

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT NH 014A(34)39
US HIGHWAY 14A
LAWRENCE COUNTY
INSLOPE REPAIR, PIPE WORK, GUARDRAIL
PCN 08RV

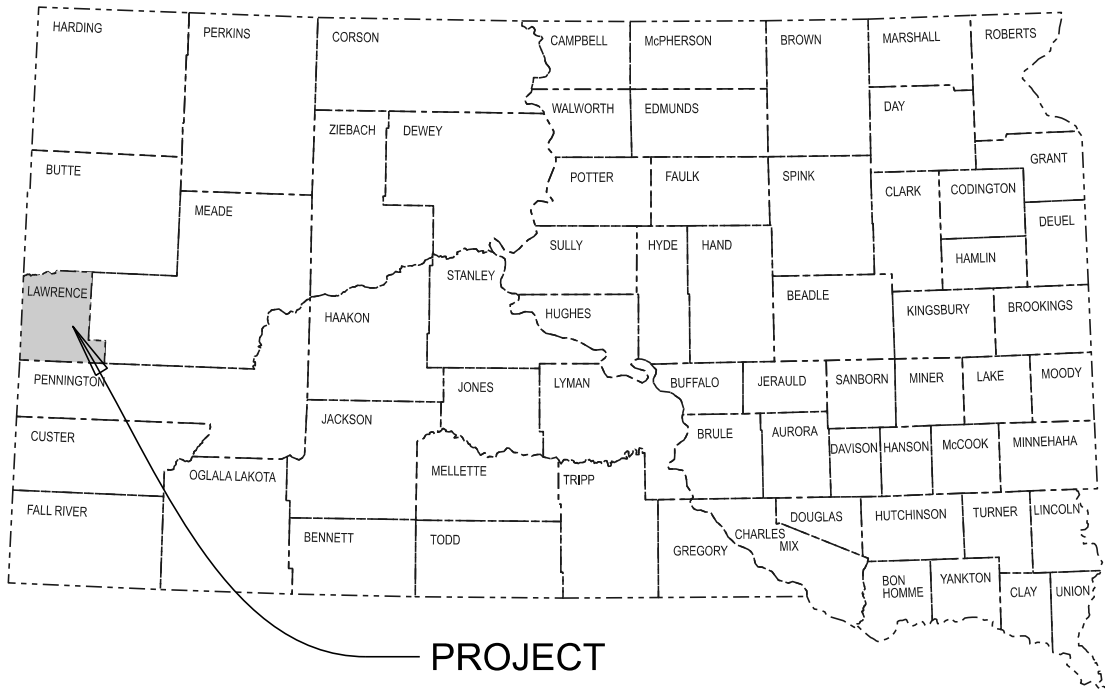


Plotting Date: 12/29/2025

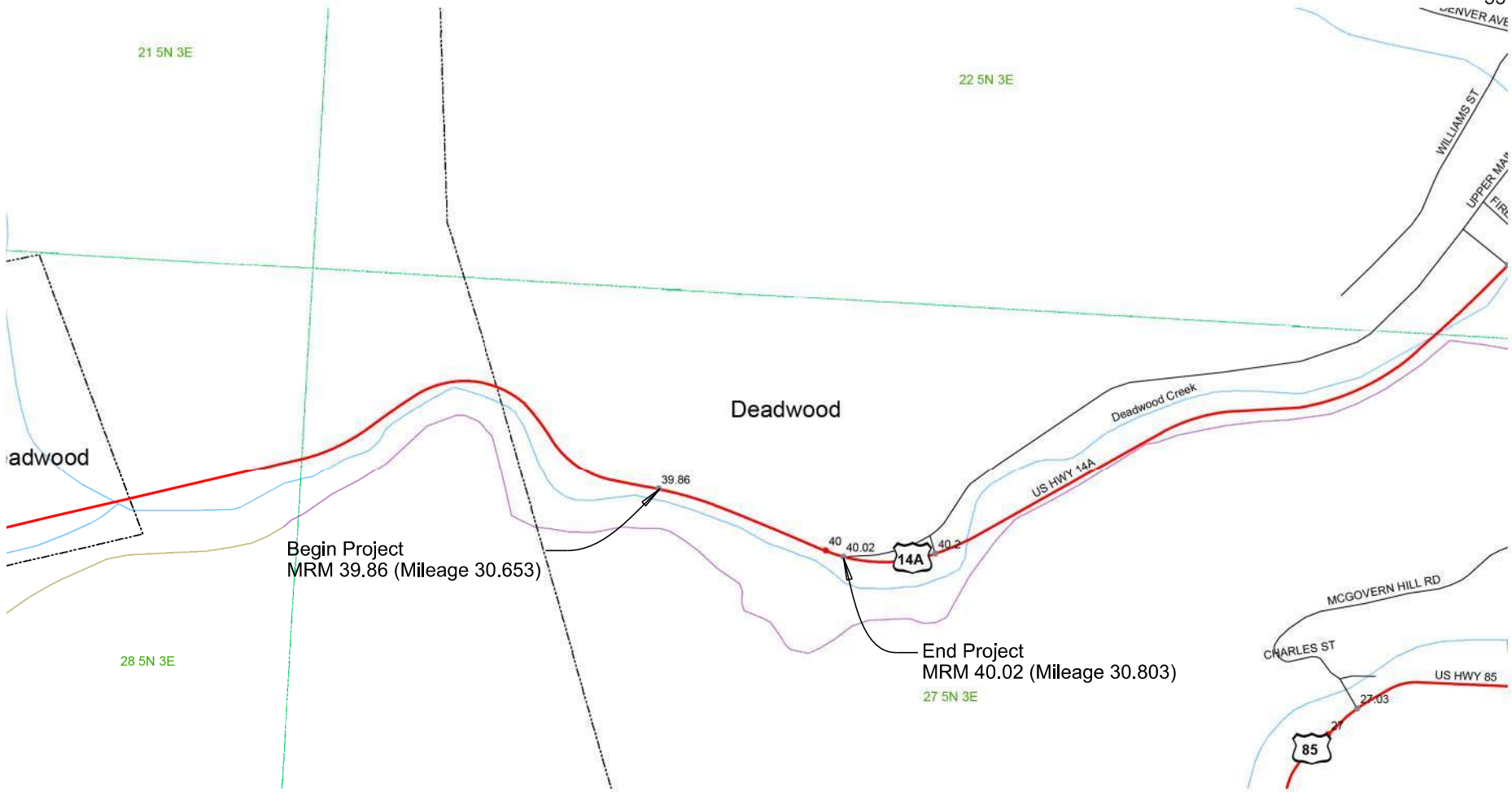
PROJECT	SECTION	SHEET
NH 014A(34)39	Non	1/53

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PROJECT



DESIGN DESIGNATION US HWY 14A

ADT (2021)	9115
ADT (2041)	13207
DHV	2163
D	51 %
T DHV	3.1
T ADT	6.7 %
V	45 MPH

STORM WATER PERMIT

Major Receiving
Body of Water: Deadwood Creek
Area Disturbed: 0.6 ac
Total Project Area: 1.3 ac
Approx. Begin Lat,Long: 44.37060, -103.74324

Revised 1-12-26

ESTIMATE OF QUANTITES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3250	Miscellaneous Staking	0.140	Mile
009E3280	Slope Staking	0.140	Mile
009E3301	Engineer Directed Surveying/Staking	20.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	103	Ft
110E1010	Remove Asphalt Concrete Pavement	608.0	SqYd
110E1700	Remove Silt Fence	950	Ft
110E6230	Remove W Beam Guardrail for Reset	775.0	Ft
110E6618	Remove MGS MASH Flared End Terminal for Reset	1	Each
110E7150	Remove Sign for Reset	1	Each
110E7510	Remove Pipe End Section for Reset	1	Each
120E0010	Unclassified Excavation	1,182	CuYd
120E7100	Select Rock Fill Material	160	CuYd
230E0010	Placing Topsoil	114	CuYd
230E0020	Contractor Furnished Topsoil	53	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	102.0	Ton
320E1200	Asphalt Concrete Composite	114.0	Ton
380E1000	6" Miscellaneous PCC Pavement	5.9	SqYd
450E0142	24" RCP Class 2, Furnish	68	Ft
450E0150	24" RCP, Install	68	Ft
450E2016	24" RCP Flared End, Furnish	1	Each
450E2017	24" RCP Flared End, Install	1	Each
450E9001	Reset Pipe End Section	1	Each
462E0100	Class M6 Concrete	1.2	CuYd
480E0100	Reinforcing Steel	199	Lb
630E0513	Type 1C MGS	25.0	Ft
630E2110	Beam Guardrail Post and Block	124	Each
630E5013	Reset Type 1C MGS	775.0	Ft
630E5203	Reset MGS MASH Flared End Terminal	1	Each
632E3500	Reset Sign	1	Each
633E0010	Cold Applied Plastic Pavement Marking, 4"	4,320	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	194	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	3	Each
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	4,320	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	194	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	3	Each
634E0010	Flagging	100.0	Hour
634E0110	Traffic Control Signs	153.6	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0330	Temporary Raised Pavement Markers	900	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0380	Tubular Marker	23	Each
634E0525	Linear Delineation System Panel, Barrier Mounted	40	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	5,700	Ft
634E0565	Remove Pavement Marking, Arrow	3	Each
634E0700	Traffic Control Movable Concrete Barrier	66	Each
634E0750	Temporary Concrete Barrier End Protection	2	Each
634E0760	Temporary Concrete Barrier End Protection Module Set or Repair Kit	2	Each
634E1002	Detour and Restriction Signing	261.0	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each
650E0060	Type B66 Concrete Curb and Gutter	11	Ft
650E4689	Modified Type P9 Concrete Gutter	17	Ft
670E2200	Type C Frame and Grate	1	Each
670E5400	Precast Drop Inlet Collar	1	Each
700E0310	Class C Riprap	1,138.0	Ton
720E1015	Bank and Channel Protection Gabion	11.5	CuYd
730E0210	Type F Permanent Seed Mixture	13	Lb
731E0100	Fertilizing	750	Lb
732E0250	Fiber Mulching	960	Lb
734E0602	Low Flow Silt Fence	950	Ft
734E0610	Mucking Silt Fence	66	CuYd
734E0620	Repair Silt Fence	238	Ft
734E0900	Temporary Diversion Channel for Fish Passage	1	Each
831E0110	Type B Drainage Fabric	1,422	SqYd

