
103+46.69-31.83'R to 103+86.69-31.40'R
Install 18" - 40' CMP and 2 Safety Ends with Bars

103+68.41-23.44'L
Install Culvert Outlet Protection
4.5 Tons Class A Riprap
4.4 Sq Yd Type B Drainage Fabric

103+72.42-23.51'L to 104+26.41-24.48'L
Install 18" - 54' CMP and 2 Safety Ends with Bars

105+32.22-26.46'L
Install Culvert Outlet Protection
4.5 Tons Class A Riprap
4.4 Sq Yd Type B Drainage Fabric

105+36.23-26.47'L to 105+70.27-27.05'L
Install 18" - 34' CMP and 2 Safety Ends with Bars



David Lamb Revocable Trust
Andrea Anderson - Trustee

SE 1/4 SE 1/4 Sec. 17, T1N, R8E
Black Hills Meridian, Pennington County

Parcel A1

Jeffery Barber and Brenda Shippen

N1/2 NE1/4 NE1/4 of Sec. 34
T1N, R8E, Black Hills Meridian
Pennington County

Parcel A2

Sec 34 - T1N - R8E
NW1/2 NE1/4 NE1/4

Parcel A1

102+29 L (Lamb Rd) to 16+12 (Reservoir Rd) L
Temporary Easement containing
3.9 ac, more or less

Parcel A2

102+29 R (Lamb Rd.) to 107+62 R(Lamb Rd)
Temporary Easement containing
0.2 ac, more or less

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
11-02-26

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	46	124

FOR BIDDING PURPOSES ONLY

Plotting Date: 10/12/2026

102+49.06
Begin Work

Excavation	319
Undercut	1312
Waste from Reservoir Rd	761
	2392

Embankment	602
+25%	151
Undercut	1312
+25%	327
	2392

PVI 102+49.06
Elev 3144.89

103+67 R
13' Ent

103+99 L
24' Ent

105+54 L
16' Ent

PVI 105+16.62
Elev 3146.65
L 490.00
G1 +0.6584%
G2 +4.8607%
K 117

+0.6584%

18" CMP
FLR=3143.3

18" CMP
FLL=3143.8

18" CMP
FLR=3143.9

18" CMP
FLL=3144.5

18" CMP
FLL=3147.4

18" CMP
FLL=3148.4

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10-12-26

3144.89 3144.96 3145.10 3145.26 3145.46 3145.69 3145.96 3146.26 3146.59 3146.96 3147.36 3147.80 3148.27 3148.78 3149.32 3149.89 3150.50 3151.15

100+00 101+00 102+00 103+00 104+00 105+00

3195 3190 3185 3180 3175 3170 3165 3160 3155 3150 3145 3140 3135 3130 3125 3120 3115 3110 3105 3100

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	47	124

FOR BIDDING PURPOSES ONLY

Plotting Date: 10/12/2026

107+28.7 - 16.2' L to 107+56.3 - 45.7' R
Take out 30" CMP
(Incidental Work, Grading)

107+20.36-22.68'L to 107+54.21-28.82'R
Install 62'-30" RCP and 1 Sloped End
(Between Sloped End and Inlet)

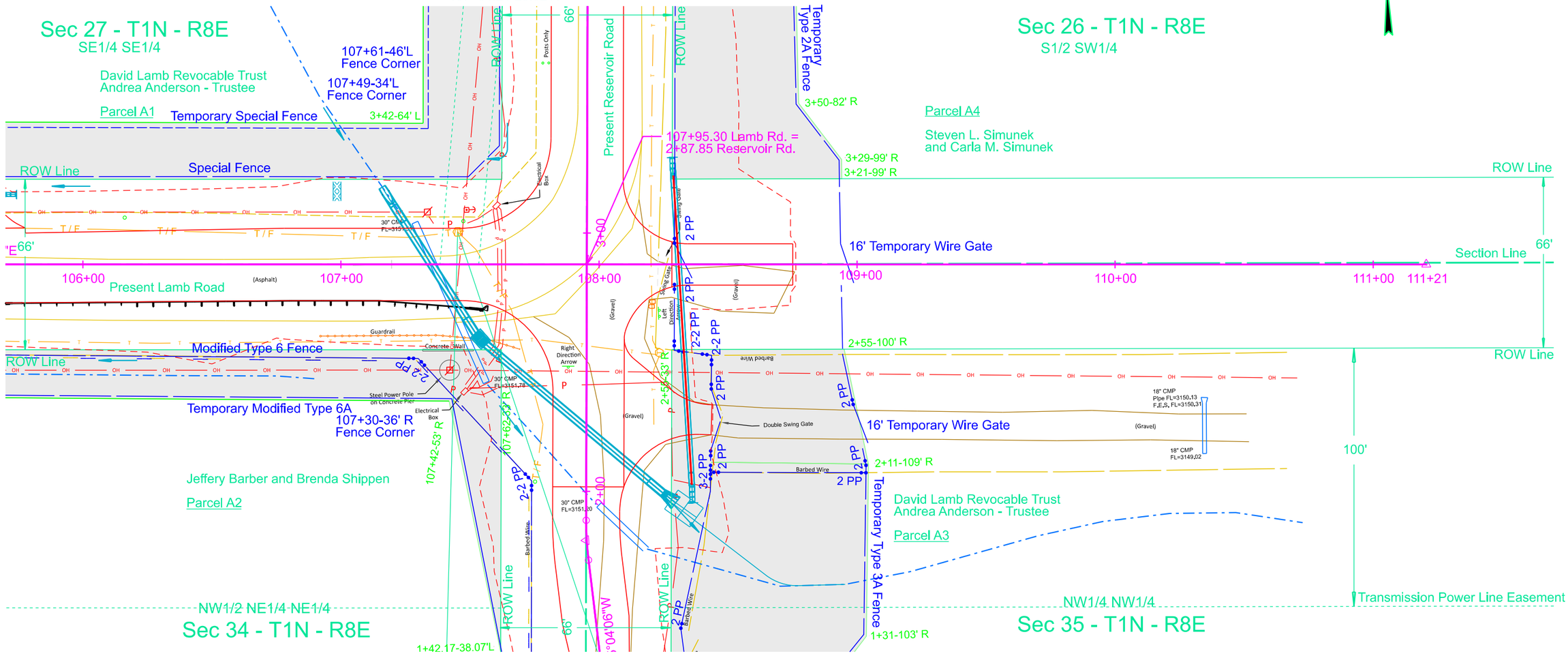
107+31.6 - 33.0' R to 107+51.4-33.0' R
Remove Concrete Wall
(Incidental Work, Grading)

107+54.21-28.82'R to 108+24.83-88.57'R
Install 92'-30" RCP and 1 Flared End
(Between Flared End and Inlet)

Install 4'x5' Type C Inlet
with Frame and Grate and Collar
at the following locations:
107+54.21-28.82'R

106+91.8 - 27.6' R to 107+69.4 - 32.8' R
Remove Beam Guardrail, 78 Ft
and Remove W-Beam Guardrail End Terminal, 1 EA

108+27.67-91.58'R
Install Bank and Channel Protection Gabion,
6.0 Cu Yd and 19 SqYd Type B Drainage Fabric



1+52.03-47.56 to 1+95.48-33.30 R
Construct Outlet Ditch Per General Notes

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	48	124

Plotting Date: 10/12/2026

107+50

PVI 107+95.27
Elev 3159.73

PVI 107+81.36
Elev 3159.52

PVI 108+09.34
Elev 3159.52

PVI 108+75.11
Elev 3159.19

106+98-L
Ditch Block
Elev. = 3154.60

+4.8607%
+1.5239%
-1.5137%
-0.5000%

30" RCP
FLL = 3153.6

FLR = 3151.6

30" RCP
FLR = 3151.4

107+54.21-R
4'x5' Type C Inlet
with Collar and Frame and Grate
TW = 3154.93
Floor = 3151.60

3151.15 3151.82 3152.54 3153.28 3154.06 3154.88 3155.73 3156.61 3157.53 3158.48 3159.45 3159.66 3159.47 3159.37 3159.27 3159.19

3195 3190 3185 3180 3175 3170 3165 3160 3155 3150 3145 3140 3135 3130 3125 3120 3115 3110 3105 3100

106+00 107+00 108+00 109+00 110+00 111+00

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10-12-26

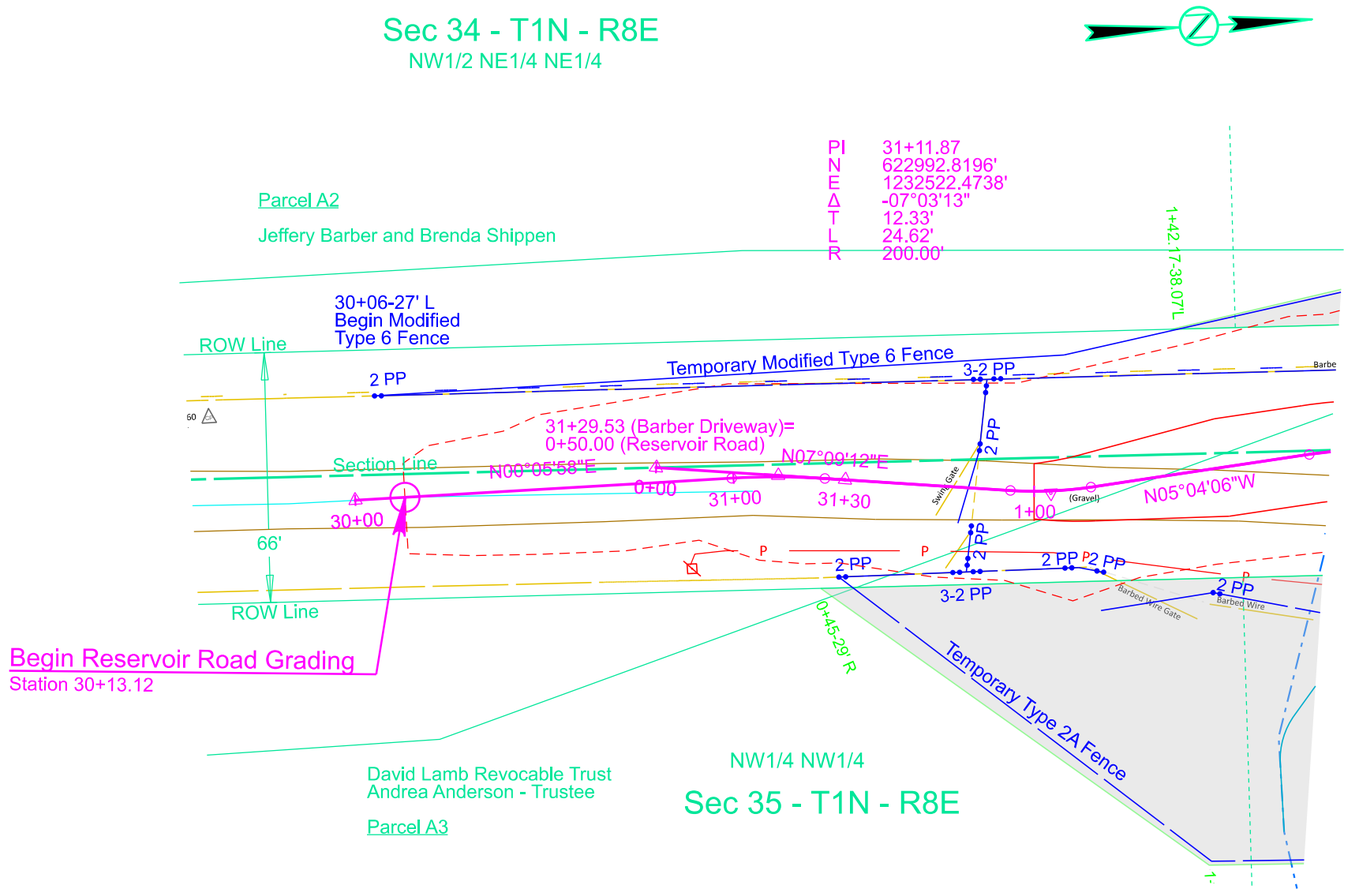
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BARBER DRIVEWAY

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	49	124

Plotting Date: 10/12/2026



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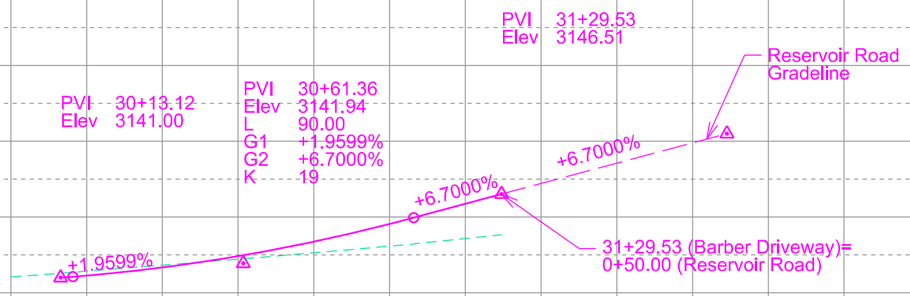
BARBER DRIVEWAY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	50	124

Plotting Date: 10/12/2026

30+13	Excavation	3	31+30	Embankment	175	
	Waste from Reservoir Road	215		+25%	43	
		218			218	



3185, 3180, 3175, 3170, 3165, 3160, 3155, 3150, 3145, 3140, 3135, 3130, 3125, 3120, 3115, 3110, 3105, 3100, 3095, 3090

3141.00 3141.14 3141.67 3142.42 3143.37 3144.54 3145.87

30+00 31+00

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	51	124

Plotting Date: 11/2/2026 Revised 11-2-26

FOR BIDDING PURPOSES ONLY

5+38-28' L
Remove Gate for Reset

5+89-28' L
Remove Gate for Reset

2+02.61-40.88'R to 3+32.38-33.43'R
Install H20-24" CMP and 2 Sloped Ends with Bars

Sec 34 - T1N - R8E
NW1/2 NE1/4 NE1/4

Parcel A2

Jeffery Barber and Brenda Shippen

PI 1+81.05
N 623140.8642ft
E 1232524.6725ft
Δ -07°04'03"
T 7.72'
L 15.42'
R 125.00'

PI 31+11.87
N 622992.8196'
E 1232522.4738'
Δ -07°03'13"
T 12.33'
L 24.62'
R 200.00'

1+42.17-38.07'L

107+42-53' R

Temporary Modified Type 6A Fence

0+86-29' L
Fence Corner

ROW Line

3-2 PP

Modified
Type 6 Fence

2-2 PP

107+62-32' R

66'

N07°09'12"E

Section Line

0+00 31+00 31+30 1+00 (Gravel) N05°04'06"W 2+00 107+00 3+00 4+00 5+00 6+00

Swing Gate

0+84-00'
20' Tubular Gate

2 PP

3-2 PP

1+10-21' R
Fence Corner

1+29-28' R
30' Wire Gate

Barbed Wire Gate

Barbed Wire

0+45-29' R

0+50-26'R
Begin Type 3 Fence

Temporary Type 3A Fence

1+31-103' R

David Lamb Revocable Trust
Andrea Anderson - Trustee

Parcel A3

PI 1+04.39
N 623064.3862ft
E 1232531.4554ft
Δ 12°13'18"
T 10.71'
L 21.33'
R 100.00'

NW1/4 NW1/4

Sec 35 - T1N - R8E

ROW Line

66'

Steel Power Pole on Concrete Pier

Electrical Box

Guardrail

Concrete (Typ)

(Asphalt)

30" CMP FL=3151.20

30" CMP FL=3145.25

Right Direction Arrow

T / F

2+08-48' R
Fence Corner

2+28-48' R
2-12' Tubular Gates

Double Swing Gate

2+11-109' R

2+26-105' R
20' Temporary
Wire Gate

2+53-99' R
Begin Type 2 Fence

2+55-100' R

2+53-33' R

Left Direction Arrow

2+53-5-34' R
Fence Corner

2+53-48' R
Fence Corner

2+88-98' R
20' Temporary
Wire Gate

2+87.85 (Reservoir Rd)
= 107+95.30 (Lamb Rd.)

3+42-64' L

3+22-46' L
Fence Corner

3+34-34' L
Fence Corner

Temporary Special Fence

Special Fence

Posts Only

Electrical Box

David Lamb Revocable Trust
Andrea Anderson - Trustee

Parcel A1

5+40-77' L
Reset Gate for
Temporary Use

5+40-62' L
End Special Fence

5+40-51' L
16' Tubular Gate

5+39-34' L
Fence Corner

5+92-77' L
Reset Gate for
Temporary Use

5+90-62' L
End Special Fence

5+90-42' L
16' Tubular Gate

5+89-34' L
Fence Corner

Wooden Fence

Double Swing Gate

Wooden Fence w/ Cow Panel

Sec 27 - T1N - R8E
SE1/4 SE1/4

N01°59'57"E

Section Line

(Asphalt)
Present Reservoir Road

2+88-34' R
16' Tubular Gate
2+53-48' R
End Type 2 Fence

Type 2 Fence

Parcel A4

Steven L. Simunek
and Carla M. Simunek

Temporary Type 2A Fence

3+50-82 R

3+89-81 R

3+21-99' R

3+29-99' R

6+04-84' R

S1/2 SW1/4

Sec 26 - T1N - R8E

Parcel A3

0+45 to 2+55 R
Temporary Easement containing
0.3 ac, more or less

Parcel A4

3+21 to 16+12 R
Temporary Easement containing
2.2 ac, more or less

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SOUTH DAKOTA
11-02-26

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	52	124

FOR BIDDING PURPOSES ONLY

Plotting Date: 10/12/2026

2+28 R
12' Ent

2+88 R
16' Ent

PVI 2+20.00
Elev 3157.90
L 40.00
G1 +6.7000%
G2 +2.8853%
K 10

PVI 2+73.72
Elev 3159.45

PVI 3+01.71
Elev 3160.29

PVI 4+49.78
Elev 3166.54
L 180.00
G1 +4.2212%
G2 +2.3906%
K 98

+2.3906%

+4.2212%

+3.0000%

+2.8853%

+6.7000%

Station 0+50.00 Reservoir Rd =
Staiton 31+29.53 Barber Driveway

PVI 0+50.00
Elev 3146.51

24" CMP
FLR=3158.0

30" RCP
FLL=3153.6

30" RCP
FLR=3151.4

FLL=3151.6

24" CMP
FLR=3151.4

3205 3200 3195 3190 3185 3180 3175 3170 3165 3160 3155 3150 3145 3140 3135 3130 3125 3120 3115 3110

3146.51 3147.18 3148.52 3149.86 3151.20 3152.54 3153.88 3155.22 3156.56 3157.71 3158.48 3159.05 3159.64 3160.24 3161.06 3161.91 3162.75 3163.57 3164.36 3165.10 3165.80 3166.46 3167.08 3167.66 3168.20 3168.70 3169.17 3169.65 3170.13

0+00 1+00 2+00 3+00 4+00 5+00 6+00

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	53	124

Plotting Date: 11/2/2026 Revised 11-02-26

FOR BIDDING PURPOSES ONLY

6+35-27' L
Remove Gate for Reset

6+67-28' L
Salvage Gate for Owner
(Incidental Work, Grading)

8+02.03-23.88'R to 8+35.61-30.58'L
Install 64' - 24" RCP with 2 Sloped Ends

7+96.77-32.40'R
Install Culvert Outlet Protection
4.5 Tons Class A Riprap and
4.4 Sq Yd Type B Drainage Fabric

9+26.93-39.00'R to 10+06.28-39.00'R
Install 80' - 18" CMP with 2 Sloped Ends with Bars

9+22.92-39.00'R
Install Culvert Outlet Protection
4.5 Tons Class A Riprap and
4.4 Sq Yd Type B Drainage Fabric

11+43-103'L
Locate existing Water Line
Cap water line at Work Limits
If Electric line is associated with
Water Line, cover with Underground
Splice Kit. Mark with 2x4 painted Blue
protruding 2' above ground
(Incidental Work, Grading)

PI 40+32.18
N 623770.2723'
E 1232475.9651'
Δ 19°01'09"
T 5.03'
L 9.96'
R 30.00'

Sec 27 - T1N - R8E
SE1/4 SE1/4

David Lamb Revocable Trust
Andrea Anderson - Trustee

Parcel A1

Building
Swing Gate
Wood
Double Swing Gate
Cattle Ramp
Woven Wire
Wooden Fence
Wooden Fence w/ Cow Panel
Posts Only
Barbed Wire
Double Swing Gate
Adopt-A-Highway
Barbed Wire Gate
Powerline Easement
4.0'
5.0'
PVC Stand
ROW Line
2 PP
3-2 PP
3 PP
2-2PP
Section Line
Present Reservoir Road
(Asphalt)
66'

6+39-62'L
16' Tubular Gate
6+39-58'L
End Special Fence
6+39-71' L
Reset Gate
for Temporary Use
6+40-77'L
12' Temporary Gate
6+71-64' L
6+72-78' L
6+72-77' L
End Special Fence
6+69 - 49' L
16' Tubular Fence
6+68 - 34' L
Begin Modified Type 6 Fence
6+36-34'L
Fence Corner
7+91-34' L
2 -16' Tubular Gates
Modified Type 6 Fence
10+69-86' L
20' Temporary Wire Gate
Temporary Modified Type 6A Fence
10+69-72' L
Fence Corner
10+69-73' L
10+69-113' L
10+95-112' R
30' Temporary
Wire Gate
11+37-112' L
Temporary Type 3A Fence
10+69-102' L
Begin Modified
Type 6 Fence
10+68-86' L
2-12' Tubular Gates
Modified Type 6 Fence
10+69-34' L
End Modified Type 6 Fence
Type 3 Fence
10+69 L
Begin Type 3 Fence
S38°58'55"E 2.00'
S58°00'03"E
40+00
41+02
6+00
7+00
8+00
9+00
10+00
11+00
12+00

Barbed Wire
ROW Line
Type 2 Fence
2-2PP
3 PP
2PP
9+44-34' R
Fence Corner
9+44-76' R
Fence Corner
9+90-34' R
Fence Corner
9+90-76' R
Fence Corner
9+66-76' R
30' Barbed Wire Gate
9+67-86' R
20' Temporary Wire Gate
Temporary Type 2A Fence
Parcel A4
Steven L. Simunek
and Carla M. Simunek
S1/2 SW1/4
6+04-84' R
6+55-95' R
6+86-96' R
7+19-98' R
8+64-90' R
9+67-86' R
10+69-100' R
10+96-107' R
11+28-112' R
11+58-116' R

Sec 26 - T1N - R8E

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
11-02-26

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SOUTH DAKOTA
10-22-26

Excavation 7256
Undercut 2457
9713

Embankment 5309
+25% 1328
Undercut 2457
+25% 619
9713

11+63

9+67 R
36' Ent

7+40 L
30' Ent

PVI 7+20.00
Elev 3173.00
L 1460.00
G1 +4.3739%
G2 -8.4646%
K 114

-8.4646%

+4.3739%

18" CMP
FLR=3179.0

18" CMP
FLR=3182.0

24" RCP
FLL=3173.2

24" RCP
FLL=3173.7

ENTRANCE 7+40-L

PVI 40+97.50
Elev 3175.81

PVI 40+16.24
Elev 3172.00

PVI 40+76.60
Elev 3174.90
L 10.00
G1 +6.7016%
G2 +4.3545%
K 4

PVI 40+30.34
Elev 3171.80
L 20.00
G1 -1.4180%
G2 +6.7016%
K 2

+4.3545%

-1.4180%

+6.7016%

3170.62 3171.14 3171.70 3172.29 3172.91 3173.57 3174.26 3174.99 3175.75 3176.55 3177.38 3178.25 3179.12 3179.99 3180.83 3181.64 3182.41 3183.14 3183.84 3184.50 3185.13 3185.73 3186.28 3186.81 3187.29 3187.75 3188.17 3188.55 3188.89 3189.21

3172.00 3171.95 3172.45 3173.79 3175.04 3175.81

6+00 7+00 8+00 9+00 10+00 11+00 12+00

40+00 41+00

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	55	124

Plotting Date: 10/12/2026

FOR BIDDING PURPOSES ONLY

12+36.3-51.9' L
Take Out Concrete Cone W/Manhole Lid
(Incidental Work, Grading)

15+99.3-38.00'R, 16+87.83-38.00'R
Install 86' - 18" CMP and 2 Safety Ends with Bars

Install Culvert Outlet Protection
4.5 Tons Class A Riprap and
4.4 Sq Yd Type B Drainage Fabric
16+87.83 - 38.00'R

13+38-141' L
20' Temporary Wire Gate

80-149' L

50+00

2 PP

2 PP

Temporary Type 3A Fence

X013

Sec 27 - T1N - R8E

SE1/4 SE1/4

Concrete Lid

David Lamb Revocable Trust
Andrea Anderson - Trustee

Parcel A1

S88°02'39"E

1/16 Line

16+12-33' L

David Lamb Revocable Trust
Andrea Anderson - Trustee

NE 1/4 SE 1/4, Sec. 27, T1N, R8E
Black Hills Meridian, Pennington County

Parcel A5

NE1/4 SE1/4

Powerline Easement

5.1'

6" PVC Stand Pipe

Concrete Cone w/Manhole Lid

13+41-34' L
2 -16' Tubular Gates

51+00

Type 3 Fence

2 PP

3 PP

Type 3 Fence

Powerline Easement

6.8'

ROW Line

Double Swing Gate

Barbed Wire

Barbed Wire

ROW Line

CP-2
EL=3204.00
CORC BM 1053

Right Turn

66'

N01°59'57"E

66'

51+43

Section Line

(Asphalt)

12+00 13+00 14+00 15+00 16+00 17+00 18+00

Present Reservoir Road

Barbed Wire

ROW Line

Type 2 Fence

3 PP

Barbed Wire Gate

2-2PP

Type 2 Fence

ROW Line

2 PP

Bollard

16+12-33' R

16+12-34' R
Fence Corner

16+60-34' R
Fence Corner

Parcel A6

Jade and Katy Harper

The NW1/4 SW 1/4 of Section 26
T1N, R8E, Excepting Therefrom
Olesen Subdivision and A Part of
Tract 3 of the Smith Addition

Parcel A4

Steven L. Simunek
and Carla M. Simunek

S1/2 SW1/4

16+11.96

16+12-129' R
Fence Corner

1/16 Line

2-2PP

2-2PP

16+60-129' R
Fence Corner

Temporary Type 2A Fence

12+69-127' R

14+70-129' R

15+31-141' R

Sec 26 - T1N - R8E

16+37 R
1 - 30' Barbed Wire Gate

16+36-129' R
20' Temporary Wire Gate

NW1/4 SW1/4

Parcel A5

16+12 to 23+61 L
Temporary Easement containing
2.9 ac, more or less

Parcel A6

16+12 to 18+45 R
Temporary Easement containing
1.0 ac, more or less

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	56	124

Plotting Date: 10/12/2026

Excavation	72339	
Undercut	4197	
	76536	
Embankment		25579
+25%		6395
Undercut		4197
+25%		1049
		37220
Waste		39316

PVI 16+00.00
Elev 3211.49
L 1460.00
G1 +4.3739%
G2 -8.4646%
K 114

16+37 R
36' Ent

13+41 L
24' Ent

CP 2
12+79.07 - 21.93'L
Rapid City Benchmark
Elev 3204.00

24" CMP
FLR=3186.10

24" CMP
FLR=3183.90

ENTRANCE 13+41-L

PVI 51+22.27
Elev 3191.70
L 10.00
G1 -6.0930%
G2 -4.2431%
K 5

PVI 50+00.00
Elev 3199.15

PVI 51+39.71
Elev 3190.96

-6.0930%

-4.2431%



CP 13
17+63 - 272'R
5/8" Rebar and Guards
Elev 3196.20

3189.48 3189.72 3189.93 3190.10 3190.24 3190.34 3190.41 3190.44 3190.43 3190.39 3190.32 3190.21 3190.06 3189.88 3189.67 3189.41 3189.13 3188.81 3188.45 3188.06 3187.63 3187.17 3186.67 3186.14 3185.57 3184.97 3184.33 3183.66 3182.95 3182.21

12+00 13+00 14+00 15+00 16+00 17+00 18+00

50+00 51+00 52+00

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	57	124

Plotting Date: 10/12/2026

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

40+84-22' L

David Lamb Revocable Trust
Andrea Anderson - Trustee

Parcel A5

Sec 27 - T1N - R8E
NE1/4 SE1/4

Temporary Type 3A Fence

END 6637(01)
Station 23+41.37
Located 0.0 feet east and
2053.1 feet north of the southwest
corner of Section 26 in
Township 1N, Range 8 East of
the BHM

6.9'
Powerline Easement

ROW Line

Type 3 Fence

Barbed Wire

23+56-34' L
Fence Corner

2 PP

23+61-33' L

ROW Line

23+56-29' L
End Type 3 Fence

66'

71'

N01°59'57"E

(Asphalt)

Section Line

71'

18+00 19+00 20+00 21+00 Present Reservoir Road 22+00 23+00 24+00

ROW Line

4-2 PP

FND 1¼" Plastic Cap LS 3095

Type 2 Fence

2-2 PP

ROW Line

Barbed Wire Gate

Building

18+45-33' R
2 PP
Barbed Wire

18+45-38' R

Utility and Minor Drainage Easement

18+45-34' R
Fence Corner

18+45-39' R
Fence Corner

Tract A

23+43-26' R
End Type 2 Fence

23+43-39' R
Fence Corner

23+61-38' R

Temporary Type 2A Fence

22+72-95' R

23+61-79' R

Woven Wire

William Pond

Tract A of Olesen Subdivision
NW1/4 SW1/4 of Section 26
T1N, R8E, Black Hills Meridian
Pennington County

Parcel A7

NW1/4 SW1/4
Sec 26 - T1N - R8E

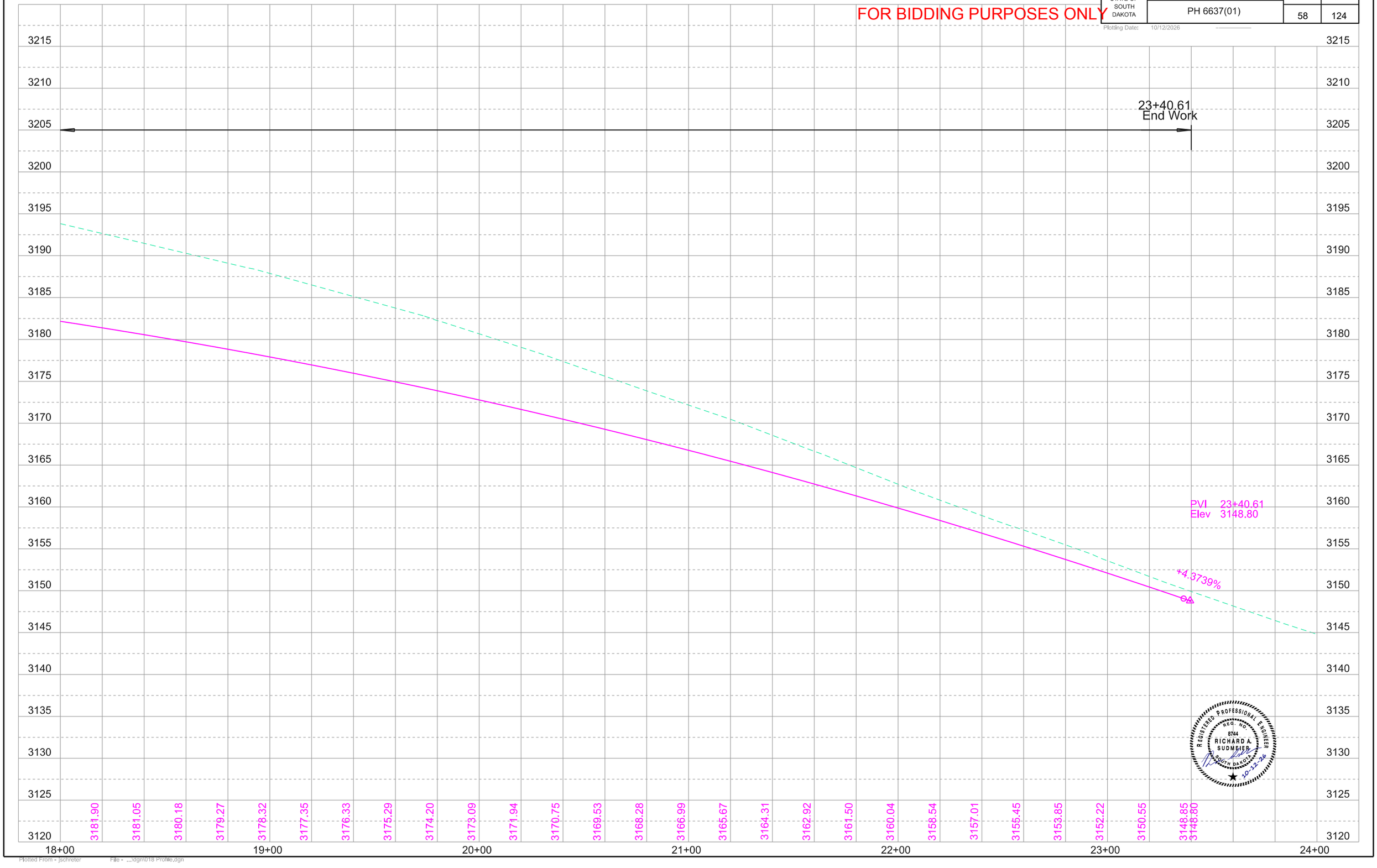
Parcel A7

18+45 to 23+61 R
Temporary Easement containing
2.4 ac. more or less

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	58	124

Plotting Date: 10/12/2026



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REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-22-26

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	59	124

Plotting Date: 10/12/2026

Scale 1" = 100'

Temporary Type 3 Fence

13+82-483' L

16+44-481' L

NE 1/4 SE 1/4 of Section 27
T1N, R8E, BHM

David Lamb Revocable Trust
Andrea Anderson - Trustee

Sec 27 - T1N - R8E
NE1/4 SE1/4

16+42-229' L

Temporary Type 3 Fence

20+86-226' L

13+80-149' L

1/16 Line

50+00

51+00-143'

S88°02'39"E 1320.88'

N01°59'57"E

23+61-33' L

Section Line

Reservoir Road

13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 27+27

Temporary Type 2 Fence

14+70-129' R

15+31-141' R

16+12-196' R

17+00-194' R

17+52-226' R

16+38-193' R
20' Temporary Wire Gate

Jade and Katy Harper

The NW1/4 SW 1/4 of Section 26
T1N, R8E, Excepting Therefrom
Olesen Subdivision and A Part of
Tract 3 of the Smith Addition

1/16 Line

8' Utility and Minor Drainage Easement

Tract A
William Pond

19+00-272' R

20+23-300' R

21+58-299' R

22+19-246' R

Temporary Type 2 Fence

22+72-95' R

23+61-79' R

23+61-38' R

NW1/4 SW1/4
Sec 26 - T1N - R8E

1/4 Line

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RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

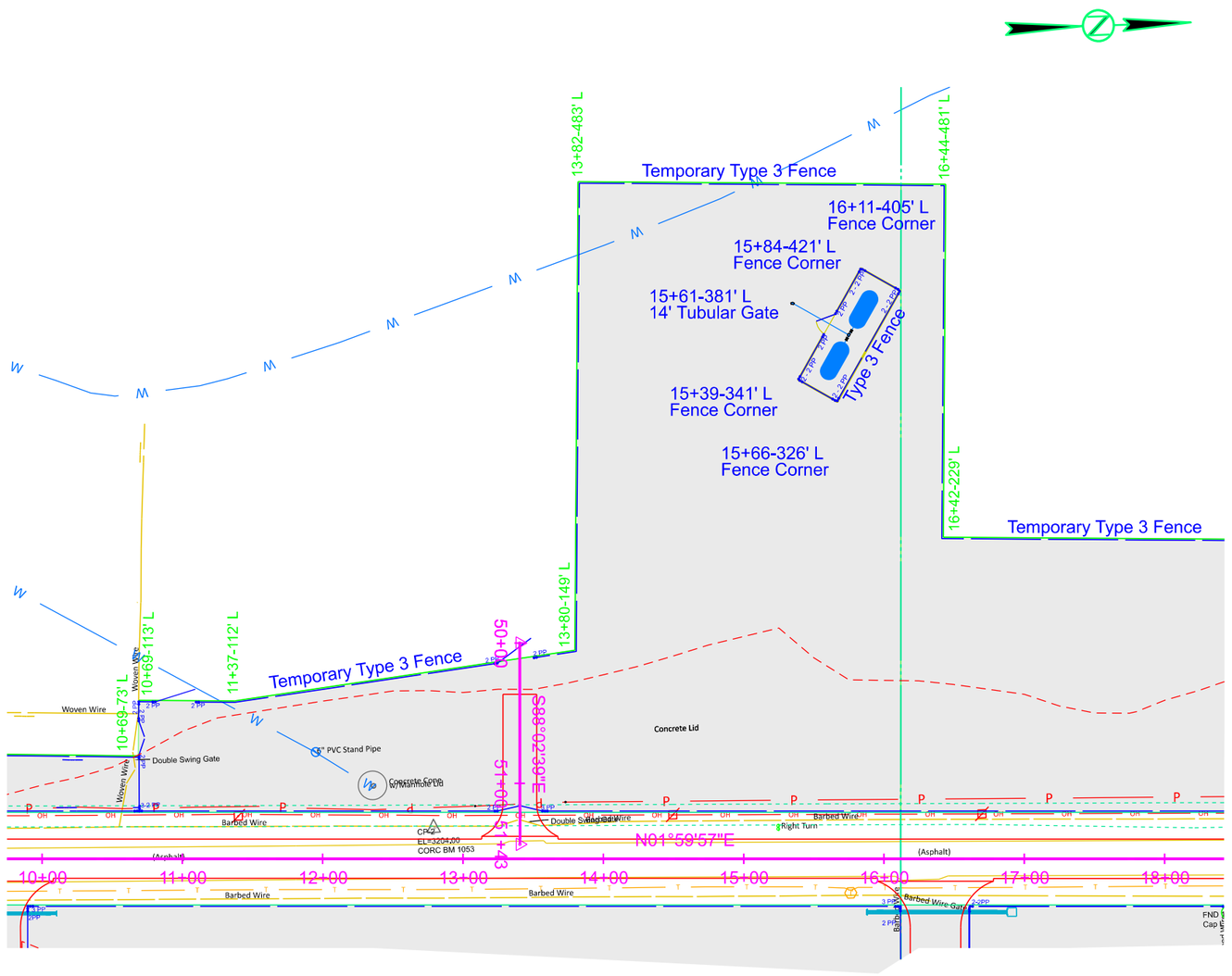
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WATER TANK FENCE PLAN

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	60	124

Plotting Date: 10/12/2026



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REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

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WATER STORAGE TANK

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	61	124

Plotting Date: 11/09/2025

Scale: 1"=100'

Flown Date: CORC 2021
Photo Not to Scale

New Reservoir
See Inset Next Sheet

Roadway
Grading
Limits

Existing Reservoir
to be Removed

David Lamb Revocable Trust
Andrea Anderson - Trustee
SE 1/4, SE 1/4

Reservoir Road

3200 3195 3205 3210 3210 3205 3200 3205 3195 3190 3185 3180 3200 3195 3190 3185 3180 3175 3170 3185 3190 3195 3200 3195 3195 3195 3190 3185 3180 3175 3190

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REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-15-26

Notes:

1. Provide valve box key risers for boxes deeper than 8'.
2. Provide standard length keys with 2" nut & curb stop to owner.
3. All products shall conform to City of Rapid City Standard Specifications, 2022 Edition.