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/media/documents/EnvironmentalProceduresManual.pdf> >

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 A2: STREAMS

All efforts to avoid and minimize stream impacts from the project have resulted in approximately 0.25 acres of stream (includes temporary and permanent) becoming impacted. Refer to plans for location and boundaries of the impacted streams.

Table of Impacted Streams

Stream Name	Station	Perm. Impact Left (Acres)	Perm. Impact Right (Acres)	Temp. Impact Left (Acres)	Temp. Impact Right (Acres)	Total Impact (Acres)
Deadwood Creek	1+00 to 8+00	0.00	0.00	0.00	0.25	0.25

Action Taken/Required:

It has been determined that project impacts do not require mitigation. Temporary impacts identified in the Table of Impacted Streams will not be mitigated as the finished ground under the bridge will be shaped to match the upstream channel and flood plain and the existing low water channel will be maintained as near as practical to the existing location as designated in 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 (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

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](https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04) >

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

Deadwood Creek is classified as a cold water marginal fishery with a total suspended solids standard of less than 90 mg/L 30-day average, less than 158 mg/L daily maximum.

Deadwood Creek is classified as fish and wildlife propagation, recreation, irrigation, and stock watering waters. Because of these beneficial uses, special construction measures may have to be taken to ensure that this water body is not impacted.

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_CGPAppe ndixCCA2018Fillable.pdf

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> >

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.

COMMITMENT H: WASTE DISPOSAL SITE, CONTINUED

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 J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures must be taken to ensure that the waterways of the U.S. are not impacted.

Action Taken/Required:

Excavation will not occur below the ordinary high-water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting. The natural streambed will not be disturbed unless specified by the plans and under the observation of the Project Engineer. Refer to the Table of U.S. Waterways to Protect for ordinary high-water elevations. Any structure work over or within the waterway will be constructed according to Section 7.21 C of the Specifications.

All dredged or excavated materials will be placed at a site above the ordinary high-water elevation in a confined area (not classified as a wetland) that is a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high-water elevation will be allowed if all material placed below the ordinary high-water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms will be removed with minimal disturbance to the streambed. Proper construction practices will be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, stream diversions, grading, etc. will be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractor's construction operations will be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

All temporary works in waterways of the US are required to be covered in the Corp of Engineers 404 Permit. At the time of the preconstruction meeting, the Contractor will submit documentation for all temporary works for the purpose of complying with the 404 Permit requirements in accordance with Section 423.3 A of the Specifications.

Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High-Water Elevation
11+00 to 18+00	Deadwood Creek	4656' to 4639'

Stream channel excavation within "Waters of the US" is subject to USACE regulatory jurisdiction. Stream channel excavation cannot exceed the permitted quantities and/or surface area. The 404 Permit is included in the Special Provisions.

The Contractor will take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation,

pier, or abutment excavation, channel cleanout, excavation for riprap protection, and removal of any temporary fill associated with construction activities.

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.

COMMITMENT S: FIRE PREVENTION IN THE BLACK HILLS AREA

This project is located within the Black Hills Forest Fire Protection Boundary.

Action Taken/Required:

The Contractor will adhere to the "Special Provision for Fire Plan".

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.

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.

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 2.5 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".

Special ditch grades and other sections of the roadway different than the typical sections 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.

TABLE OF TEMPORARY DIVERSION CHANNEL FOR FISH PASSAGE

The Contractor will construct a temporary diversion channel in accordance with standard plate 734.30 at the locations listed in the following table:

Station	Quantity (Each)
10+60 to 18+00	1

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.

GENERAL GEOLOGY

The project geology predominantly consists of alluvial and colluvial materials associated with Metamorphosed Siltstones which outcrop locally. The South Dakota Geologic Survey describes the metamorphic rock unit as:

The Metamorphosed Siltstone unit at this location consists of medium gray to dark-greenish-gray phyllite, slate, and biotite schist containing minor chert and amphibolite. Locally intruded by thin metagabbro sills.

CLASSIFICATION OF EXCAVATION

Excavation will consist of alluvial and embankment materials with clay to boulder sized clasts. Very large boulders could require more effort to excavate. Excavation of in place rock is not anticipated. Most of the material encountered should be able to be excavated using conventional methods associated with normal Unclassified Excavation.

TEMPORARY EXCAVATION SLOPES

Steep temporary excavation slopes are required to remove components of the existing retaining wall. Components of the retaining wall below the limits of excavation may remain in place. Steep temporary slopes will be unstable over the long-term. However, the slopes should remain globally stable over the short-term during construction if measures are taken to divert runoff away from the slopes and construction activities are sequenced to minimize the amount of time the temporary backslopes are left exposed and unsupported. Regular monitoring of temporary slopes is required during construction. If temporary slopes become unstable, excavation will cease, and the slope will be evaluated by the Engineer.

STEEP SLOPE EMBANKMENT CONSTRUCTION

All embankments with slopes steeper than 3:1 will be constructed of well graded rock fill material consisting of at least 50% 8-inch minus rock and an adequate amount of soil to provide compaction. Large boulders, 3 feet in diameter and larger, will be placed outside of the finished subgrade shoulder and covered with a minimum of 2 feet of embankment. If embankment materials fail to meet these criteria and/or consist of predominantly soil, additional rock will be added to the embankment to achieve the desired consistency. Additional rock will be paid for as "Select Rock Fill Material".

TABLE OF EXCAVATION QUANTITIES BY BALANCES

Station to	Station	Excavation	* Excavation Incidental to Riprap	* Waste
		(CuYd)	(CuYd)	(CuYd)
10+60	18+00	1068	1266	2333

* The quantities for these items are for information only.

TABLE OF UNCLASSIFIED EXCAVATION

	(CuYd)
Excavation	1068
Topsoil	114
Total:	1182

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.

Plan quantities will be used for payment.

WASTE EXCAVATION

The quantity of waste in the Table of Excavation Quantities by Balances that is muck excavation or excess excavation material will be disposed of at a Contractor furnished site acceptable to the Engineer.

PIPE CULVERT UNDERCUT

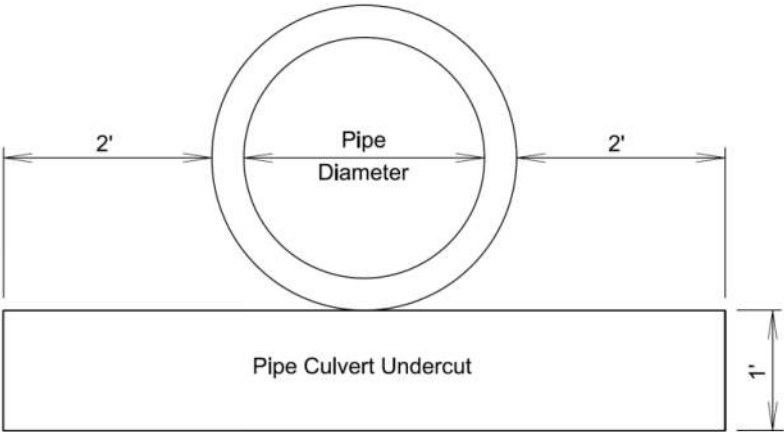
Pipe culvert undercut may be required for this project. The Engineer will determine which pipe will be undercut in accordance with Section 421 of the Specifications.

If pipe culvert undercut is required, the table below contains the rate for one-foot depth of pipe culvert undercut per foot of pipe length. When calculating pipe culvert undercut, the length of pipe ends should be included in the overall pipe length.

The table below contains the rate for one-foot depth of pipe culvert undercut per foot of pipe length and should be used as an aid in determining the actual amount of undercut to be performed during construction. The table is derived from the drawing below and conforms to the Specifications. When calculating pipe culvert undercut, the length of pipe ends should be included in the overall pipe length.

Storm sewer and approach pipes do not require undercutting unless specified otherwise in these plans.

Pipe Diameter (In)	Round Pipe Undercut Rate for 1' Depth (CuYd/Ft)	Arch Pipe Undercut Rate for 1' Depth (CuYd/Ft)
24	0.2407	0.2577
30	0.2623	0.2847
36	0.2840	0.3110
42	0.3056	0.3337
48	0.3272	0.3596
54	0.3488	0.3827
60	0.3704	0.4105
66	0.3920	---
72	0.4136	0.4630
78	0.4352	---
84	0.4568	0.5123
90	0.4784	---



SURFACING QUANTITIES

Included in the Estimate of Quantities are:

78 tons of Base Course and 105 tons of Asphalt Concrete Composite at pipe replacement locations. Pipe replacement locations will be 6” of Base Course and 7.5” of Asphalt Concrete Composite (2-3” & 1.5” Lifts) placed level with the existing surface.

24 tons of Base Course and 9 tons of Asphalt Concrete Composite for the installation of the guardrail flared end terminal. Guardrail flared end terminals will have 6” of Base Course and 2” of Asphalt Concrete Composite.

INCIDENTAL WORK, GRADING

Station	L/R	Remarks
10+50	R	Remove Gabion Baskets at Pipe Outlet
10+65 to 17+89	R	Take Out Retaining Wall
13+46		Take Out Drop Inlet & 18”-82’ CMP
17+72	R	Take Out Drop Inlet & 12”-52’ CMP

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Station	to	Station	L/R	Quantity (SqYd)
10+60		15+75	L&R	581.0
17+60		17+82	R	27.0
Totals:				608.0

TABLE OF CONCRETE CURB AND/OR GUTTER REMOVAL

Station	to	Station	L/R	Quantity (Ft)
15+57		16+39	R	81
17+60		17+82	R	22
Totals:				103

TABLE OF CONCRETE CURB AND/OR GUTTER

Station to	Station	L/R	Type B66 Concrete Curb and Gutter (Ft)	Modified Type P9 Concrete Gutter (Ft)	6” Miscellaneous PCC Pavement (SqYd)
16+33	16+39	R	6		
17+60	17+65	R	5		
17+65	17+82	R		17	5.9
Totals:			11	17	5.9

DROP INLETS

The plan shown quantities of the drop inlet components such as Class M6 Concrete, Reinforcing Steel, Type C Frame and Grate, and Precast Drop Inlet Collar will be the basis of payment for these items.

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 BANK AND CHANNEL PROTECTION GABIONS AND DRAINAGE FABRIC

Station	L/R	Bank and Channel Protection Gabion (CuYd)	Type B Drainage Fabric (SqYd)
10+50	R	7	19
13+46	R	4.5	15
Totals:		11.5	34

TABLE OF DROP INLETS AND QUANTITIES

Station	L / R	Drop Inlet Size	Drop Inlet Type	Class M6 Concrete (CuYd)	Reinf. Steel (Lb)	Precast Drop Inlet Collar (Each)	Frame and Grate/Lid Type
13+46	L	3’x4’	C	1.2	199	1	1

Total Type C Frame and Grate 1
* Drop inlet requires watertight joints in accordance with the STORM SEWER notes.

TABLE OF PIPE QUANTITIES

Station	L / R	Remove Pipe End Section for Reset (Ea)	Reset Pipe End Section (Ea)	24” RCP (Ft)	24” RCP Flared End (Ea)
13+46	R			68	1
10+50	R	1	1		

TABLE OF RIPRAP AND DRAINAGE FABRIC

Station	L/R	Class C Riprap (Ton)	Type B Drainage Fabric (SqYd)
10+60 to 12+25	R	393	639
14+00 to 15+00	R	349	346
17+00 to 18+00	R	396	403
Totals:		1138	1388

TABLE OF GUARDRAIL

Remove MGS MASH Flared End Terminal for Reset (Ea)	Remove Beam Guardrail for Reset (Ft)	Reset MGS MASH Flared End Terminal (Ea)	Reset Type 1C MGS (Ft)	Install Type 1C MGS (Ft)	Beam Guardrail Post and Block (Ea)
1	775	1	775	25	124

TABLE OF CONSTRUCTION STAKING
(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Length (Ft)	Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)
US14A	10+60	18+00	740	0.140	0.140

PLACING TOPSOIL

The thickness will be approximately 4 inches.

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

Station	to	Station	Topsoil (CuYd)
10+60		18+00	114

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 and areas as determined by the Engineer during construction.

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

FIBER MULCHING

Fiber mulch will be applied in a separate operation following permanent seeding.

Fiber mulch will be applied at the rate of 3,000 pounds per acre.

The Contractor will allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials will be incidental to the contract unit price per pound for "Fiber Mulching".

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

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

TABLE OF FIBER MULCHING

Station	Location	Quantity (Ton or Lb)
10+60 to 18+00 R	Inslope	960

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)
10+60 to 18+10	Perimeter Control	750
	Additional Quantity:	200
	Total:	950

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** 1.3 ac

➤ **5.3 (3b): Total Area to be Disturbed** 0.6 ac

➤ **5.3 (3c): Maximum Area Disturbed at One Time**0.6 ac

➤ **5.3 (3d): Existing Vegetative Cover (%)**

➤ **5.3 (3d): Description of Vegetative Cover**
- **5.3 (3e): Soil Properties:** Hisega-Buska Complex

➤ **5.3 (3f): Name of Receiving Water Body/Bodies** Deadwood 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.	
Install perimeter protection around stockpiles.	
Install channel and ditch bottom protection.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Install utilities, storm sewers, curb and gutter.	
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
<input type="checkbox"/> Natural Buffers (within 50 ft of Waters of State)	
<input checked="" type="checkbox"/> Silt Fence	
<input type="checkbox"/> Erosion Control Wattles	
<input type="checkbox"/> Temporary Berm / Windrow	
<input type="checkbox"/> Floating Silt Curtain	
<input type="checkbox"/> Stabilized Construction Entrances	
<input type="checkbox"/> Entrance/Exit Equipment Tire Wash	
<input type="checkbox"/> Other:	

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

Dust Controls	
Description	Estimated Start Date
<input type="checkbox"/> Tarps & Wind impervious fabrics	
<input type="checkbox"/> Watering	
<input type="checkbox"/> Stockpile location/orientation	
<input type="checkbox"/> Dust Control Chlorides	
<input type="checkbox"/> Other	

Dewatering BMPs	
Description	Estimated Start Date
<input type="checkbox"/> Sediment Basins	
<input type="checkbox"/> Dewatering bags	
<input type="checkbox"/> Weir tanks	
<input type="checkbox"/> Temporary Diversion Channel	
<input type="checkbox"/> 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
<input type="checkbox"/> Vegetation Buffer Strips	
<input type="checkbox"/> Temporary Seeding (Cover Crop Seeding)	
<input checked="" type="checkbox"/> Permanent Seeding	
<input type="checkbox"/> Sodding	
<input type="checkbox"/> Planting (Woody Vegetation for Soil Stabilization)	
<input type="checkbox"/> Mulching (Grass Hay or Straw)	
<input checked="" type="checkbox"/> Fiber Mulching (Wood Fiber Mulch)	
<input type="checkbox"/> Soil Stabilizer	
<input type="checkbox"/> Bonded Fiber Matrix	
<input type="checkbox"/> Fiber Reinforced Matrix	
<input type="checkbox"/> Erosion Control Blankets	
<input type="checkbox"/> Surface Roughening (e.g. tracking)	
<input type="checkbox"/> 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.

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 1/2 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.

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.

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

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: _____

➤ SDDOT 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.

SEQUENCE OF OPERATIONS

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate 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. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

- Install traffic control per US Highway 14A Barrier Layout and Detour Route.
- Complete all work to the right of centerline and install drop inlet.
- Install pipe crossing per special provision for route closure.
- Utilizing standard plate 634.30 with bump signs to install asphalt concrete lifts. Both lanes will need to be open during nonworking hours.
- Install pavement markings and remove all traffic control.

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.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

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.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor’s equipment will be repaired at no expense to the Department.

If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing. Pavement marking removals will be incidental to the contract unit price per foot for “Remove Pavement Marking, 4” or equivalent”. Temporary pavement marking will be paid for at the contract unit price per mile/foot for “Temporary Pavement Marking”. The additional channelizing devices will be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.

OVERWIDTH RESTRICTION AND DETOUR SIGNING

The Contractor will furnish and install the overwidth restriction and detour signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Overwidth restriction and detour signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the overwidth restriction and detour signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the overwidth restriction and detour signs will be incidental to the contract unit price per square foot for “Detour and Restriction Signing”.