Z:\321238.00 SDDOT Reservior Rd & Lamb Rd Intersection\CAD\Figures and Exhibits\221238 Water Tank Figures - Revised 9-2-25.dwg - Plan View - Friday, July 10, 2026 9:37:36 AM

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WATER STORAGE TANK

FOR BIDDING PURPOSES ONLY

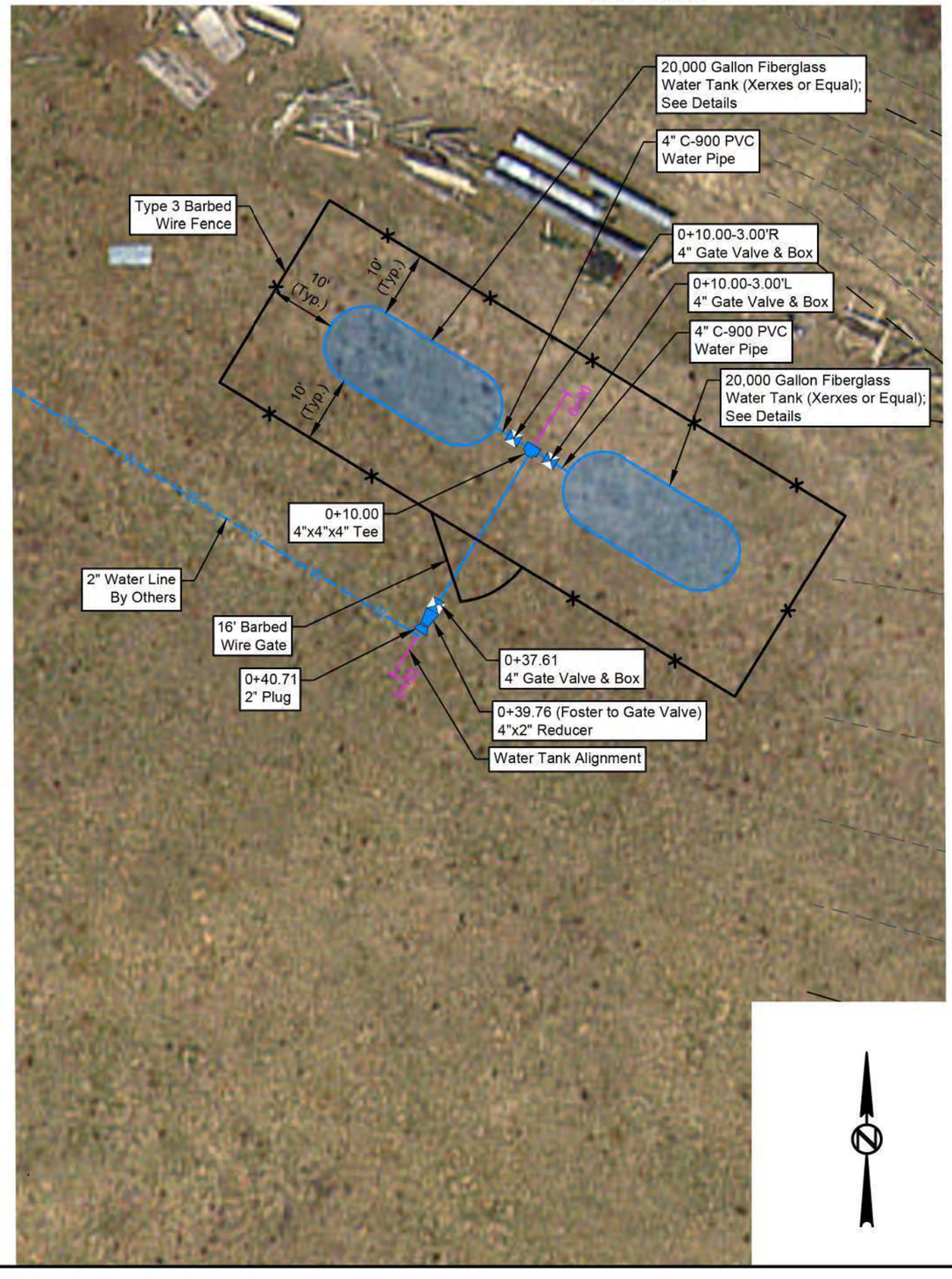
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	62	124

Plotting Date: 11/09/2025

Scale: 1"=20'

Flown Date: CORC 2021

Photo Not to Scale



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SOUTH DAKOTA
10-12-26

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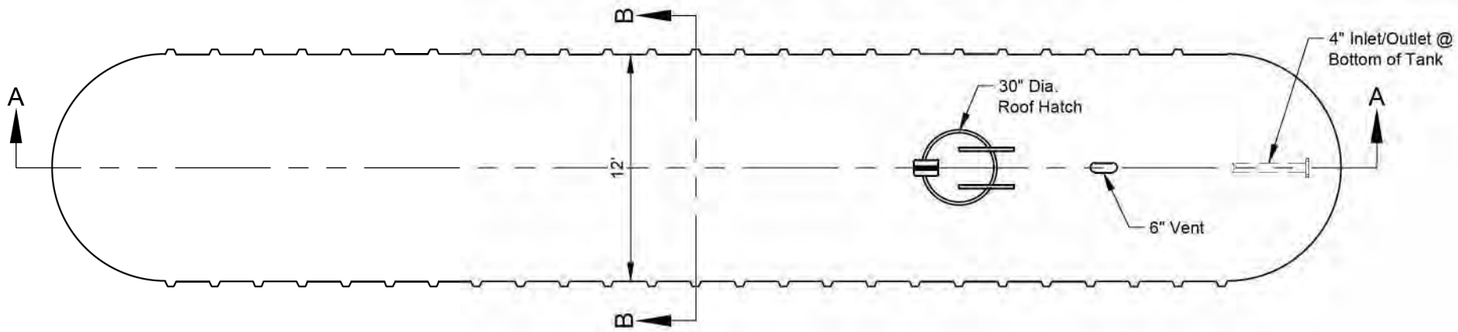
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WATER STORAGE TANK DETAILS

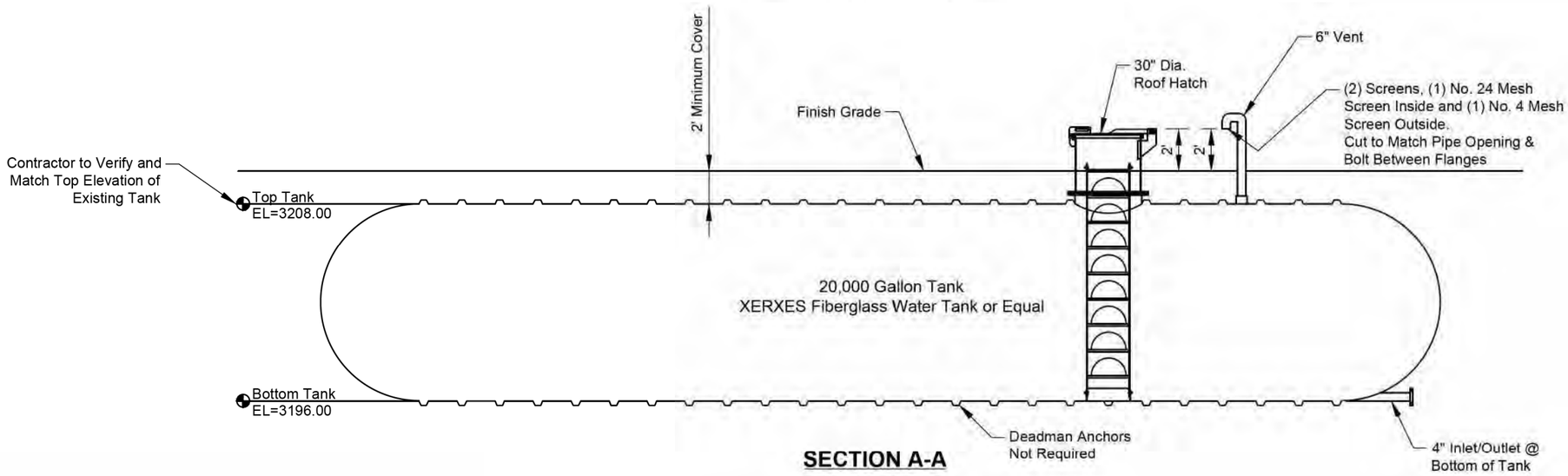
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	63	124

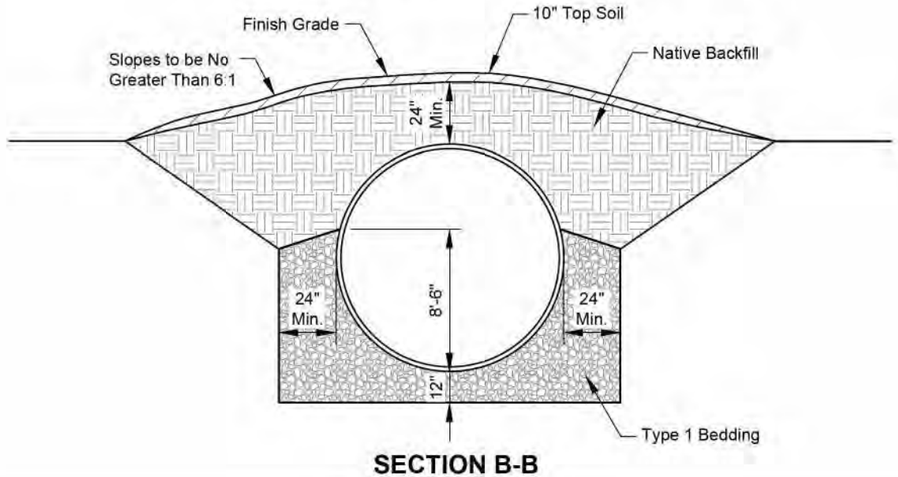
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PLAN VIEW



SECTION A-A



SECTION B-B

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REG. NO.
8744
RICHARD A.
SUDMEIER
SOUTH DAKOTA
10-22-26

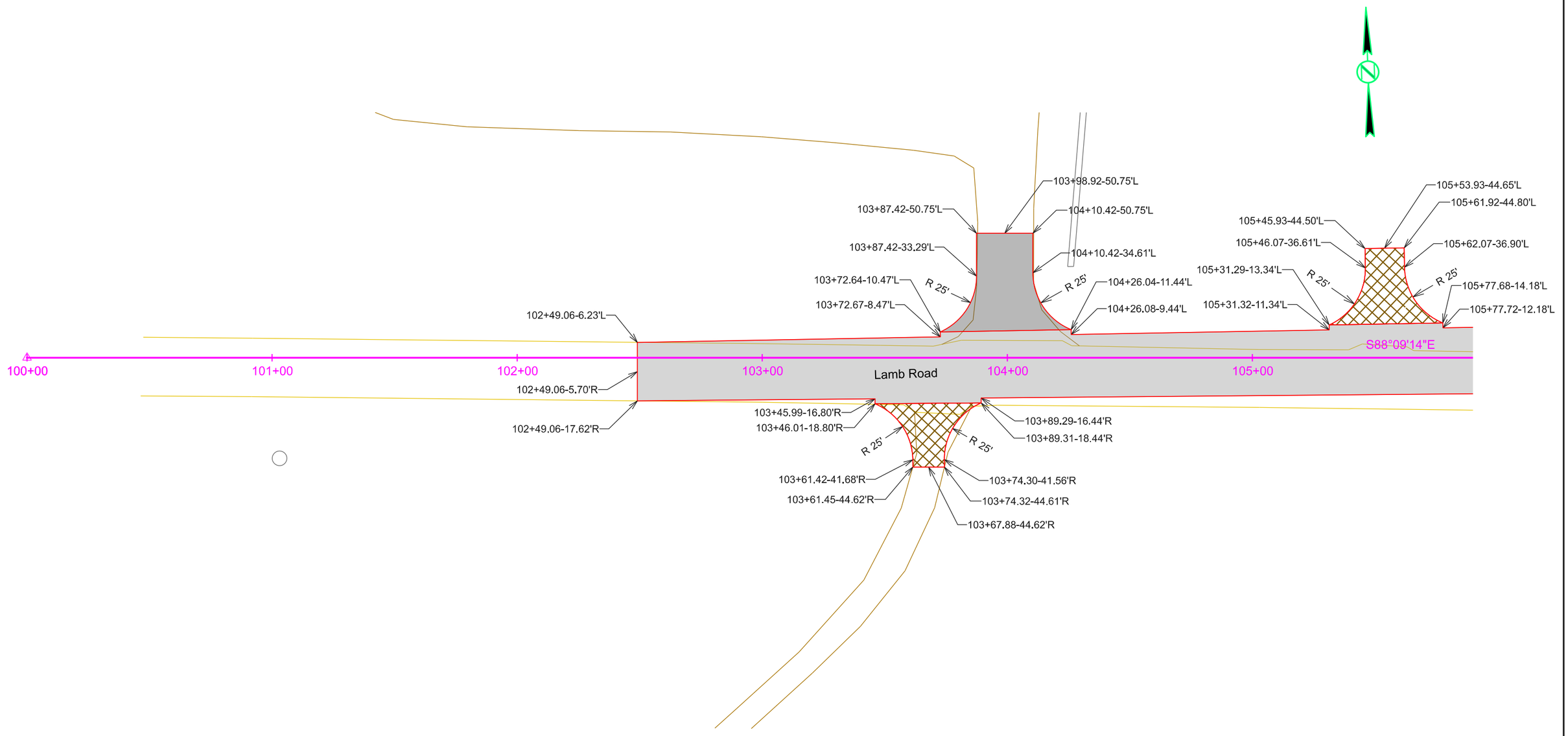
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SURFACING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	64	124

Plotting Date: 10/12/2026



SURFACING LEGEND

- Asphalt Concrete Pavement 4" Asphalt / 12" Base Course
- Asphalt Pavement 4" Asphalt / 6" Base Course
- Gravel Surfacing, 4"

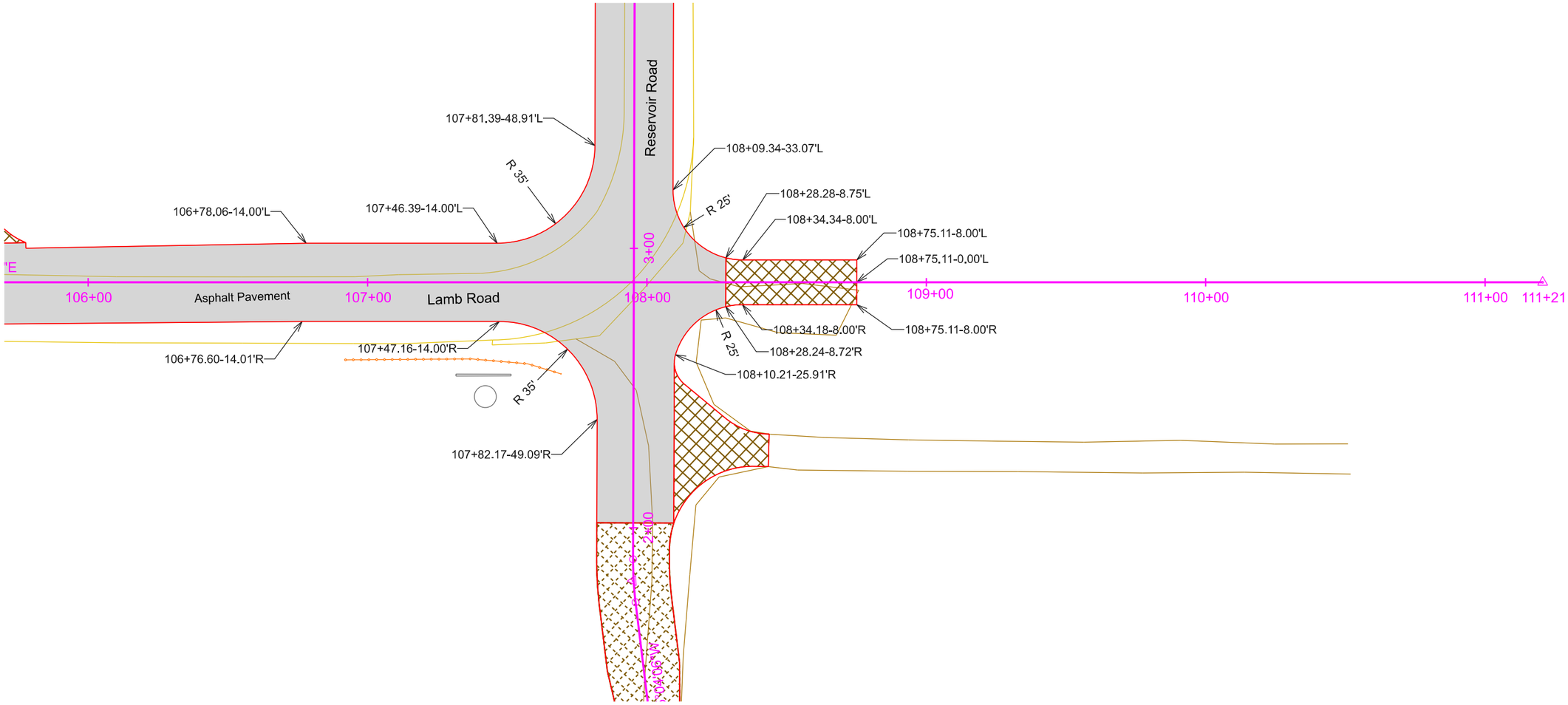
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

SURFACING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	65	124

Plotting Date: 10/12/2026



SURFACING LEGEND

- Asphalt Concrete Pavement 4" Asphalt / 12" Base Course
- Asphalt Pavement 4" Asphalt / 6" Base Course
- Gravel Surfacing, 4"

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-22-26

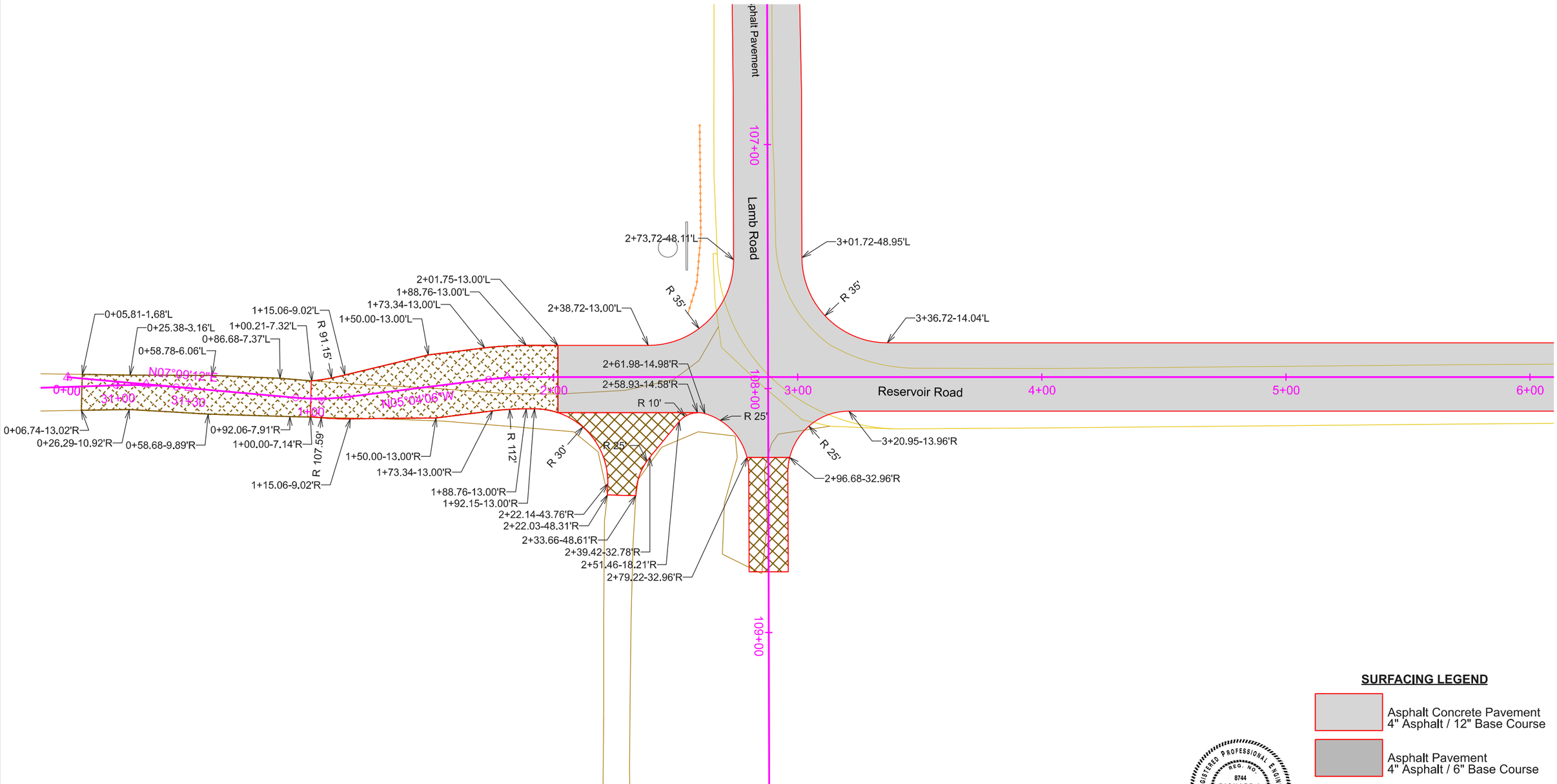
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SURFACING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	66	124

Plotting Date: 10/12/2026



SURFACING LEGEND

- Asphalt Concrete Pavement
  4" Asphalt / 12" Base Course
- Asphalt Pavement
  4" Asphalt / 6" Base Course
- Gravel Surfacing, 4"
- Gravel Surfacing, 6"

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

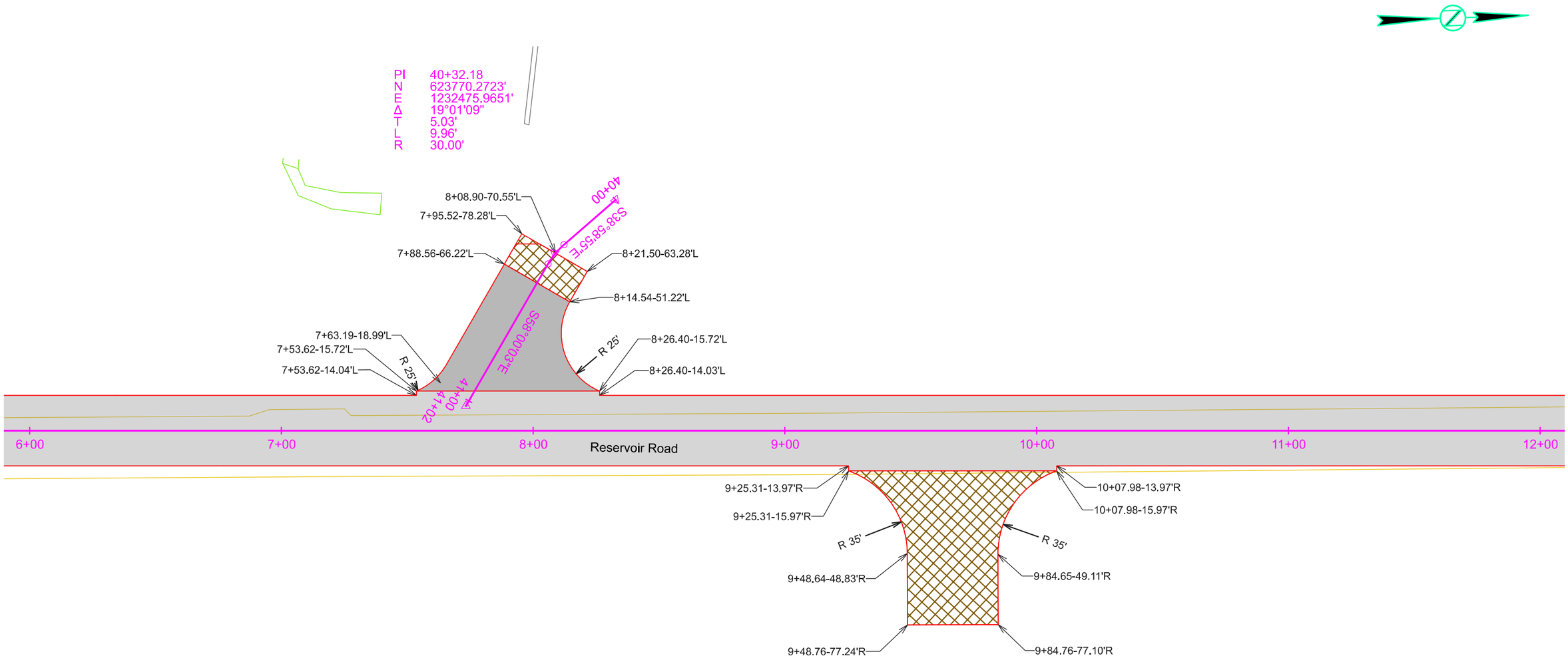
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SURFACING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	67	124

Plotting Date: 10/12/2026



SURFACING LEGEND

- Asphalt Concrete Pavement 4" Asphalt / 12" Base Course
- Asphalt Pavement 4" Asphalt / 6" Base Course
- Gravel Surfacing, 4"

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

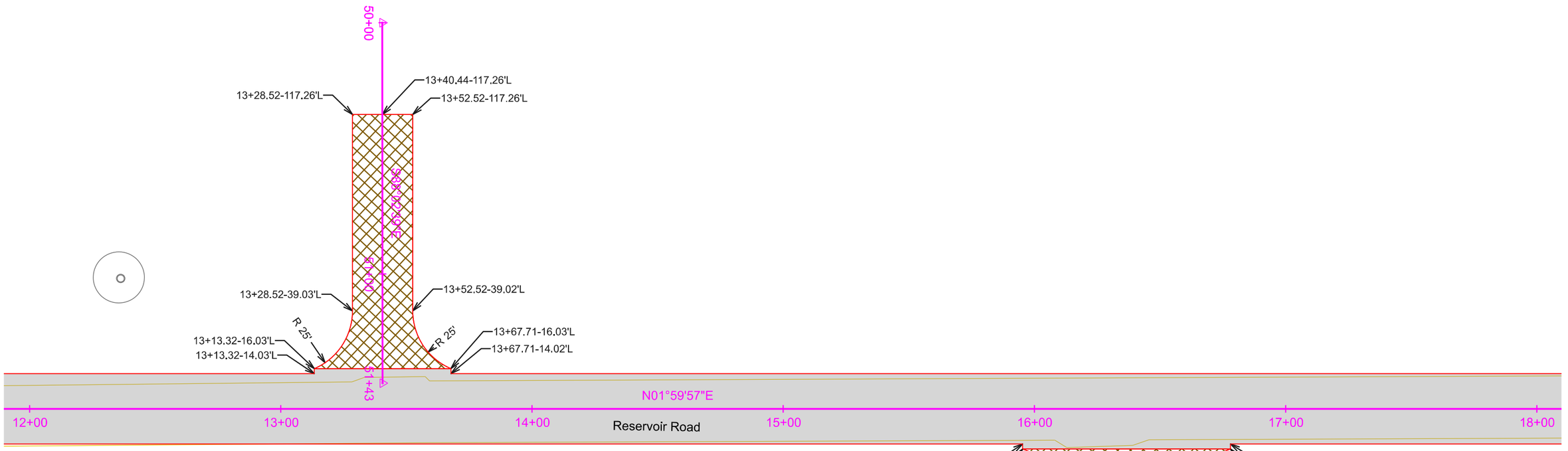
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

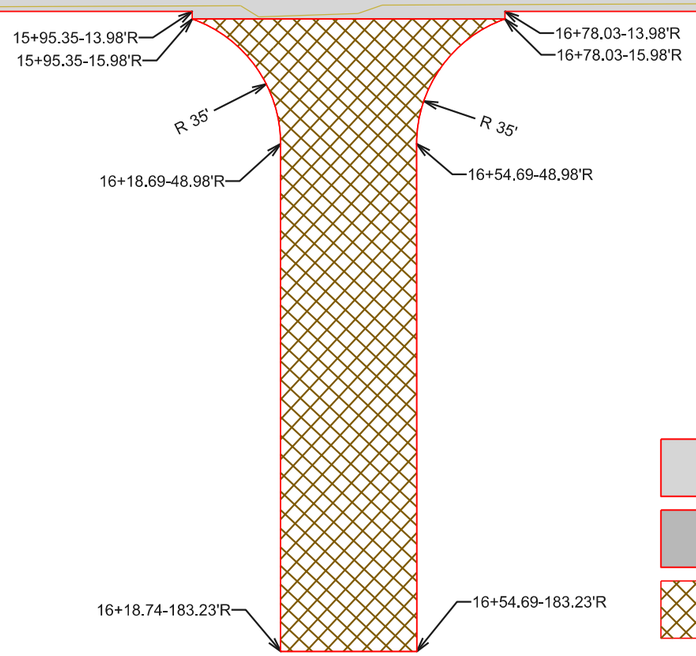
SURFACING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	68	124

Plotting Date: 10/12/2026





SURFACING LEGEND

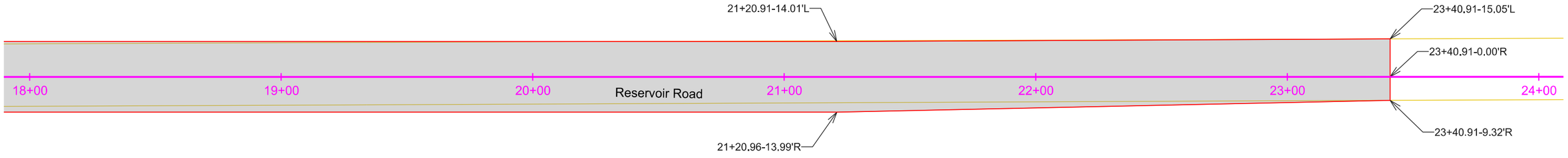
- Asphalt Concrete Pavement 4" Asphalt / 12" Base Course
- Asphalt Pavement 4" Asphalt / 6" Base Course
- Gravel Surfacing, 4"

SURFACING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	69	124

Plotting Date: 10/12/2026



SURFACING LEGEND

- Asphalt Concrete Pavement 4" Asphalt / 12" Base Course
- Asphalt Pavement 4" Asphalt / 6" Base Course
- Gravel Surfacing, 4"

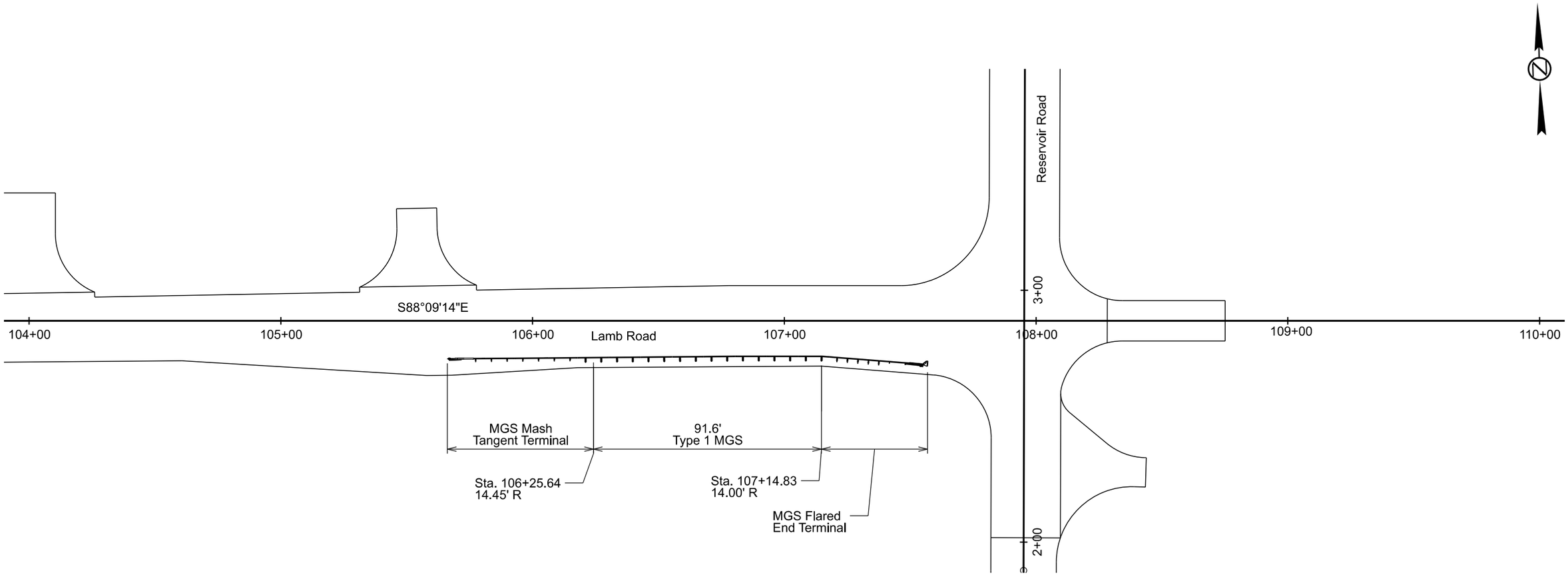
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

GUARDRAIL LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	70	124

Plotting Date: 10/22/2026 Revised 10-13-26



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-13-26

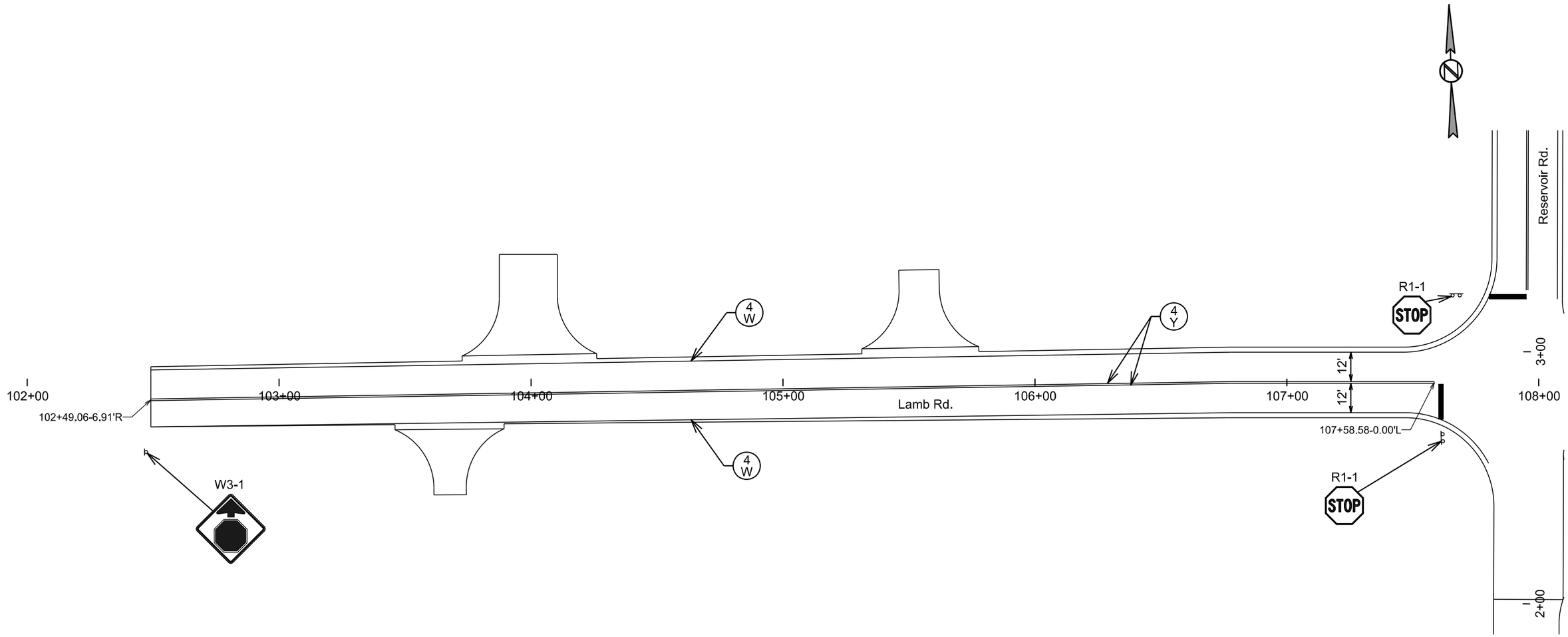
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PERMANENT SIGNING AND PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	71	124

Plotting Date: 10/12/2026



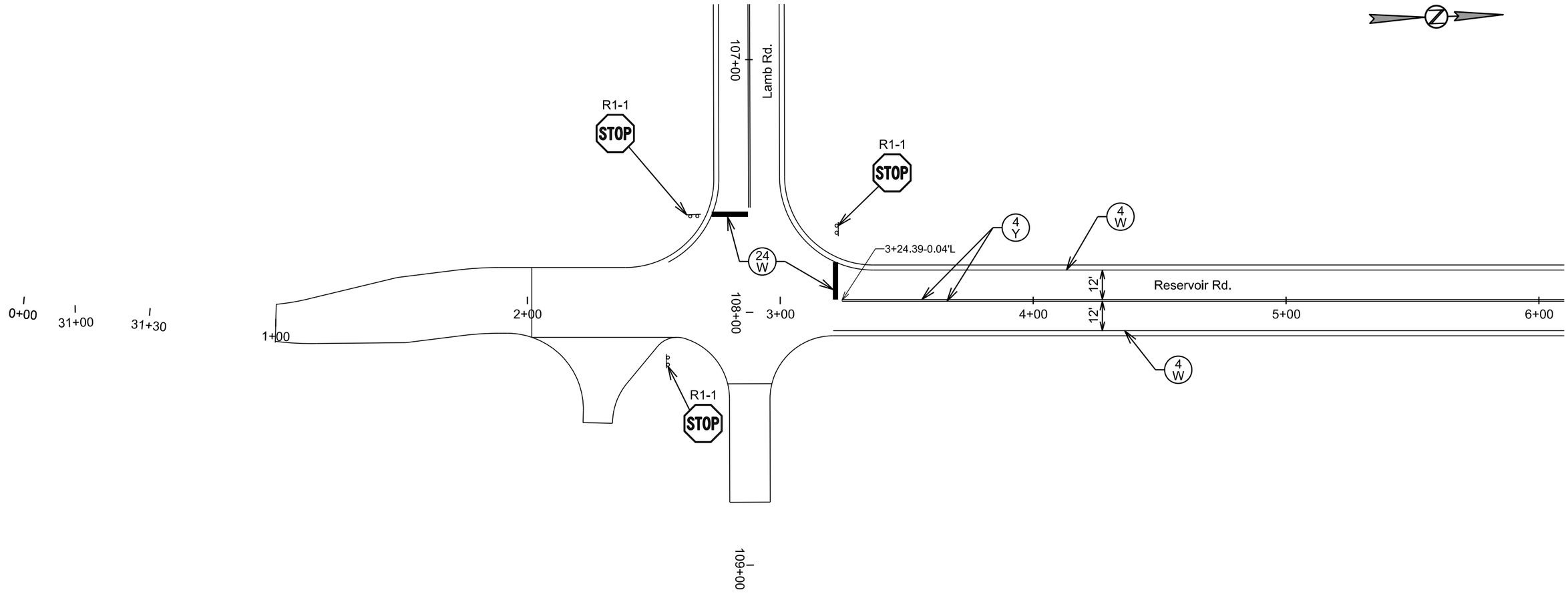
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A.
SUDMEIER
SOUTH DAKOTA
10-12-26

PERMANENT SIGNING AND PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	72	124

Plotting Date: 10/12/2026



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A.
SUDMEIER
SOUTH DAKOTA
10-12-26

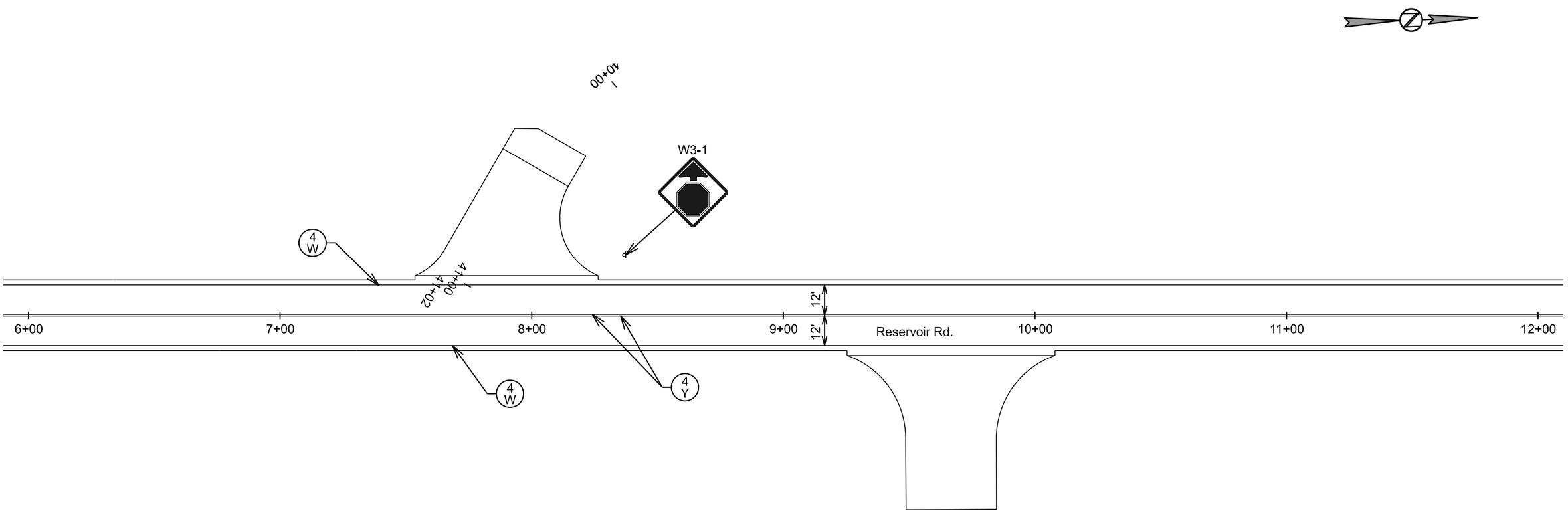
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PERMANENT SIGNING AND PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	73	124

Plotting Date: 10/12/2026



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A.
SUDMEIER
SOUTH DAKOTA
10-12-26

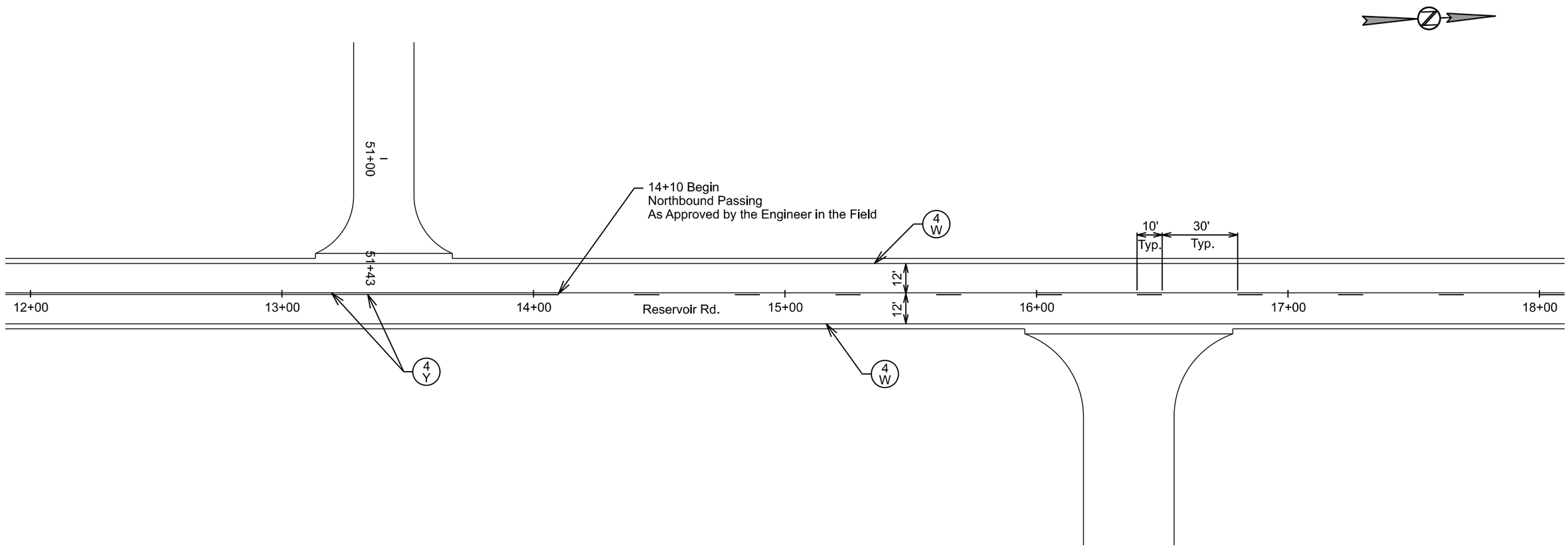
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PERMANENT SIGNING AND PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	74	124

Plotting Date: 10/12/2026



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A.
SUDMEIER
SOUTH DAKOTA
10-12-26

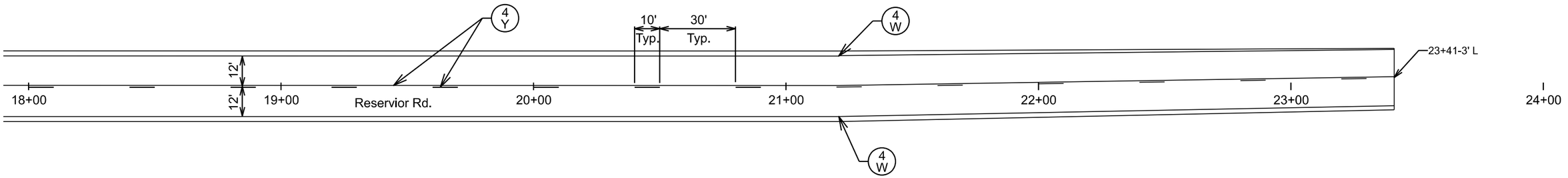
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PERMANENT SIGNING AND PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	75	124

Plotting Date: 10/12/2026



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
8744
RICHARD A.
SUDMEIER
SOUTH DAKOTA
10-12-26

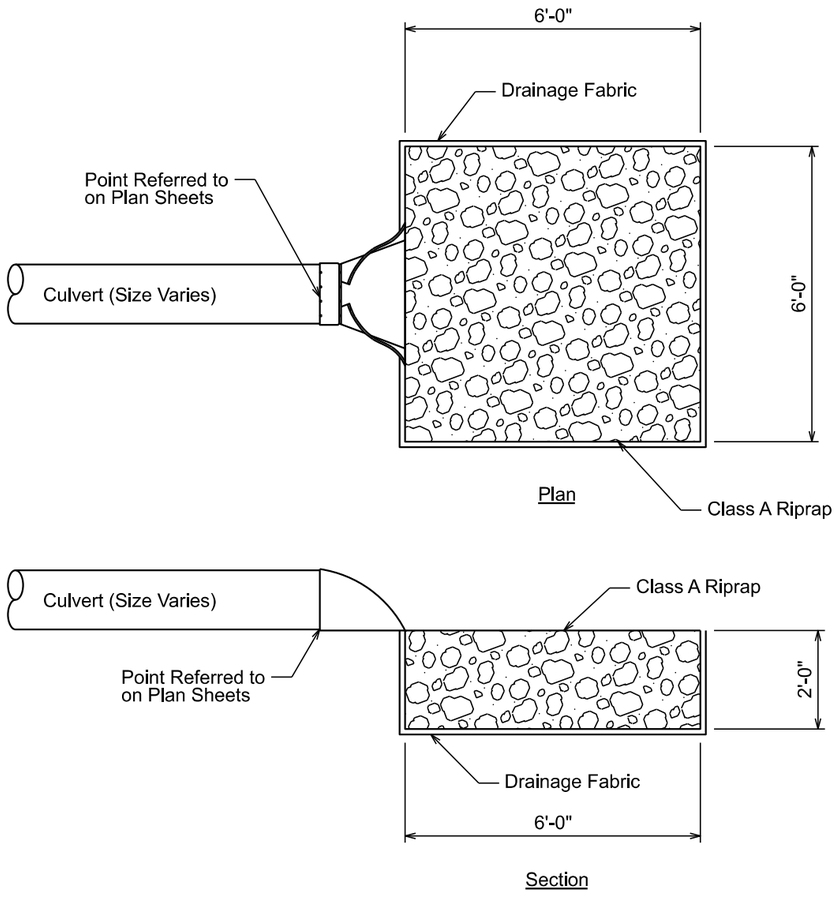
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TYPICAL CULVERT OUTLET PROTECTION

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	76	124

Plotting Date: 10/12/2026



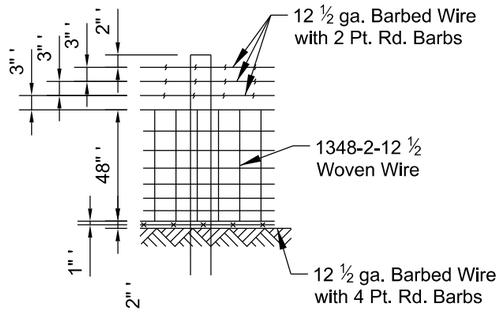
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

FENCE DETAILS

FOR BIDDING PURPOSES ONLY

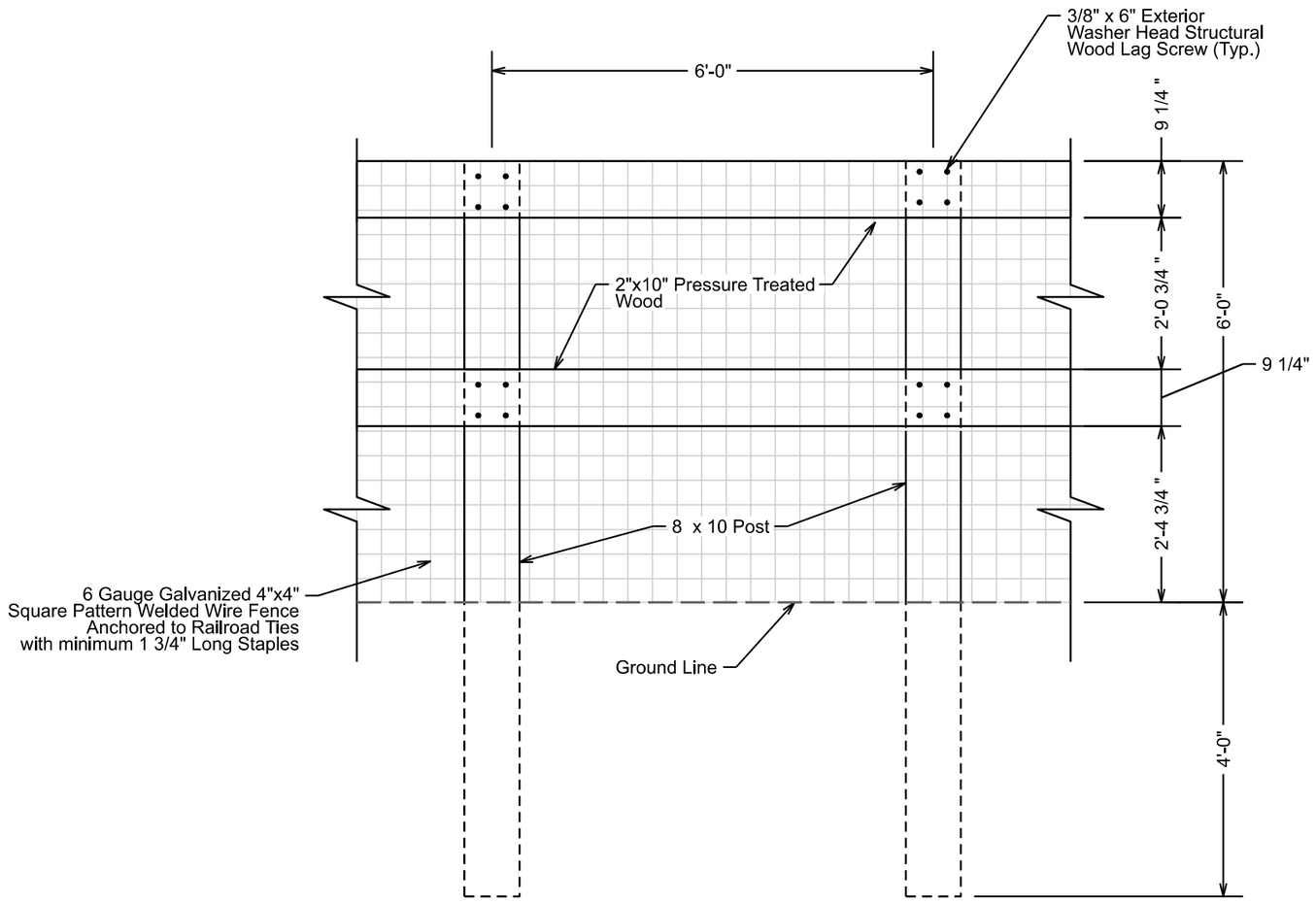
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	77	124

Plotting Date: 10/22/2026 Revised 10-13-26



MODIFIED TYPE 6

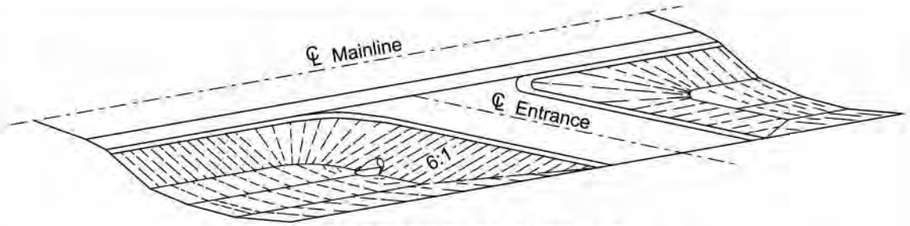
TYPE OF FENCE		LINE POST SPACING	BARBED WIRE		WOVEN WIRE
TYPE	DESCRIPTION		WIRE GAGE	NUMBER AND SHAPE OF BARBS	STYLE OR DESIGN NO.
6	48" Woven Wire with 3 Barbed Wires	14'-0"	12 ½	2 Wires with 2 Pt. Rd. 1 Wire with 4 Pt. Rd.	1348-2-12 ½



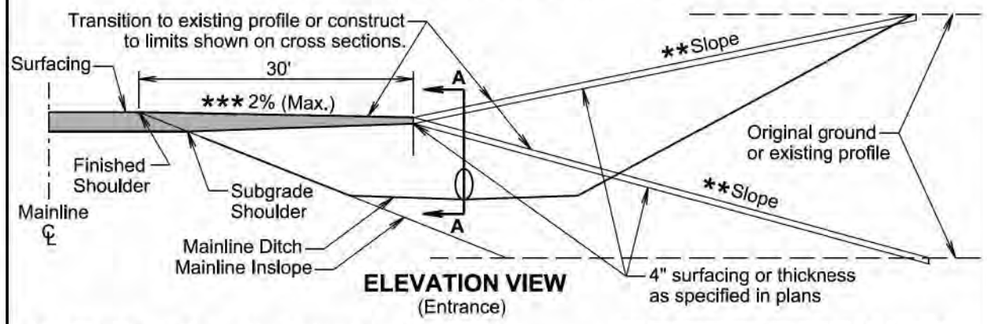
1. Pressure treated wood will conform to sections 920 and 950 of the Standard Specifications.
2. Staples will conform to section 920 of the Standard Specifications
3. Posts will be 8 x 10 creosote treated wood.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8744
RICHARD A. SUDMEIER
SOUTH DAKOTA
10-22-26

Plotted From - jschreter File - ...\dgn\Special Fence.dgn



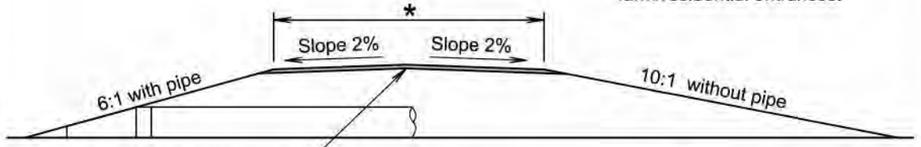
PERSPECTIVE OF ENTRANCE



ELEVATION VIEW
(Entrance)

*** 2% When on the inside of superelevation and 0% or flat when on outside of superelevation.

** Entrance maximum slope is typically 10:1 for field entrances and 15:1 for farm/residential entrances.



SECTION A-A
(Entrance and Intersecting Road)

* The finished surfacing width is stated elsewhere in the plans. The subgrade width is 4' wider than the finished surfacing width unless stated otherwise in the plans.