The Overwidth Restriction will be signed for 10 feet.

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”.

TEMPORARY RAISED PAVEMENT MARKERS

Temporary raised pavement markers will be used for marking edge lines, lane lines, and centerlines. Temporary raised pavement markers will be used on all new permanent surfacing sections of roadway and on existing surfacing where temporary marking locations are different than existing marking locations, unless noted or as directed by the Engineer.

Temporary raised pavement markers will be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface or with an adhesive approved by the Engineer.

All costs to furnish, install, replace if necessary, and remove the markers will be incidental to the contract unit price per foot for “Temporary Raised Pavement Markers”.

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 as directed by the Engineer to notify drivers of the upcoming construction. The Contractor will program the portable changeable message signs with the following message:

ROAD WORK
STARTS (Date)

When work begins that will affect traffic patterns, the Contractor will re-program the PCMS with the messages as directed by the Engineer.

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 Lawrence 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.

TUBULAR MARKERS

The color of the tubular markers on centerline will be predominately orange. The color of the tubular markers installed on the shoulders will be predominately white. The white tubular markers will be installed 2.0 feet from the existing edge line at intervals of approximately 480 feet.

All tubular markers will be a minimum of 28 inches in height. The base of the tubular marker should be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface after use. The pin used to connect the marker to the base will be of a type that will not puncture a vehicle tire if it should become dislodged from the base.

All costs for furnishing, installing, maintaining, and removing the tubular markers will be incidental to the contract unit price per each for “Tubular Marker”.

TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS

Concrete barriers will be provided by the State and are available for pickup from the SDDOT Rapid City Maintenance Yard located at Highway 79 The barriers will be hauled back to the SDDOT Rapid City Maintenance Yard when they are no longer needed on the project.

Barriers to be adjusted or moved will be disconnected from adjacent barriers to minimize damage to connecting pins. Pins damaged by the Contractor will be replaced at no cost to the Department.

Concrete barrier sections will be placed as depicted in the plans to comply with clear zone requirements and as required by the Engineer. The barriers will be pinned and bolted together as directed by the Engineer.

All costs associated with picking the barriers up from the SDDOT Maintenance Yard, transporting, setting, connecting, and hauling them back to the SDDOT Maintenance Yard will be incidental to the contract unit price per each for Traffic Control Movable Concrete Barrier.

After the initial placement, the concrete barriers may need to be adjusted. Adjustment of the barriers, where they do not need to be loaded on a truck for transport, will be incidental to the contract unit price per each for Traffic Control Movable Concrete Barrier. All costs associated with removing, loading, unloading, and resetting of the barriers at a new site, will be incidental to the contract unit price per each for Remove and Reset Traffic Control Movable Concrete Barrier. No additional payment will be made for barriers that are not immediately reset at a new location on the project and stored on-site until they are either reset on the project or returned to the SDDOT as indicated in these plans.

TEMPORARY CONCRETE BARRIER END PROTECTION

Crash attenuators meeting the requirements of NCHRP 350 or MASH TL-3 will be furnished and installed by the Contractor. Attachment of the attenuators to the concrete barriers will be by approved methods.

All costs associated with furnishing, transporting, initial setup, connecting, maintaining, and removing the crash attenuators will be incidental to the contract unit price per each for Temporary Concrete Barrier End Protection.

All costs associated with moving and resetting crash attenuators to accommodate traffic flows after initial set-up will be paid for at the contract unit price per each for Remove & Reset Temporary Concrete Barrier End Protection. All costs associated with removing from initial placement and resetting at a new location will be incidental to the contract unit price per each. No additional payment will be made for crash attenuators that are not immediately reset at a new location on the project and stored on-site until they are either reset or removed from the project as determined by the Engineer. No additional payment will be made for minor adjustments.

The Contractor will have replacement hardware available so that in the event the crash attenuator is hit and made unusable, the crash attenuator can be made functional within 24 hours. The cost of replacement will be incidental to the contract unit price per each for Temporary Concrete Barrier Module Set or Repair Kit. No payment will be made for the Temporary Concrete Barrier Module Set or Repair Kit if no repairs are necessary. Upon completion of the project, crash attenuators will remain the property of the Contractor.

BARRIER MOUNTED LINEAR DELINEATION SYSTEM PANELS

A linear delineation system (LDS) panel will be attached to each barrier section. The color will be the same as the nearest pavement marking, white along outside edgelines or yellow for the left side on one way traffic sections. The LDS will be 34 inches long and 6 inches in height and be constructed of aluminum formed into a shape to provide retroreflective properties across a wide range of angles. It will be sheeted with sheeting meeting the requirements of ASTM D4956 Type XI. The panels will be evenly spaced, with the top of the panel 4 inches below the top of the barrier. Installation will be as per the manufacturer’s recommendations. This will allow for easy removal for replacement of damaged panels or to replace with an alternate color. The Contractor will furnish and install one panel along each side of the barrier if any panels are missing from the barriers. Replacement of damaged linear delineation system panels will be furnished and replaced by the Contractor. All costs associated with furnishing, installing, and replacing, if needed, will be incidental to the contract unit price per each for Linear Delineation System Panel, Barrier Mounted.

All LDS panels will remain attached to the barrier sections and will become the property of the State of South Dakota upon completion of the project.

The Contractor will verify the number of LDS panels that will need to be installed or replaced on the Traffic Control Movable Concrete Barriers. The contract amount of LDS panels is an estimate and the full contract amount may not be needed.

Maintaining the linear delineation system, including moving LDS panels from one side of the barrier to the other side of the barrier to match the applicable color of the nearest pavement marking will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R3-2	LEFT TURN PROHIBITION (symbol)	1	24" x 24"	4.0	4.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W8-1	BUMP	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		153.6			

ITEMIZED LIST FOR DETOUR AND RESTRICTION SIGNING

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		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	6	60" x 30"	12.5	75.0
W20-2	DETOUR AHEAD	2	48" x 48"	16.0	32.0
W20-3	ROAD CLOSED AHEAD	4	48" x 48"	16.0	64.0
M3-2	DIRECTION MARKER - EAST	2	24" x 12"	2.0	4.0
M3-4	DIRECTION MARKER - WEST	2	24" x 12"	2.0	4.0
M4-8	DETOUR	10	24" x 12"	2.0	20.0
M4-9	DETOUR (ARROW L or R)	4	30" x 24"	5.0	20.0
M5-1	ADVANCE TURN ARROW 90° (L or R)	2	21" x 15"	2.2	4.4
M6-1	DIRECTION ARROW - Horizontal Single Head (L or R)	4	21" x 15"	2.2	8.8
M6-3	DIRECTION ARROW - Vertical Single Head	4	21" x 15"	2.2	8.8
		CONVENTIONAL ROAD DETOUR AND RESTRICTION SIGNING SQFT			
		261.0			

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer’s recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 IES or an approved equal.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot “Grooving for Cold Applied Plastic Pavement Marking” contract item.

TABLE OF PERMANENT PAVEMENT MARKING

Remove Pavement Marking, 4" or Equivalent	Remove Pavement Marking, Arrow	Grooving for Cold Applied Plastic Pavement Marking, 4"	Grooving for Cold Applied Plastic Pavement Marking, 24"	Grooving for Cold Applied Plastic Pavement Marking, Arrow, Left	Cold Applied Plastic Pavement Marking, 4" White	Cold Applied Plastic Pavement Marking, 4" Yellow	Cold Applied Plastic Pavement Marking, 24" Yellow	Cold Applied Plastic Pavement Marking, Arrow, Left
(Ft)	(Each)	(Ft)	(Ft)	(Each)	(Ft)	(Ft)	(Ft)	(Each)
5700	3	4320	194	3	915	3405	194	3

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.