GENERAL NOTES:

The ditch section shown above in the perspective view is only for illustrative purpose.

The elevation view above is typical for either a ditch cut or fill section. Entrances that vary from above should be specified in the plans.

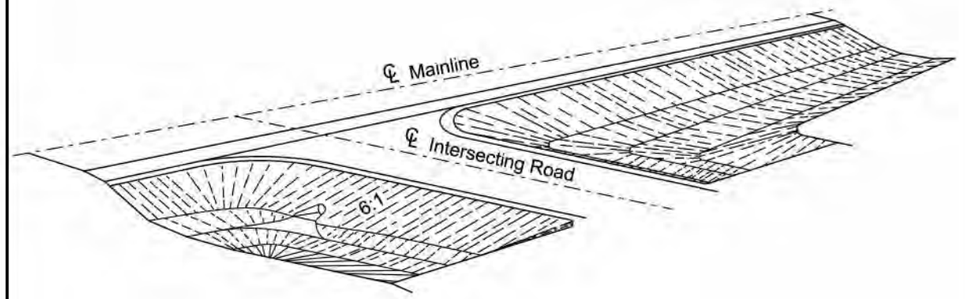
Pipe length will be adjusted if necessary during construction to obtain the 6:1 slope. For grading projects, the pipe length is estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.

The transition area between the mainline inslope and the entrance or intersecting road inslope will be rounded to eliminate an abrupt transition.

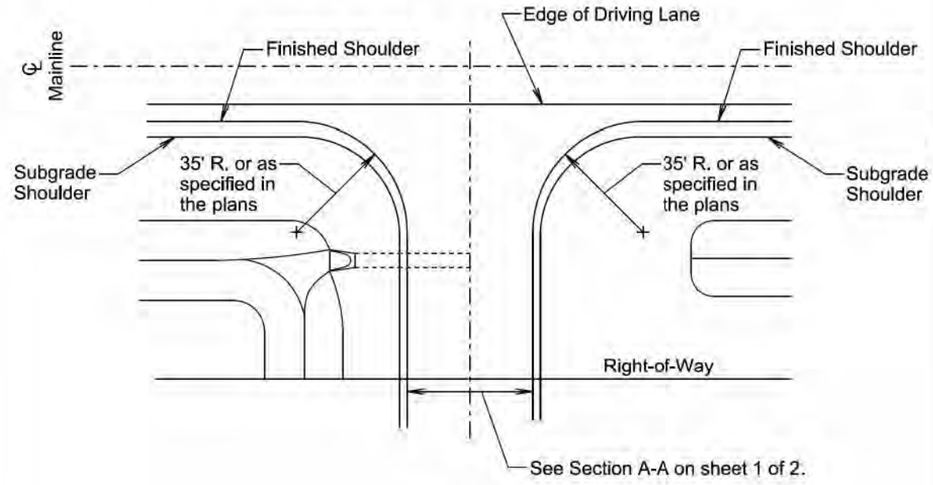
The turning radii will be 35' for intersecting roads and entrances unless stated otherwise in the plans.

November 19, 2021

Published Date: 2027	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01 Sheet 1 of 2



PERSPECTIVE OF INTERSECTING ROAD



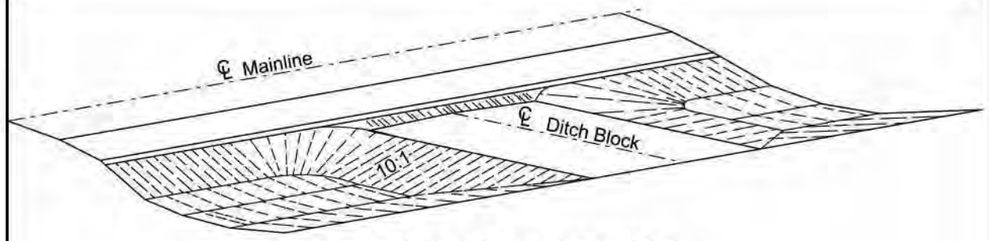
PLAN VIEW

GENERAL NOTES:

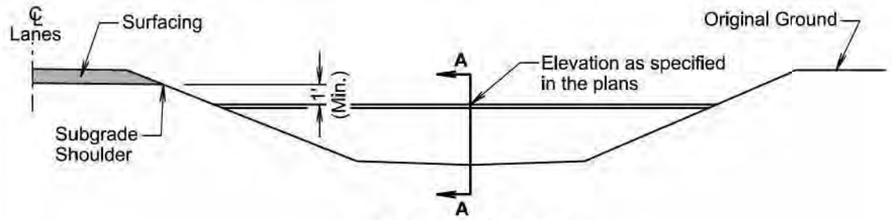
The 6:1 or 10:1 intersecting road inslope will transition to the existing intersecting road inslope near the right-of-way or at a location as determined by the Engineer.

November 19, 2021

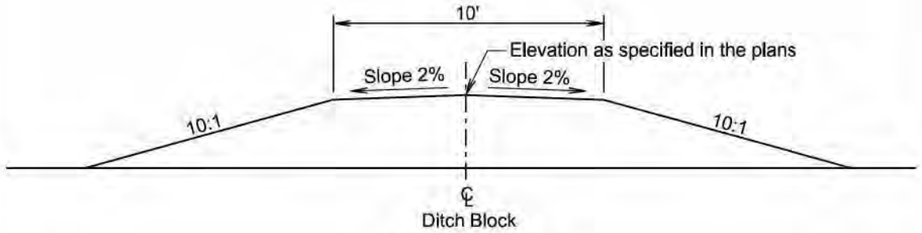
Published Date: 2027	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01 Sheet 2 of 2



PERSPECTIVE OF DITCH BLOCK



ELEVATION VIEW



SECTION A-A

GENERAL NOTES:

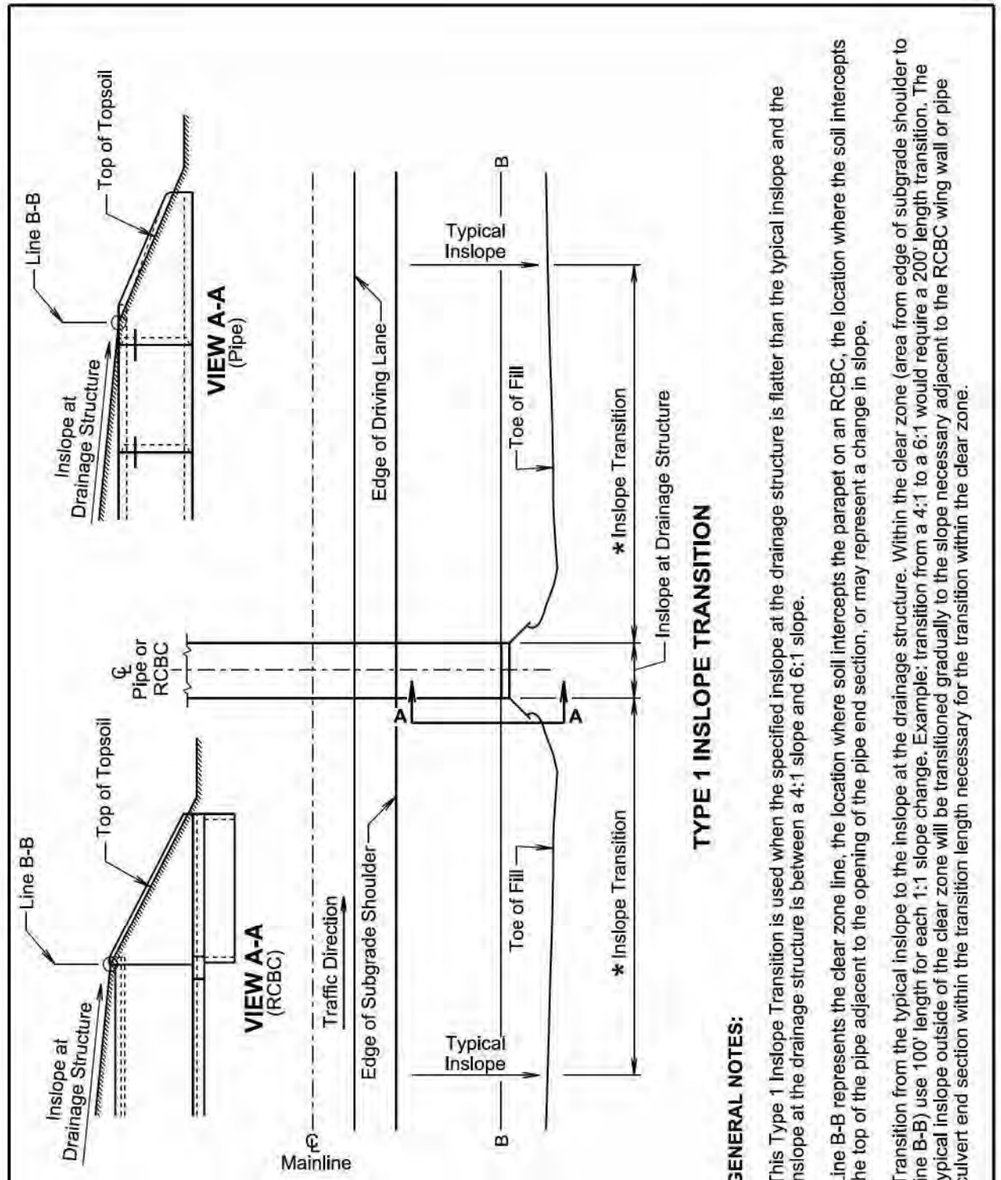
The ditch section shown above in the perspective and elevation view is only for illustrative purpose.

The inslopes of the ditch block will be 10:1 or as specified in the plans.

The transition area between the mainline inslope and the ditch block inslope will be rounded to eliminate an abrupt transition.

September 14, 2018

Published Date: 2027	SDDOT	DITCH BLOCK	PLATE NUMBER 120.02
			Sheet 1 of 1



TYPE 1 INSLOPE TRANSITION

GENERAL NOTES:

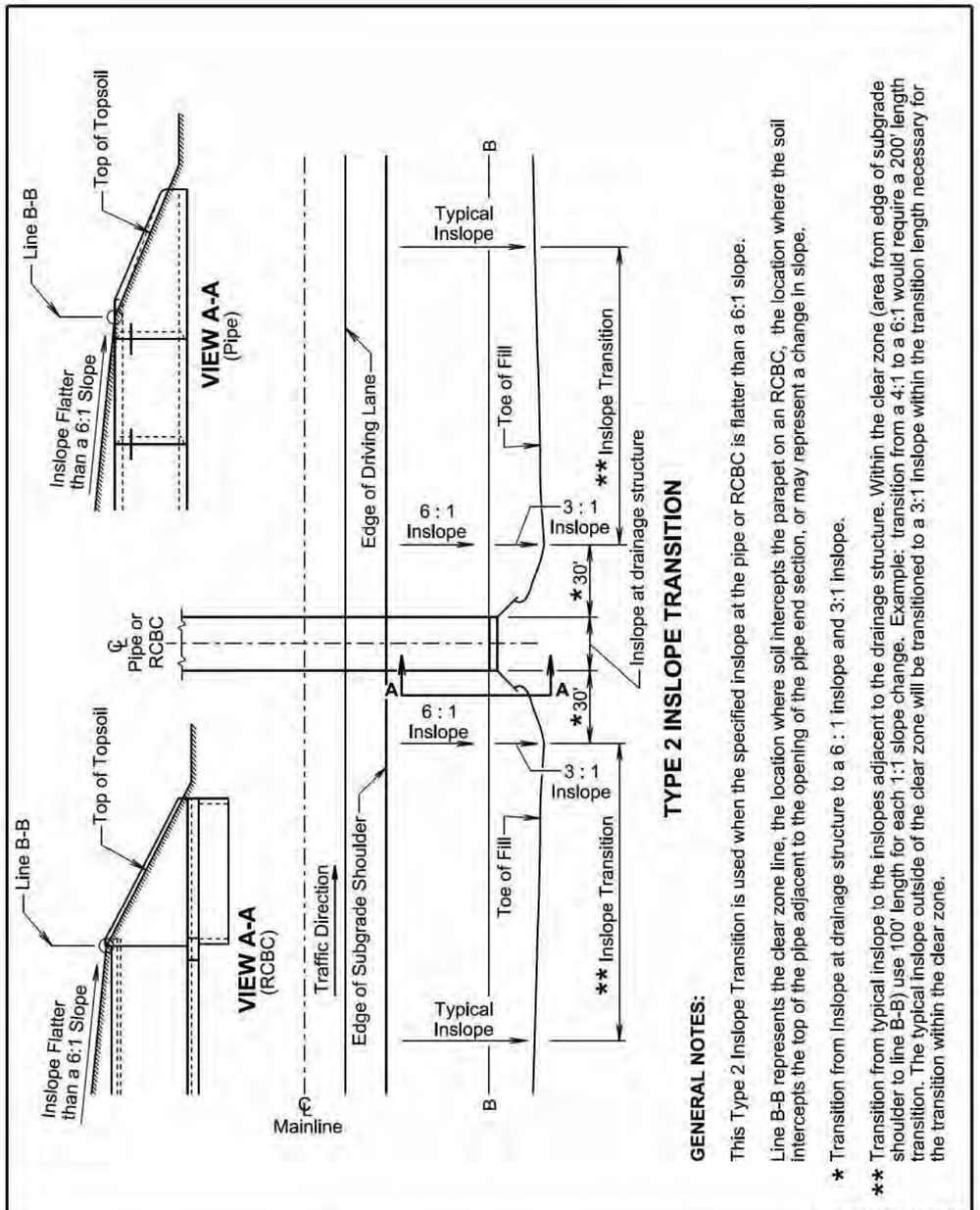
This Type 1 Inslope Transition is used when the specified inslope at the drainage structure is flatter than the typical inslope and the inslope at the drainage structure is between a 4:1 slope and 6:1 slope.

Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

* Transition from the typical inslope to the inslope at the drainage structure. Within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone will be transitioned gradually to the slope necessary adjacent to the RCBC wing wall or pipe culvert end section within the transition length necessary for the transition within the clear zone.

September 14, 2018

Published Date: 2027	SDDOT	INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS	PLATE NUMBER 120.05
			Sheet 1 of 2



GENERAL NOTES:

This Type 2 Inslope Transition is used when the specified inslope at the pipe or RCBC is flatter than a 6:1 slope.

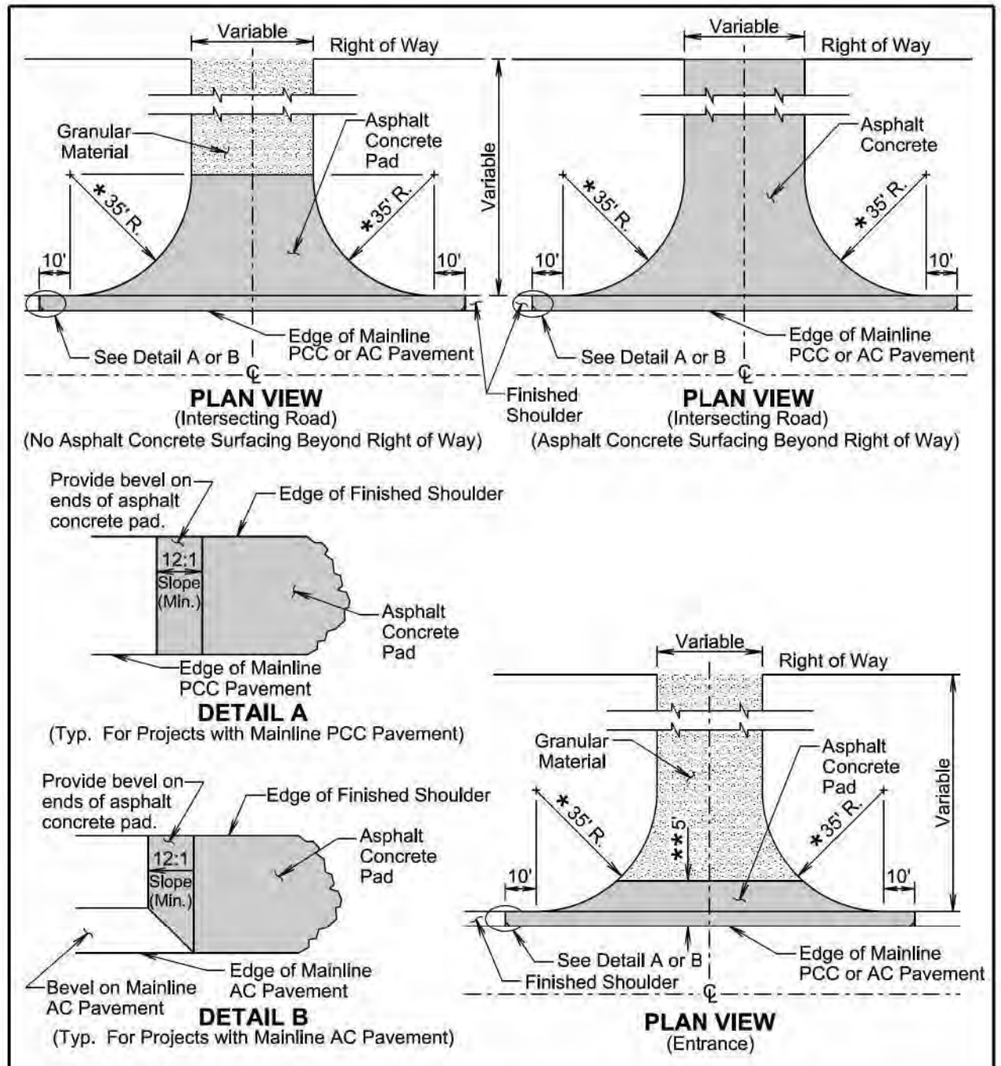
Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

* Transition from Inslope at drainage structure to a 6 : 1 inslope and 3:1 inslope.

** Transition from typical inslope to the inslopes adjacent to the drainage structure. Within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone will be transitioned to a 3:1 inslope within the transition length necessary for the transition within the clear zone.

September 14, 2018

Published Date: 2027	SDDOT	INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS	PLATE NUMBER 120.05
			Sheet 2 of 2



GENERAL NOTES:

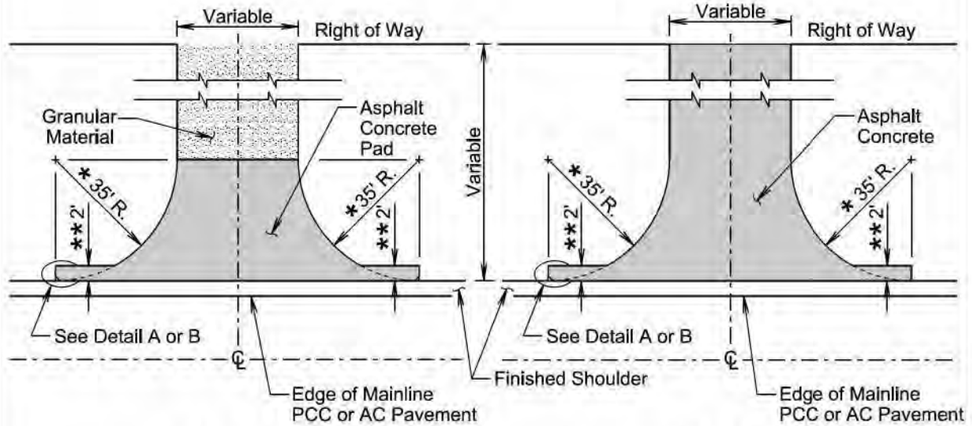
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

** For shoulder widths < 4', the Asphalt Concrete Pad width must be 5'. For shoulders widths of 4' or more, pave the full width of the shoulder only.

August 27, 2020

Published Date: 2027	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (SHOULDERS: GRANULAR MATERIAL OR COLD RECYCLED MATERIAL)	PLATE NUMBER 320.01
			Sheet 1 of 1



PLAN VIEW
(Intersecting Road)
(No Asphalt Concrete Surfacing Beyond Right of Way)

PLAN VIEW
(Intersecting Road)
(Asphalt Concrete Surfacing Beyond Right of Way)

GENERAL NOTES:

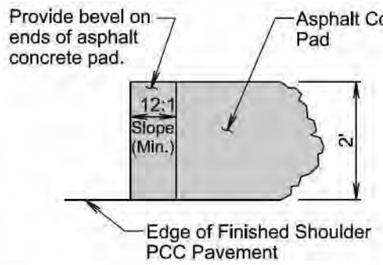
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

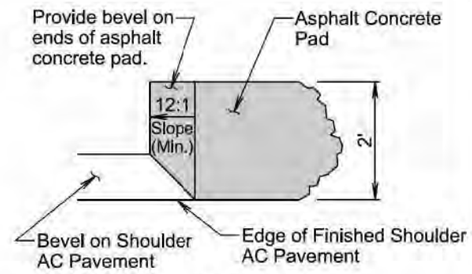
** The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete pads if the Engineer, in the Engineer's sole discretion, determines the pads are infeasible to construct due to site specific reasons including, but not limited to; existing inslope configuration, borrow and material availability, and right-of-way constraints.

August 27, 2020

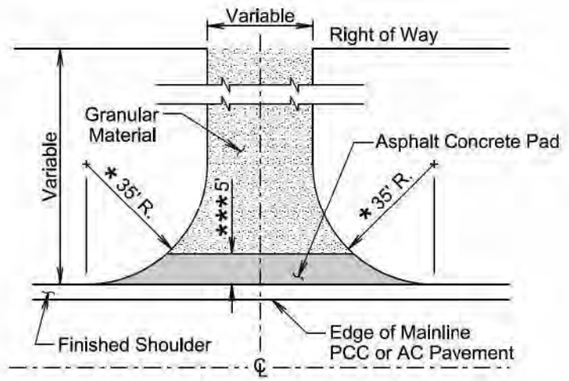
Published Date: 2027	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 1 of 2



DETAIL A
(Typ. for Projects with PCC Pavement on Shoulder)



DETAIL B
(Typ. for Projects with AC Pavement on Shoulder)

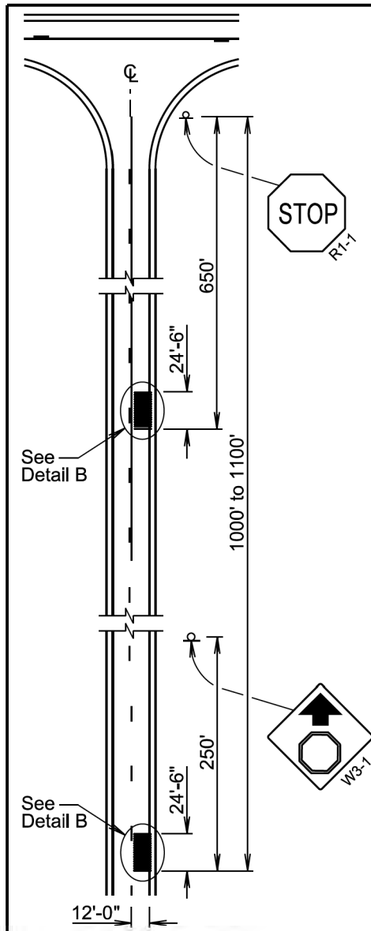


PLAN VIEW
(Entrance)

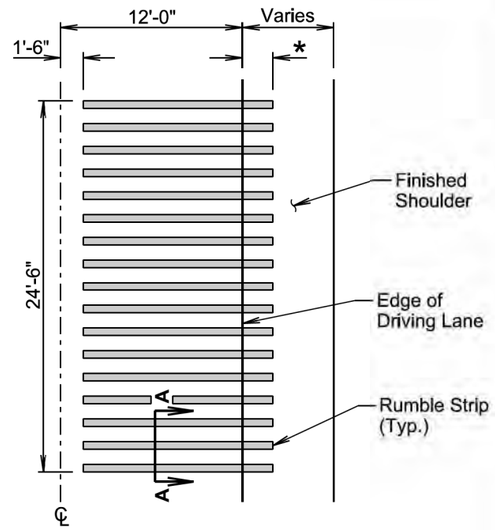
*** Not required if finished shoulder width is 4' or greater.

August 27, 2020

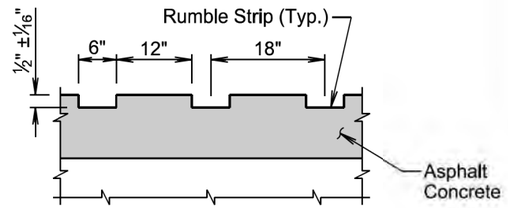
Published Date: 2027	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 2 of 2



PLAN VIEW



DETAIL B
PLAN VIEW



SECTION A-A
(All dimensions are typical.)

GENERAL NOTES:

Transverse rumble strips will be constructed by grinding, routing, or cutting recessed indentations into the asphalt concrete as approved by the Engineer. The transverse rumble strips will receive a flush seal or fog seal as specified in the plans.

* The transverse rumble strips will extend into the finished shoulder as approved by the Engineer.

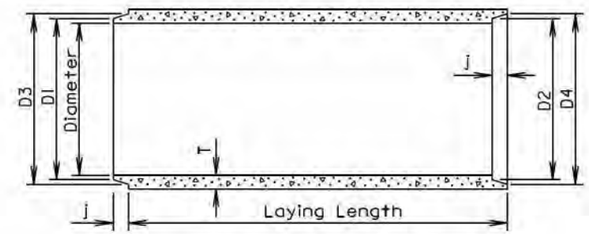
Measurement of the recessed transverse rumble strips will be to the nearest foot. Payment for constructing the recessed transverse rumble strips will be at the contract unit price per foot for "Grind 6" Transverse Rumble Strip in Asphalt Concrete".

January 22, 2021

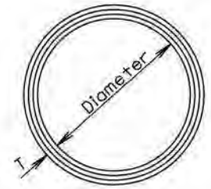
Published Date: 2027	SDDOT	*TRANSVERSE RUMBLE STRIP IN ASPHALT CONCRETE HIGHWAY ADJACENT TO STOP CONTROLLED INTERSECTION*	*PLATE NUMBER 320.45* / *Sheet 1 of 1*

TOLERANCES IN DIMENSIONS

Diameter: ±1.5% for 24" Dia. or less and ±1% or 3/8" whichever is more for 27" Dia. or greater.
Diameters at joints: ± 3/16" for 30" Dia. or less and ± 1/4" for 36" or greater.
Length of joint (J): ± 1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".



LONGITUDINAL SECTION
(* Tongue and Groove Style Shown)



END VIEW

GENERAL NOTES:

Construction of R. C. P. shall conform to the requirements of Section 990 of the Specifications.

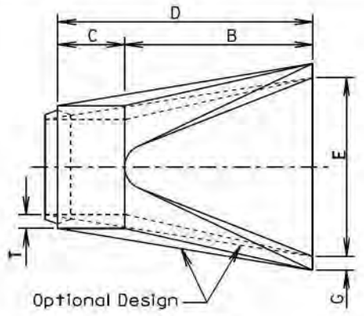
Not more than 2 four-foot sections shall be permitted near the ends of any culvert. Four-foot lengths shall be used only to secure the required length of culvert.

* Unless otherwise specified in the plans, the RCP may be either tongue and groove or bell and spigot style.

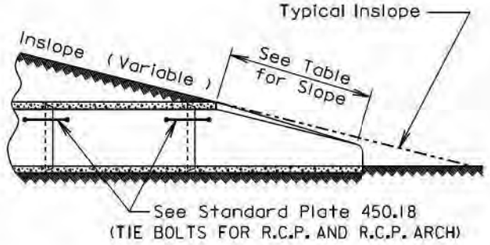
Diam. (in.)	Approx. Wt. /Ft. (lb.)	T (in.)	J (in.)	D1 (in.)	D2 (in.)	D3 (in.)	D4 (in.)
12	92	2	1 3/4	13 1/4	13 5/8	13 7/8	14 1/4
15	127	2 1/4	2	16 1/2	16 7/8	17 1/4	17 5/8
18	168	2 1/2	2 1/4	19 5/8	20	20 3/8	20 3/4
21	214	2 3/4	2 1/2	22 7/8	23 1/4	23 3/4	24 1/8
24	265	3	2 3/4	26	26 3/8	27	27 3/8
27	322	3 1/4	3	29 1/4	29 5/8	30 1/4	30 5/8
30	384	3 1/2	3 1/4	32 3/8	32 3/4	33 1/2	33 7/8
36	524	4	3 3/4	38 3/4	39 1/4	40	40 1/2
42	685	4 1/2	4	45 1/8	45 5/8	46 1/2	47
48	867	5	4 1/2	51 1/2	52	53	53 1/2
54	1070	5 1/2	4 1/2	57 1/8	58 3/8	59 3/8	59 7/8
60	1296	6	5	64 1/4	64 3/4	66	66 1/2
66	1542	6 1/2	5 1/2	70 5/8	71 1/8	72 1/2	73
72	1810	7	6	77	77 1/2	79	79 1/2
78	2098	7 1/2	6 1/2	83 3/8	83 7/8	85 5/8	86 1/8
84	2410	8	7	89 3/4	90 1/4	92 1/8	92 5/8
90	2740	8 1/2	7	95 3/4	96 1/4	98 1/8	98 5/8
96	2950	9	7	102 1/8	102 5/8	104 1/2	105
102	3075	9 1/2	7 1/2	109	109 1/2	111 1/2	112
108	3870	10	7 1/2	115 1/2	116	118	118 1/2

April 17, 2026

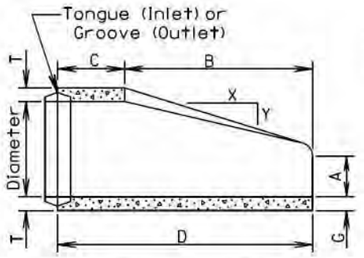
Published Date: 2027	SDDOT	*REINFORCED CONCRETE PIPE*	*PLATE NUMBER 450.01* / *Sheet 1 of 1*



TOP VIEW



SLOPE DETAIL

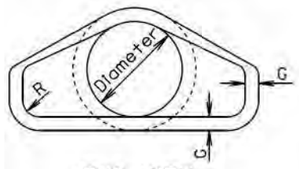


LONGITUDINAL SECTION

GENERAL NOTES:

Lengths of concrete pipe shown on plan sheets are between flared ends only.

Construction of R.C.P. Flared End shall conform to the requirements of Section 990 of the Specifications.



END VIEW

Dia. (in.)	Approx. Wt. of Section (lbs.)	Approx. Slope (X to Y)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	G (in.)	R (in.)
12	530	2.4:1	2	4	24	48⅞	72⅞	24	2	1½
15	740	2.4:1	2¼	6	27	46	73	30	2¼	1½
18	990	2.3:1	2½	9	27	46	73	36	2½	1½
21	1280	2.4:1	2¾	9	36	37½	73½	42	2¾	1½
24	1520	2.5:1	3	9½	43½	30	73½	48	3	1½
27	1930	2.5:1	3¼	10½	49½	24	73½	54	3¼	1½
30	2190	2.5:1	3½	12	54	19¾	73¾	60	3½	1½
36	4100	2.5:1	4	15	63	34¾	97¾	72	4	1½
42	5380	2.5:1	4½	21	63	35	98	78	4½	1½
48	6550	2.5:1	5	24	72	26	98	84	5	1½
54	8240	2:1	5½	27	65	33¼	98¼	90	5½	1½
60	8730	1.9:1	6	35	60	39	99	96	5	1½
66	10710	1.7:1	6½	30	72	27	99	102	5½	1½
72	12520	1.8:1	7	36	78	21	99	108	6	1½
78	14770	1.8:1	7½	36	90	21	111	114	6½	1½
84	18160	1.6:1	8	36	90½	21	111½	120	6½	1½
90	20900	1.5:1	8½	41	87½	24	111½	132	6½	6

June 26, 2015

Published Date: 2027	SDDOT	R. C. P. FLARED ENDS	PLATE NUMBER 450.10 Sheet 1 of 1

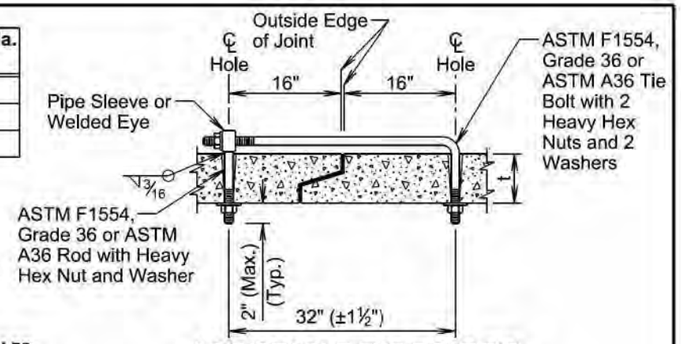
Wall "t" (in.)	Rod Dia. (in.)	Pipe Sleeve Dia. (nominal)
≤ 3¼	⅝	¾
3½-6½	¾	1
≥ 7	1	1¼

GENERAL NOTES:

Tie bolts will conform to ASTM F1554, Grade 36 or ASTM A36. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

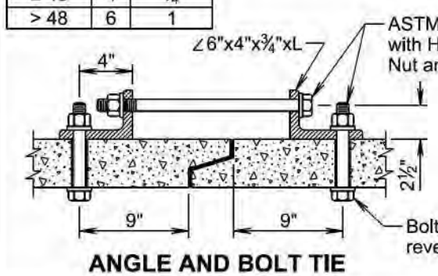
Pipe Sleeve will conform to ASTM A53, Grade B or ASTM A500, Grade B or C.

Galvanize adjustable eye bolt tie assembly in accordance with ASTM A153.



ADJUSTABLE EYE BOLT TIE

Pipe Dia. (in.)	"L" (in.)	Bolt Dia. (in.)
≤ 48	4	¾
> 48	6	1



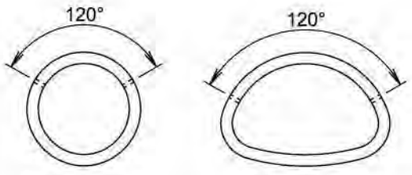
ANGLE AND BOLT TIE

GENERAL NOTES:

Angles will conform to ASTM A36.

Bolts will conform to ASTM A307. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Galvanize angles, bolts, nuts, and washers in accordance with ASTM A153.



END VIEW (Circular)

END VIEW (Arch)

GENERAL NOTES:

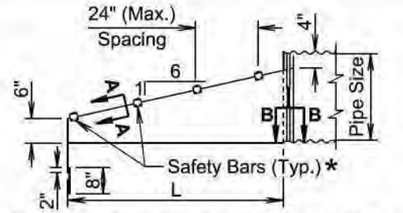
In lieu of the tie bolts detailed above other types of tie bolt connections may be installed as approved by the Office of Bridge Design.

All pipe sections of R.C.P. and R.C.P. Arch will be tied with tie bolts except for pipe located between drop inlets, manholes, and junction boxes. All pipe sections of pipes that only enter or exit drop inlets, manholes, and junction boxes will be tied with tie bolts.

There will be no separate measurement or payment for the tie bolts. The cost for furnishing and installing the tie bolts will be incidental to the contract unit price per foot for the corresponding bid item for R.C.P. or R.C.P. Arch.

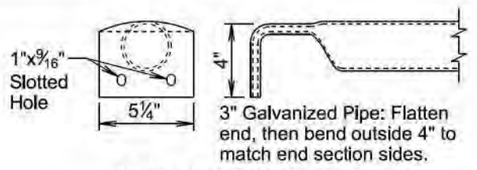
April 8, 2025

Published Date: 2027	SDDOT	TIE BOLTS FOR R.C.P. AND R.C.P. ARCH	PLATE NUMBER 450.18 Sheet 1 of 1

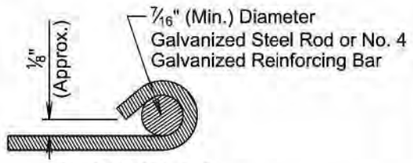


*Number of bars required will vary depending on the length of the end section.

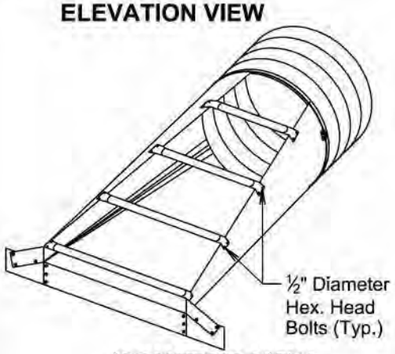
ELEVATION VIEW



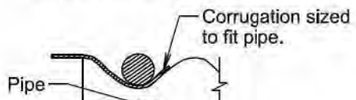
DETAIL OF SAFETY BARS



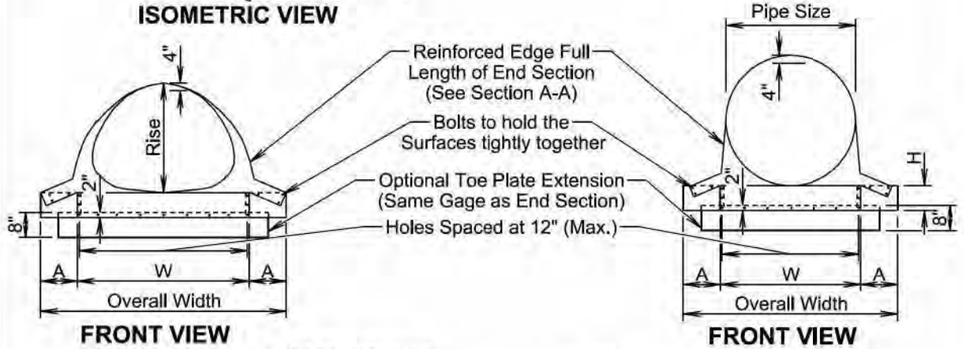
SECTION A-A



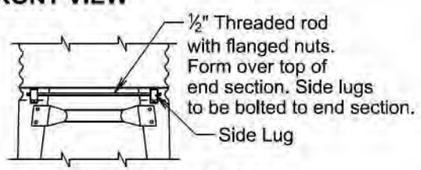
ISOMETRIC VIEW



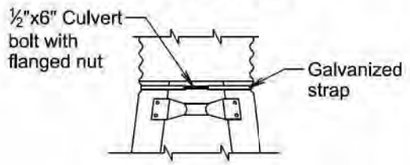
SECTION B-B



FRONT VIEW **FRONT VIEW**



TYPE #2 CONNECTOR DETAIL
(For 30" and Larger)
(For 21"x15" and Larger)



TYPE #1 CONNECTOR DETAIL
(For 15" Through 24")

April 8, 2025

Published Date: 2027	SDDOT	C.M.P. SAFETY ENDS	PLATE NUMBER 450.38
			Sheet 1 of 2

ARCH C.M.P. SAFETY ENDS

Equlv. Dia. (Inch)	(Inches) Span	Rise	(Min.) Thick. Inch	Gage	Dimensions (Inches) A	H	W	Overall Width	L Dimensions Slope	Length (Inch)
18	21	15	.064	16	8	6	27	43	6:1	30
21	24	18	.064	16	8	6	30	46	6:1	48
24	28	20	.064	16	8	6	34	50	6:1	60
30	35	24	.079	14	12	9	41	65	6:1	84
36	42	29	.109	12	12	9	48	72	6:1	114
42	49	33	.109	12	16	12	55	87	6:1	138
48	57	38	.109	12	16	12	63	95	6:1	168
54	64	43	.109	12	16	12	70	102	6:1	198
60	71	47	.109	12	16	12	77	109	6:1	222
72	83	57	.109	12	16	12	89	121	6:1	282

CIRCULAR C.M.P. SAFETY ENDS

Pipe Dia. (Inch)	(Min.) Thick. Inch	Gage	Dimensions (Inches) A	H	W	Overall Width	L Dimensions Slope	Length (Inch)
15	.064	16	8	6	21	37	6:1	30
18	.064	16	8	6	24	40	6:1	48
21	.064	16	8	6	27	43	6:1	66
24	.064	16	8	6	30	46	6:1	84
30	.109	12	12	9	36	60	6:1	120
36	.109	12	12	9	42	66	6:1	156
42	.109	12	16	12	48	80	6:1	192
48	.109	12	16	12	54	86	6:1	228
54	.109	12	16	12	60	92	6:1	264
60	.109	12	16	12	66	98	6:1	300

GENERAL NOTES:

Safety bars will be provided when specified in the plans.

Safety ends will be fabricated from galvanized steel conforming to the requirements of the Specifications.

Safety bars will be fabricated from steel schedule 40 pipe in conformance with ASTM A53, grade B or HSS 3.5x.216 in conformance with ASTM A500, grade B or C.

Slotted holes for safety bar attachment will be provided for all end sections.

Attachment to circular pipes 15" through 24" diameter will be made with Type #1 straps. All other sizes will be attached with Type #2 rods and lugs.

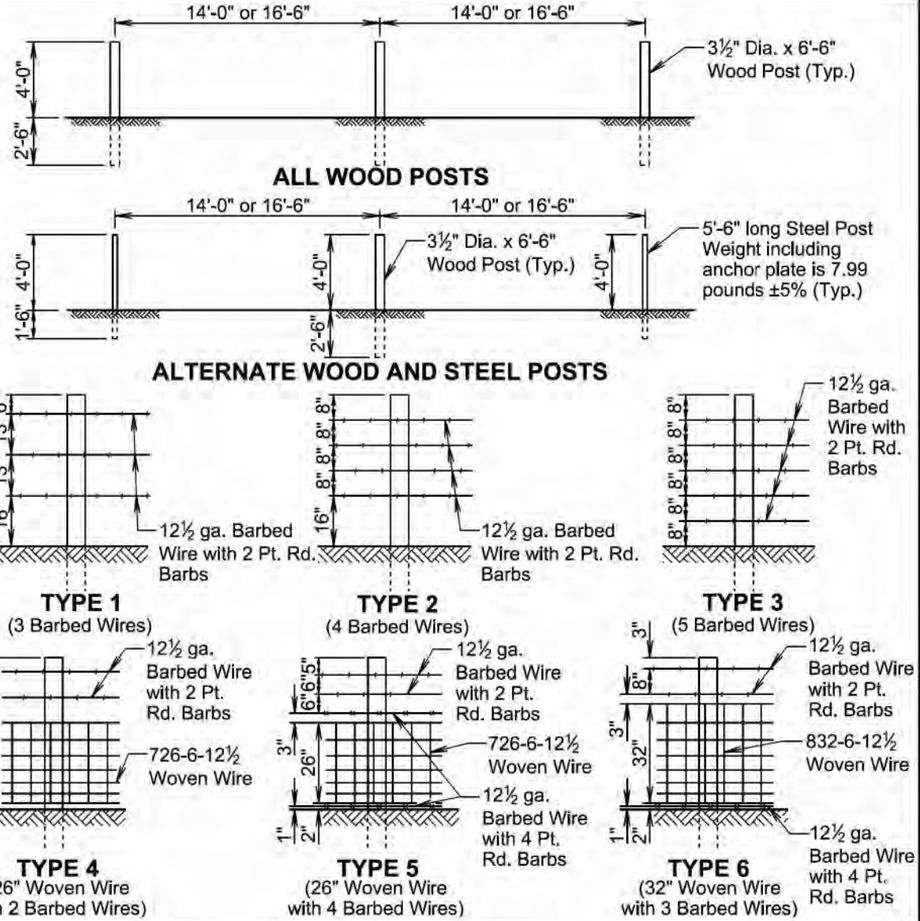
When stated in the plans, optional toe plate extension will be punched and bolted to end section apron lip with ⅜" diameter galvanized bolts. Steel for toe plate extension will be same gauge as end section. Dimensions will be overall width less 6" by 8" high.

Installation will be performed in accordance with the Specifications.

Cost of all work and materials required for fabrication and installation of safety ends will be incidental to the bid items for the various sizes of safety ends.

April 8, 2025

Published Date: 2027	SDDOT	C.M.P. SAFETY ENDS	PLATE NUMBER 450.38
			Sheet 2 of 2



TYPE OF FENCE		LINE POST SPACING	BARBED WIRE		WOVEN WIRE
TYPE	DESCRIPTION		WIRE GAGE	NUMBER AND SHAPE OF BARBS	STYLE OR DESIGN NO.
1	3 Barbed Wires	16'-6"	12½	2 Point Round	—
2	4 Barbed Wires	16'-6"	12½	2 Point Round	—
3	5 Barbed Wires	16'-6"	12½	2 Point Round	—
4	26" Woven Wire with 2 Barbed Wires	14'-0"	12½	2 Point Round	726-6-12½
5	26" Woven Wire with 4 Barbed Wires	14'-0"	12½	2 wires with 2 Pt. Rd. 2 wires with 4 Pt. Rd.	726-6-12½
6	32" Woven Wire with 3 Barbed Wires	14'-0"	12½	2 wires with 2 Pt. Rd. 1 wire with 4 Pt. Rd.	832-6-12½

GENERAL NOTES:

Fence types designated on the plans that are followed by the letter S will have smooth (barbless) wires.

When type 5S or 6S is designated the bottom wire may be barbed, smooth, or left off.

All radius of curvature stated for fence are at centerline of roadway.

April 8, 2025

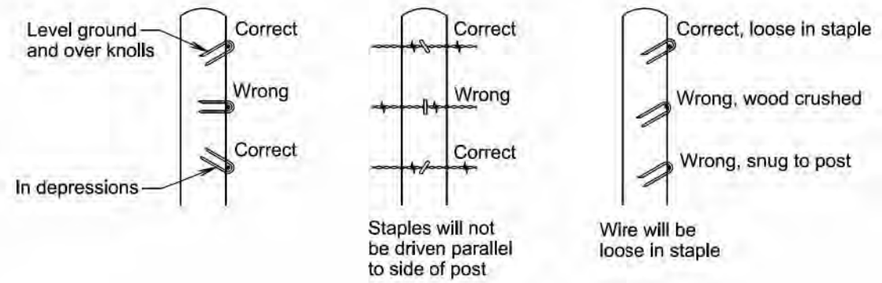
Published Date: 2027

SDDOT

RIGHT-OF-WAY FENCE

PLATE NUMBER 620.01

Sheet 1 of 1



STAPLE INSTALLATION

GENERAL NOTES:

The Right-of-Way fence will consist of barbed wire or a combination of woven wire and barbed wire. The barbed wire and/or woven wire will be fastened to all wood posts or fastened to alternating wood and steel posts. Only wood posts will be used for brace panels. Gates will be of the type designated in the plans or as otherwise directed by the Engineer. Fence will be constructed conforming to the details on the standard plates and in the plans unless otherwise directed by the Engineer.

Right-of-Way fence on Interstate Projects will be constructed one foot within the Interstate Right-of-Way lines except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Right-of-Way fence other than on Interstate Projects will be constructed within one foot of the Right-of-Way on the Landowner's side except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Barbs will be fabricated from zinc coated 14 ga. wire. Two point barbs will be wrapped twice around one main strand at four-inch spacings and the four point barbs will be interlocked and wrapped around both main strands at five-inch spacings.

The gages of wire and wood post lengths and sizes are the minimum acceptable unless otherwise specified in the plans. The tolerances for steel posts will be as stated in AASHTO M281. Woven wire will conform to design and specifications of ASTM A116 and barbed wire will conform to ASTM A121.

June 26, 2019

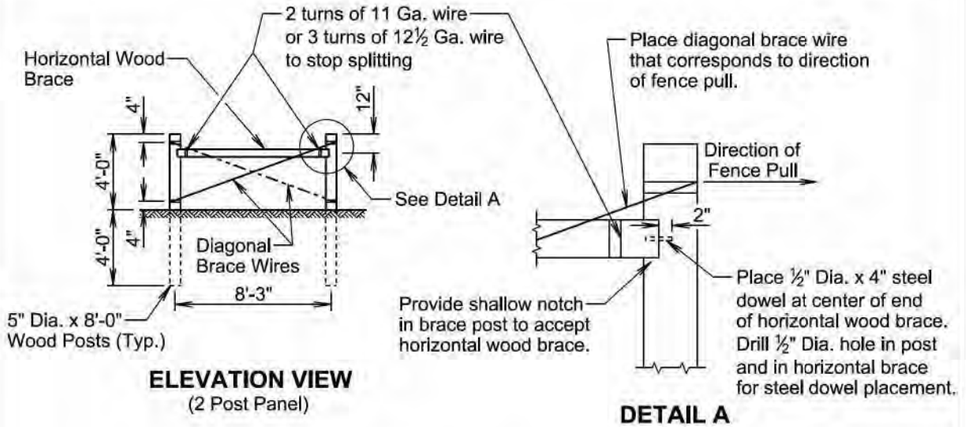
Published Date: 2027

SDDOT

STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES

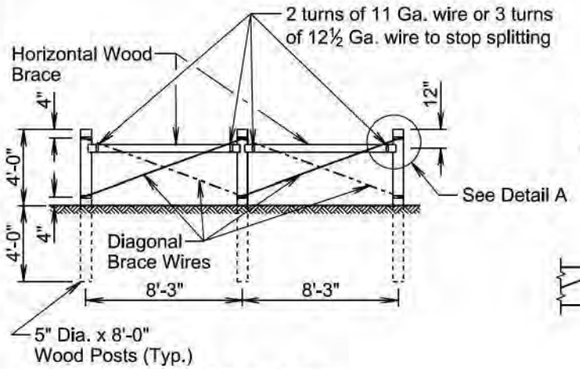
PLATE NUMBER 620.02

Sheet 1 of 1

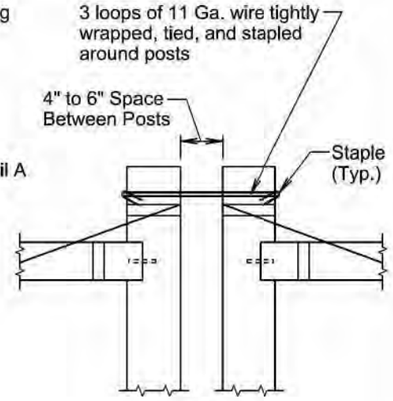


ELEVATION VIEW
(2 Post Panel)

DETAIL A



ELEVATION VIEW
(3 Post Panel)



DETAIL B

GENERAL NOTES:

Two Post Panels will be installed at least every 1320' between corners.

Two Post Panels will be installed at any sharp vertical angle crest points and as directed by the Engineer.

Horizontal wood braces will consist of 4" dia. x 8' wood posts or rough 4" x 4" x 8' timbers.

Diagonal brace wires will be fabricated with 4 strands of 9 Ga. galvanized wire twisted tight. The diagonal brace wires will be installed in accordance with the direction of the fence pull. Two diagonal brace wires are required if fence pull is in both directions.

March 31, 2024

Published Date: 2027	SDDOT	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 1 of 3

SPACING OF 2 POST PANELS WITHIN CURVES	
RADIUS OF CURVE	SPACING OF 2 POST PANEL
Greater than 1800 Ft.	** 1320'
Less than 1800 Ft.	**At P.C., P.T., and at every 1320' between P.C. and P.T.

** Fence lengths greater than 1320' and less than 2640' place 2 Post Panel approximately at midpoint.

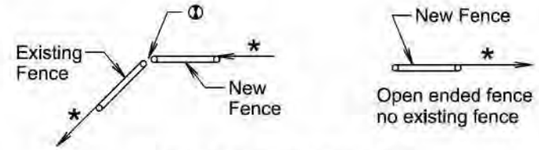
① See Detail B on Sheet 1 of 3.

GENERAL NOTE:

All radius of curvature stated for fence are at centerline of roadway.

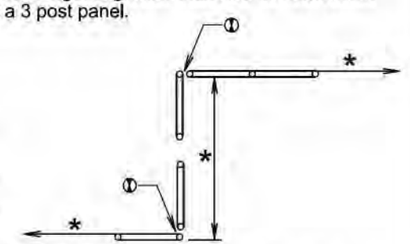
If fence length is less than 600' to next corner use a 2 post panel.

* If fence length is greater than 600' to next corner use a 3 post panel.

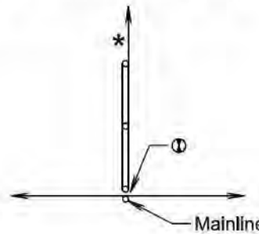


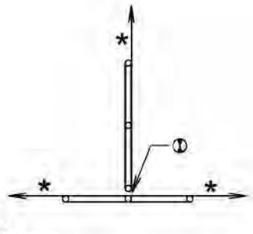
BEGIN OR END FENCE
(Where new fence ties into existing fence)



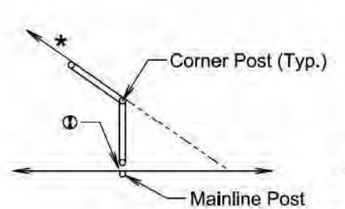


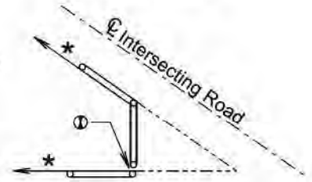
SHORT JOGS IN FENCE

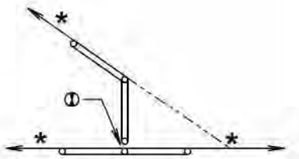




CROSS FENCE



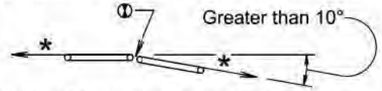




SHARP ANGLES IN CROSS FENCE



Additional fence panel is NOT required when an angle in the mainline fence is 10° and less.

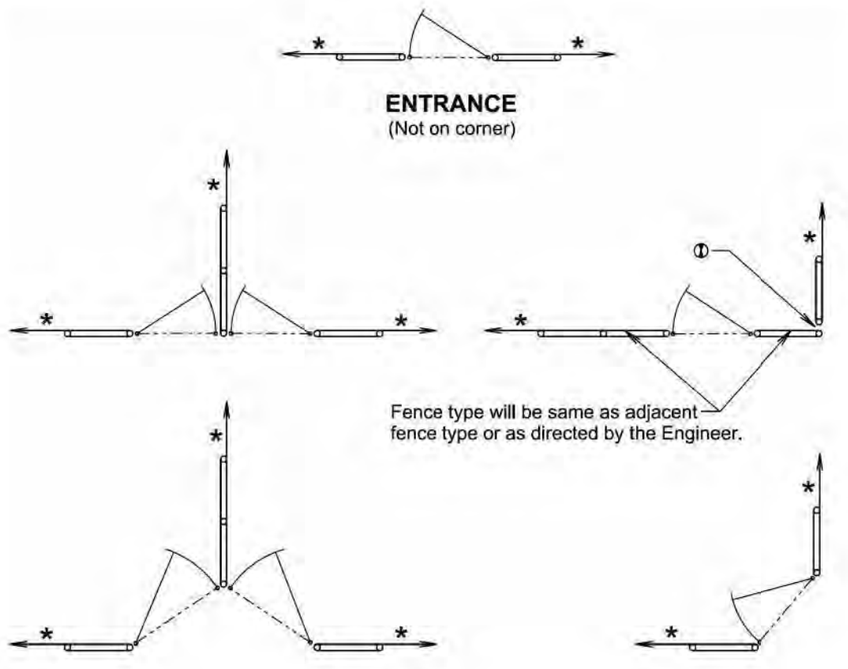


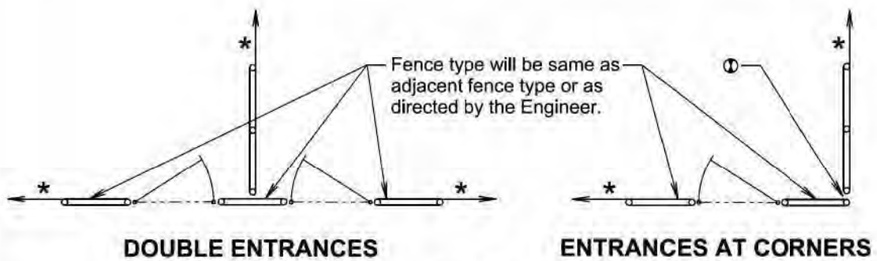
Additional fence panel is required when an angle in the mainline fence is greater than 10°.

ANGLES IN MAINLINE FENCE

March 31, 2024

Published Date: 2027	SDDOT	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 2 of 3





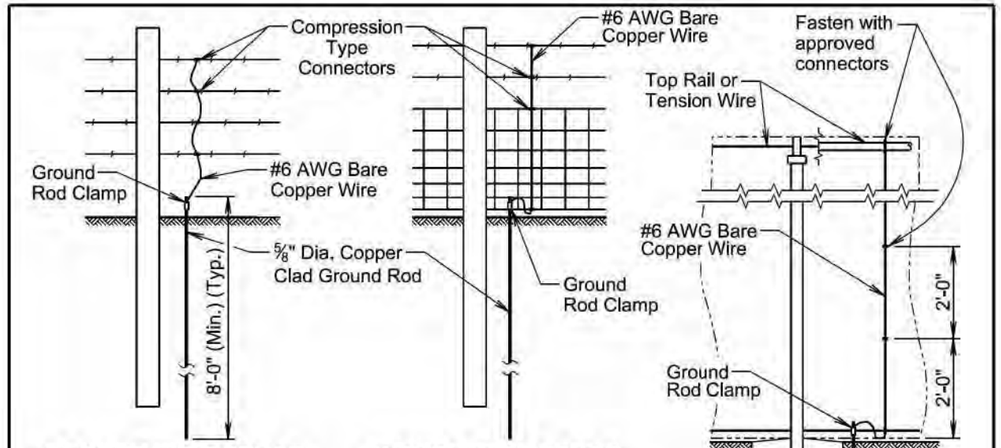
GATES

* If fence length is less than 600' to next corner use a 2 post panel.
If fence length is greater than 600' to next corner use a 3 post panel.

① See Detail B on Sheet 1 of 3.

March 31, 2024

Published Date: 2027	SDDOT	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 3 of 3



GENERAL NOTES:

Details shown on this standard plate will apply to all types of Right-of-Way fence constructed with all wood posts or chain link fence.

Continuous fence in urban areas will be grounded at maximum intervals of 500 feet. Continuous fence in rural areas will be grounded at maximum intervals of 1000 feet. There will be a ground at a maximum of 100 feet from a gate in each adjacent section of fence.

Fence placed under a power line will be grounded with three grounds. One ground will be placed directly below the crossing and the other two will be placed 25 feet to 50 feet away, one on each side.

One ground will be placed directly below each telephone or cable crossing.

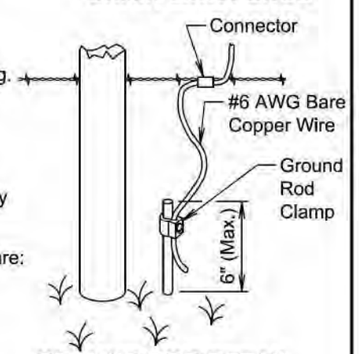
Ground rods will be located on the post side of the fence and will be as close as possible to the post and fence.

The cost of furnishing and placing all materials for grounding will be incidental to the contract unit price per foot for the respective Right-of-Way fence or chain link fence contract item.

The approximate quantites of materials per each installation of a ground are:

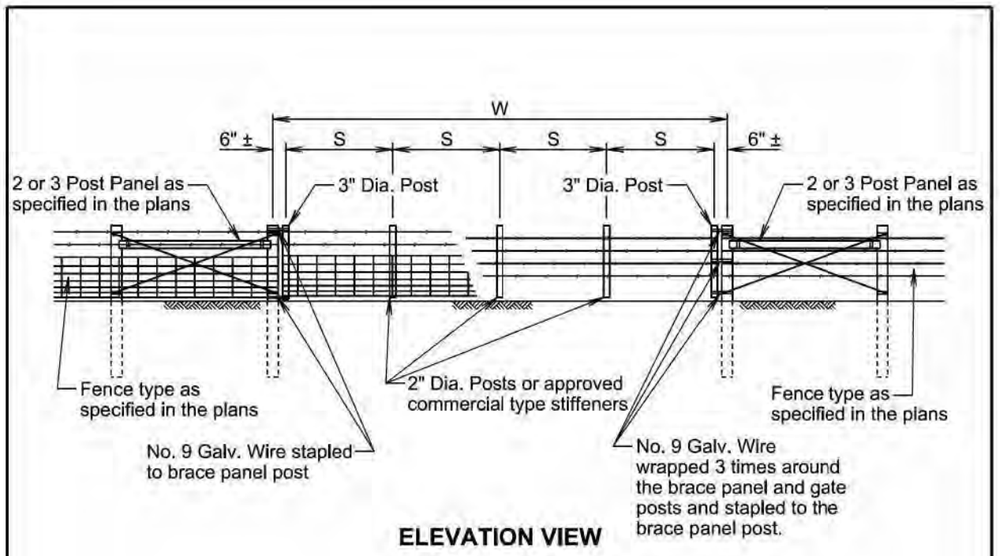
1 ground rod clamp.
1 ⅝" diameter x 8' long copper clad ground rod
1 #6 AWG bare copper wire; 7' long for Right-of-Way fence or 10' long for chain link fence.

Compression type or other type of connectors:
26" woven wire will have a total of two connectors, one secured to the top and one secured to the bottom.
32" woven wire will have a total of three connectors, one secured to the top, one secured to the middle, and one secured to the bottom.
One connector will be used for each strand of barbed wire.
A minimum of 3 connectors will be installed on chain link fence, the connectors will be placed vertically at every 2-foot increment and connectors will be placed on the top and bottom tension wires or top rail.



June 26, 2019

Published Date: 2027	SDDOT	FENCE GROUNDING	PLATE NUMBER 620.11
			Sheet 1 of 1



ELEVATION VIEW

W Gate Width (Ft.)	S Post Spacing
16	3 @ 5'-0" ±
20	4 @ 4'-9" ±
24	4 @ 5'-9" ±
30	5 @ 5'-10" ±
40	6 @ 6'-6" ±

GENERAL NOTES:

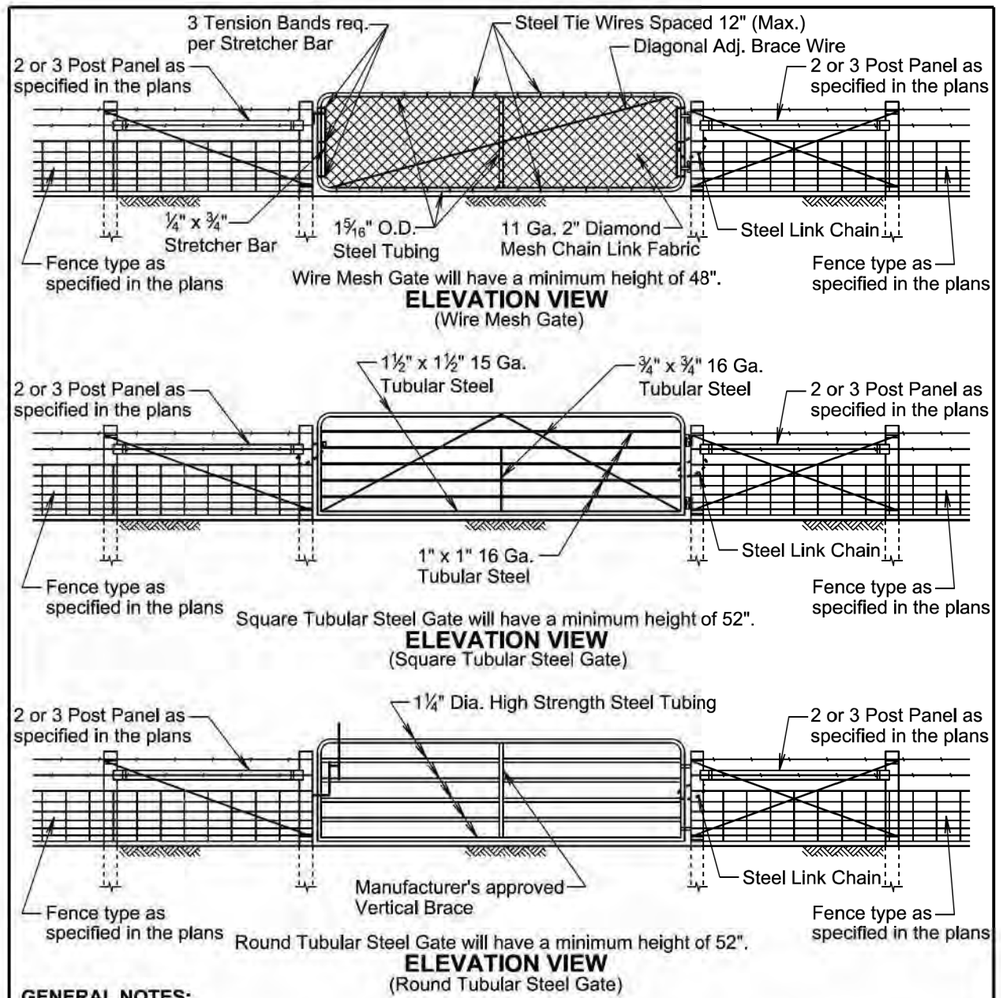
Creosote treatment of the gate posts will not be accepted.

The type of fencing in the gate will be of the same type as specified for the adjacent Right-of-Way fence.

All costs for furnishing and constructing the wire gate(s) will be incidental to the contract unit price per foot for the respective Right-of-Way fence contract item.

June 26, 2019

Published Date: 2027	SDDOT	WIRE GATES	PLATE NUMBER 620.20
			Sheet 1 of 1



GENERAL NOTES:

Only single tubular frame gates are shown on this standard plate. If double tubular frame gates are specified, the gates will be of the same type and materials as shown above. Double tubular gates will swing toward the middle of the opening and will be secured by a chain, latch, or other suitable hardware.

Gate hardware will conform to the specific type of gate installed. The gate and gate hardware will either be painted or galvanized. The paint on the gates and hardware will be subject to approval by the Engineer.

The Steel Link Chain will be a minimum of ¼", 4' long, rust resistant, and have electrically welded links. The chain will be wrapped around the gate hinge post and gate frame and the ends of the chain will be welded together with enough slack in the chain to provide free operation of the gate.

June 26, 2019

Published Date: 2027	SDDOT	TUBULAR FRAME GATES	PLATE NUMBER 620.21
			Sheet 1 of 1

TYPE AND DETAILS OF MGS						
Type of MGS	W Beam Rail Single or Double (Nested)	Blockout Size	Blockout Material	Post Size	Post Material	Post Spacing
1	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	6'-3"
1C	Single	6"x12"x14"	Wood	6"x8"x7'-6"	Wood	6'-3"
2	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	3'-1½"
3	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	1'-6¾"
4	Double	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	6'-3"

STANDARD PLATE REFERENCE	
Type of MGS	See Standard Plate(s)
1	630.20, 630.22
1C	630.20, 630.25
2	630.20
3	630.20
4	630.20

GENERAL NOTES:

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite".

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

Topsoil is not shown in the transverse section drawing on sheet 2 of 6.

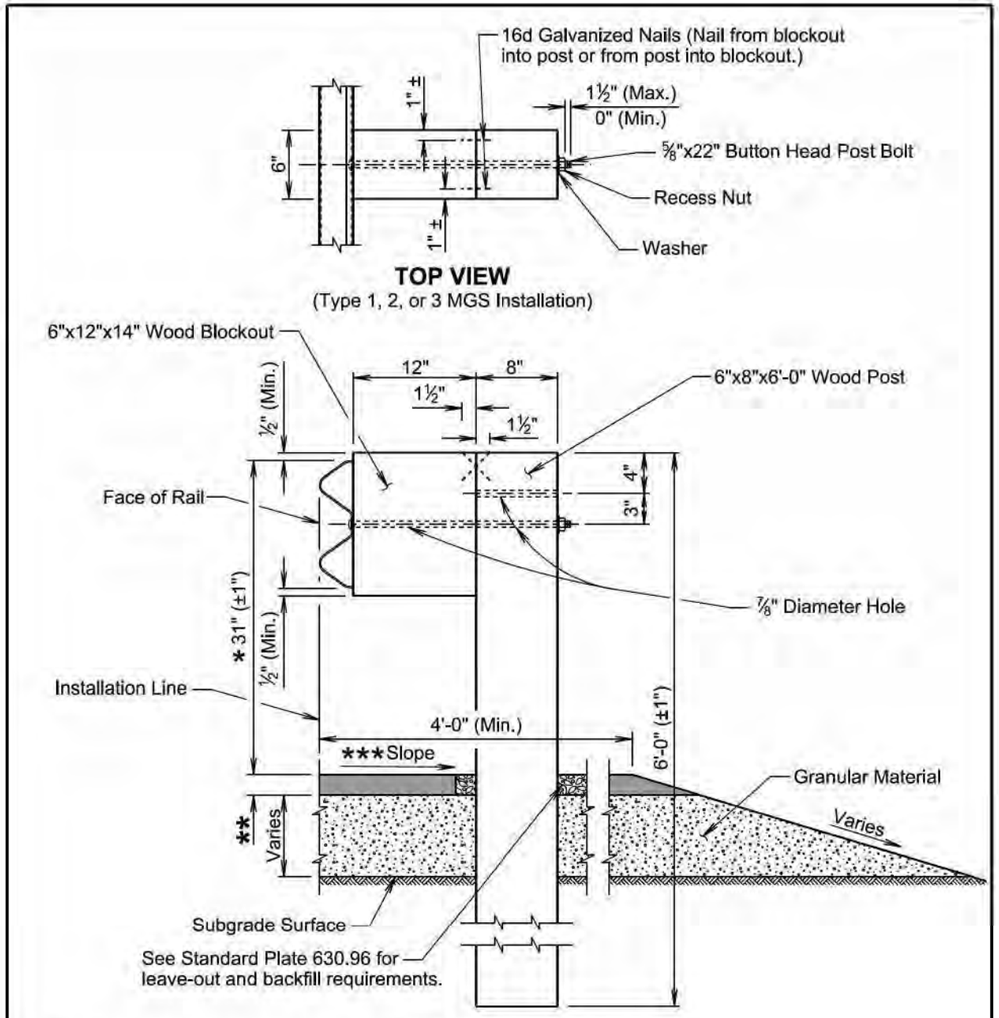
All W beam rail will be Type 1 and Class A (12 Ga.) unless specified otherwise in the plans.

W beam rail section lengths may be 12'-6" and/or 25'-0". The combination of section lengths used will be compatible with the total length of rail per site as shown in the plans.

Slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or notches.

All costs for constructing the MGS including labor, equipment, and materials including all posts, blockouts, steel beam rail, and hardware will be incidental to the contract unit price per foot for the respective MGS contract item.

April 8, 2025



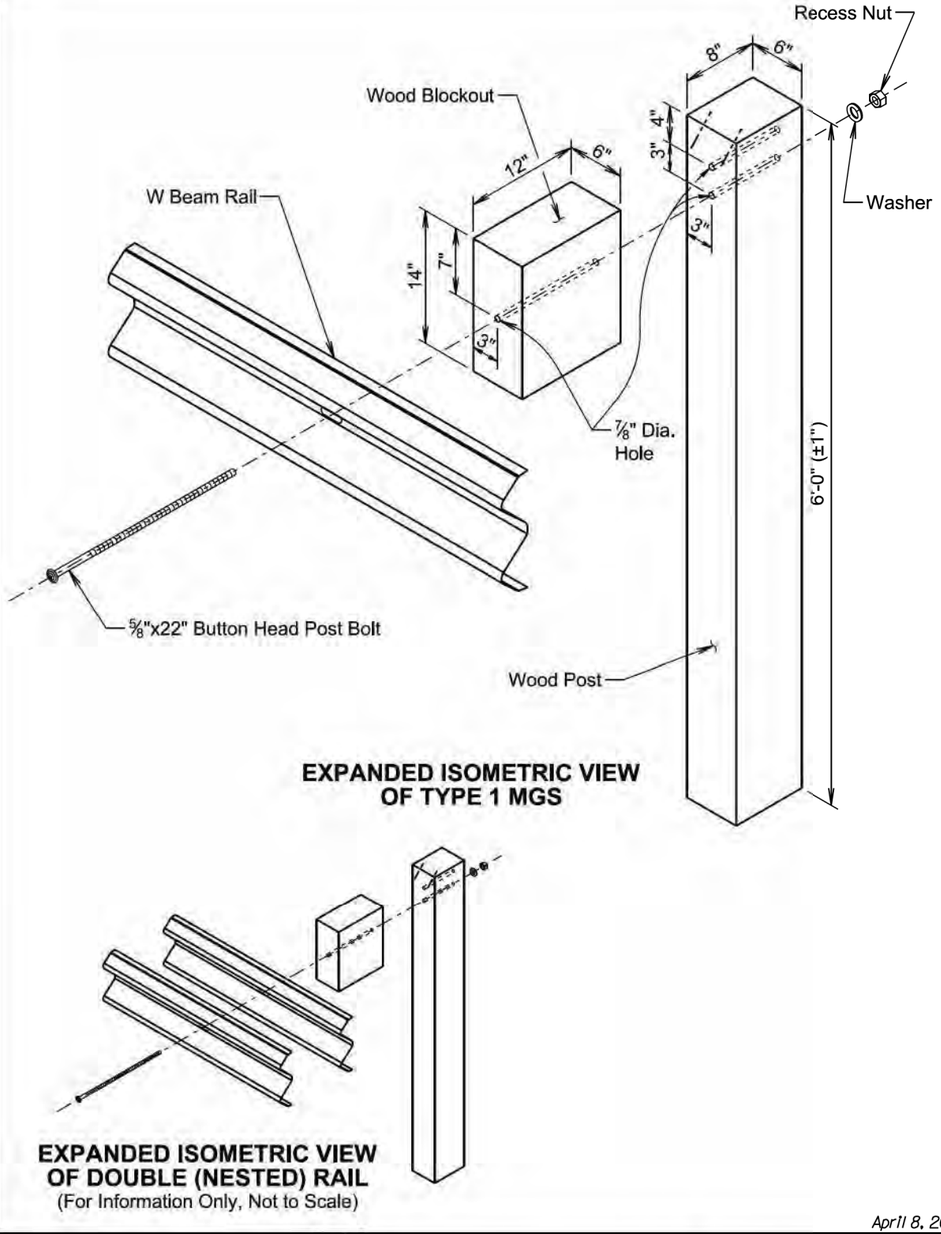
* See Standard Plate 630.99

** 2" asphalt concrete or as specified in the plans.

*** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

April 8, 2025

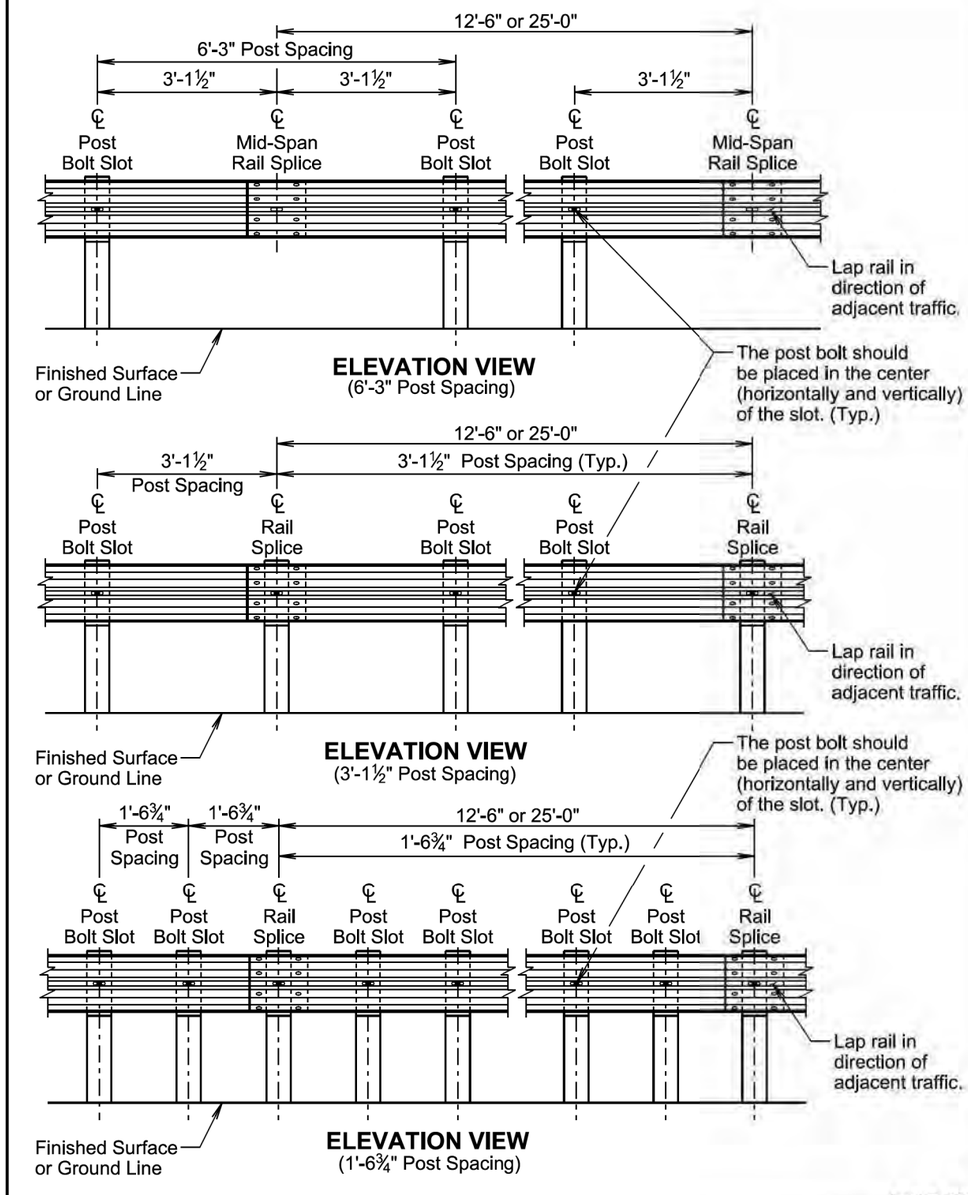
Plotted From - jschreter File - ...\dgn\08W0_Standard Plates.dgn



EXPANDED ISOMETRIC VIEW OF TYPE 1 MGS

EXPANDED ISOMETRIC VIEW OF DOUBLE (NESTED) RAIL
(For Information Only, Not to Scale)

April 8, 2025



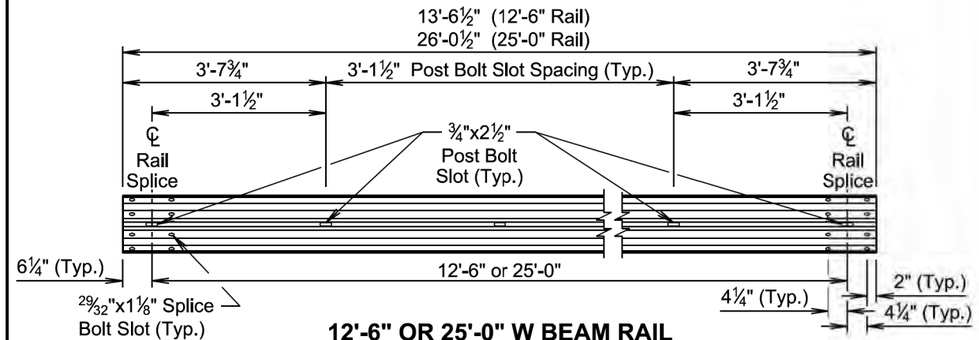
ELEVATION VIEW
(6'-3" Post Spacing)

ELEVATION VIEW
(3'-1½" Post Spacing)

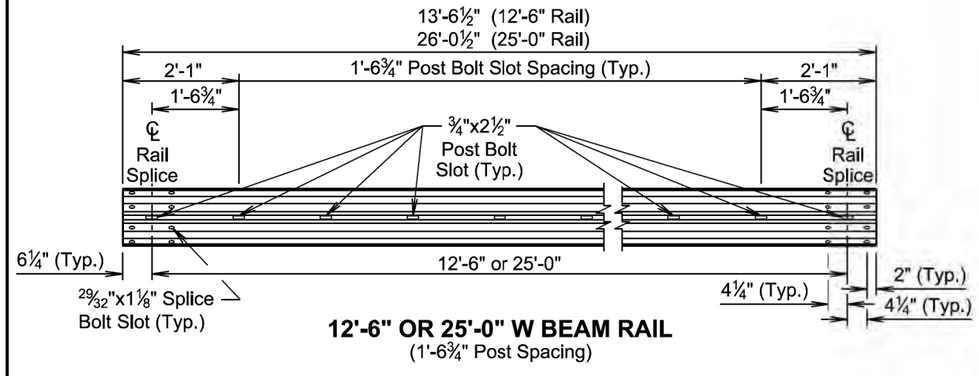
ELEVATION VIEW
(1'-6¾" Post Spacing)

April 8, 2025

Plotted From - jschreter File - ...\dgn\08WU_Standard Plates.dgn



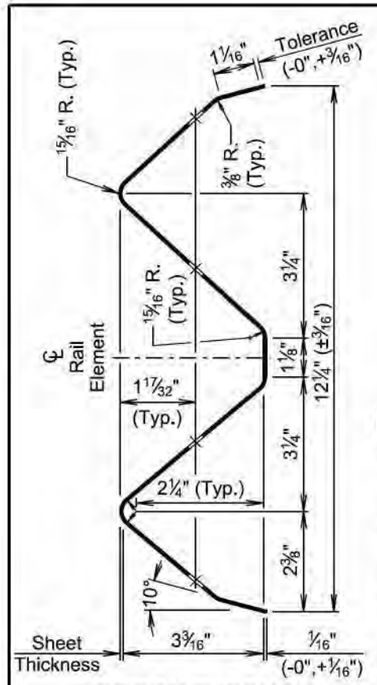
12'-6" OR 25'-0" W BEAM RAIL
(3'-1½" and 6'-3" Post Spacing)



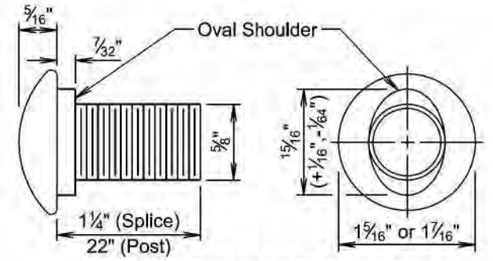
12'-6" OR 25'-0" W BEAM RAIL
(1'-6¾" Post Spacing)

April 8, 2025

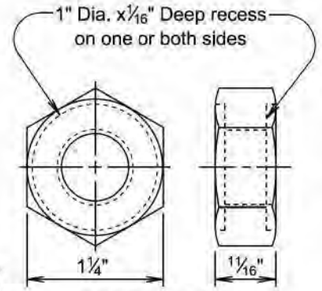
Published Date: 2027	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 5 of 6



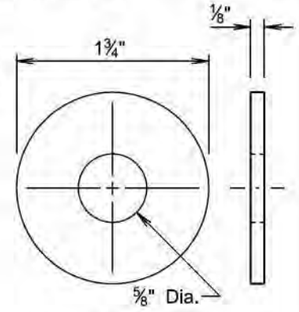
SECTION THROUGH W BEAM RAIL



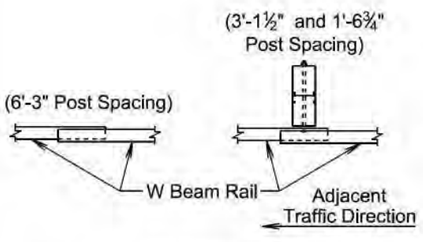
SPLICE BOLT AND POST BOLT
(⅝" Button Head Bolt)



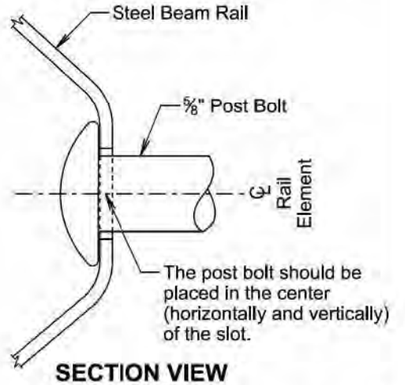
RECESS NUT
(At lap splices, the recess will be placed against the steel rail.)



WASHER
(The washer will be placed between the back side of wood post and the recess nut, see sheet 2 and 3.)