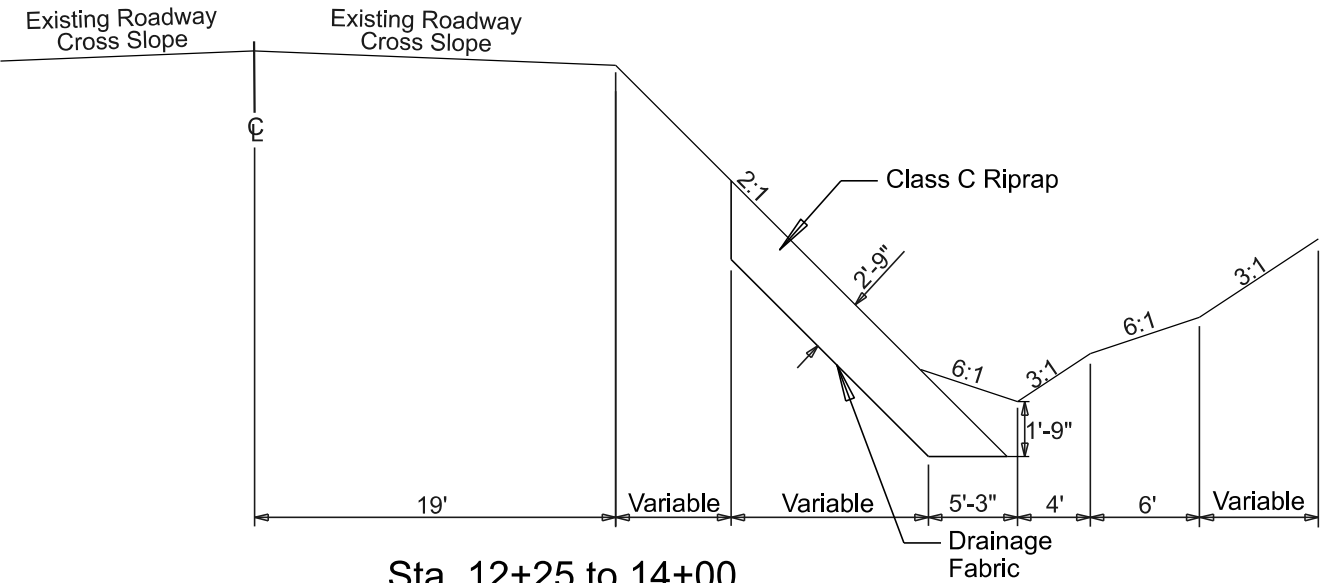
TABLE OF PERMANENT SIGNING

Station	Remove Sign for Reset Ea	Reset Sign Ea
13+25 R	1	1

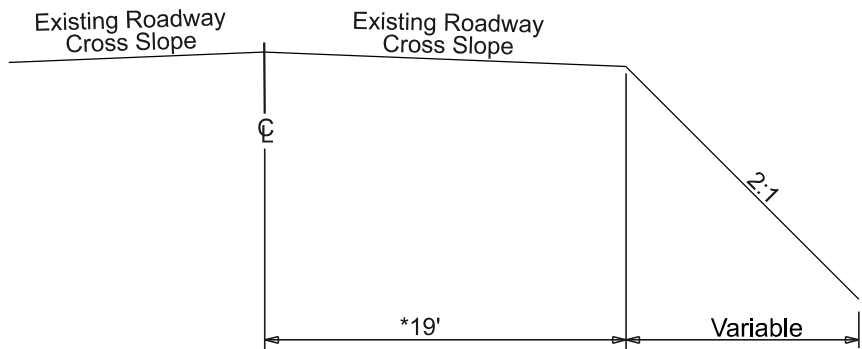
TYPICAL GRADING SECTION

 <small>Plotting Date: 12/29/2025</small>	PROJECT	SECTION	SHEET
	NH 014A(34)39	Non	15/53

Sta. 10+60 to 12+25

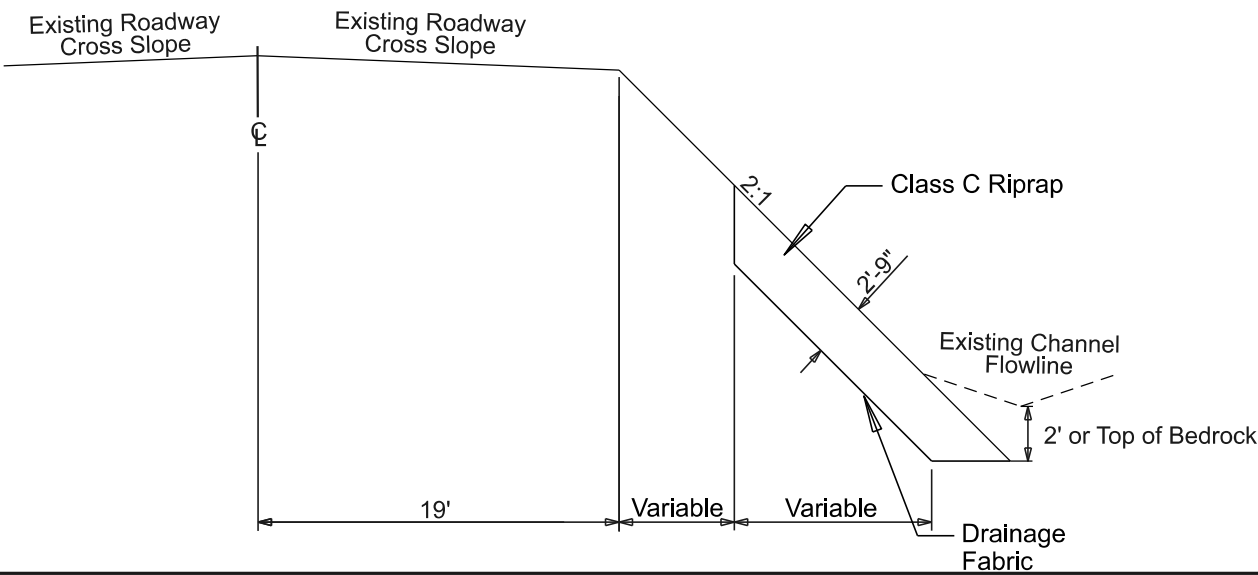


Sta. 12+25 to 14+00
Sta. 15+00 to 17+00



Transitions:
Sta. 15+00 to Sta. 17+00
* 19' to 30'

Sta. 14+00 to 15+00



TYPICAL GRADING SECTION



Plotting Date:

PROJECT

NH 014A(34)39

SECTION

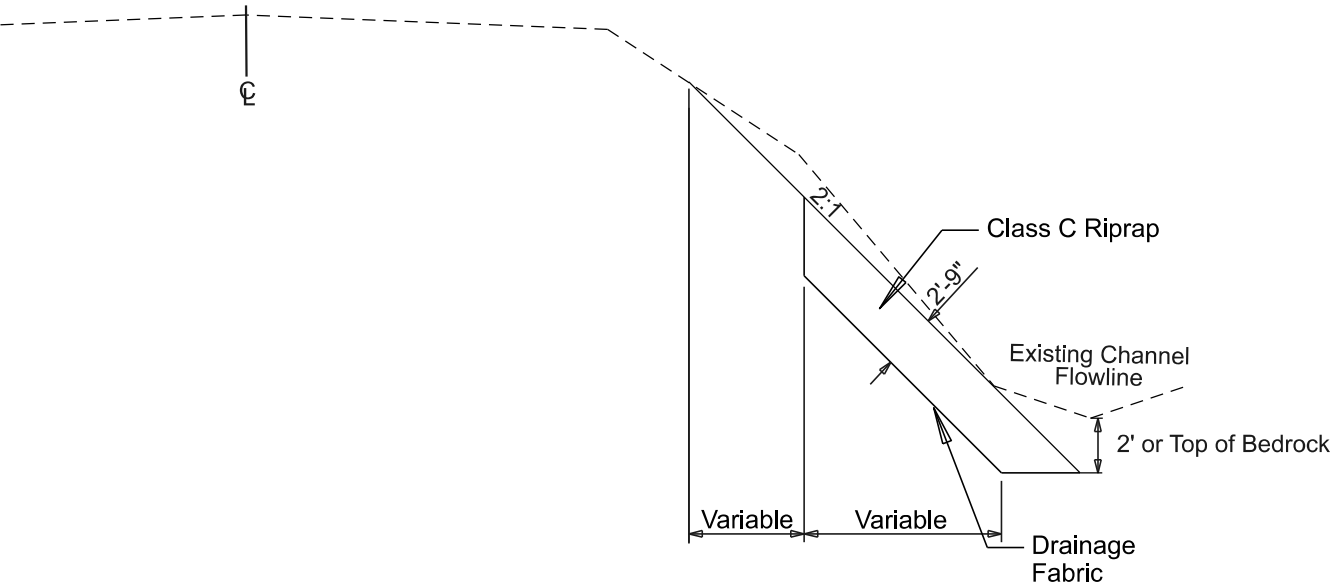
Non

SHEET

16/53

12/29/2025

Sta. 17+00 to 18+00



TRAFFIC CONTROL

US HIGHWAY 14A DETOUR ROUTE

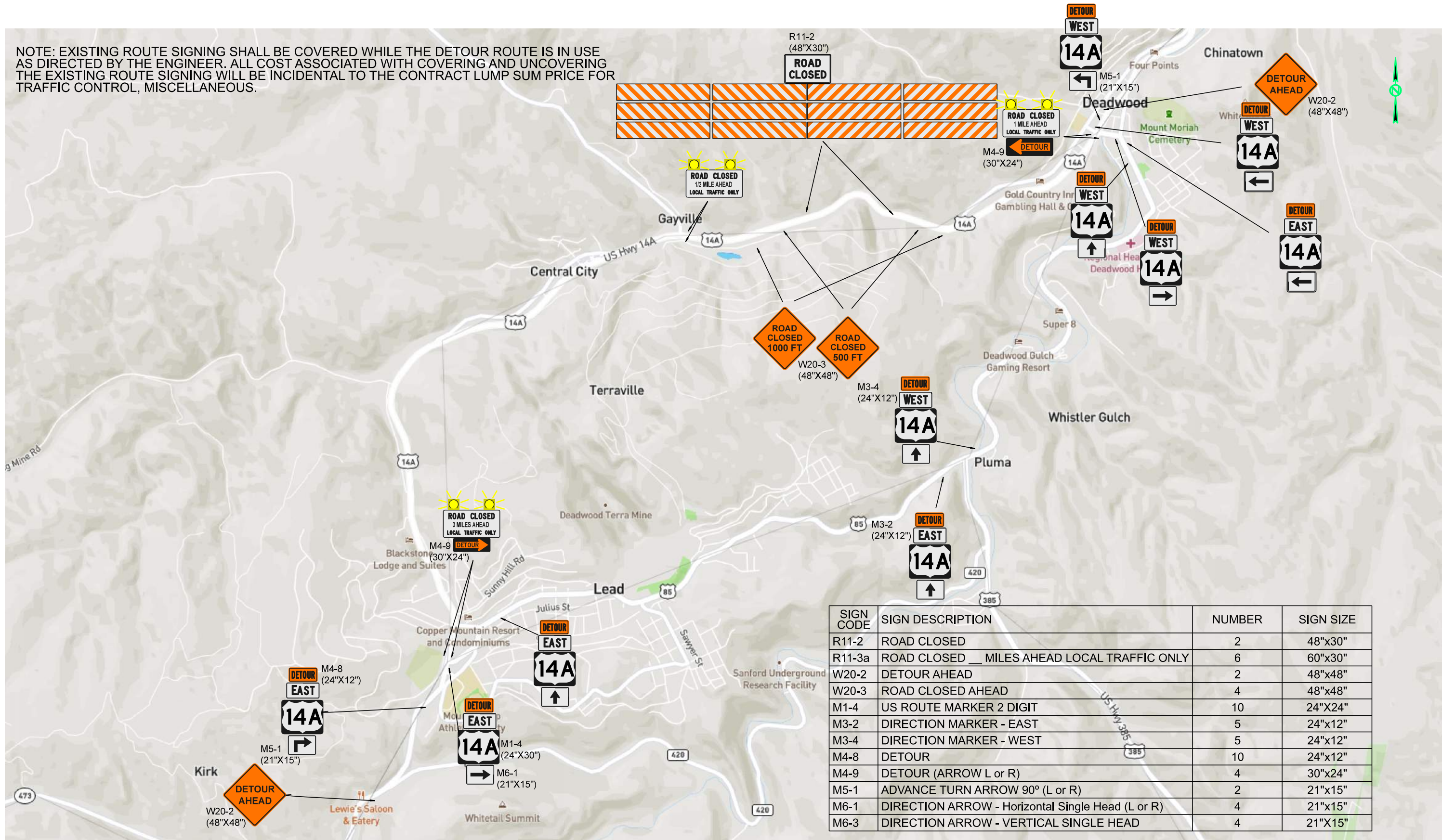


PROJECT
NH 014A(34)39

SECTION SHEET
Non 17/53

Plotting Date: 12/2/2025

NOTE: EXISTING ROUTE SIGNING SHALL BE COVERED WHILE THE DETOUR ROUTE IS IN USE AS DIRECTED BY THE ENGINEER. ALL COST ASSOCIATED WITH COVERING AND UNCOVERING THE EXISTING ROUTE SIGNING WILL BE INCIDENTAL TO THE CONTRACT LUMP SUM PRICE FOR TRAFFIC CONTROL, MISCELLANEOUS.



TRAFFIC CONTROL
US HIGHWAY 14A BARRIER LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 014A(34)39	Non	18/53
Plotting Date: 12/2/2025			



NOTE: SPACING OF ADVANCED WARNING SIGNS WILL USE STANDARD PLATE 634.30 AS A REFERENCE AND FOLLOW PROJECT ENGINEER DIRECTION.
NOTE: 66 TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS WITH 2 TEMPORARY CONCRETE BARRIER END PROTECTORS WILL BE PLACED FROM STATION 10+00 TO 18+30 (Standard Plate 628.01)

- CHANNELIZING DEVICE (BARRELS OR 42" CONES)
- TUBULAR MARKER
- WORK AREA
- SIGN SPACING, CHANNELIZING DEVICE SPACING AND TAPER LENGTHS SHALL CONFORM TO STANDARD PLATES.
- INTERIM EDGELINES SHALL BE TEMPORARY PAVEMENT MARKING PAINT ON ALL TEMPORARY SURFACING, AND RAISED PAVEMENT MARKERS ON PERMANENT SURFACING.

TRAFFIC CONTROL

US HIGHWAY 14A WIDTH RESTRICTION

SD DOT	PROJECT	SECTION	SHEET
	NH 014A(34)39	Non	19/53

Plotting Date: 12/2/2025



HORIZONTAL ALIGNMENT AND CONTROL DATA

Alignment Data

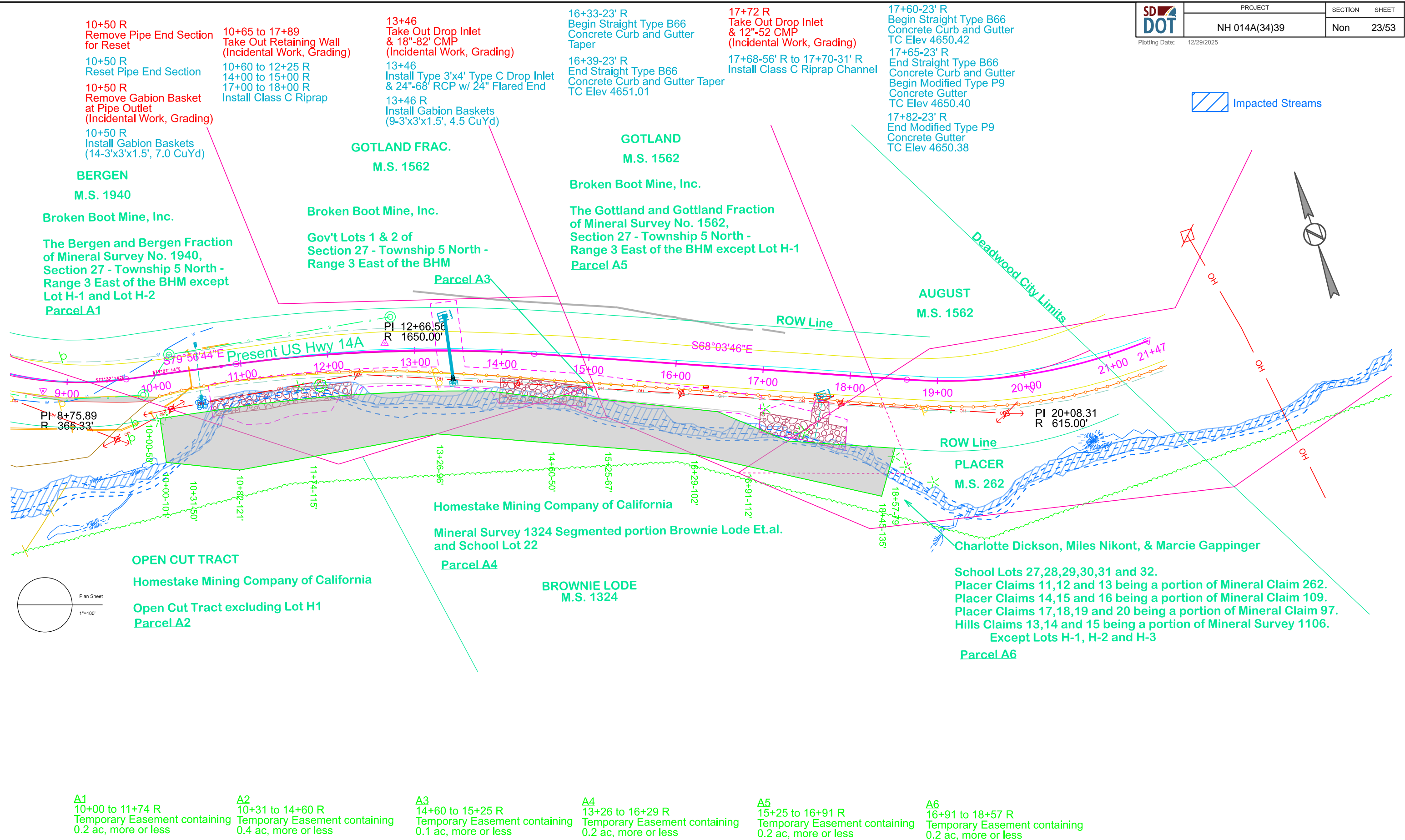
Type	Station			Northing	Easting
PC	7+79.579			218762.878	989242.810
PI	8+75.888	R = 365.328	Delta = 29°32'13" L	218701.499	989317.027
PT	9+67.913			218684.685	989411.857
		TL= 32.090	N79°56'44"W		
PI	10+00.003			218679.083	989443.454
		TL= 94.841	N79°56'44"W		
PC	10+94.844			218662.525	989536.839
PI	12+66.558	R = 1650.000	Delta = 11°52'58" R	218632.546	989705.916
PT	14+37.040			218568.396	989865.197
		TL= 427.963	N68°03'46"W		
PC	18+65.003			218408.514	990262.172
PI	20+08.306	R = 615.000	Delta = 26°14'00" L	218354.977	990395.100
PT	21+46.585			218365.713	990538.001