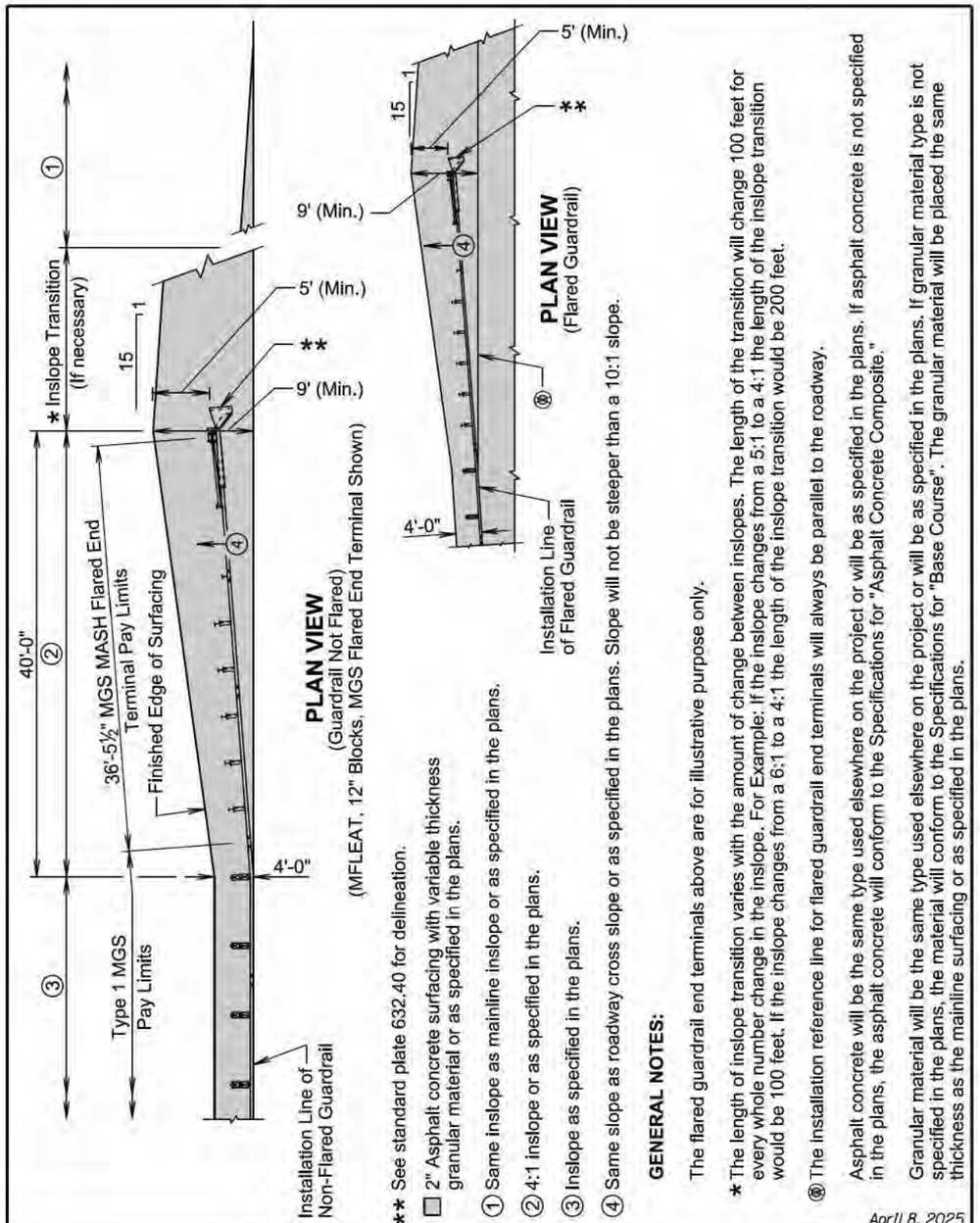
PLAN VIEW
(Lap Splice)
(Lap rail in direction of adjacent traffic.)
(8 splice bolts and 8 recess nuts per splice, NO washers)



SECTION VIEW
(At Post Bolt)

April 8, 2025

Published Date: 2027	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 6 of 6



** See standard plate 632.40 for delineation.

☐ 2" Asphalt concrete surfacing with variable thickness granular material or as specified in the plans.

① Same inslope as mainline inslope or as specified in the plans.

② 4:1 inslope or as specified in the plans.

③ Inslope as specified in the plans.

④ Same slope as roadway cross slope or as specified in the plans. Slope will not be steeper than a 10:1 slope.

GENERAL NOTES:

The flared guardrail end terminals above are for illustrative purpose only. Use only.

* The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100 feet for every whole number change in the inslope. For Example: If the inslope changes from a 5:1 to a 4:1 the length of the inslope transition would be 200 feet. If the inslope changes from a 6:1 to a 4:1 the length of the inslope transition would be 200 feet.

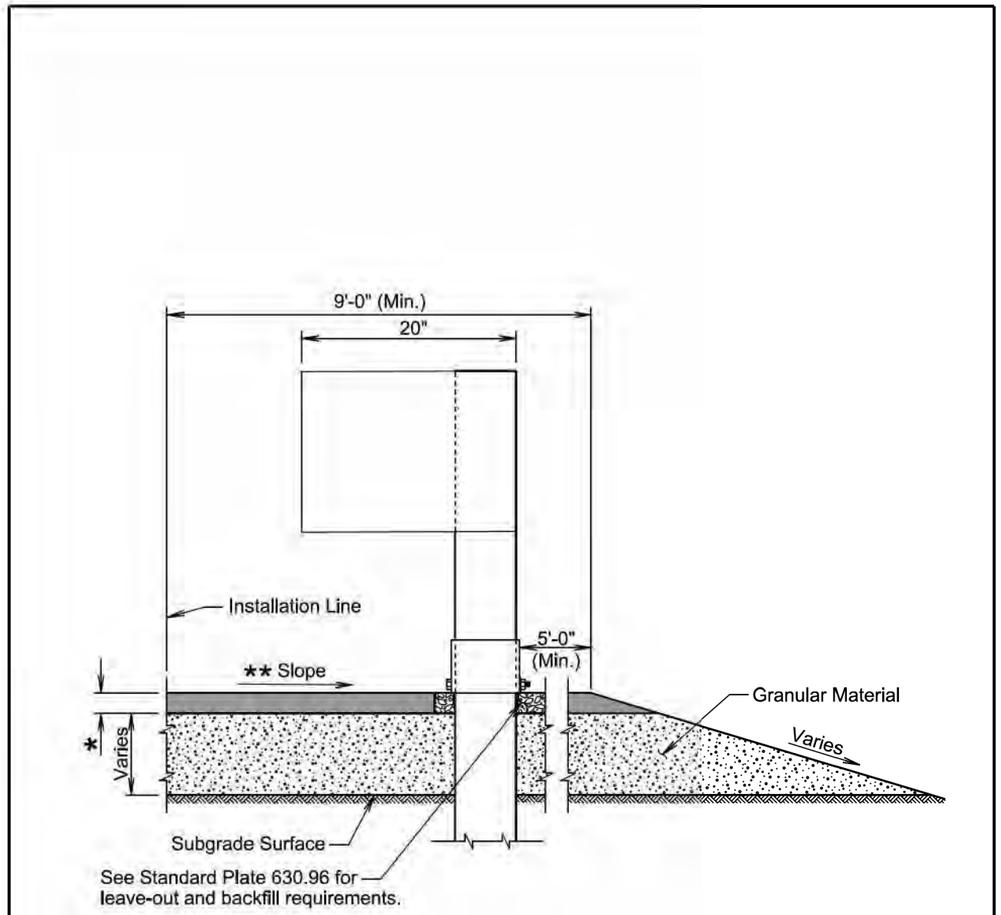
Ⓡ The installation reference line for flared guardrail end terminals will always be parallel to the roadway.

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite."

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

April 8, 2025

Published Date: 2027	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH FLARED END TERMINAL	PLATE NUMBER 630.87 Sheet 1 of 2



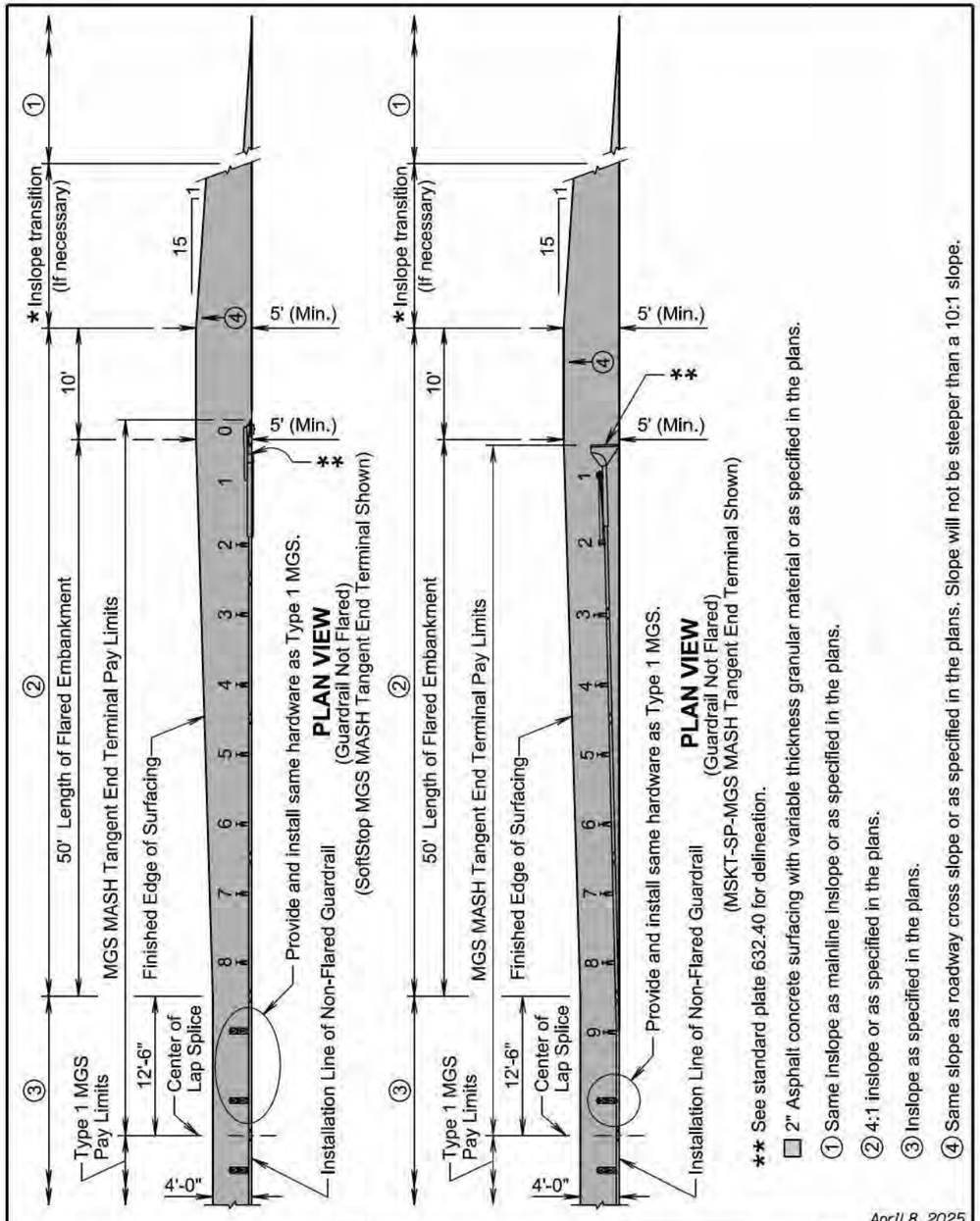
TRANSVERSE SECTION
(MFLEAT MGS Flared End Terminal Shown)

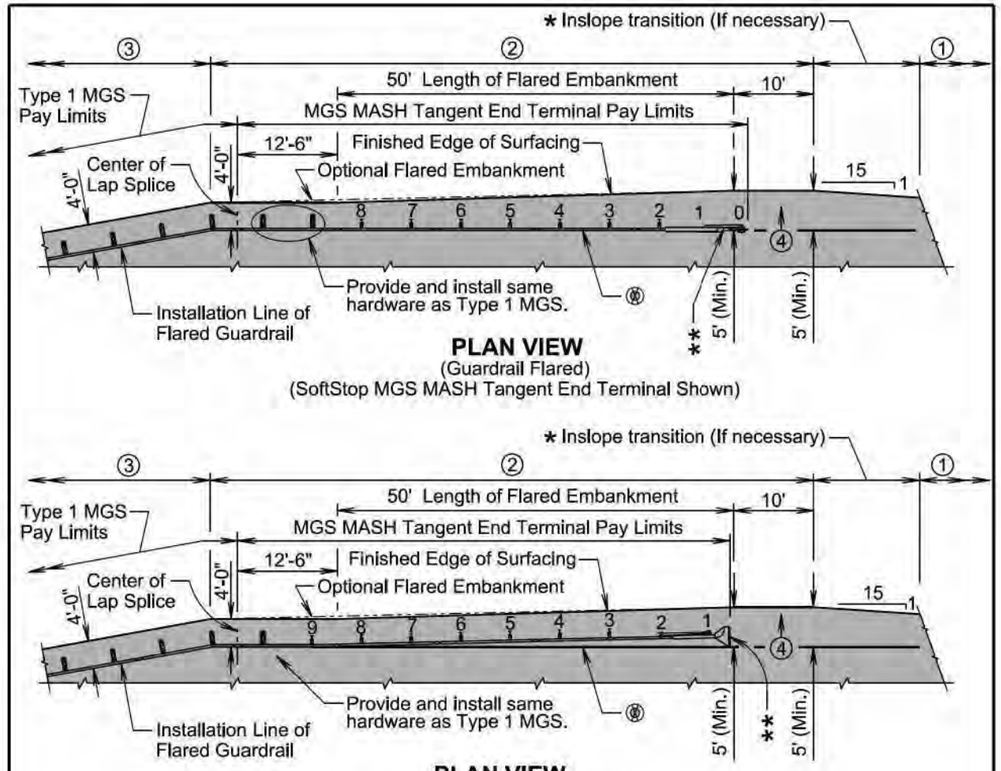
* 2" asphalt concrete or as specified in the plans.

** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

April 8, 2025

Published Date: 2027	SDDOT	EMBANKMENT, SURFACING AND PAYMENT LIMITS FOR MGS MASH FLARED END TERMINAL	PLATE NUMBER 630.87 Sheet 2 of 2





GENERAL NOTES:

The MGS MASH tangent end terminals above are for illustrative purpose only. Pay limit length of the MGS MASH tangent end terminal is 62'-6".

* The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100' for every whole number change in the inslope. For Example: If the inslope changes from a 5:1 to a 4:1 the length of the inslope transition would be 100'. If the inslope changes from a 6:1 to a 4:1 the length of the inslope transition would be 200'.

Ⓡ The installation reference line for MGS MASH tangent end terminals will always be parallel to the roadway.

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite."

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

April 8, 2025

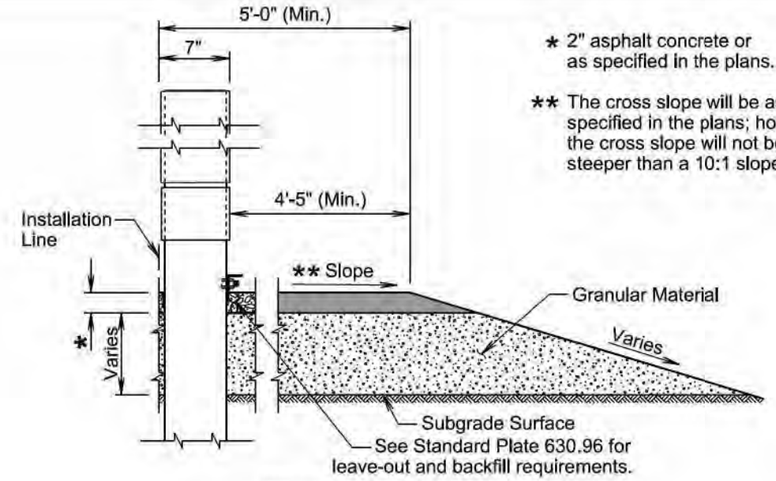
Published Date: 2027

SDDOT

EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL

PLATE NUMBER 630.89

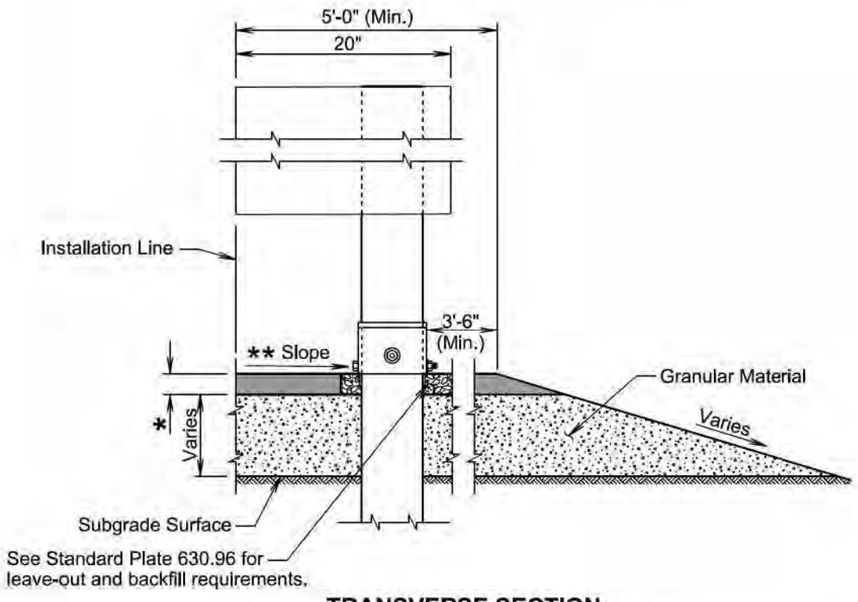
Sheet 2 of 3



* 2" asphalt concrete or as specified in the plans.

** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

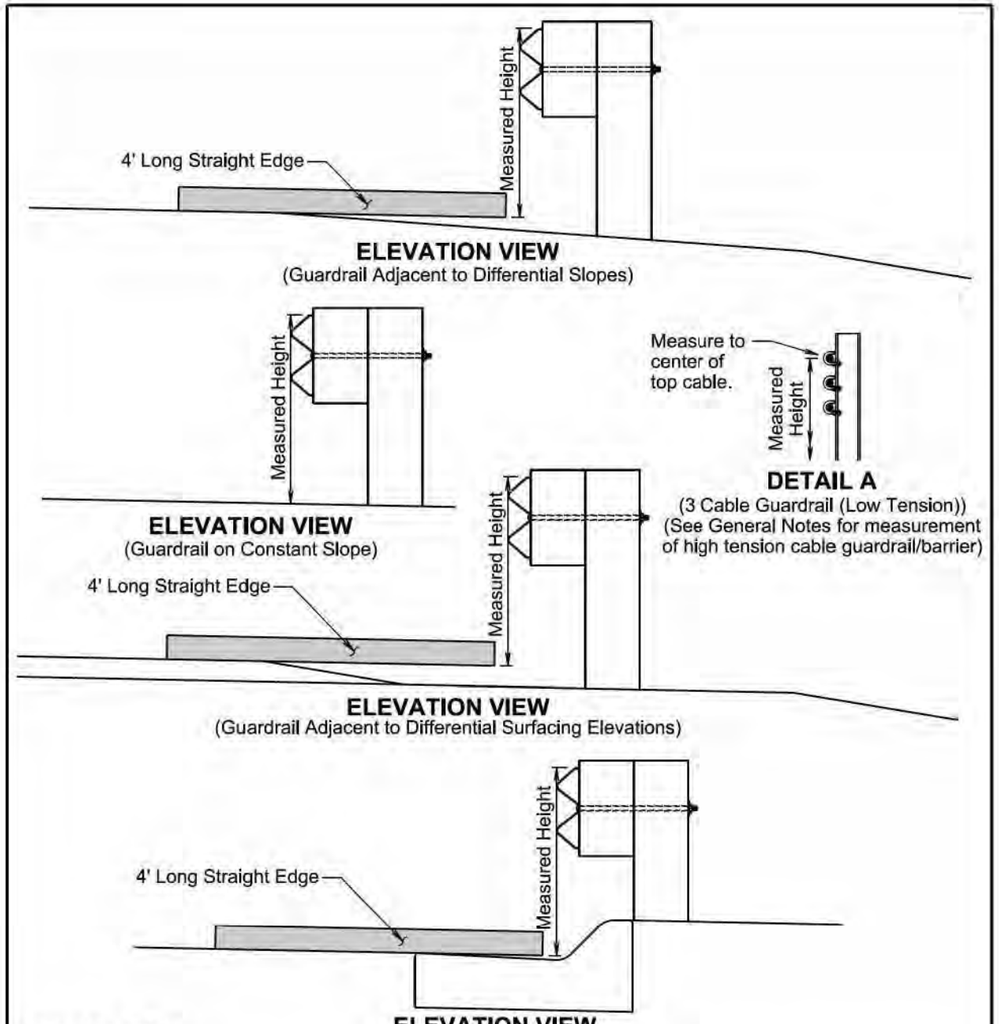
TRANSVERSE SECTION
(SoftStop MGS MASH Tangent End Terminal Shown)



TRANSVERSE SECTION
(MSKT-SP-MGS MASH Tangent End Terminal Shown)

April 8, 2025

Published Date: 2027	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL	PLATE NUMBER 630.89
			Sheet 3 of 3



GENERAL NOTES:

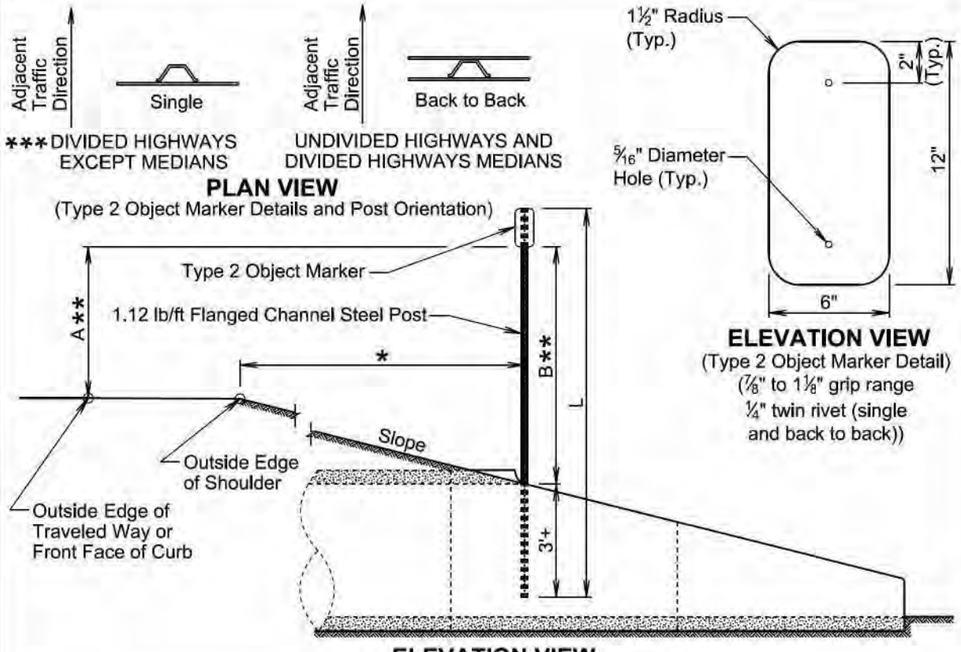
The W Beam guardrail shown is for illustrative purpose. The guardrail height for all types of guardrail systems except for high tension cable guardrail/barrier will be measured in accordance with this standard plate.

When measuring height of 3 cable guardrail (low tension) the height will be measured to the center of the top cable. See Detail A.

The height of high tension cable guardrail/barrier will be measured in accordance with the Manufacturer's installation instructions.

September 14, 2019

Published Date: 2027	SDDOT	MEASURING GUARDRAIL HEIGHT	PLATE NUMBER 630.99
			Sheet 1 of 1



TYPE 2 OBJECT MARKER POST LENGTHS										
OFFSET (*)		1'	2'	3'	4'	5'	6'	7'	8'	Greater Than 8'
		POST LENGTH (L)								
SLOPE	3:1	8'-6"	8'-9"	9'-3"	9'-6"	9'-9"	10'-3"	10'-6"	10'-9"	8'-0"
	4:1	8'-6"	8'-9"	9'-0"	9'-3"	9'-9"	9'-9"	10'-0"	10'-3"	8'-0"
	5:1	8'-3"	8'-6"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	9'-9"	8'-0"
	6:1	8'-3"	8'-6"	8'-9"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	8'-0"

GENERAL NOTES:

*** The type 2 object marker may be installed back to back when specified in the plans.

Post Length L was calculated based on a shoulder width of 6 feet at a crosslope of 4 percent and L was rounded up to the nearest 3 inches.

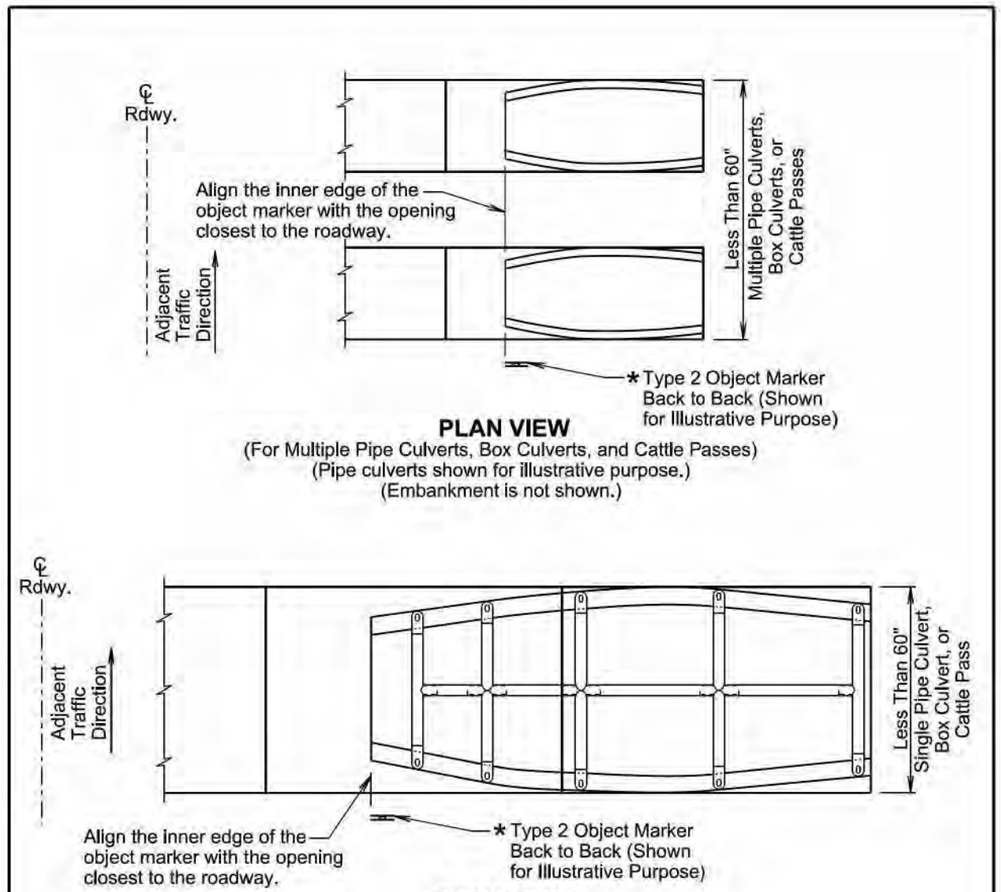
** Dimension A is 4 feet when the Offset * is 8 feet and less. Dimension B is 4 feet when Offset * is greater than 8 feet.

The type 2 object marker and the 1.12 lb/ft flanged channel steel post will be in conformance with Specifications Section 982.2 J.

Payment for the type 2 object marker will be in conformance with Specification Section 632.5 B.

December 23, 2019

Published Date: 2027	SDDOT	TYPE 2 OBJECT MARKER (DIRECT DRIVE)	PLATE NUMBER 632.01
			Sheet 1 of 1



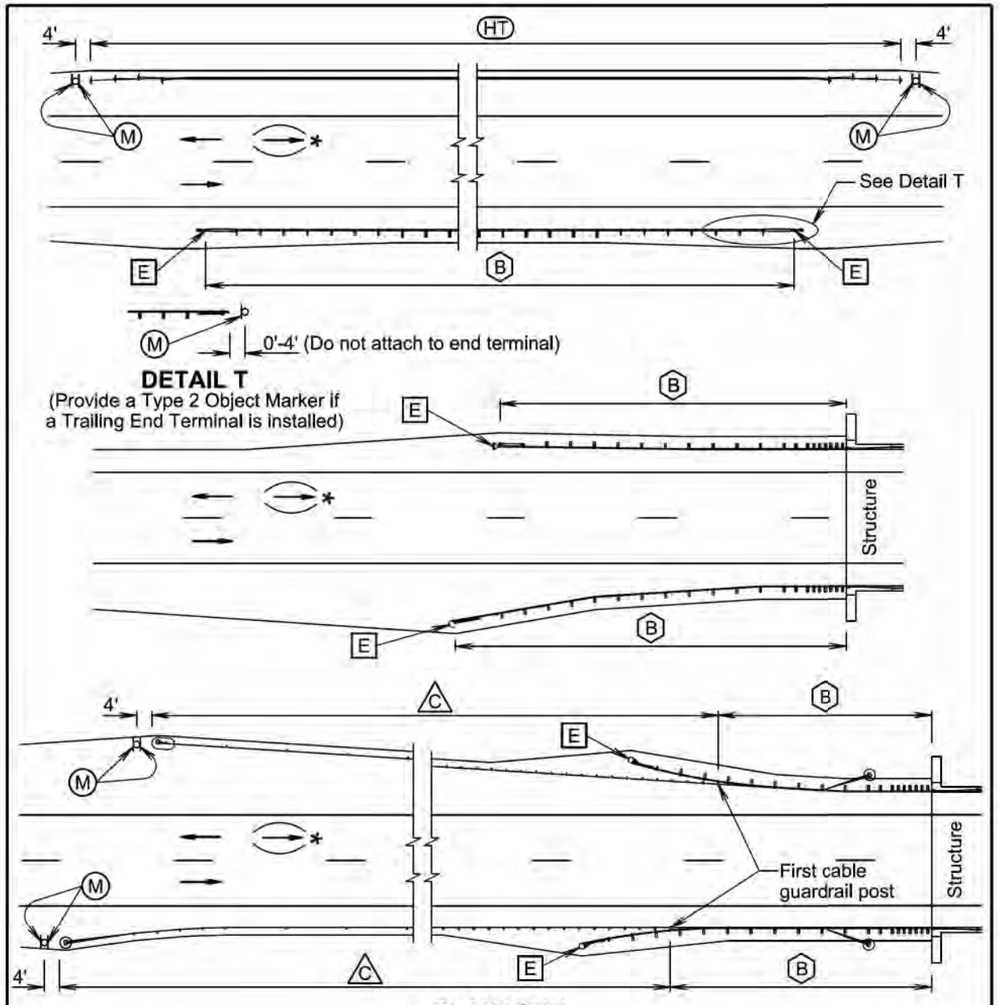
GENERAL NOTES:

This standard plate will be used in conjunction with standard plate 632.01.

* The type 2 object markers will be installed at the locations shown above. The type 2 object markers, single faced or back to back, will be as specified in the plans.

December 23, 2019

Published Date: 2027	SDDOT	TYPE 2 OBJECT MARKER AT PIPE CULVERTS, BOX CULVERTS, AND CATTLE PASSES (Less than 60" Overall Width)	PLATE NUMBER 632.03
			Sheet 1 of 1



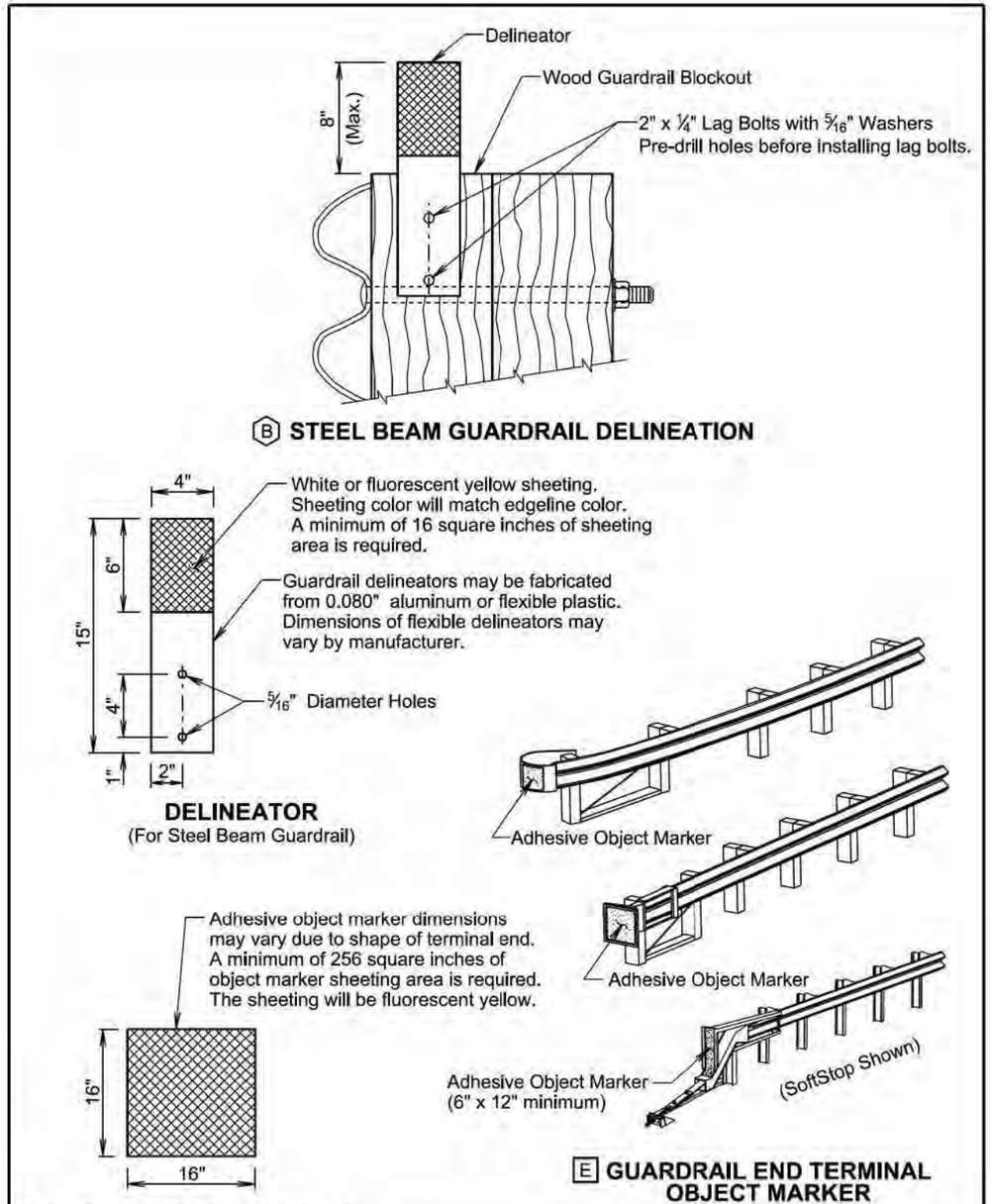
PLAN VIEW
(Typical Guardrail Layouts)

(B) Steel Beam Guardrail Delineation
[E] Guardrail End Terminal Object Marker
(C) 3 Cable Guardrail (Low Tension) Delineation
(HT) High Tension Cable Guardrail Delineation
(M) Type 2 Object Marker

*For two-way traffic, install delineation at the opposite end of structure the same as shown. Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

April 8, 2025

Published Date: 2027	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 1 of 4



(B) STEEL BEAM GUARDRAIL DELINEATION

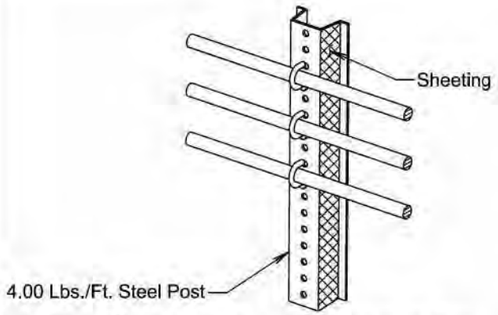
DELINEATOR
(For Steel Beam Guardrail)

[E] GUARDRAIL END TERMINAL OBJECT MARKER

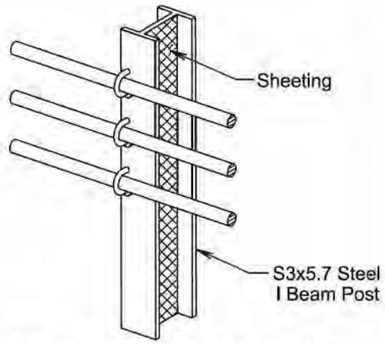
ADHESIVE OBJECT MARKER

April 8, 2025

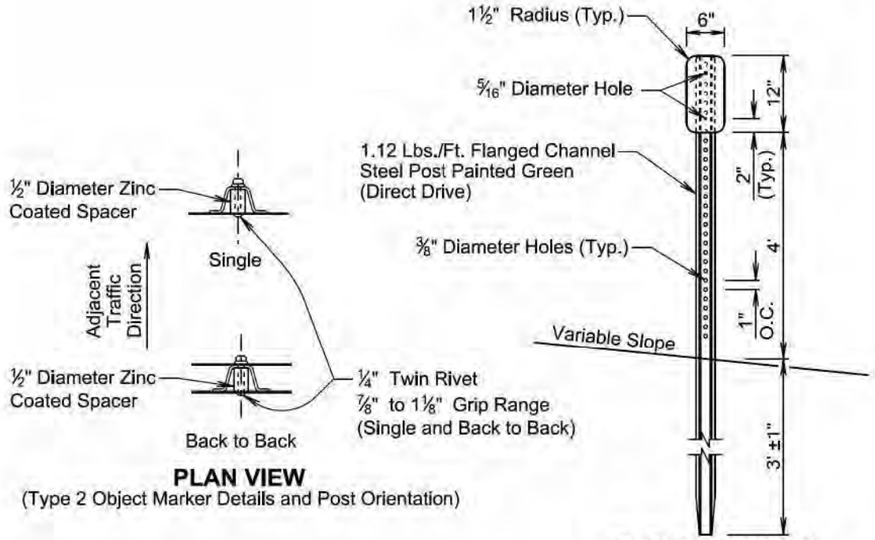
Published Date: 2027	SDDOT	DELINEATION GUARDRAIL	PLATE NUMBER 632.40
			Sheet 2 of 4



Ⓒ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



Ⓒ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



PLAN VIEW
(Type 2 Object Marker Details and Post Orientation)

ELEVATION VIEW
Ⓜ (Type 2 Object Marker)
(For Marking 3 Cable Guardrail (Low Tension) Anchor, High Tension Cable Guardrail Anchor, and Trailing End Terminal)

April 8, 2025

Published Date: 2027	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 3 of 4

GENERAL NOTES:

The delineation of high tension cable guardrail will be reflective sheeting placed back to back on every third post cap or cable spacer. Maximum spacing of delineation will not exceed 35 feet. The sheeting will be type XI in conformance with ASTM D4956. The color of the reflective sheeting will be the same as the nearest pavement marking.

The delineators for steel beam guardrail and sheeting on 3 cable guardrail (low tension) posts will be covered with a minimum of 16 square inches of reflective sheeting. The reflective sheeting will be type XI in conformance with ASTM D4956. Along two-way roadways the sheeting will be on both sides of the delineators and guardrail posts and will be white in color. For one-way roadways the sheeting will only be required on the side facing traffic and the color will be the same as the nearest pavement marking, yellow on the left side of the roadway and white on the right side.

When steel beam guardrail is attached to a bridge the first delineator will be attached to the post nearest the bridge.

At bridges with guardrail less than 200 feet in length, a minimum of 4 delineators will be placed in addition to the end terminal yellow object marker. The spacing between the delineators will be approximately one third of the length of the guardrail.

At bridges with guardrail 200 feet and greater in length, including bridges that have steel beam guardrail transitioning to 3 cable guardrail (low tension), the delineators will be placed at a spacing of approximately 50 feet. Delineation will extend throughout the length of the guardrail system.

Steel beam guardrail that is not attached to a bridge and is less than 200 feet in length, a minimum of 4 delineators will be placed in addition to the end terminal yellow object markers. The spacing between the delineators will be approximately one third of the length of the guardrail.

Steel beam guardrail that is not attached to a bridge and is 200 feet and greater in length, including steel beam guardrail transitioning to 3 cable guardrail (low tension), the delineators will be placed at a spacing of approximately 50 feet. Delineation will extend throughout the length of the guardrail system.

All costs for furnishing and installing single or back to back guardrail delineation on 3 cable guardrail and steel beam guardrail will be included in the contract unit price per each for "Guardrail Delineator".

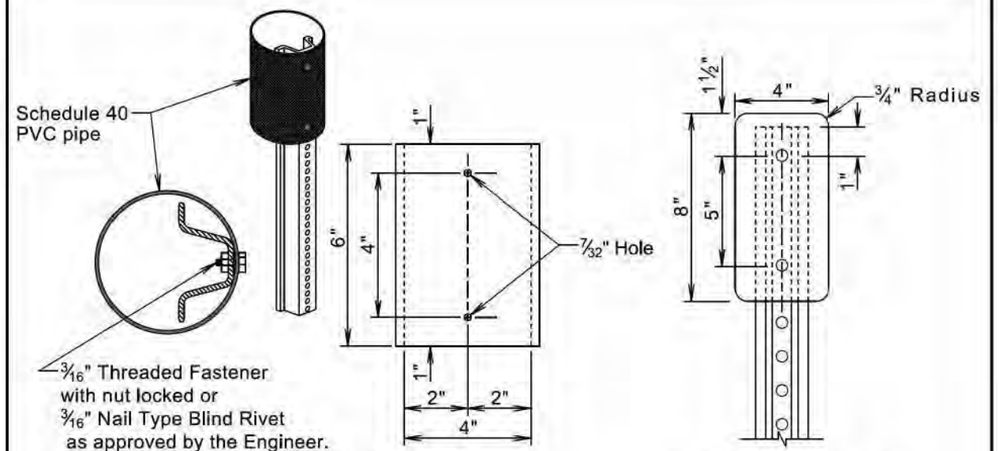
All costs for furnishing and installing the reflective sheeting on the cable spacers or post caps for the high tension cable guardrail will be incidental to the respective high tension cable guardrail contract item.

An adhesive object marker will be placed on the end of the W beam guardrail or MGS end terminal. The adhesive object marker dimensions may vary due to the shape of the terminal end. A minimum of 256 square inches of object marker reflective sheeting area is required on end terminals with sufficient surface area. Other end terminals (SoftStop) will require an adhesive object marker with a minimum size of 6" x 12". The reflective sheeting will be fluorescent yellow type XI sheeting in conformance with ASTM D4956. All costs for furnishing and installing the adhesive object marker will be incidental to various contract items.

A type 2 object marker will be placed such that the edges of the type 2 object marker and the 3 cable guardrail (low tension) anchor, high tension cable guardrail anchor, or the trailing end terminal that are nearest to the roadway will be installed in line with the same lateral offset from the traveled way at the location as noted on sheet 1 of this standard plate. The type 2 object marker (6" x 12") will have fluorescent yellow type XI sheeting in conformance with ASTM D4956. All costs for furnishing and installing the type 2 object marker including the steel post, 6" x 12" reflective panel, and hardware will be included in the contract unit price per each for "Type 2 Object Marker" for single-sided and "Type 2 Object Marker Back to Back" for back to back type 2 object markers.