Control Data				
POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
ML101	REFMRK – PK NAIL N.E. CORNER GPS ELEV. (GOD) BEHIND PIZZA LAB	218208.664	984056.515	4858.477
ML105	REFMRK – REBAR 5.0 FT. GPS ELEV.=4866.305 ALONG HWY S. OF FENCE 5.0 FT	217858.539	983402.484	4866.32
CP01A	REFMRK – 2.0 FT REBAR 11.0 FT. E. OF MAILBOXES 5.0 FT. S. OF ASPHALT AQUEDUCT AVE. NE. QUAD OF BRIDGE	218314.631	986202.344	4772.853


The coordinates shown on this sheet are based on:
US STATE PLANE 1983 NAD1983 (CONUS)
SOUTH DAKOTA NORTH 4001 GEOID: GEOID12A (CONUS)
Epoch: 2010
COMBINED FACTOR: 0.9997788902

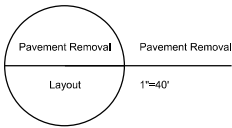
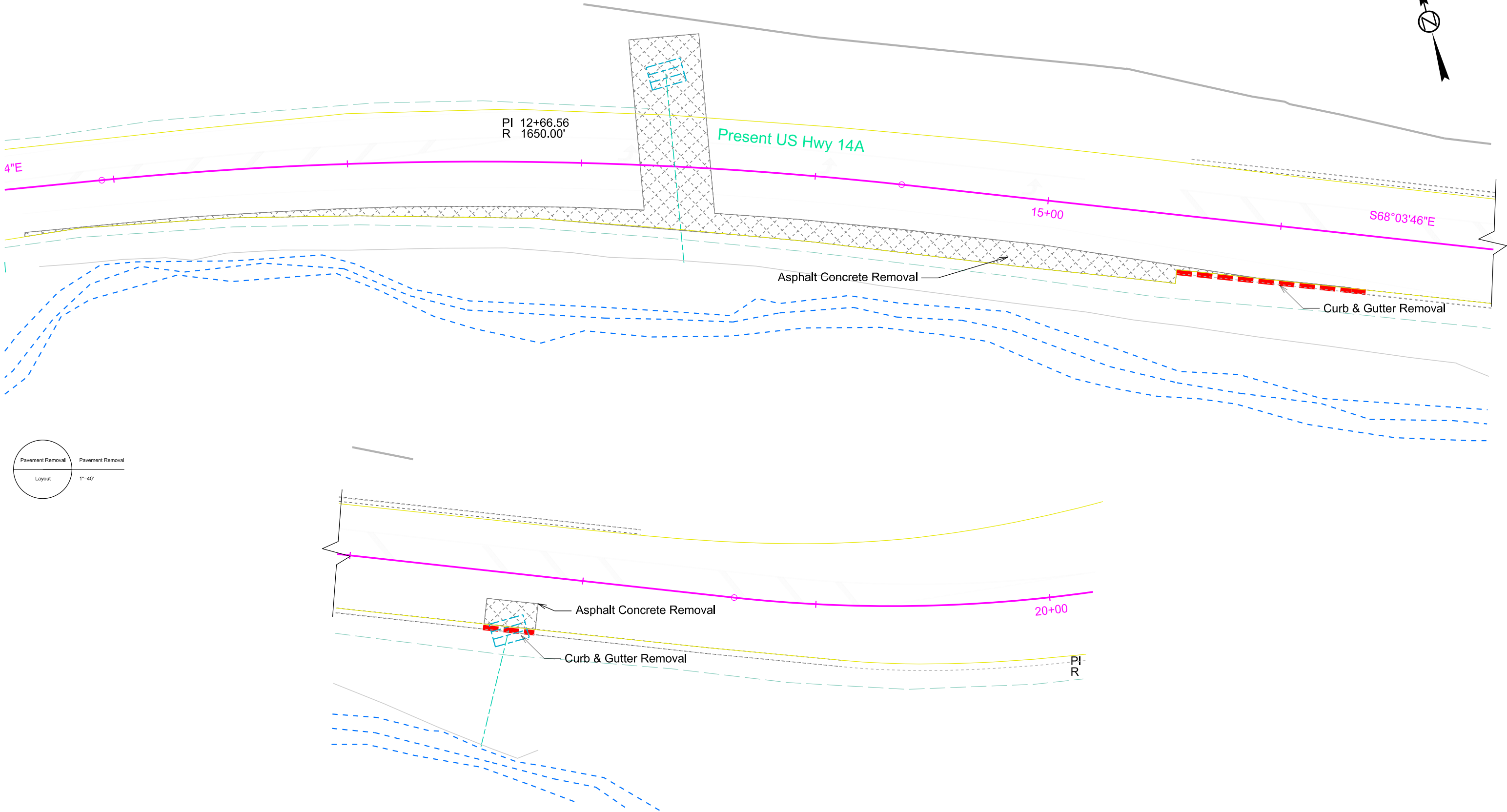
LEGEND

Anchor		Hedge		Septic Tank		State and National Line	
Antenna		Highway ROW Marker		Shrub Tree		County Line	
Approach		Interstate Close Gate		Sidewalk		Section Line	
Assumed Corner		Iron Pin		Sign Face		Quarter Line	
Azimuth Marker		Irrigation Ditch		Sign Post		Sixteenth Line	
BBQ Grill/ Fireplace		Lake Edge		Slough Or Marsh		Sixty-Fourth Line	
Bearing Tree		Lawn Sprinkler		Spring		Property Line	
Bench Mark		Mailbox		Stream Gauge		Construction Line	
Box Culvert		Manhole Electric		Street Marker		ROW Line	
Bridge		Manhole Gas		Subsurface Utility Exploration Test Hole		New ROW Line	
Brush		Manhole Misc		Telephone Fiber Optics		Cut and Fill Limits	
Buildings		Manhole Sanitary Sewer		Telephone Junction Box		Control of Access	
Bulk Tank		Manhole Storm Sewer		Telephone Pole		New Control of Access	
Cattle Guard		Manhole Telephone		Television Cable Jct Box		Proposed ROW	
Cemetery		Manhole Water		Television Tower		(After Property Disposal)	
Centerline		Merry-Go-Round		Test Wells/Bore Holes		Mining Claim	
Cistern		Microwave Radio Tower		Traffic Signal			
Clothes Line		Misc. Line		Trash Barrel		Temporary Easement	
Control Point		Misc. Property Corner		Tree Belt			
Commercial Sign Double Face		Misc. Post		Tree Coniferous			
Commercial Sign One Post		Overhang Or Encroachment		Tree Deciduous		Drainage Arrow	
Commercial Sign Overhead		Overhead Utility Line		Tree Stumps			
Commercial Sign Two Post		Parking Meter		Triangulation Station			
Concrete Symbol		Pedestrian Push Button Pole		Underground Electric Line		Remove Concrete Pavement	
Creek Edge		Pipe With End Section		Underground Gas Line		Remove Concrete Driveway Pavement	
Curb/Gutter		Pipe With Headwall		Underground High Pressure Gas Line		Remove Asphalt Concrete Pavement	
Curb		Pipe Without End Section		Underground Sanitary Sewer		Remove Concrete Sidewalk	
Dam Grade/Dike/Levee		Playground Slide		Underground Storm Sewer		Remove Concrete Median Pavement	
Deck Edge		Playground Swing		Underground Tank		Remove Concrete Curb and/or Gutter	
Ditch Block		Power And Light Pole		Underground Telephone Line			
Doorway Threshold		Power And Telephone Pole		Underground Television Cable			
Drainage Profile		Power Meter		Underground Water Line			
Drop Inlet		Power Pole		Warning Sign One Post			
Edge Of Asphalt		Power Pole And Transformer		Warning Sign Two Post			
Edge Of Concrete		Power Tower Structure		Water Fountain			
Edge Of Gravel		Propane Tank		Water Hydrant			
Edge Of Other		Property Pipe		Water Meter			
Edge Of Shoulder		Property Pipe With Cap		Water Tower			
Elec. Trans./Power Jct. Box		Property Stone		Water Valve			
Fence Barbwire		Public Telephone		Water Well			
Fence Chainlink		Railroad Crossing Signal		Weir Rock			
Fence Electric		Railroad Milepost Marker		Windmill		Detectable Warning	
Fence Misc.		Railroad Profile		Wingwall		Pedestrian Push Button Pole	
Fence Rock		Railroad R.O.W. Marker		Witness Corner		and 30" x 48" Clear Space	
Fence Snow		Railroad Signs				with 1.5% slope	
Fence Wood		Railroad Switch					
Fence Woven		Railroad Track					
Fire Hydrant		Railroad Trestle					
Flag Pole		Rebar					
Flower Bed		Rebar With Cap					
Gas Valve Or Meter		Reference Mark					
Gas Pump Island		Regulatory Sign One Post					
Grain Bin		Regulatory Sign Two Post					
Guardrail		Retaining Wall					
Guide Sign One Post		Riprap					
Guide Sign Two Post		River Edge					
Gutter		Rock And Wire Baskets					
Guy Pole		Rockpiles					
Haystack		Satellite Dish					