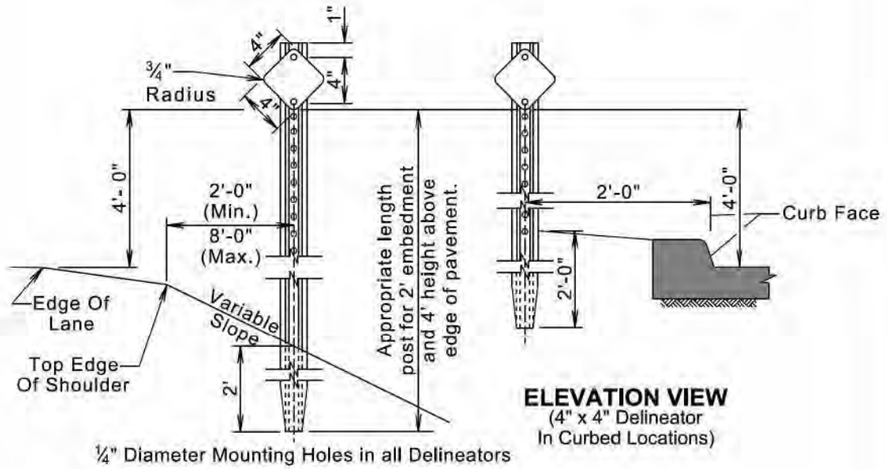
April 8, 2025

Published Date: 2027	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 4 of 4



ELEVATION VIEW
(4" Tubular delineator
mounted on post)

ELEVATION VIEW
(4" x 8" Delineator)



ELEVATION VIEW
(4" x 4" Delineator
In Curbed Locations)

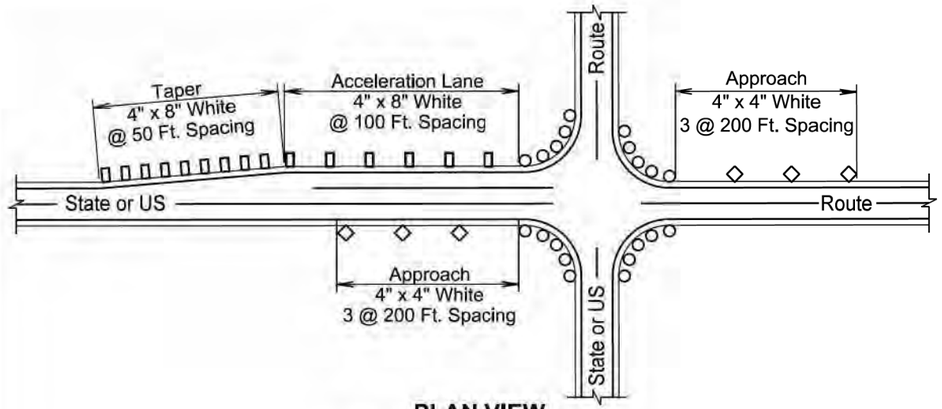
ELEVATION VIEW
(4" x 4" Delineators)

GENERAL NOTES:

Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

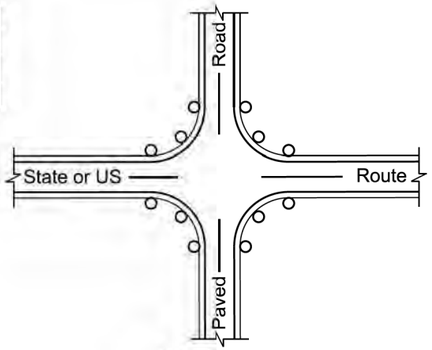
March 31, 2024

Published Date: 2027	SDDOT	***DELINEATOR INSTALLATION DETAIL***	PLATE NUMBER 632.42
			Sheet 1 of 1



PLAN VIEW
(State or US Highway Intersection)

LEGEND
◇ 4" x 4" White Delineator
▯ 4" x 8" White Delineator
○ 4" x 6" White Tubular Delineator



PLAN VIEW
(Paved County Crossroad)

GENERAL NOTES:

At all intersections with State or US highways and paved county roads:

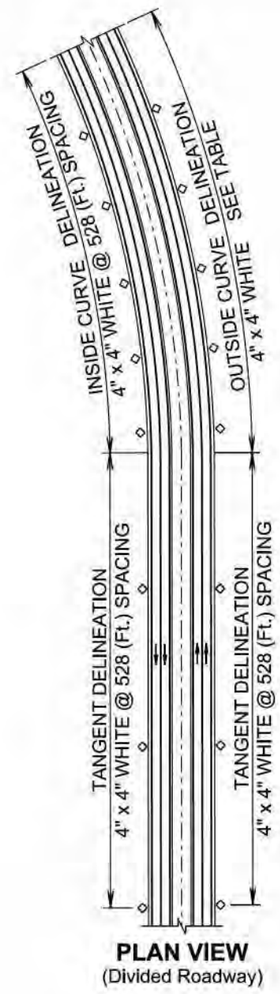
For radii greater than 100 feet, place 5 tubular white delineators on equally spaced posts around the turning radius.

For radii greater than 50 feet up to 100 feet, place 4 tubular white delineators on equally spaced posts around the turning radius.

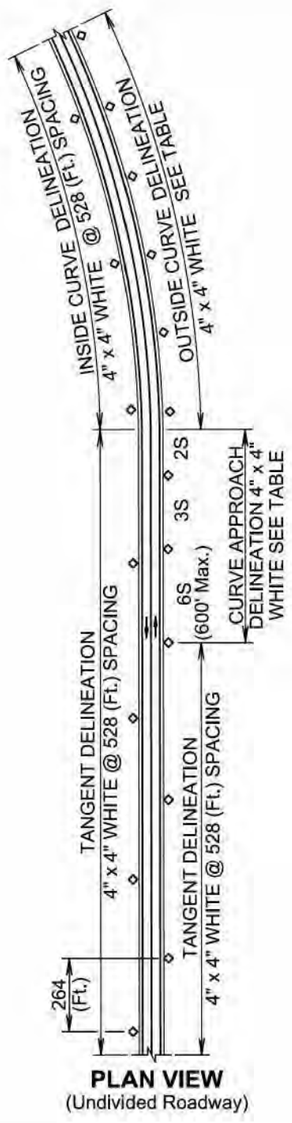
For radii of 50 feet or less, place 3 tubular white delineators on equally spaced posts around the turning radius.

November 19, 2020

Published Date: 2027	SDDOT	***DELINEATOR AT INTERSECTIONS***	PLATE NUMBER 632.44
			Sheet 1 of 1



PLAN VIEW
(Divided Roadway)



PLAN VIEW
(Undivided Roadway)

March 31, 2024

Published Date: 2027	SDDOT	DELINEATOR INSTALLATION SPACING	PLATE NUMBER 632.46
			Sheet 1 of 2

GENERAL NOTES:

Delineators will be located from 2 to 8 feet outside of the outer edge of shoulder. When a roadside barrier or other obstruction intrudes into the space between the pavement edge and the extension of the line of delineators, the delineators should be in line with the barrier or in line with the innermost edge of the obstruction.

When normal spacing is interrupted by driveways, crossroads, or approaches, delineators falling within such areas may be moved in either direction a distance not exceeding one-quarter of the standard spacing. Delineators still falling within such areas should be eliminated.

The spacing for specific radii may be interpolated from the table. The minimum spacing should be 20 feet. The spacing on curves should not exceed 300 feet. In advance of or beyond a curve, and proceeding away form the end of the curve, the spacing of the first delineator is 2S, the second 3S, and the third 6S, but not to exceed 300 feet. S refers to the delineator spacing for specific radii computed from the formula $S = 3\sqrt{R - 50}$. The distances for S shown in the table were rounded to the nearest 5 feet.

Curve approach delineation is not required if curve delineation spacing exceeds 100 ft.

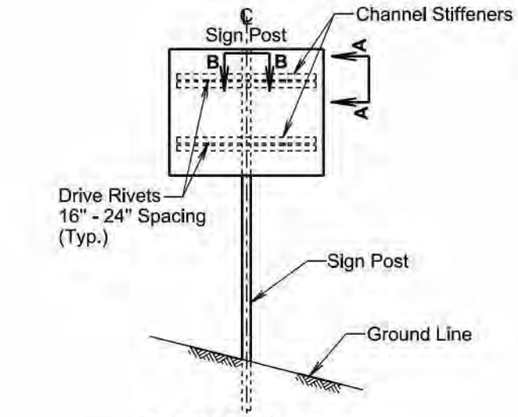
Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

DELINEATOR SPACING
OUTSIDE CURVE

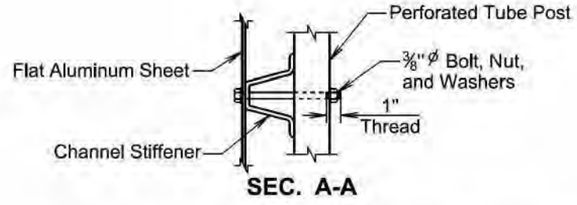
Radius of Curve (Ft.)	Curve Delineator Spacing (Ft.)	Curve Approach Spacing (Ft.)		
		A	B	C
50	20	40	65	125
115	25	50	75	150
150	30	60	90	180
180	35	70	110	215
250	40	85	125	250
300	45	95	140	285
400	55	110	170	300
500	65	125	190	300
600	70	140	210	300
700	75	150	230	300
800	80	165	245	300
900	85	175	260	300
1000	90	185	275	300

March 31, 2024

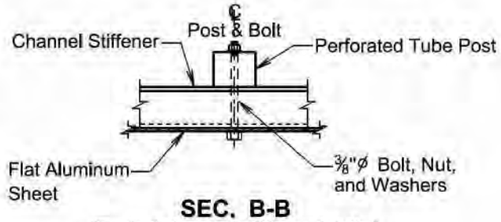
Published Date: 2027	SDDOT	DELINEATOR INSTALLATION SPACING	PLATE NUMBER 632.46
			Sheet 2 of 2



ELEVATION VIEW
(One post breakaway sign supports.)



SEC. A-A

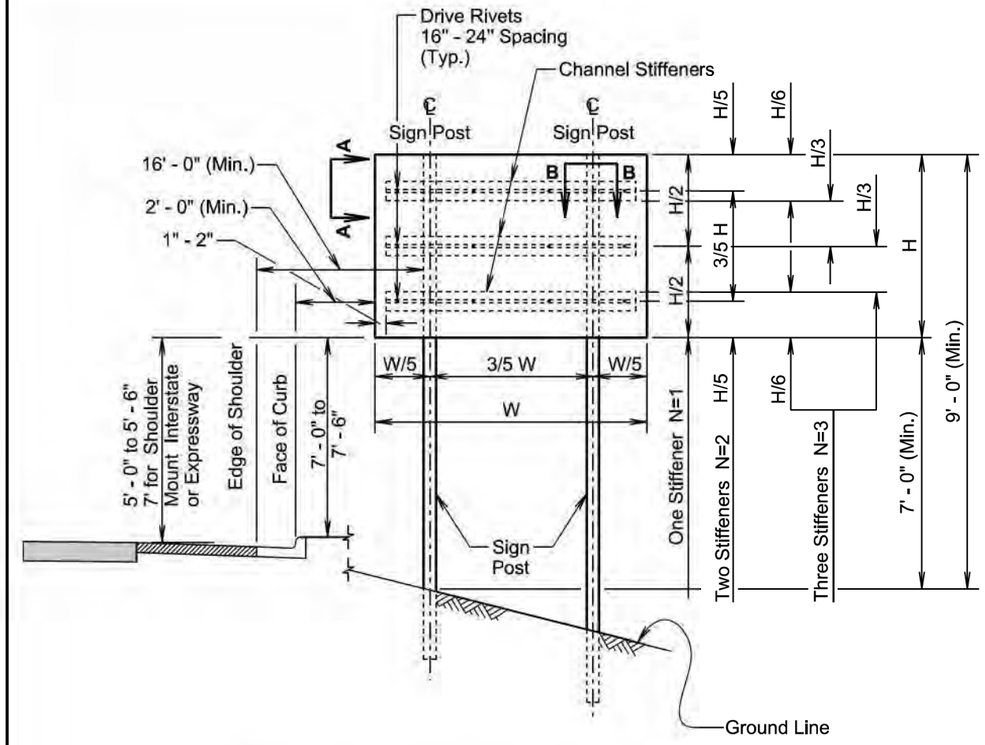


SEC. B-B
(Typical sign and stiffener details.)

ø A plastic washer, as recommended by the sheeting manufacturer, will be installed between the sign face and the metal washer shown.

November 19, 2020

Published Date: 2027	SDDOT	SIGN STIFFENER DETAILS	PLATE NUMBER 632.60
			Sheet 1 of 2



TWO POST BREAKAWAY SIGN SUPPORTS

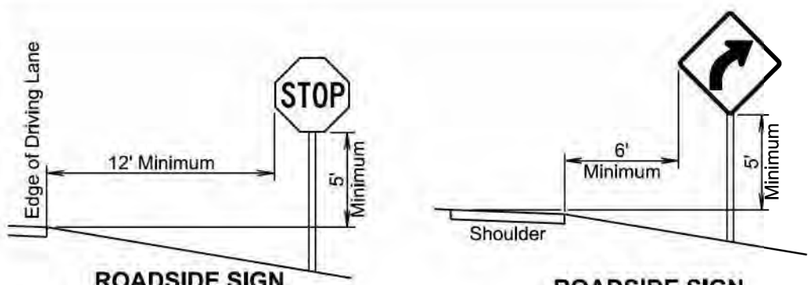
GENERAL NOTES:

The number of stiffeners used (N) will be as follows:
If H < = 2' - 0" then N = 1
if 2' - 0" < H < = 8' - 0" then N = 2
if 8' - 0" < H < = 15' - 0" then N = 3
where H is the vertical dimension of the sign.

A minimum of two bolts will be required to fasten the sign to each post.

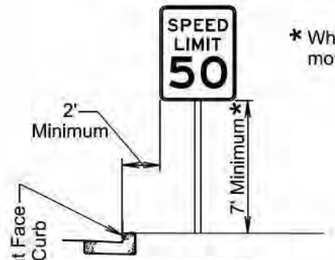
November 19, 2020

Published Date: 2027	SDDOT	SIGN STIFFENER DETAILS	PLATE NUMBER 632.60
			Sheet 2 of 2



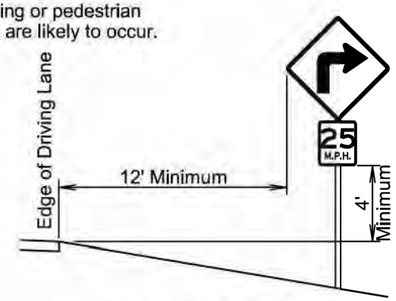
ROADSIDE SIGN IN RURAL AREA

ROADSIDE SIGN IN RURAL AREA
(If shoulder width is greater than 6 foot)

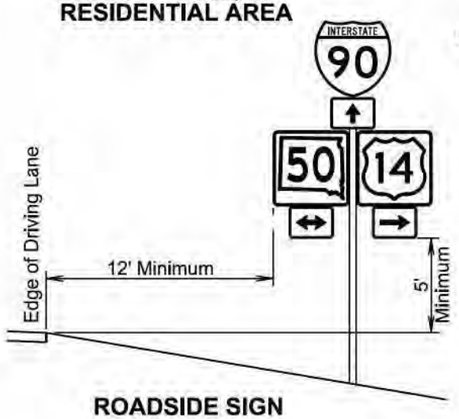


ROADSIDE SIGN IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA

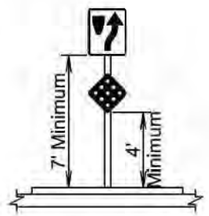
* Where parking or pedestrian movements are likely to occur.



WARNING SIGN ADVISORY SPEED PLAQUE IN RURAL AREA



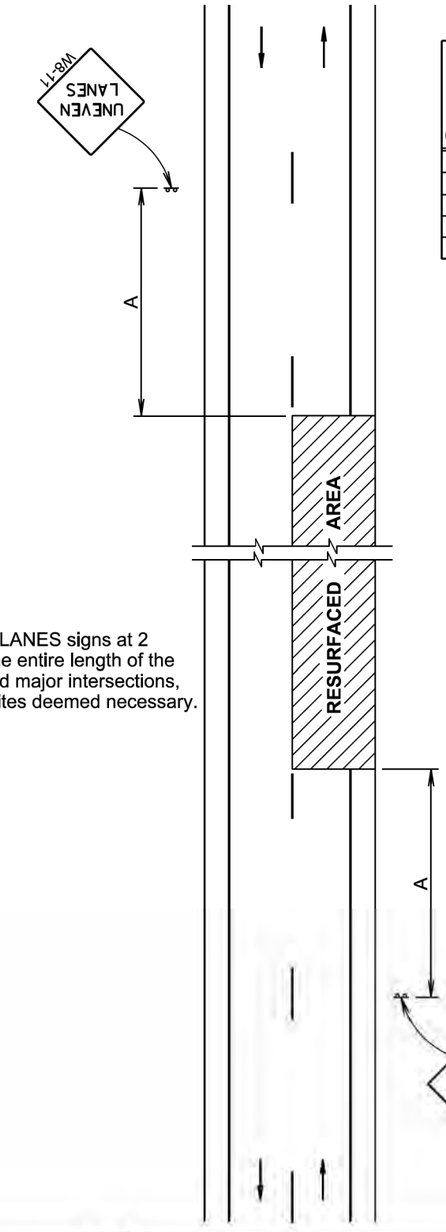
ROADSIDE SIGN IN RURAL AREA



SIGN ON NOSE OF MEDIAN

April 8, 2025

Published Date: 2027	SDDOT	OFFSETS FOR SIGN INSTALLATION	PLATE NUMBER 632.90
			Sheet 1 of 1



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000

Install additional UNEVEN LANES signs at 2 mile intervals throughout the entire length of the uneven area and at affected major intersections, edge of towns, and other sites deemed necessary.

January 22, 2021

Published Date: 2027	SDDOT	UNEVEN ROAD SURFACE	PLATE NUMBER 634.22
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

Flagger

Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

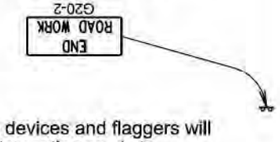
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices will be drums or 42" cones.

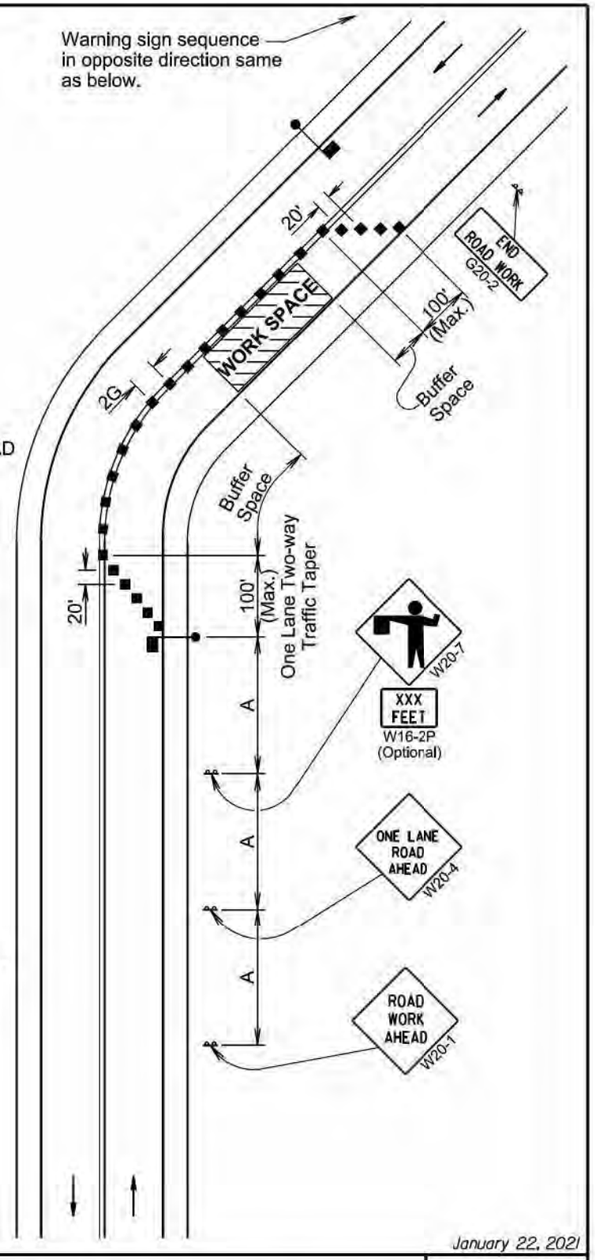
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

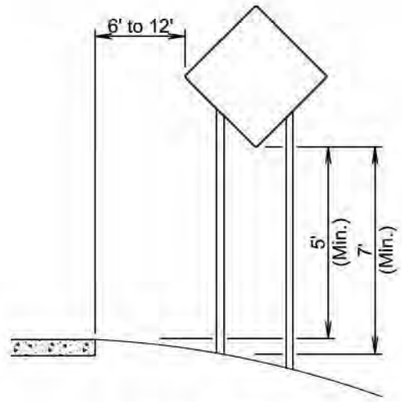
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

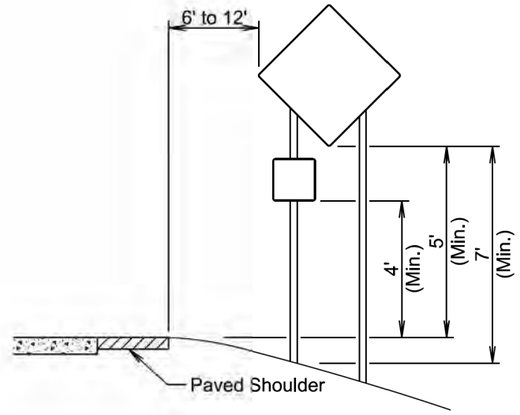


January 22, 2021

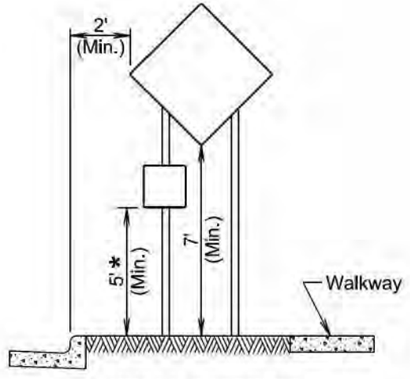
Published Date: 2027	SDDOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



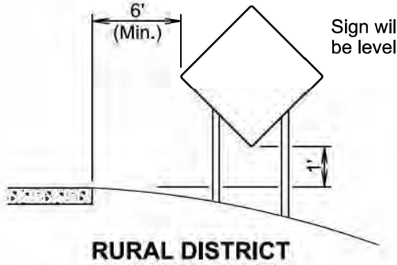
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

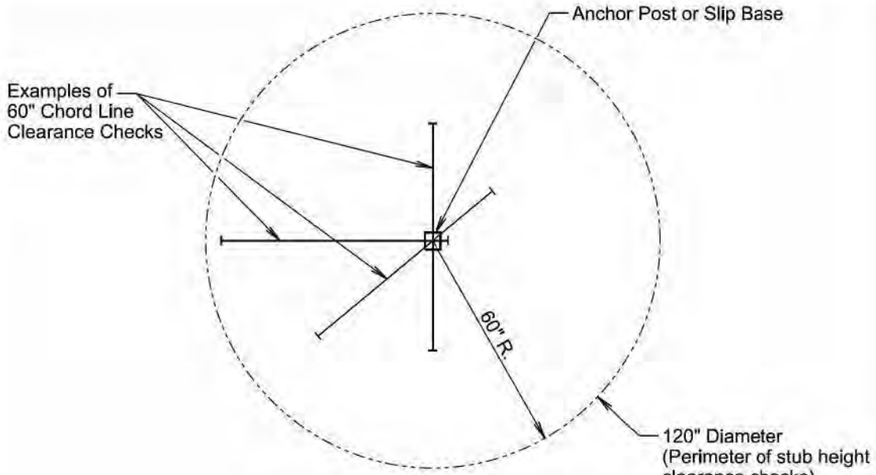


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

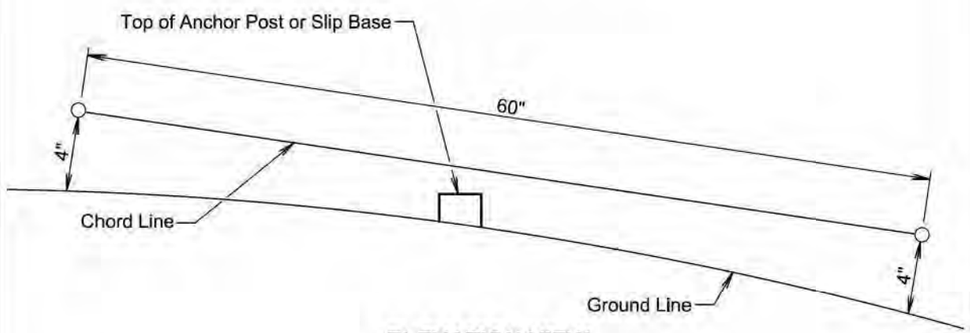
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2027	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

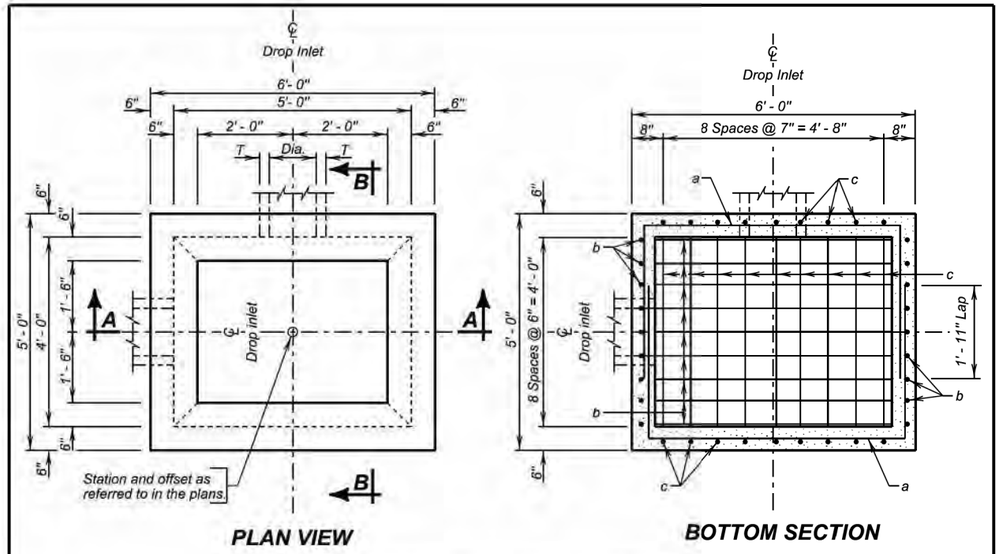
The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

Published Date: 2027	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99 Sheet 1 of 1



PLAN VIEW **BOTTOM SECTION**

ESTIMATED QUANTITIES

ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
✳ Class M6 Concrete	Cu. Yd.	1.06	0.37H
Reinforcing Steel	Lb.	180.36	45.43H
Frame and Grate Assembly	Each	1	—

DROP INLETS FOR 12" TO 48" DIAMETER PIPE

SPECIFICATIONS

Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.

Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Version, Required Provisions, and Special Provisions as included in the Proposal.

GENERAL NOTES:

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

Reinforcing steel shall conform to ASTM A615 grade 60. The d bars shall be lapped 12 inches with the b and c bars. Cut and bend reinforcing steel as required to place pipe(s) through the drop inlet wall.

Drop inlet may be precast. If precast drop inlet details differ from this standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval.

✳ *Reduce total quantities of concrete by the amount of concrete displaced by the pipe(s). The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard. The total quantity of reinforcing steel shall be computed to the nearest pound.*

Drop inlet shown may be modified by the addition or omission of connecting pipes as noted elsewhere in the plans. All pipes entering drop inlet must fit between the inside face of walls and shall not enter through the corners.

Maximum R.C.P. diameter shall not exceed 36 inches (30 inches for R. C. arch) on the 4-foot wide side and shall not exceed 48 inches (36 inches for R. C. arch) on the 5-foot wide side of the drop inlet.

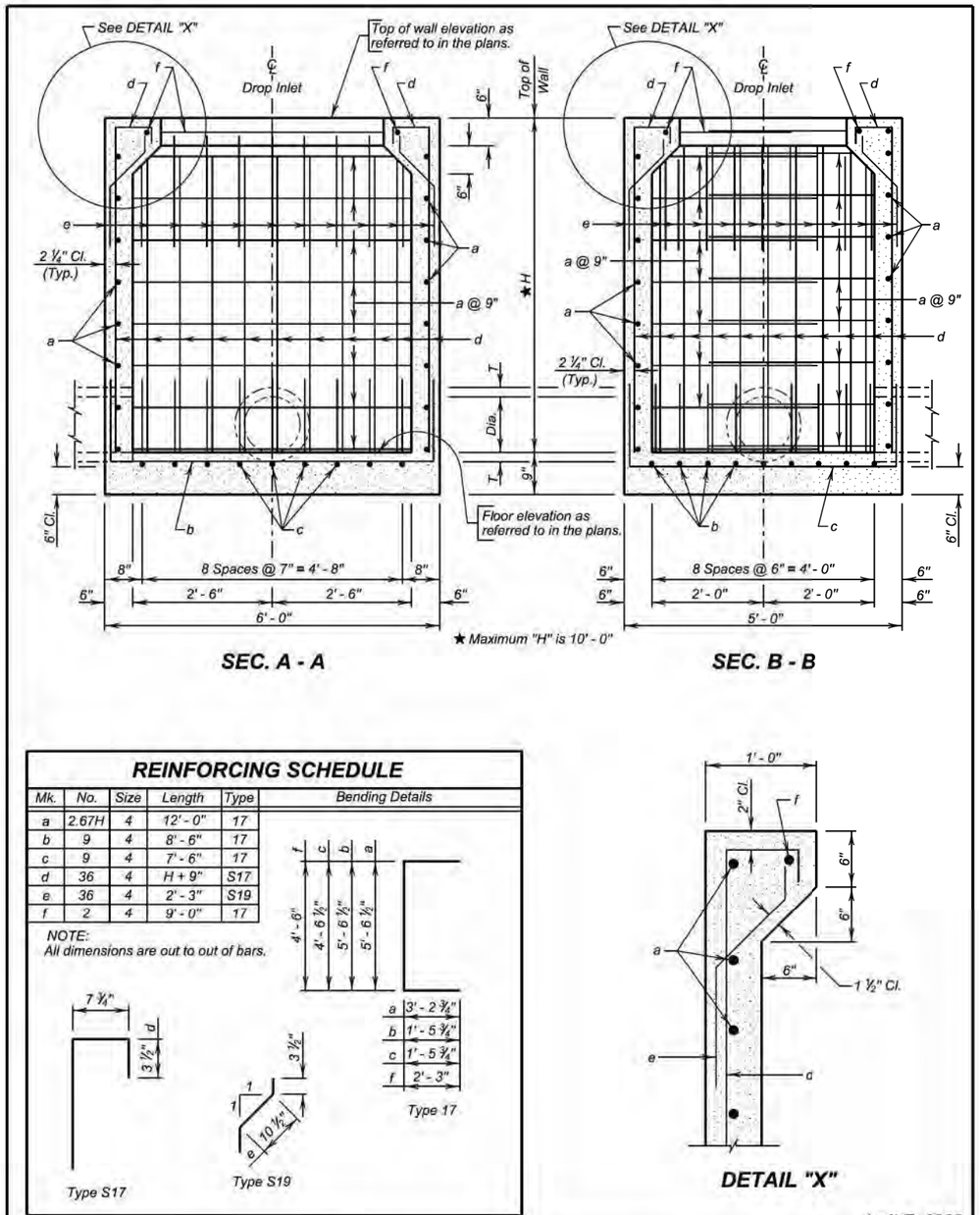
The dimension of H is in feet. Maximum H is 10 feet.

PIPE DISPLACEMENT REDUCTIONS

	Diameter (Inches)	Wall T (Inches)	Class M6 Concrete (Cu. Yd.)
R.C.P.	12	2	0.03
	15	2 ¼	0.04
	18	2 ½	0.05
	24	3	0.09
	30	3 ½	0.14
	36	4	0.20
	42	4 ½	0.26
	48	5	0.34
R.C. ARCH	18	2 ½	0.05
	24	3 ½	0.09
	30	4	0.14
	36	4 ½	0.19

April 17, 2026

Published Date: 2027	SDDOT	4' X 5' TYPE C REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.11 Sheet 1 of 2



SEC. A - A

SEC. B - B

REINFORCING SCHEDULE

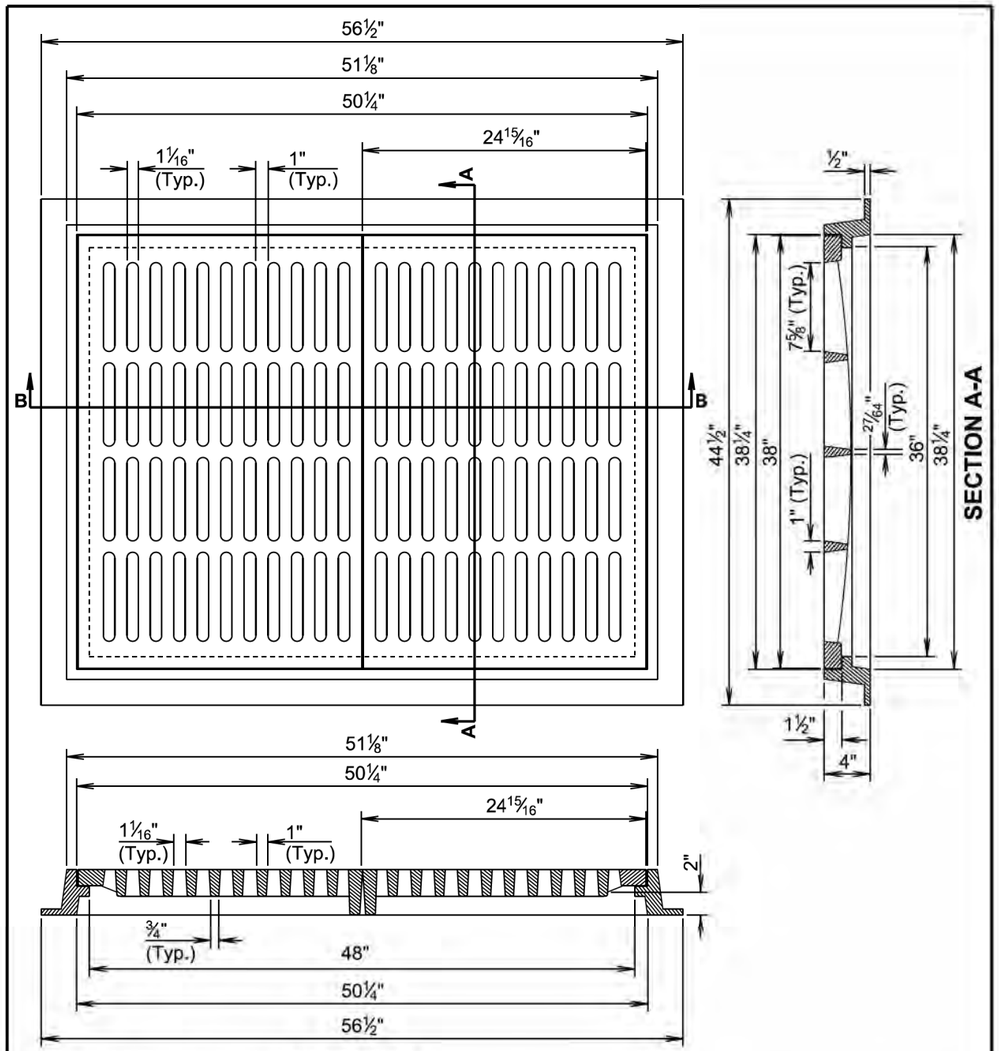
Mk.	No.	Size	Length	Type	Bending Details
a	2.67H	4	12' - 0"	17	
b	9	4	8' - 6"	17	
c	9	4	7' - 6"	17	
d	36	4	H + 9"	S17	
e	36	4	2' - 3"	S19	
f	2	4	9' - 0"	17	

NOTE:
All dimensions are out to out of bars.

DETAIL "X"

April 17, 2026

Published Date: 2027	SDDOT	4' X 5' TYPE C REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.11
			Sheet 2 of 2



SECTION B-B

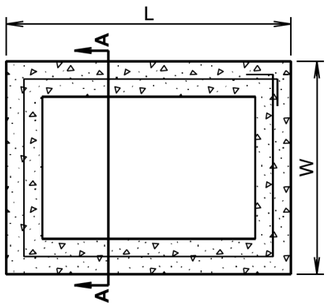
GENERAL NOTES:

The product dimensions may vary from those shown on the standard plate depending on the manufacturer. Grate size and configuration will be similar to the standard plate for hydraulic capacity. Any variation in dimensions will be approved by the Engineer and the type C frame and grate will be from a manufacturer on the approved products list.

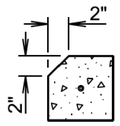
Design load for the grate will meet the requirements of AASHTO HL-93.

March 31, 2024

Published Date: 2027	SDDOT	TYPE C FRAME AND GRATE	PLATE NUMBER 670.82
			Sheet 1 of 1

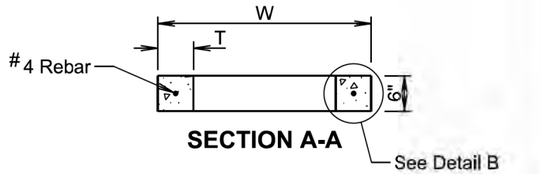


PLAN VIEW



For Type D Drop Inlets only:
Use Precast Drop Inlet Collar with
2" chamfer on L sides only.

DETAIL B



SECTION A-A

INFORMATIONAL QUANTITIES

FRAME AND GRATE TYPE	L (Ft-in)	W (Ft-in)	T (in)	CLASS M6 CONCRETE (CuYd)	REINFORCING STEEL (Lb)
TYPE A, B, and E	4'-0"	3'-0"	6	0.11	9
TYPE C	5'-0"	4'-0"	6	0.15	11
TYPE D	4'-0"	2'-6"	6	0.10	8

GENERAL NOTES:

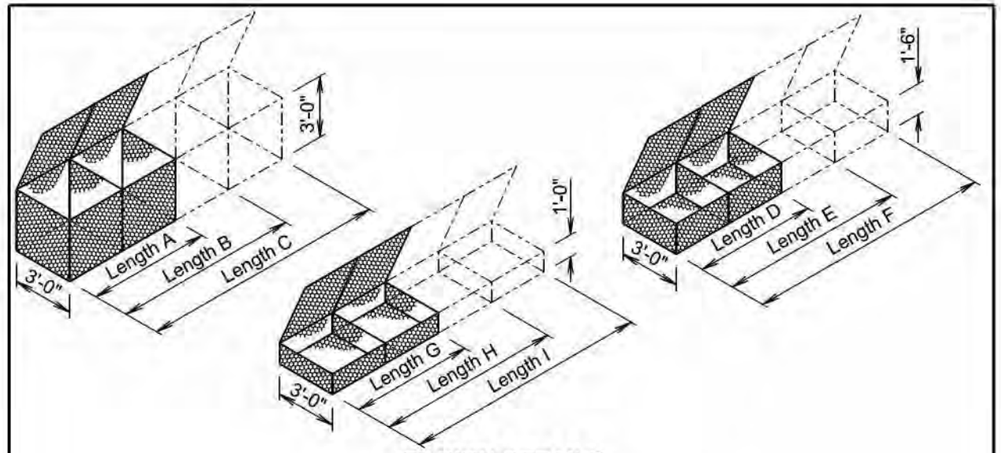
All reinforcing steel will conform to ASTM A615, Grade 60.

The ½" diameter bar will lap 6"± and will be centered in the concrete.

The cost of furnishing and installing Precast Drop Inlet Collars, including labor, materials, and incidentals will be incidental to the contract unit price per Each for "Precast Drop Inlet Collar".

June 1, 2022

Published Date: 2027	SDDOT	PRECAST DROP INLET COLLAR	PLATE NUMBER 670.99
			Sheet 1 of 1



GABION DETAILS

STANDARD SIZES

SIZE	LENGTH	WIDTH	HEIGHT	NUMBER OF CELLS	CAPACITY (Cu. Yd.)
A	6'-0"	3'-0"	3'-0"	2	2.0
B	9'-0"	3'-0"	3'-0"	3	3.0
C	12'-0"	3'-0"	3'-0"	4	4.0
D	6'-0"	3'-0"	1'-6"	2	1.0
E	9'-0"	3'-0"	1'-6"	3	1.5
F	12'-0"	3'-0"	1'-6"	4	2.0
G	6'-0"	3'-0"	1'-0"	2	0.7
H	9'-0"	3'-0"	1'-0"	3	1.0
I	12'-0"	3'-0"	1'-0"	4	1.3

GENERAL NOTES: Above dimensions subject to mill tolerances.

Lacing and internal connecting wire will be 0.0866 inch diameter steel wire ASTM A641, Class 3 soft temper measured after galvanizing and for PVC coated gabions will be 0.0866 inch diameter steel wire measured after galvanizing but before PVC coating.

The lacing procedure is as follows:

1. Cut a length of lacing wire approximately 1½ times the distance to be laced but not exceeding 5 feet.
2. Secure the wire terminal at the corner by looping and twisting.
3. Proceed lacing with alternating single and double loops at a spacing not to exceed 6 inches.
4. Securely fasten the other lacing wire terminal.

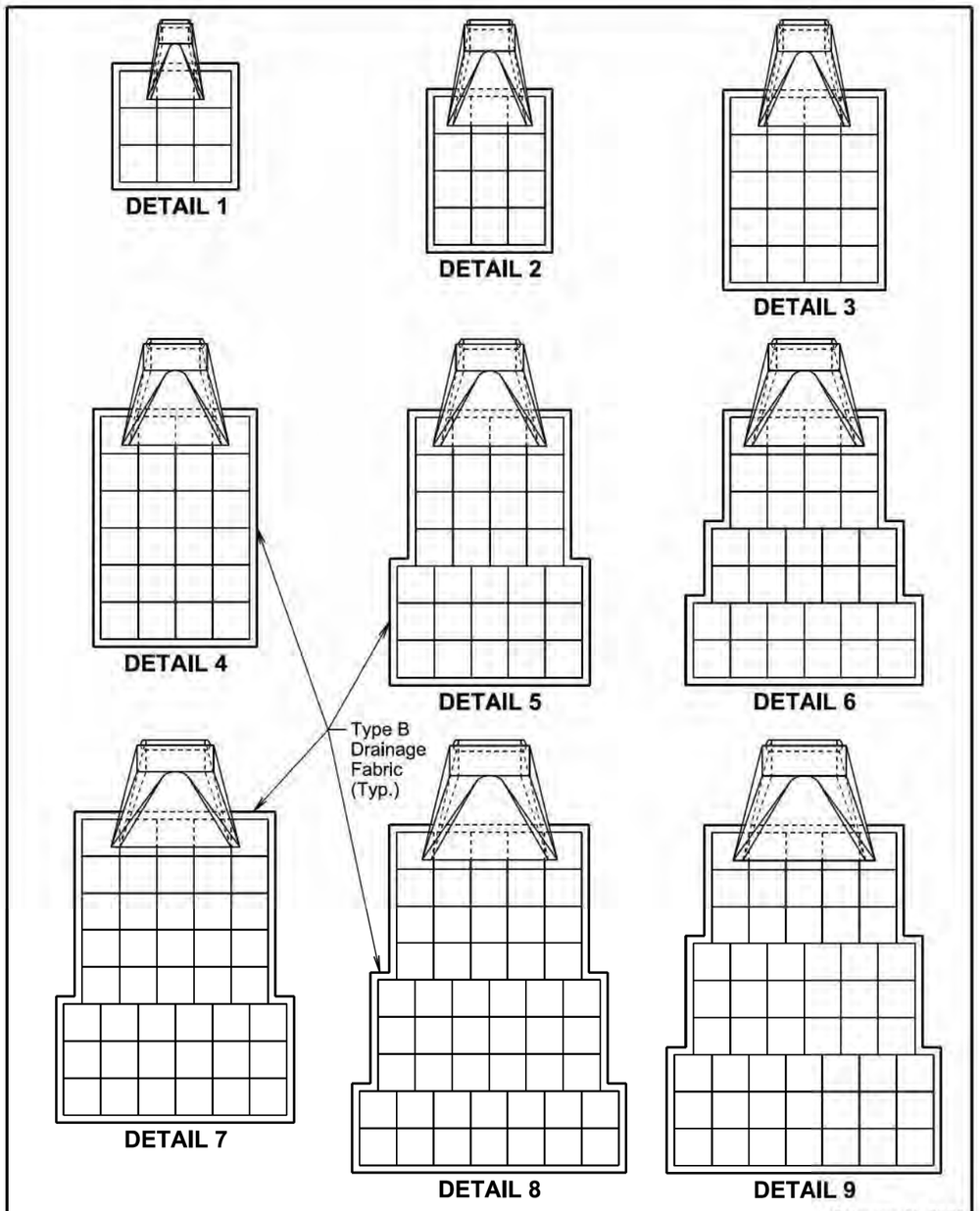
Wire lacing or interlocking type fasteners will be used for gabion assembly and final construction of gabion structures. Interlocking fasteners for galvanized gabions will be high tensile 0.120 inch diameter galvanized steel wire measured after galvanizing. The galvanizing will conform to ASTM A641-92, Class 3 coating. Fasteners will also be in accordance with ASTM A764, Class II, Type III.

Interlocking fasteners for PVC coated gabions will be high tensile 0.120 inch diameter stainless steel wire conforming to ASTM A313, Type 302, Class 1. The spacing of the interlocking fasteners during all phases of assembly and construction will not exceed 6 inches.

All fasteners will be placed where the mesh weaves around the selvage wire at the vertical and horizontal joints.

February 14, 2020

Published Date: 2027	SDDOT	BANK AND CHANNEL PROTECTION GABIONS	PLATE NUMBER 720.01
			Sheet 1 of 1



February 14, 2020

	* ESTIMATED QUANTITIES			
	Detail	Pipe Diameter (Inches)	Gabion (Cu. Yd.)	Type B Drainage Fabric (Sq. Yd.)
RCP, RCP Arch, CMP, and CMP Arch	1	12, 18, and 24	4.5	15
	2	30 and 36	6.0	19
	3	42	10.0	29
	4	48 and 54	12.0	34
	5	60	15.5	43
	6	66	17.0	47
	7	72	21.5	57
	8	78	26.0	68
	9	84	27.0	70

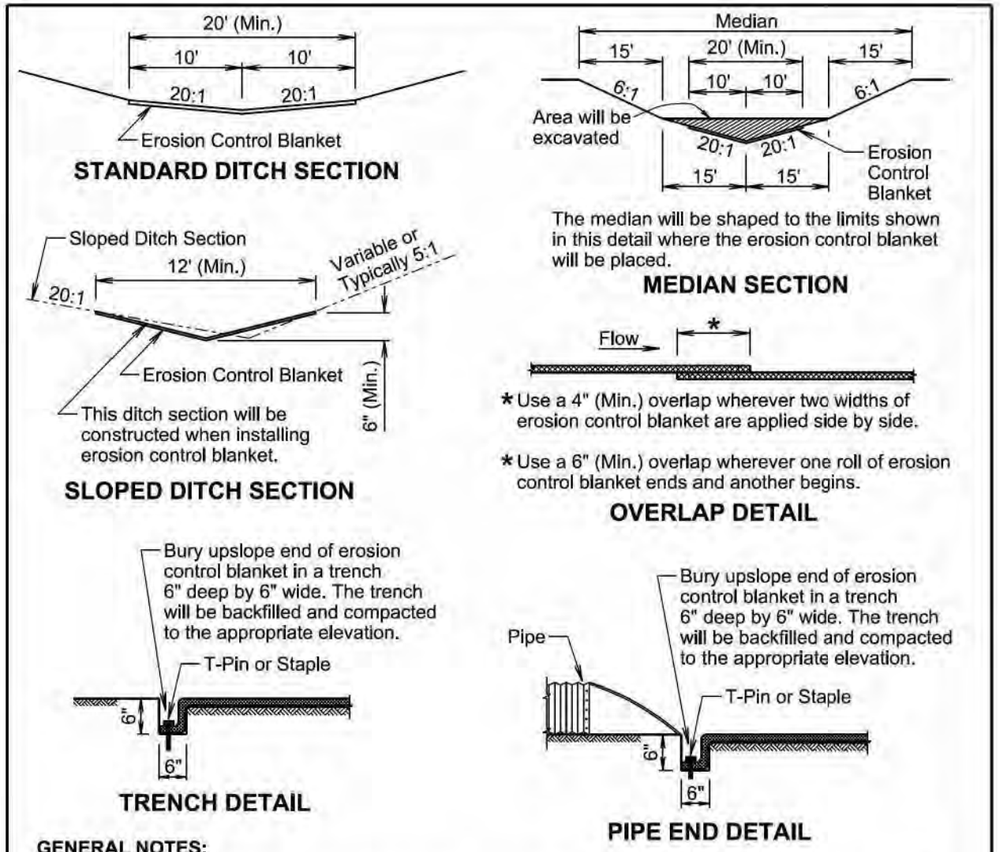
GENERAL NOTES:

Gabions at outlets of CMP and RCP will be placed under the end section a distance of 2 feet from the outlet end. For CMP end section installations, the upper fabric of the gabions will be modified to accommodate the metal end section as approved by the Engineer.

* Gabion and type B drainage fabric quantities on this standard plate are based on standard gabion sizes D, E, and F as depicted on standard plate 720.01.

Type B drainage fabric will be placed under the gabions and around the exterior sides (perimeter) of the gabions as approved by the Engineer. The type B drainage fabric will be in conformance with Section 831 of the Specifications. Measurement and payment of the type B drainage fabric will be in conformance with Section 720 of the Specifications.

February 14, 2020



STANDARD DITCH SECTION

SLOPED DITCH SECTION

TRENCH DETAIL

The median will be shaped to the limits shown in this detail where the erosion control blanket will be placed.

MEDIAN SECTION

* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.

OVERLAP DETAIL

PIPE END DETAIL

GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas will be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket will be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket will be buried in a trench 6" wide by 6" deep. There will be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

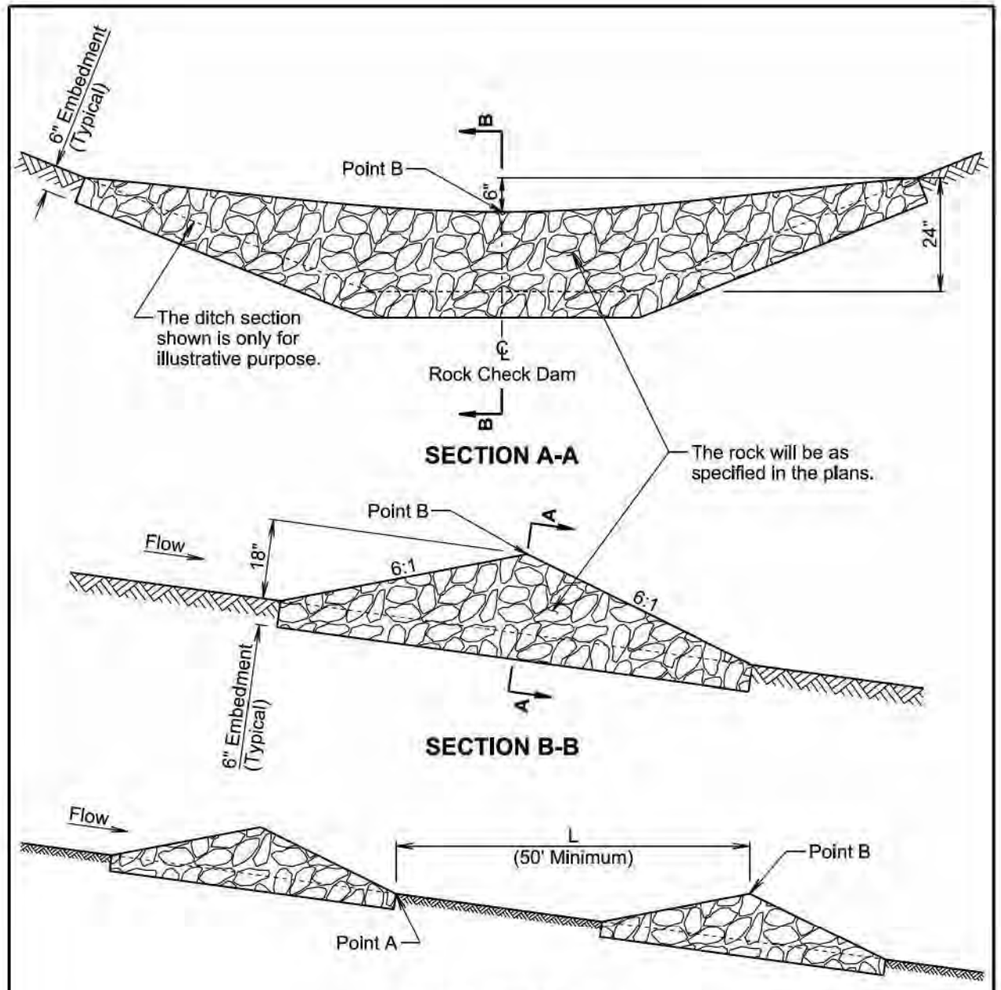
The erosion control blanket will be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor will fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections will be shaped when installing the erosion control blanket. All costs for shaping the ditches will be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

February 14, 2020

Published Date: 2027	SDDOT	***EROSION CONTROL BLANKET***	*PLATE NUMBER* 734.01
			Sheet 1 of 1



SECTION A-A

SECTION B-B

SECTIONAL VIEW
(Section along center line of rock ckeck dams)

GENERAL NOTES:

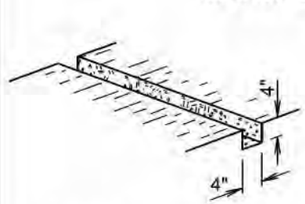
The elevation of Point A and Point B will be the same. The distance L is the distance required such that Point A and Point B are at the same elevation.

All costs for constructing the rock check dam including labor, equipment, excavation, and rock will be incidental to the contract unit price per cubic yard for "Rock Check Dam".

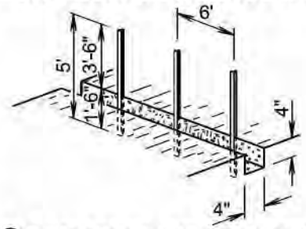
February 14, 2020

Published Date: 2027	SDDOT	***ROCK CHECK DAM***	*PLATE NUMBER* 734.03
			Sheet 1 of 1

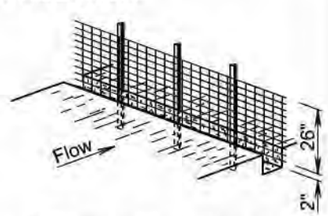
MANUAL LOW FLOW SILT FENCE INSTALLATION



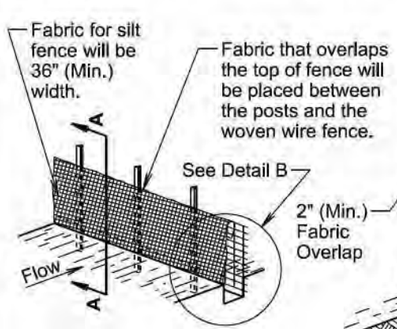
① EXCAVATE TRENCH



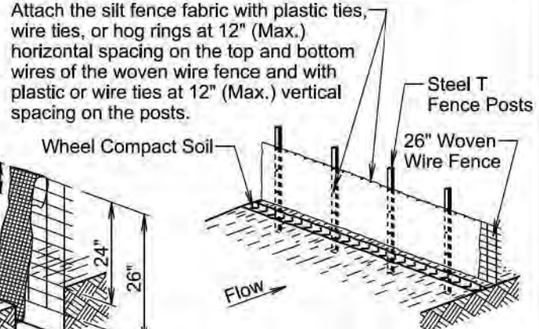
② DRIVE STEEL T FENCE POSTS



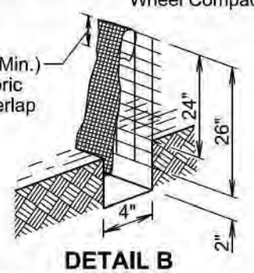
③ ATTACH 26" WOVEN WIRE FENCE TO POSTS



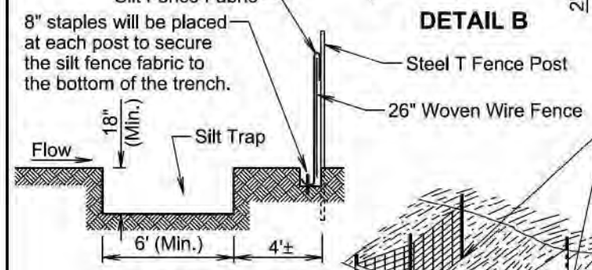
④ ATTACH SILT FENCE FABRIC



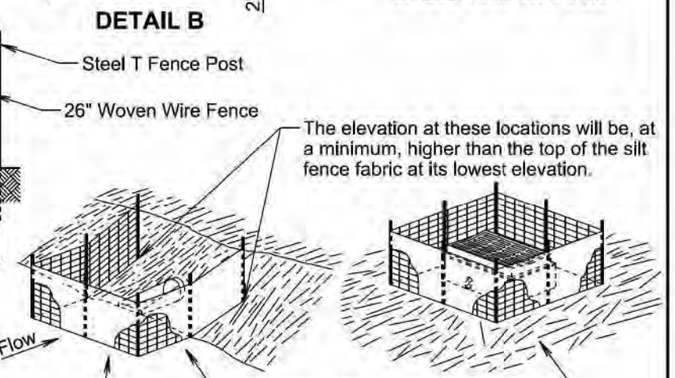
⑤ BACKFILL TRENCH AND WHEEL COMPACT SOIL



DETAIL B



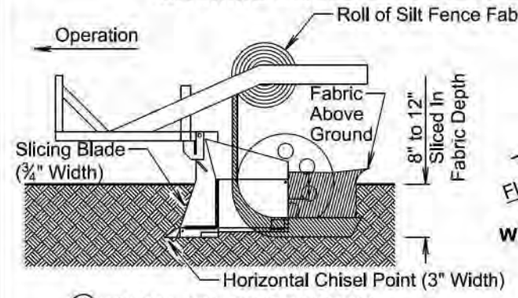
SECTION A-A



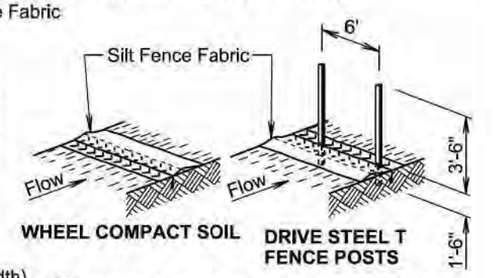
February 14, 2020

Published Date: 2027	SDDOT	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 1 of 2

MACHINE SLICED LOW FLOW SILT FENCE INSTALLATION



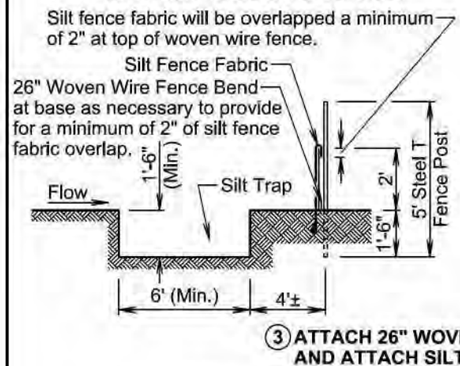
① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

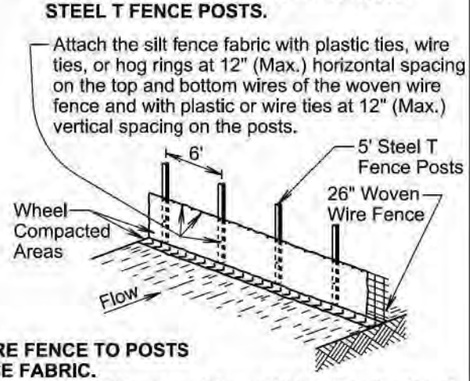


WHEEL COMPACT SOIL

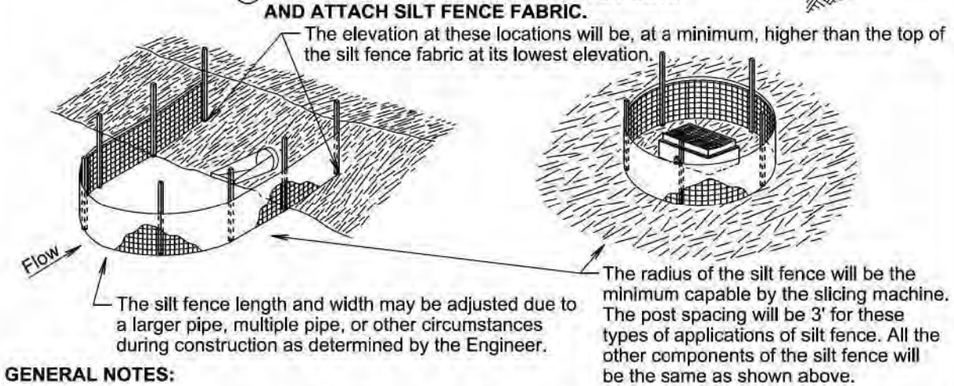
DRIVE STEEL T FENCE POSTS

② WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.





③ ATTACH 26" WOVEN WIRE FENCE TO POSTS AND ATTACH SILT FENCE FABRIC.



GENERAL NOTES:

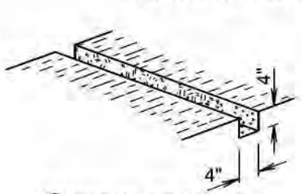
A silt trap will be provided when specified by a plan note. All costs for constructing the silt trap will be incidental to the contract unit price per cubic yard for "Silt Trap".

If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end will be provided on top of the extra length of silt fence fabric to prevent underflow.

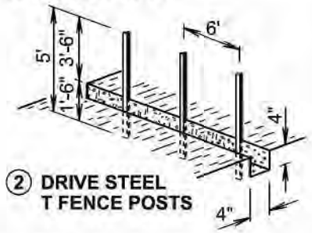
February 14, 2020

Published Date: 2027	SDDOT	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 2 of 2

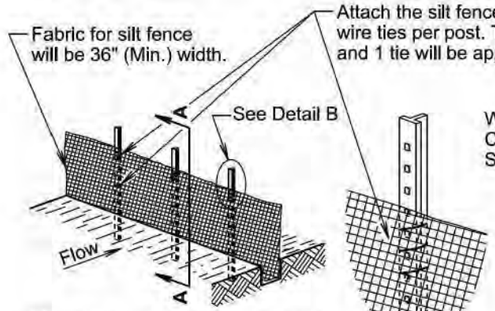
MANUAL HIGH FLOW SILT FENCE INSTALLATION



① EXCAVATE TRENCH

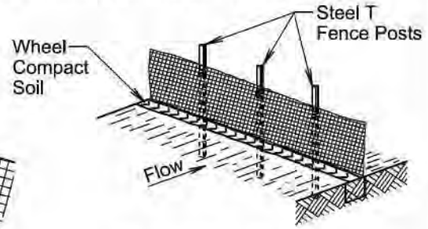


② DRIVE STEEL T FENCE POSTS

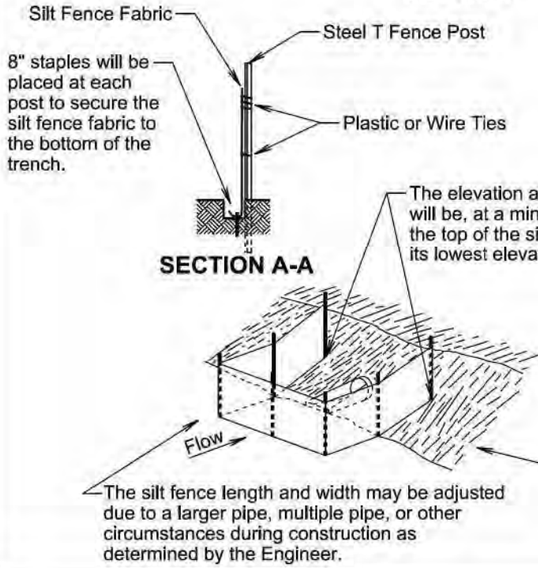


③ ATTACH SILT FENCE FABRIC

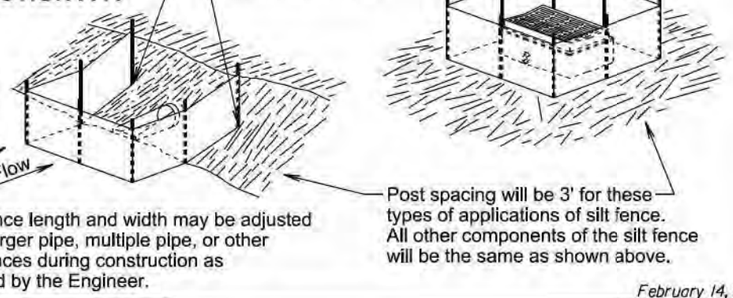
DETAIL B



④ BACKFILL TRENCH AND WHEEL COMPACT SOIL



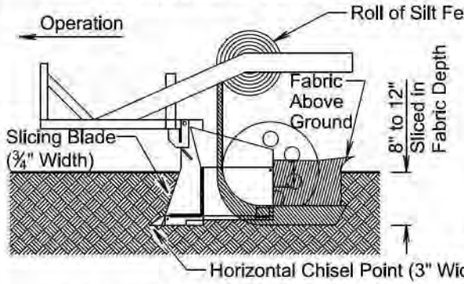
SECTION A-A



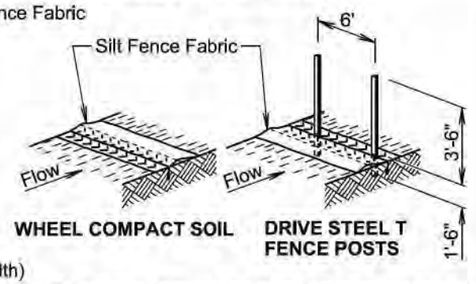
February 14, 2020

Published Date: 2027	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



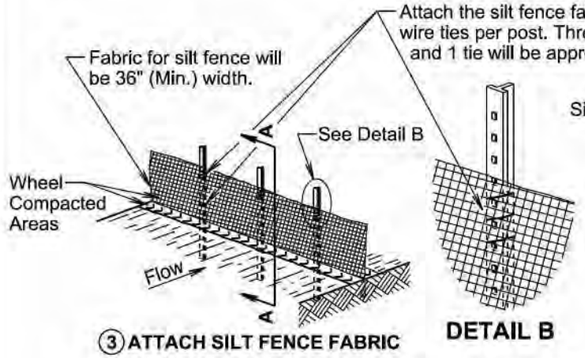
① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.



WHEEL COMPACT SOIL

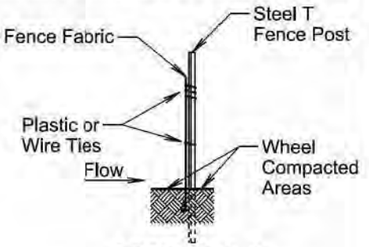
DRIVE STEEL T FENCE POSTS

② WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.

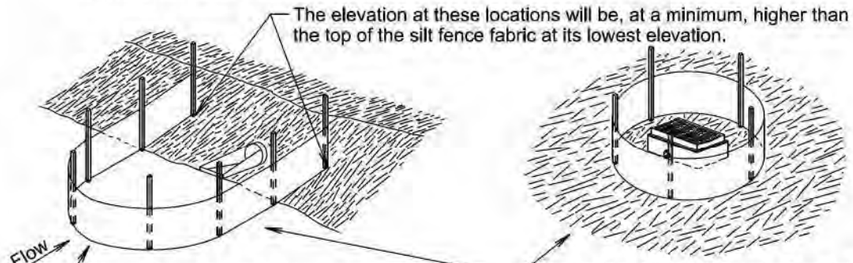


③ ATTACH SILT FENCE FABRIC

DETAIL B



SECTION A-A

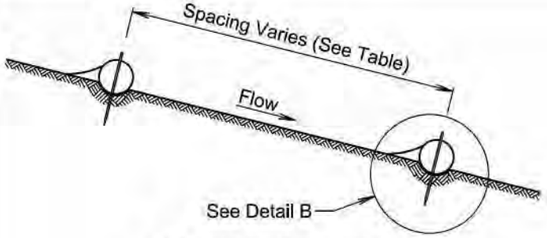


GENERAL NOTE:

If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end will be provided on top of the extra length of silt fence fabric to prevent underflow.

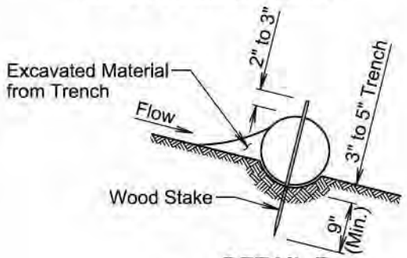
February 14, 2020

Published Date: 2027	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

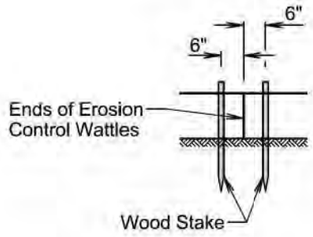


ELEVATION VIEW
(Cut or Fill Slope Installation)

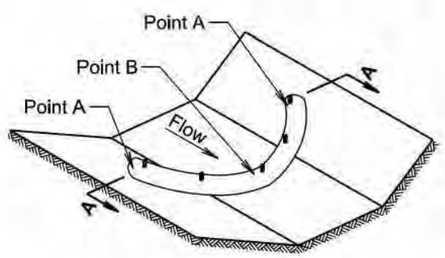
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft.)
1:1	10
2:1	20
3:1	30
4:1	40



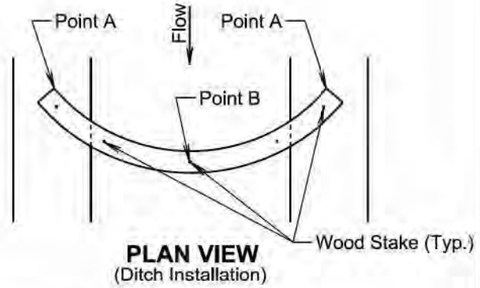
DETAIL B
(Typical of All Installations)



DETAIL C
(See General Notes)

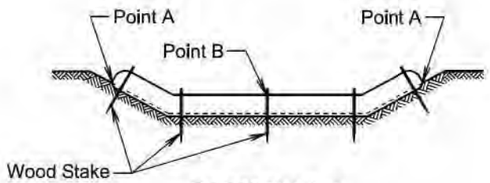


ISOMETRIC VIEW
(Ditch Installation)



PLAN VIEW
(Ditch Installation)

DITCH INSTALLATION	
Grade	Spacing (Ft.)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

February 14, 2020

Published Date: 2027	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles will be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor will dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes will be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes will be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles will be 3' to 4'.

Where installing running lengths of wattles, the Contractor will butt the second wattle tightly against the first and will not overlap the ends. See Detail C.

The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping will be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping will be incidental to the contract unit price per cubic yard for "Remove Sediment".

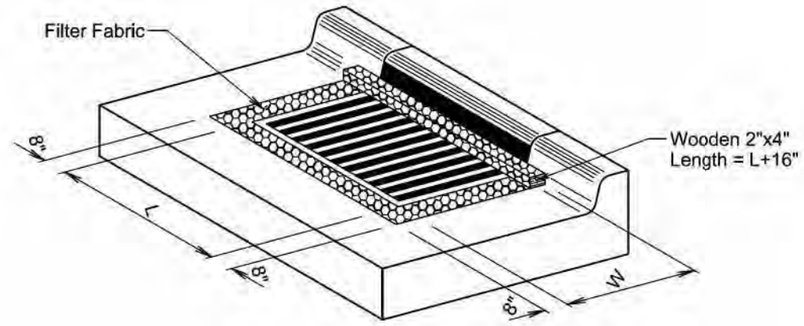
All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials will be incidental to the contract unit price per foot for the corresponding erosion control wattle contract item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

February 14, 2020

Published Date: 2027	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

L = Length of Grate
W = Width of Grate



ISOMETRIC VIEW

GENERAL NOTES:

The grate and curb and gutter shown are for illustrative purposes only.

The sediment control at inlet with frame and grate will be placed at locations stated in the plans or at locations determined by the Engineer.

The filter fabric will be the type specified in the plans.

The filter fabric will be placed in the inlet opening prior to placing the grate. Approximately 18 inches of excess filter fabric will be wrapped around the 2"x4" and stapled securely to the 2"x4" after the grate has been placed.

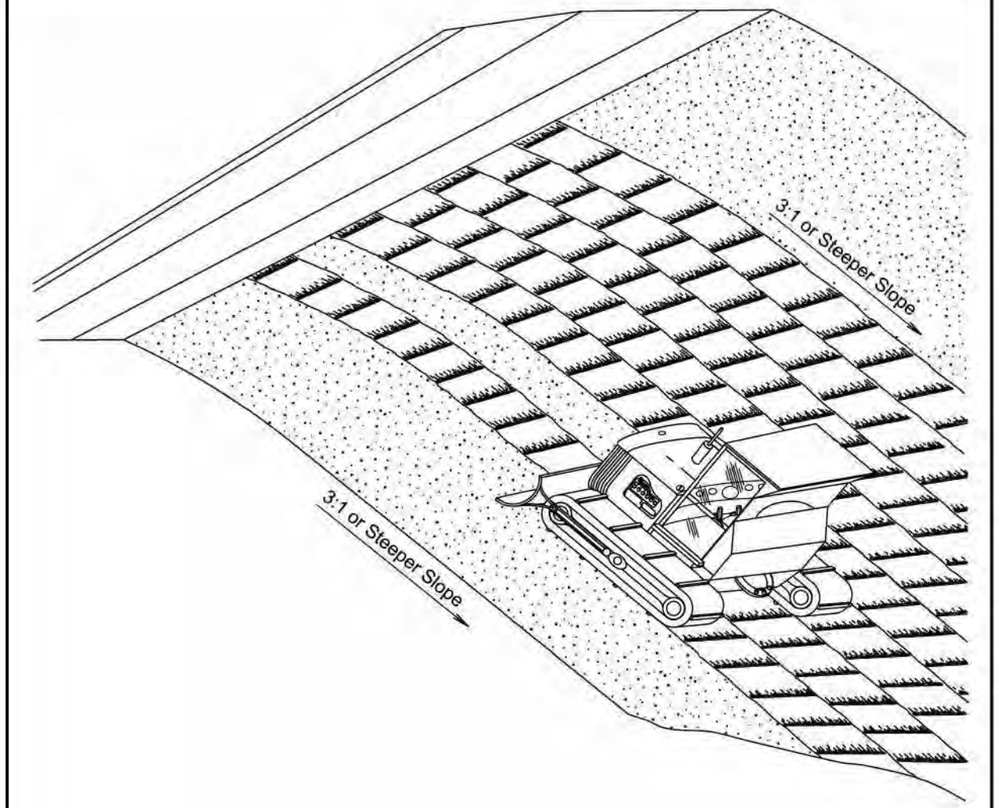
The Contractor and Engineer will inspect the sediment control device in accordance with the storm water permit. The Contractor will maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.

The removed sediment will be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

All costs for furnishing, installing, inspecting, maintaining, removing, and replacing the sediment control device at the inlet including labor, equipment, and materials will be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

February 14, 2020

Published Date: 2027	SDDOT	SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES	PLATE NUMBER 734.10
			Sheet 1 of 1



GENERAL NOTES:

Where practical, surface roughening will be done on slopes 3:1 and steeper and on slopes deemed necessary by the Engineer.

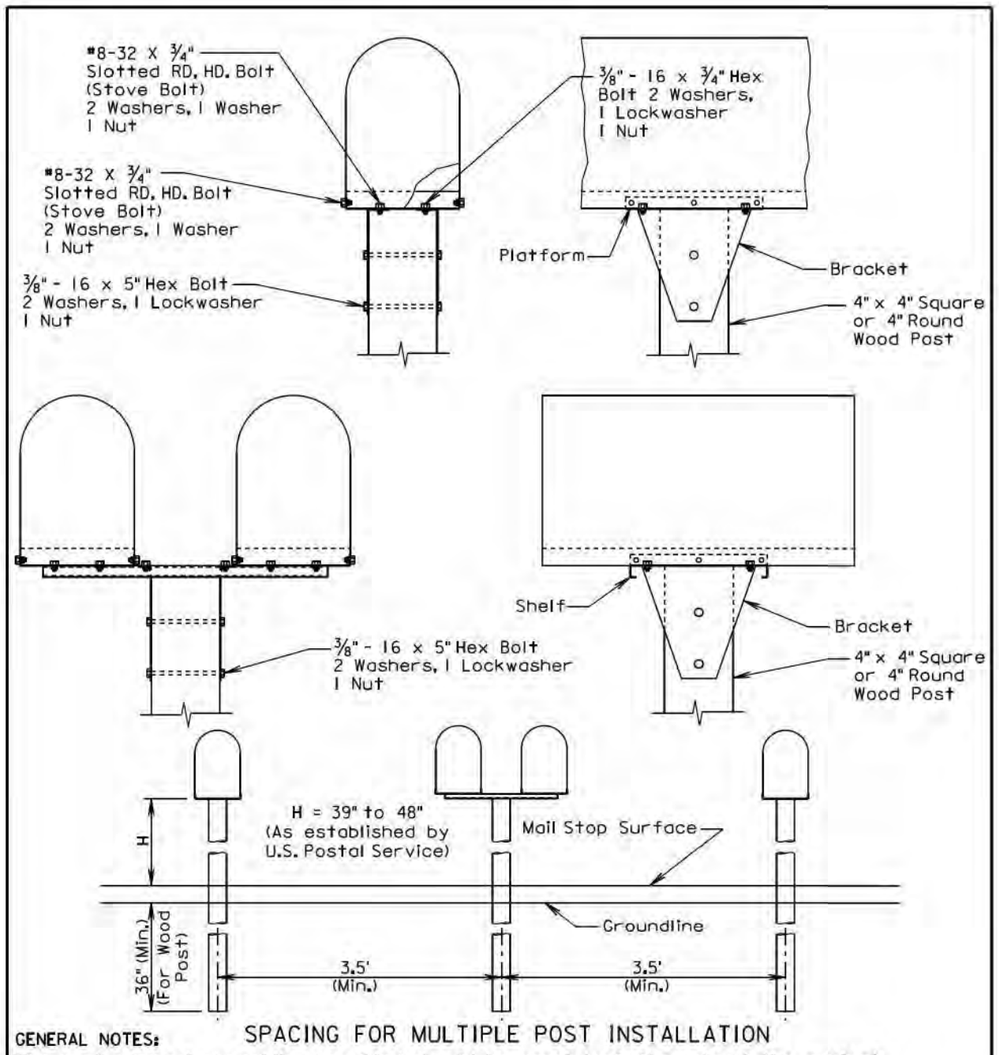
The equipment used for surface roughening will be equipped with tracks that are capable of creating ridges in the soil that are perpendicular to the slope. The final condition of the surface roughening will be approved by the Engineer.

Measurement for surface roughening will be to the nearest tenth of an acre.

All costs associated with surface roughening including labor, equipment, and materials will be incidental to the contract unit price per acre for "Surface Roughening".

February 14, 2020

Published Date: 2027	SDDOT	SURFACE ROUGHENING	PLATE NUMBER 734.25
			Sheet 1 of 1



SPACING FOR MULTIPLE POST INSTALLATION

GENERAL NOTES:

The post support assemblies provided should be consistant throughout the project.

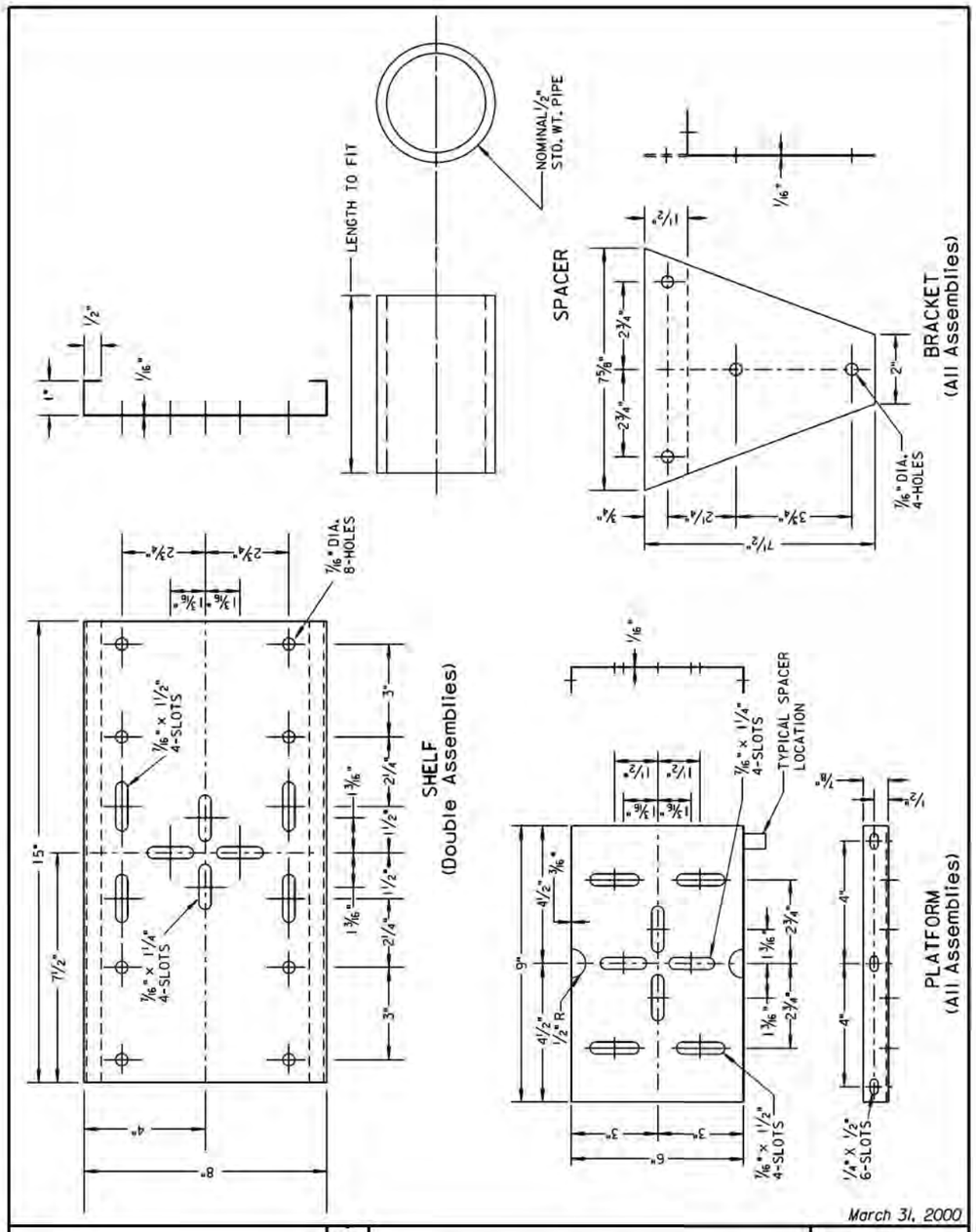
Single and double mailboxes may be in any sequence.

Post support assemblies shall be one from the approved products list, a 4"x4" or 4" round wood post, or an alternate post support assembly that meets the test level 3 crash testing requirements of NCHRP 350 or MASH.

Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation instructions.

September 6, 2013

Published Date: 2027	SDDOT	SINGLE AND DOUBLE MAILBOX ASSEMBLIES	PLATE NUMBER 900.02
			Sheet 1 of 1



March 31, 2000

Published Date: 2027	SDDOT	MAILBOX SUPPORT HARDWARE	PLATE NUMBER 900.03
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	113	124

FOR BIDDING PURPOSES ONLY

Plotting Date: 10/12/2026

Soil Legend

1. Clay Silt
2. Silt Clay
3. Clay
4. Sandy Clay
5. Clay Sand
6. Silty Sand
7. Sandy Silt
8. Sand
9. Silt
10. Gravel

The soils information presented is representative of the material encountered at the specific bore hole location.

The Geotechnical Engineering Activity has on file all of the boring logs for this project. These logs and additional results of laboratory tests, if any, are available for review at the Central Office in Pierre.

All borings were dry when drilled in May 2026.

⊖ Caved Hole

Hole Number	3	3	3	3
Station	18+00	18+00	18+00	18+00
Offset	62'LT	62'LT	62'LT	62'LT
Depth, ft	5.0-6.5	10.0-11.5	15.0-16.5	20.0-21.5
Moisture Depth, ft	----	----	----	----
Moisture, %	----	----	----	----
Dry Loose Wt, lbs/cuft	----	----	----	----
% Passing 3/8	99.5	100.0	100.0	100.0
% Passing #4	99.2	100.0	100.0	100.0
% Passing #10	98.8	100.0	100.0	100.0
% Passing #40	98.0	99.8	98.8	86.2
% Passing #200	96.9	99.3	93.6	73.0
% Sand	1.9	0.7	6.4	27.0
% Silt	15.1	14.5	23.2	20.6
% Clay	81.8	84.8	70.4	52.4
Liquid Limit	58	59	50	46
Plastic Limit	25	25	29	28
Plasticity Index	33	34	21	17
Soil Color	Light Tan	Gray	Gray	Gray
Textural Class.	Clay	Clay	Clay	Clay
AASHTO Class.	A-7-6 (20)	A-7-6 (20)	A-7-6 (14)	A-7-6 (12)

Hole Number	1	1	1	1	1
Station	13+00	13+00	13+00	13+00	13+00
Offset	73'LT	73'LT	73'LT	73'LT	73'LT
Depth, ft	5.0-6.5	9.0-10.5	14.0-15.5	19.0-20.5	25.0-26.5
Moisture Depth, ft	----	----	----	----	----
Moisture, %	----	----	----	----	----
Dry Loose Wt, lbs/cuft	----	----	----	----	----
% Passing 3/8	98.7	99.4	100.0	100.0	100.0
% Passing #4	98.3	98.8	99.6	99.9	100.0
% Passing #10	97.4	97.3	98.2	99.5	100.0
% Passing #40	93.2	93.3	95.7	98.8	99.3
% Passing #200	72.8	73.5	92.9	97.3	96.6
% Sand	24.6	23.8	5.3	2.3	3.4
% Silt	28.6	30.3	16.9	19.2	18.8
% Clay	44.2	43.2	76.0	78.0	77.8
Liquid Limit	41	42	54	62	54
Plastic Limit	18	17	24	26	27
Plasticity Index	23	25	30	36	27
Soil Color	Tan	Brown	Brown	Brown	Brown
Textural Class.	Silt Clay	Silt Clay	Clay	Clay	Clay
AASHTO Class.	A-7-6 (13)	A-7-6 (14)	A-7-6 (19)	A-7-6 (20)	A-7-6 (18)

Hole Number	2	2	2	2	2
Station	15+50	15+50	15+50	15+50	15+50
Offset	40'RT	40'RT	40'RT	40'RT	40'RT
Depth, ft	4.0-5.5	11.0-12.5	14.0-15.5	19.0-20.5	25.0-26.5
Moisture Depth, ft	----	----	----	----	----
Moisture, %	----	----	----	----	----
Dry Loose Wt, lbs/cuft	----	----	----	----	----
% Passing 3/8	95.3	97.6	76.6	69.9	100.0
% Passing #4	93.9	97.4	70.1	90.7	100.0
% Passing #10	91.0	96.5	62.2	53.0	100.0
% Passing #40	84.6	93.3	43.3	42.1	99.4
% Passing #200	57.7	66.8	29.2	30.5	97.1
% Sand	33.3	29.7	33.0	22.6	2.9
% Silt	23.3	29.4	16.3	15.2	22.3
% Clay	34.4	37.4	12.9	15.3	74.8
Liquid Limit	34	36	27	32	51
Plastic Limit	16	16	15	15	28
Plasticity Index	19	20	13	17	23
Soil Color	Brown	Light Brown	Brown	Brown	Brown
Textural Class.	Sandy Clay	Sandy Clay	Gravelly Silty Sand	Gravelly Silty Sand	Clay
AASHTO Class.	A-6 (8)	A-6 (10)	A-2-6 (0)	A-2-6 (1)	A-7-6 (15)

REGISTERED PROFESSIONAL ENGINEER
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RICHARD A. SUDMEIER
SOUTH DAKOTA
10-12-26

Lamb Road

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	114	124

Plotting Date: 10/12/2026

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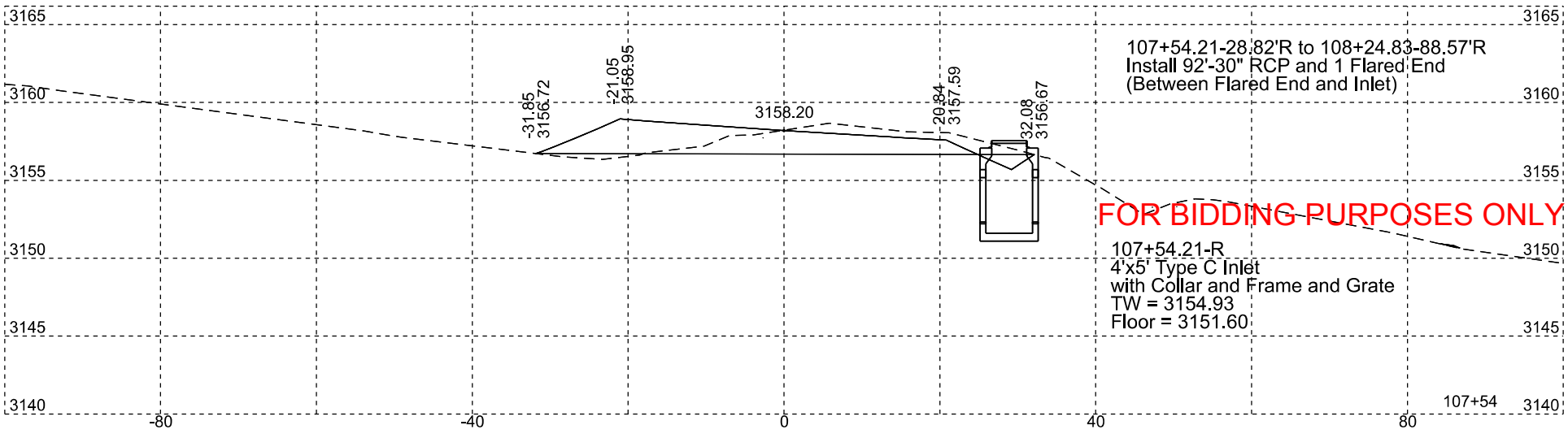
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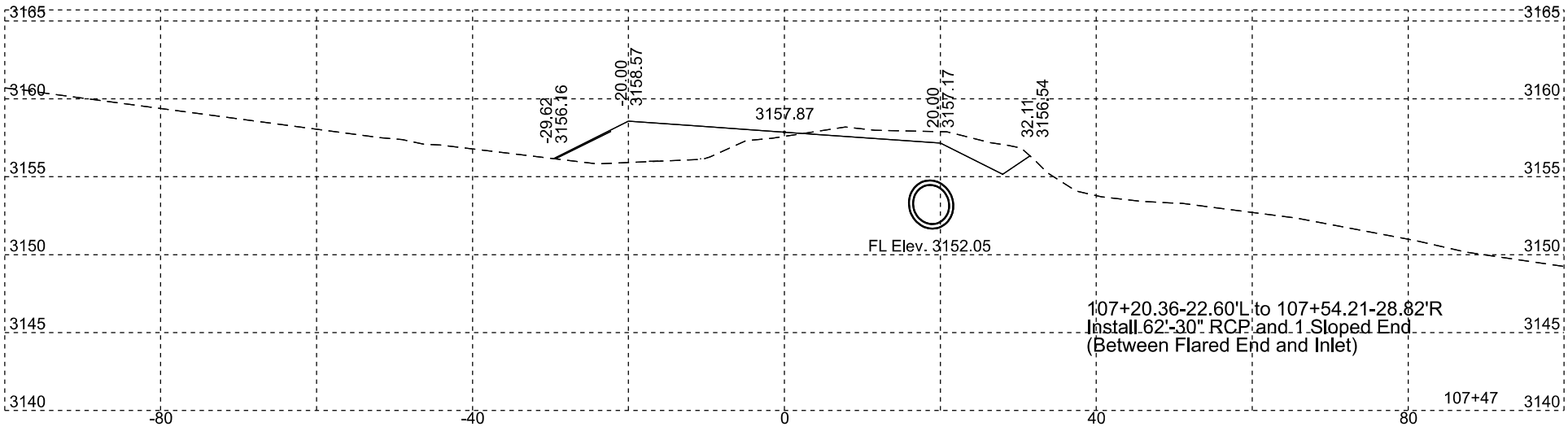
Lamb Road

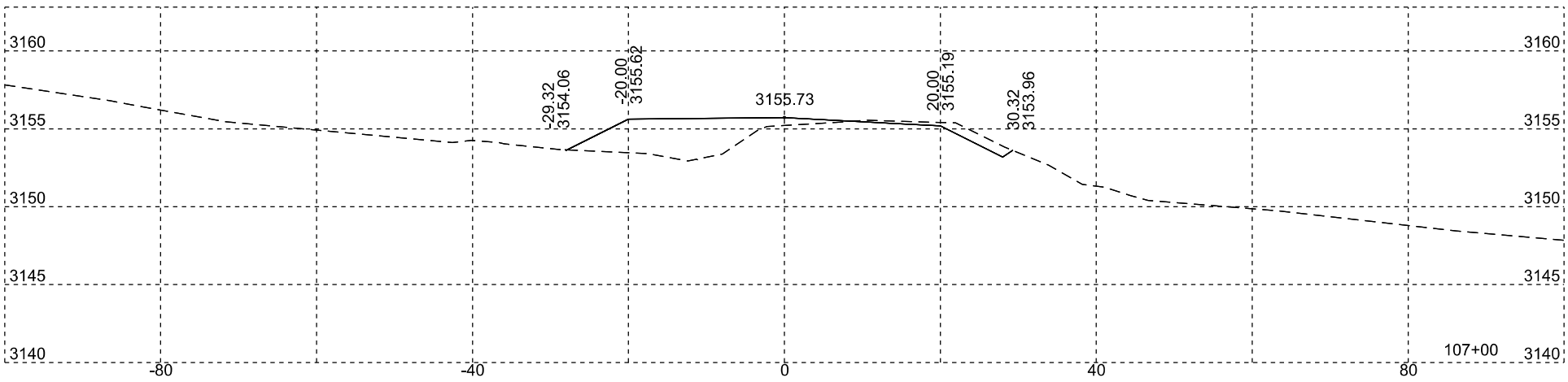
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	115	124

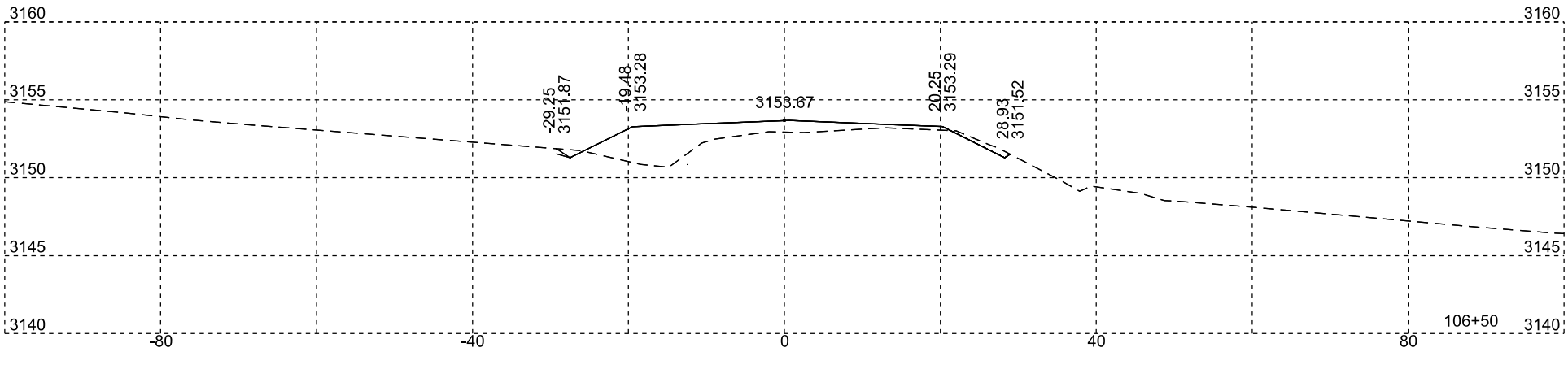
Plotting Date: 10/12/2026

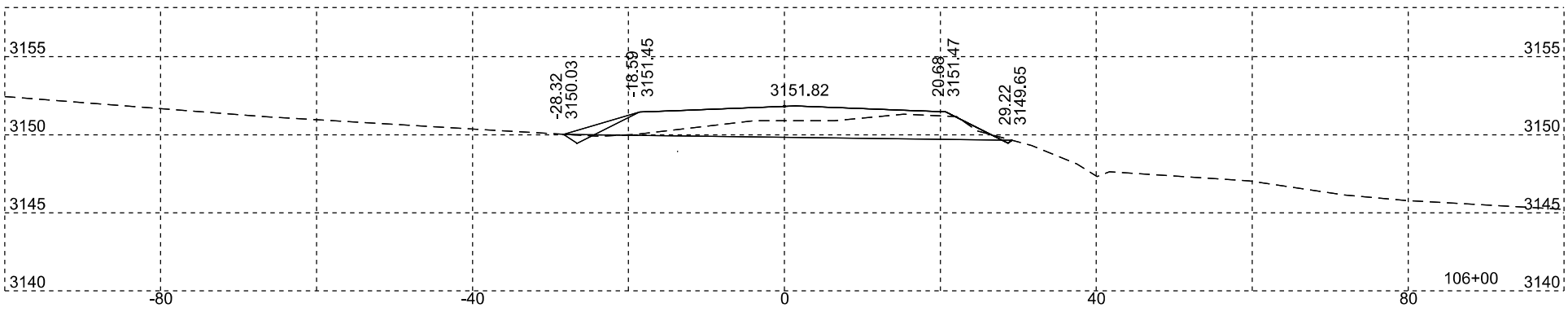
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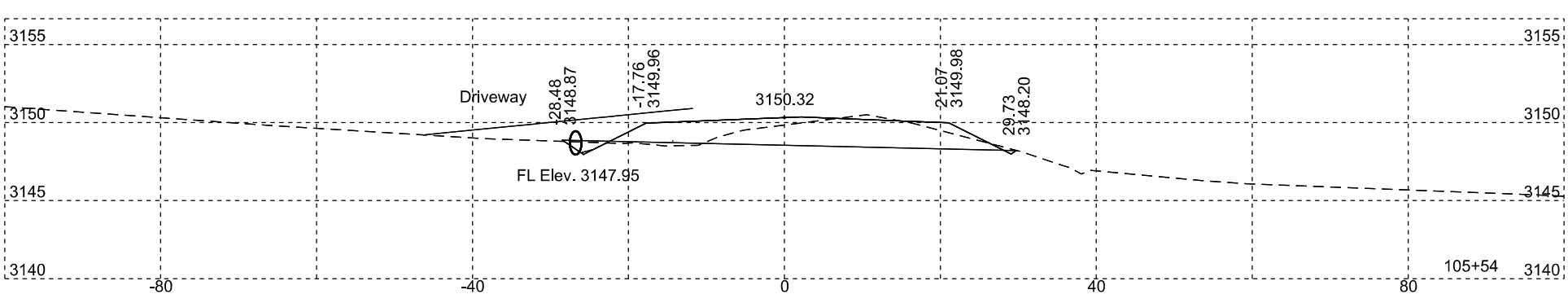












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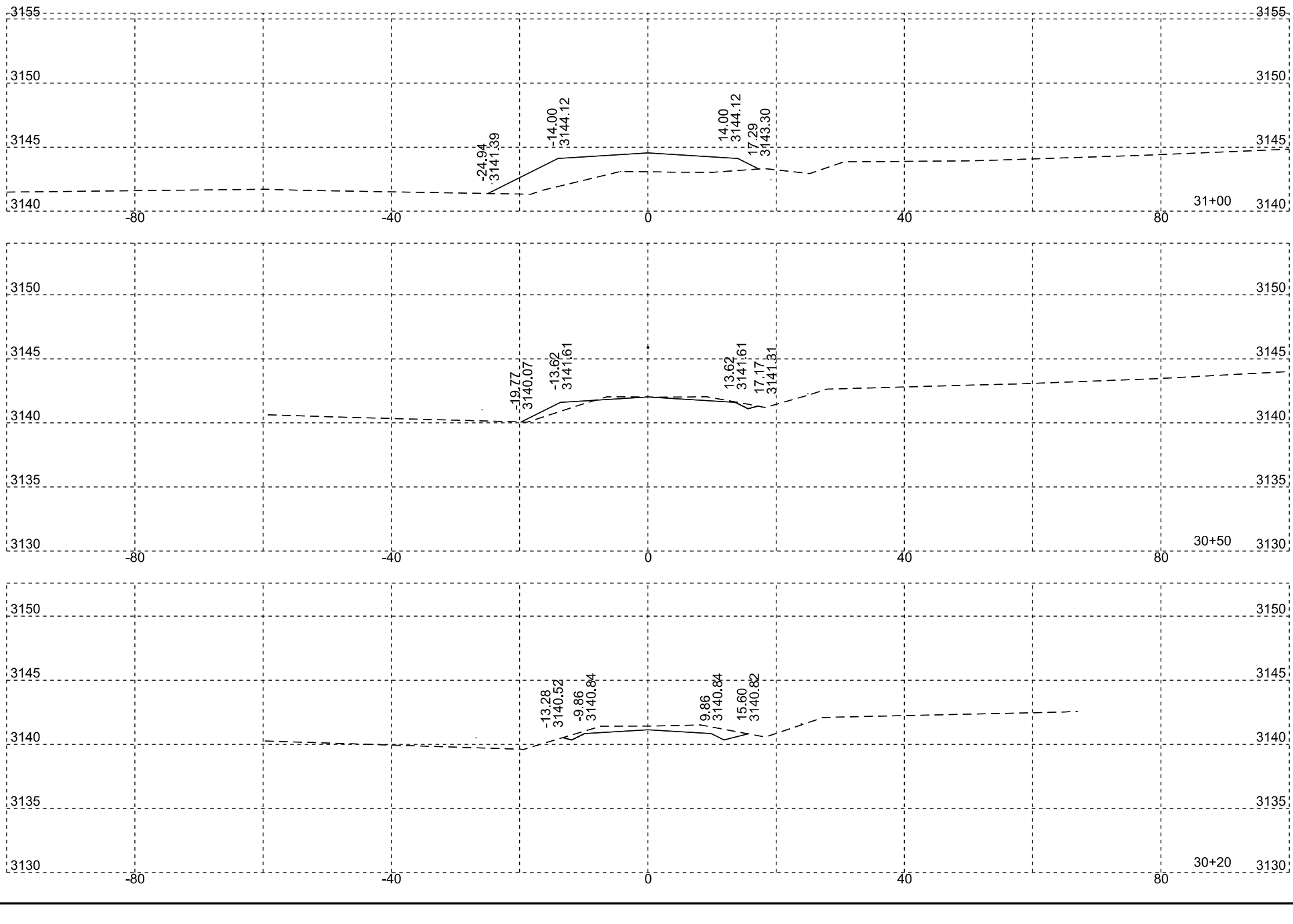
Barber Driveway

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	116	124

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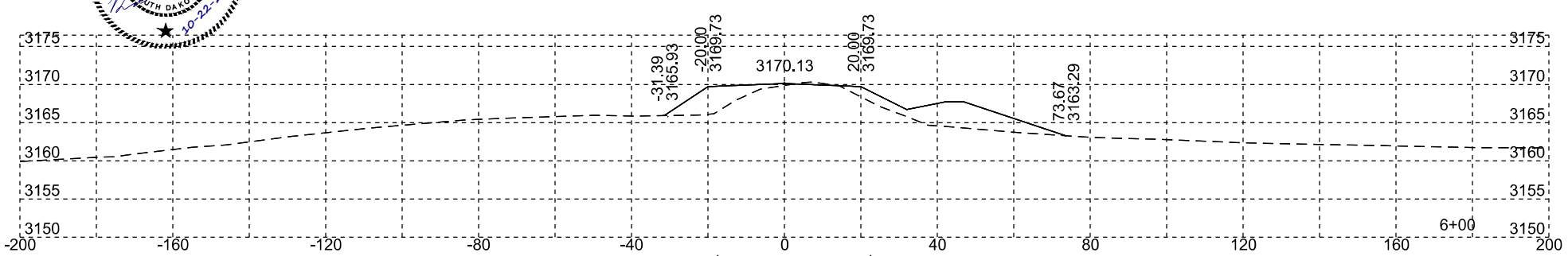
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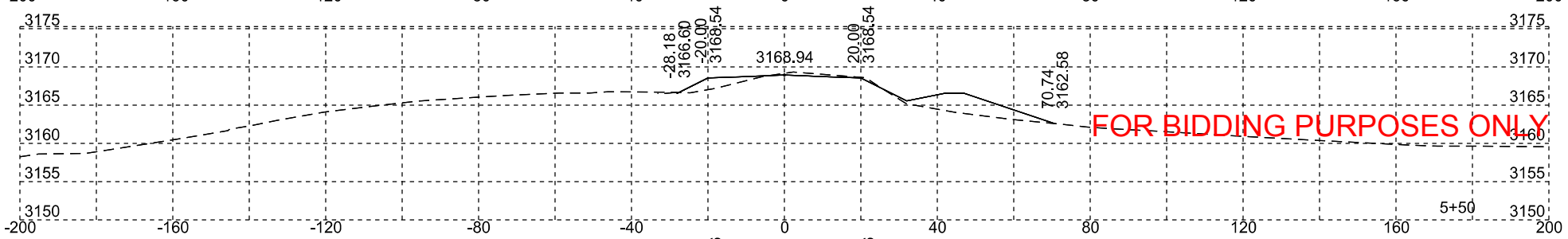
Reservoir Road

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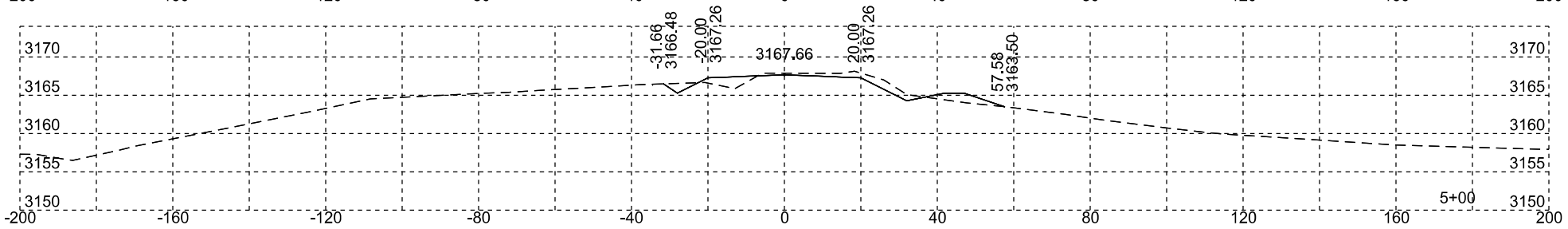
Plotting Date: 10/22/2026 Revised 10-22-26

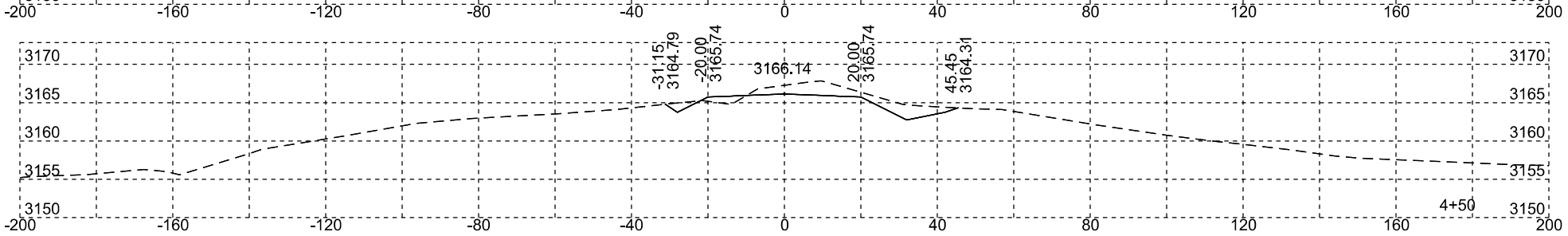
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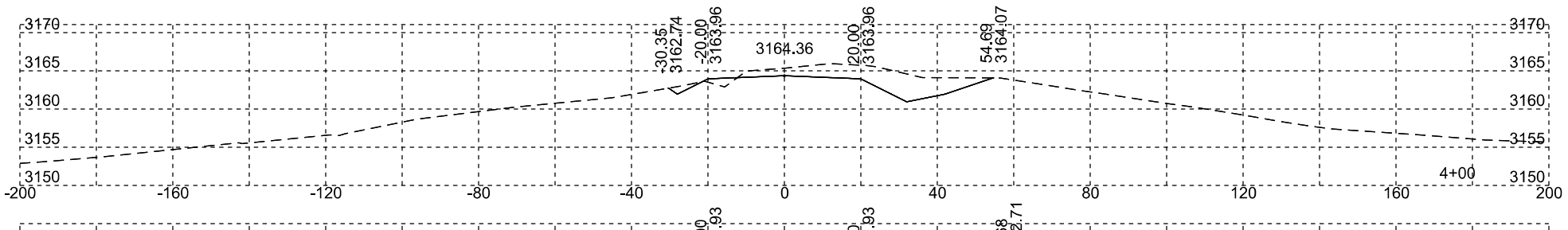


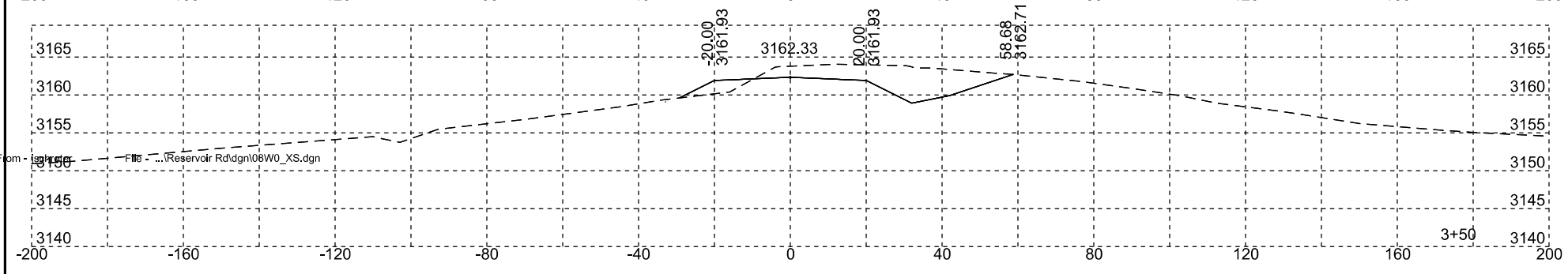


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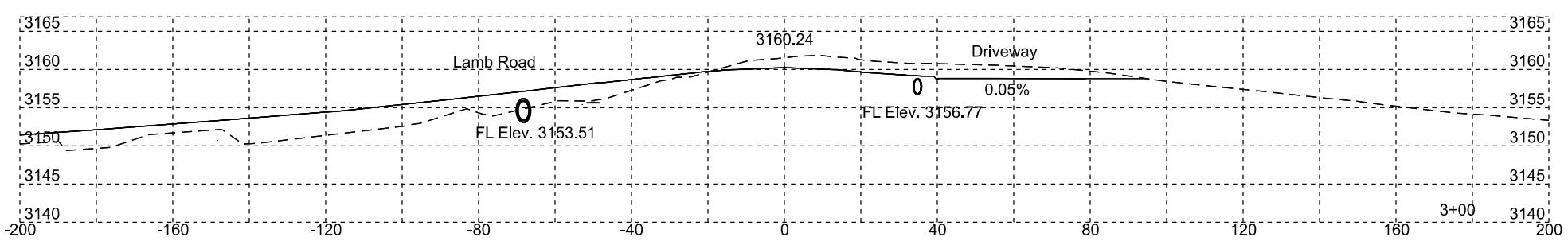


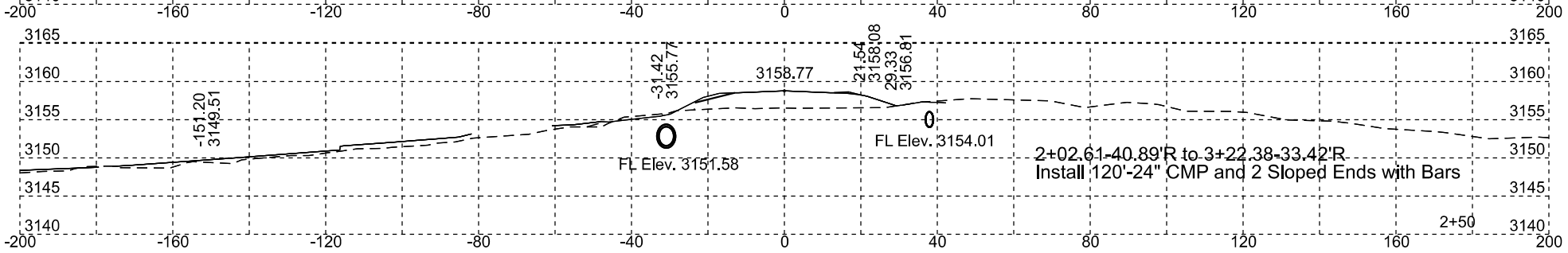


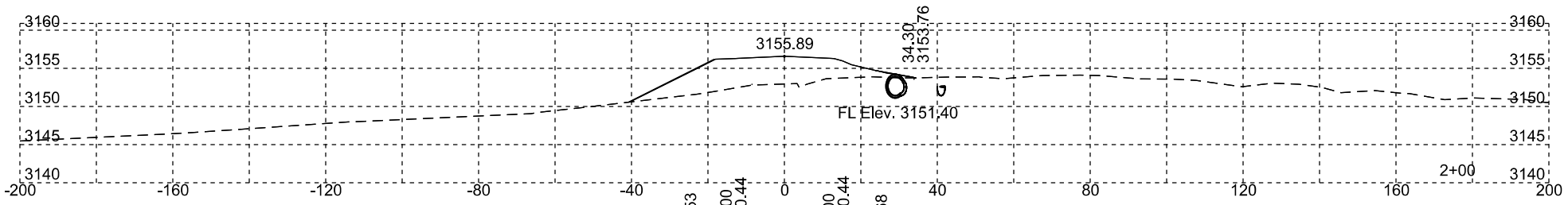


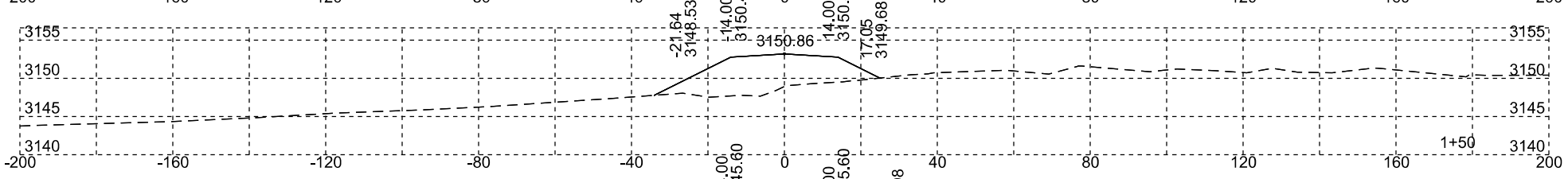


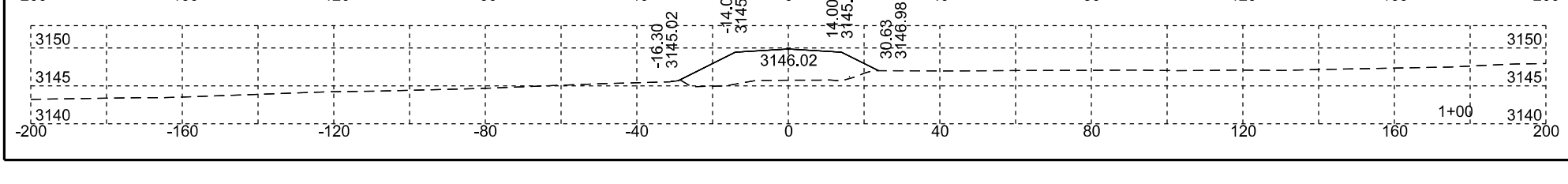
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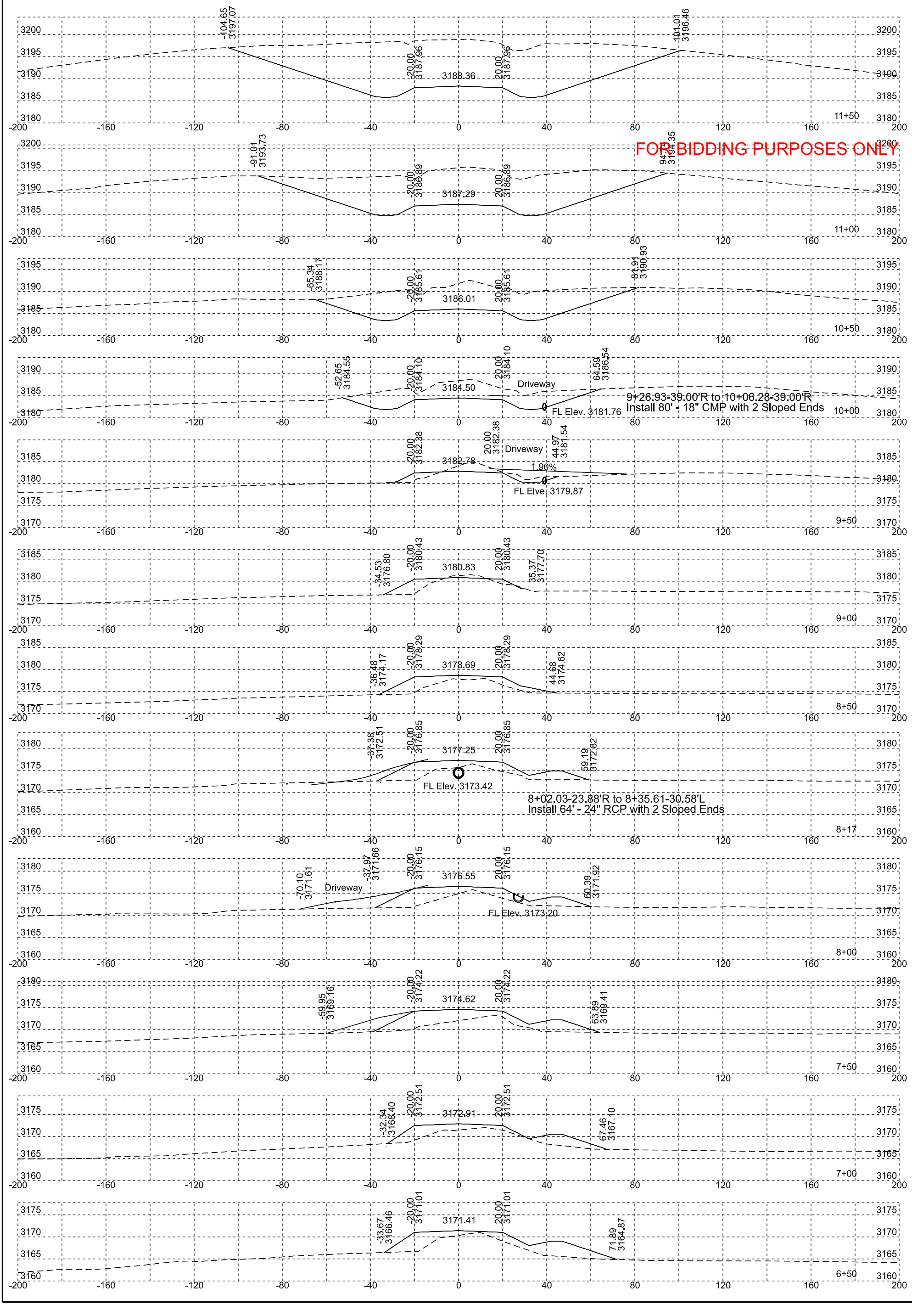
Reservoir Road

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	118	124

Plotting Date: 10/22/2026 Revised 10-22-26

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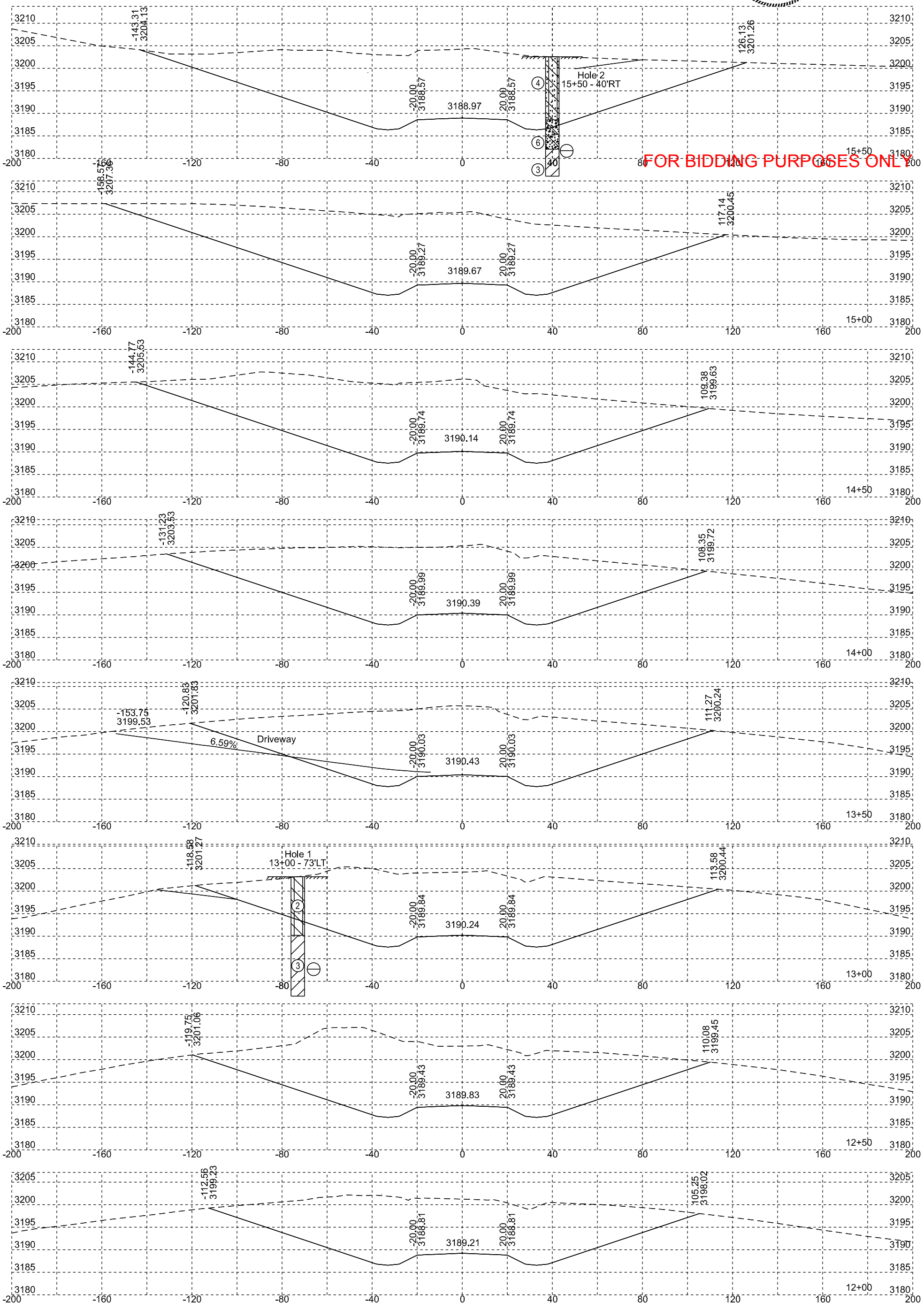
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Reservoir Road

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	PH 6637(01)	119	124

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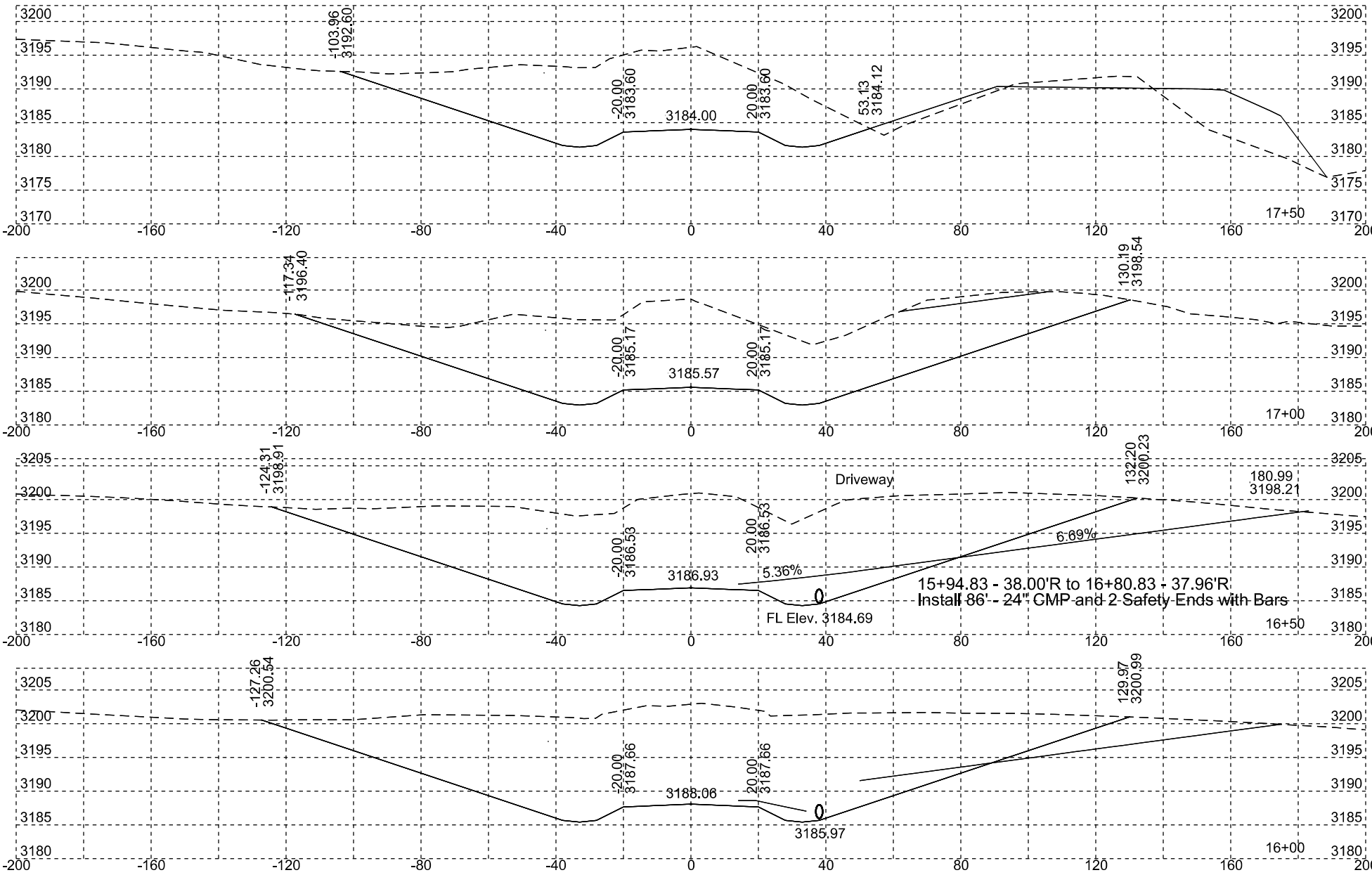
Reservoir Road

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	120	124

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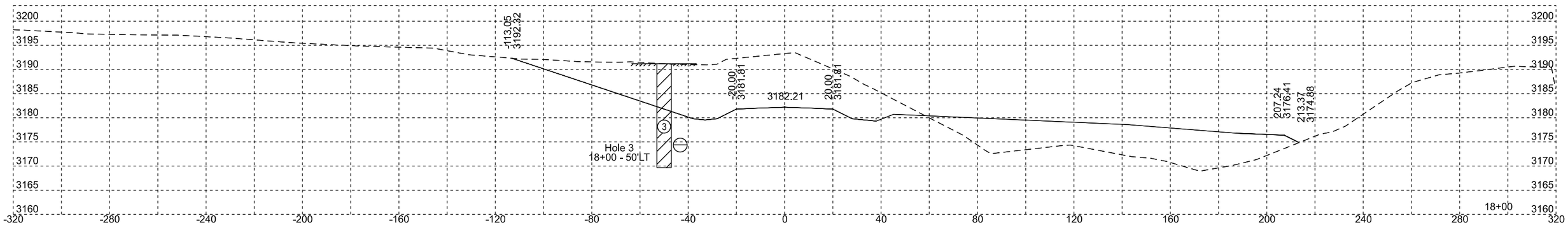
Reservoir Road

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	121	124

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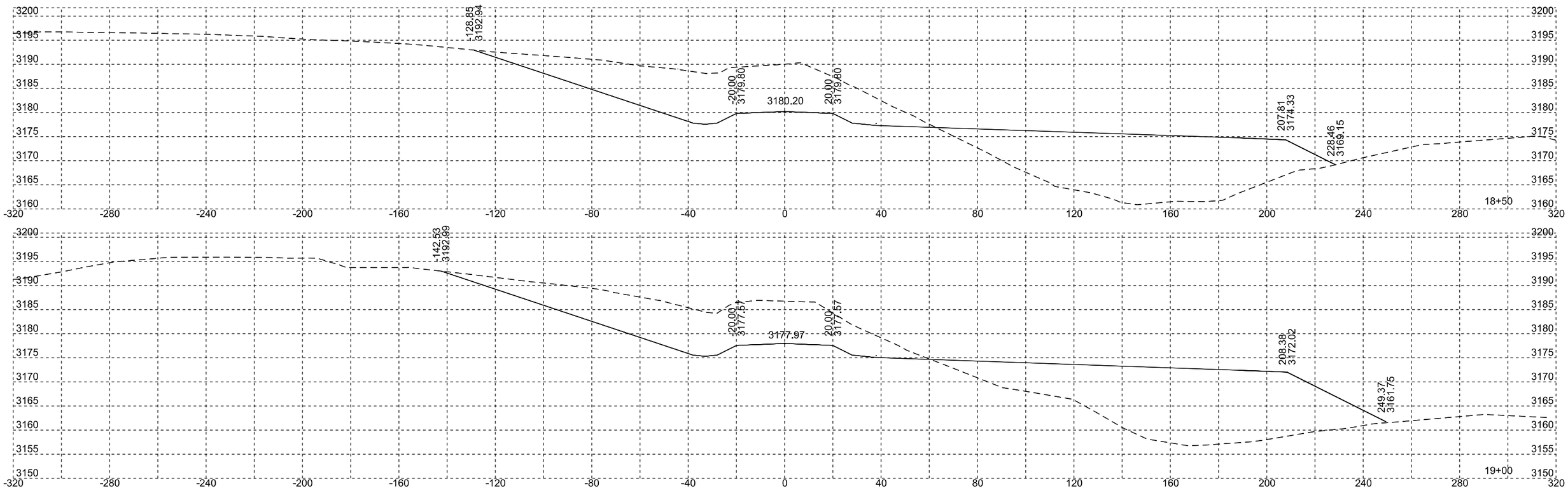
Reservoir Road

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	122	124

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Reservoir Road

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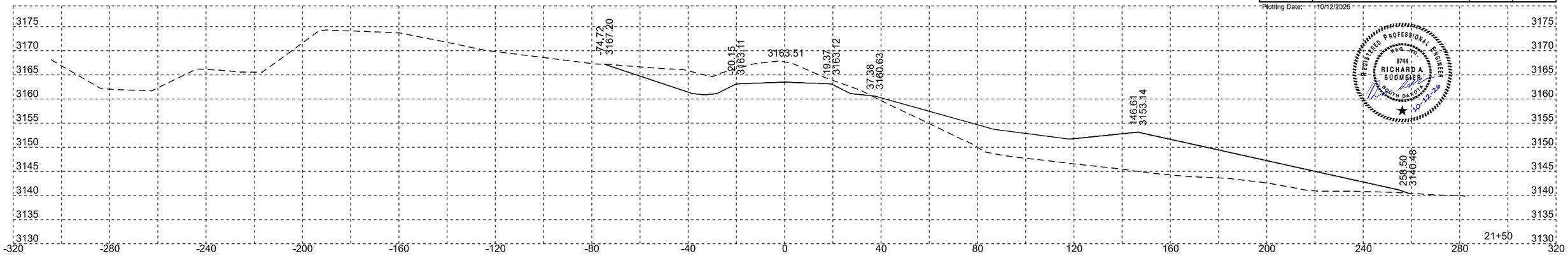
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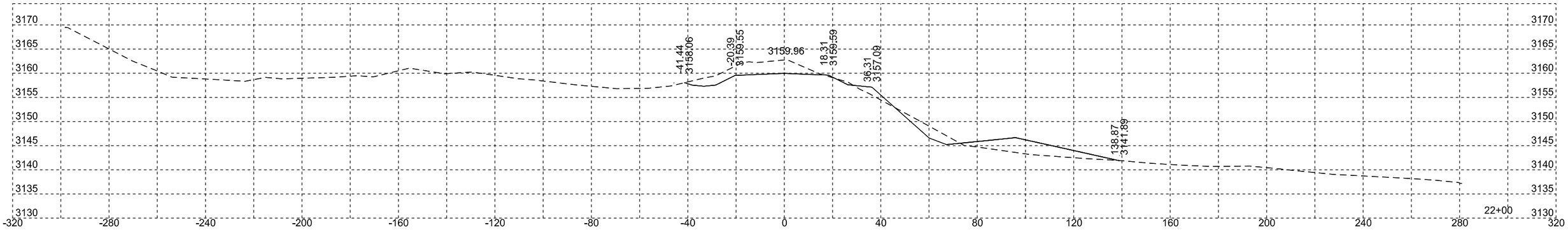
Reservoir Road

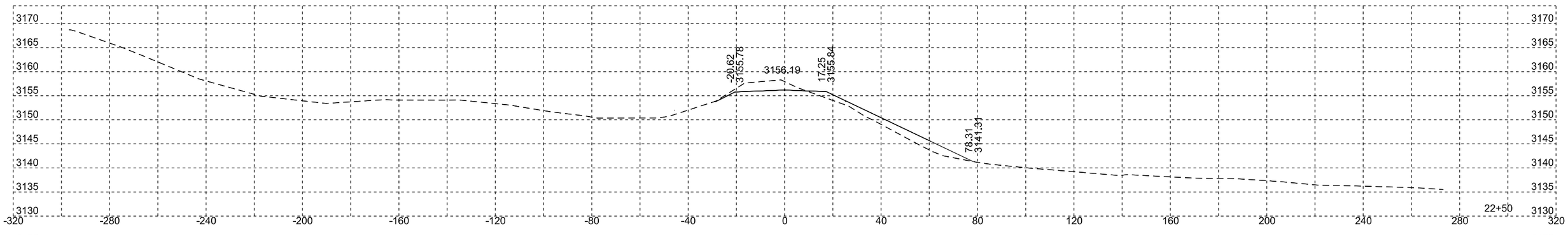
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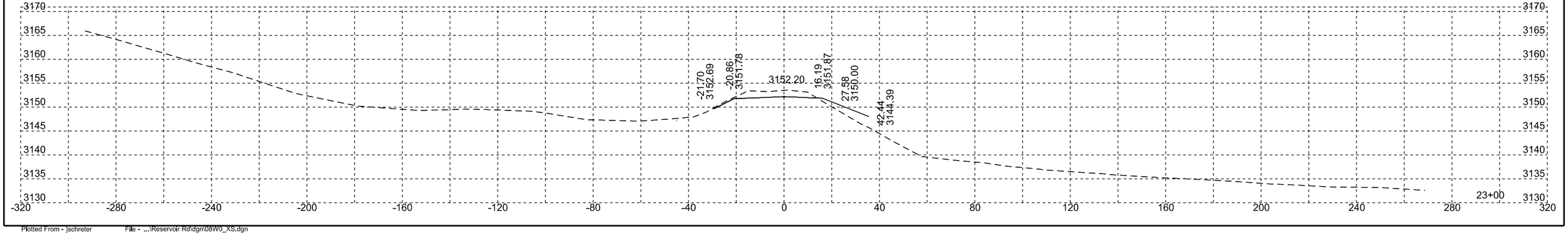
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	PH 6637(01)	124	124

Plotting Date: 10/12/2026









Plotted From - jschreter File - ...\Reservoir Rd\dgn\08W0_XS.dgn