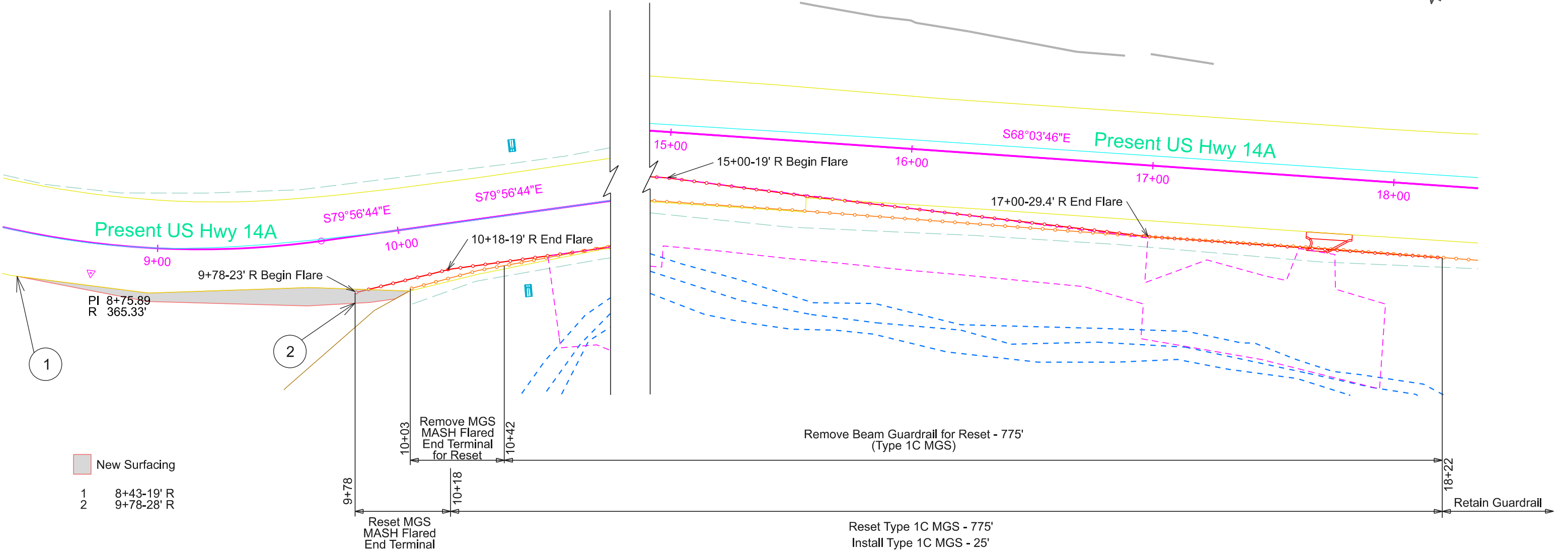
Pavement Removal

 Plotting Date: 12/29/2025	PROJECT	SECTION	SHEET
	NH 014A(34)39	Non	24/53



GUARDRAIL LAYOUT

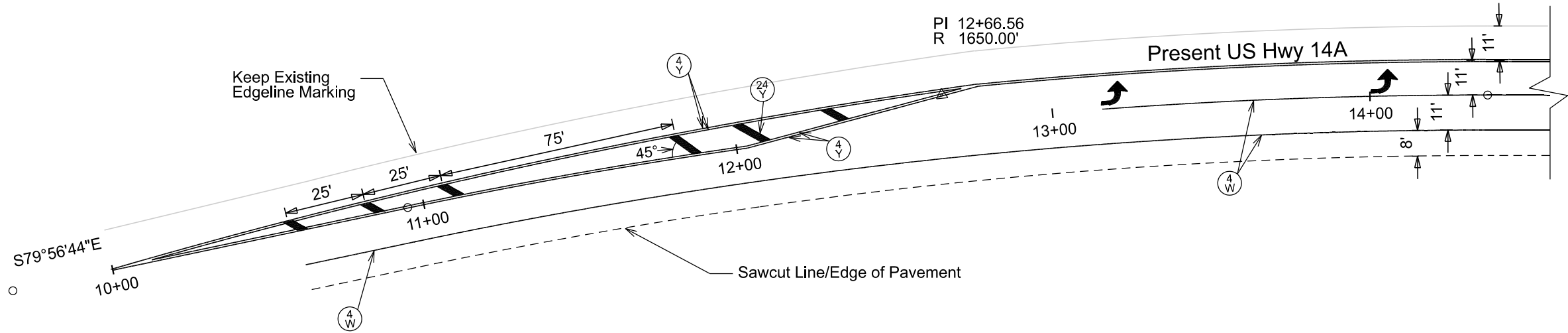
 Plotting Date: 12/29/2025	PROJECT	SECTION	SHEET
	NH 014A(34)39	Non	25/53



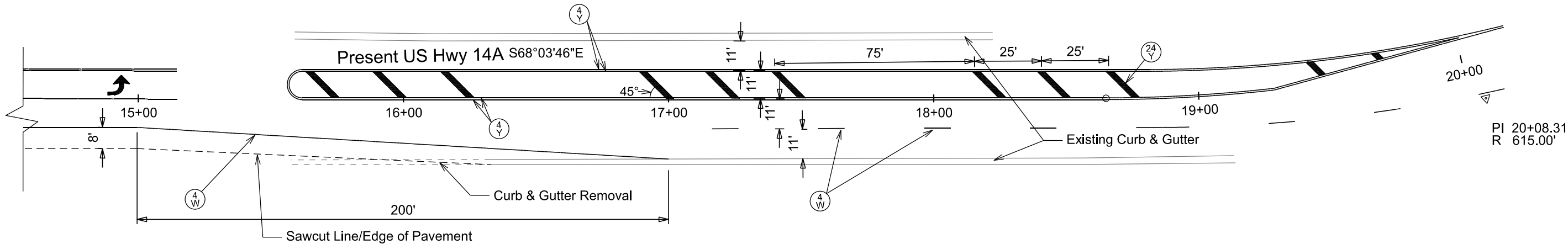
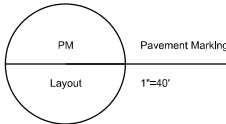
Pavement Marking Layout

SD DOT	PROJECT	SECTION	SHEET
	NH 014A(34)39	Non	26/53

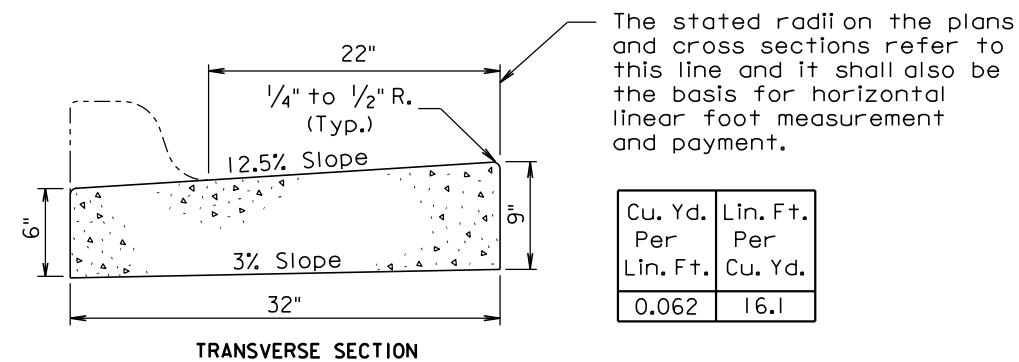
Plotting Date: 1/12/2026
Revised 1-12-26



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
	Remove Pavement Marking, 4" or Equivalent	5700	FT
	Remove Pavement Marking, Arrow	3	EACH
	Grooving for Cold Applied Plastic Pavement Marking, 4"	4320	FT
	Grooving for Cold Applied Plastic Pavement Marking, 24"	194	FT
	Grooving for Cold Applied Plastic Pavement Marking, Arrow, Left	3	EACH
(4W)	Cold Applied Plastic Pavement Marking, 4" White	915	FT
(4Y)	Cold Applied Plastic Pavement Marking, 4" Yellow	3405	FT
(24Y)	Cold Applied Plastic Pavement Marking, 24" Yellow	194	FT
↩	Cold Applied Plastic Pavement Marking, Arrow, Left	3	EACH



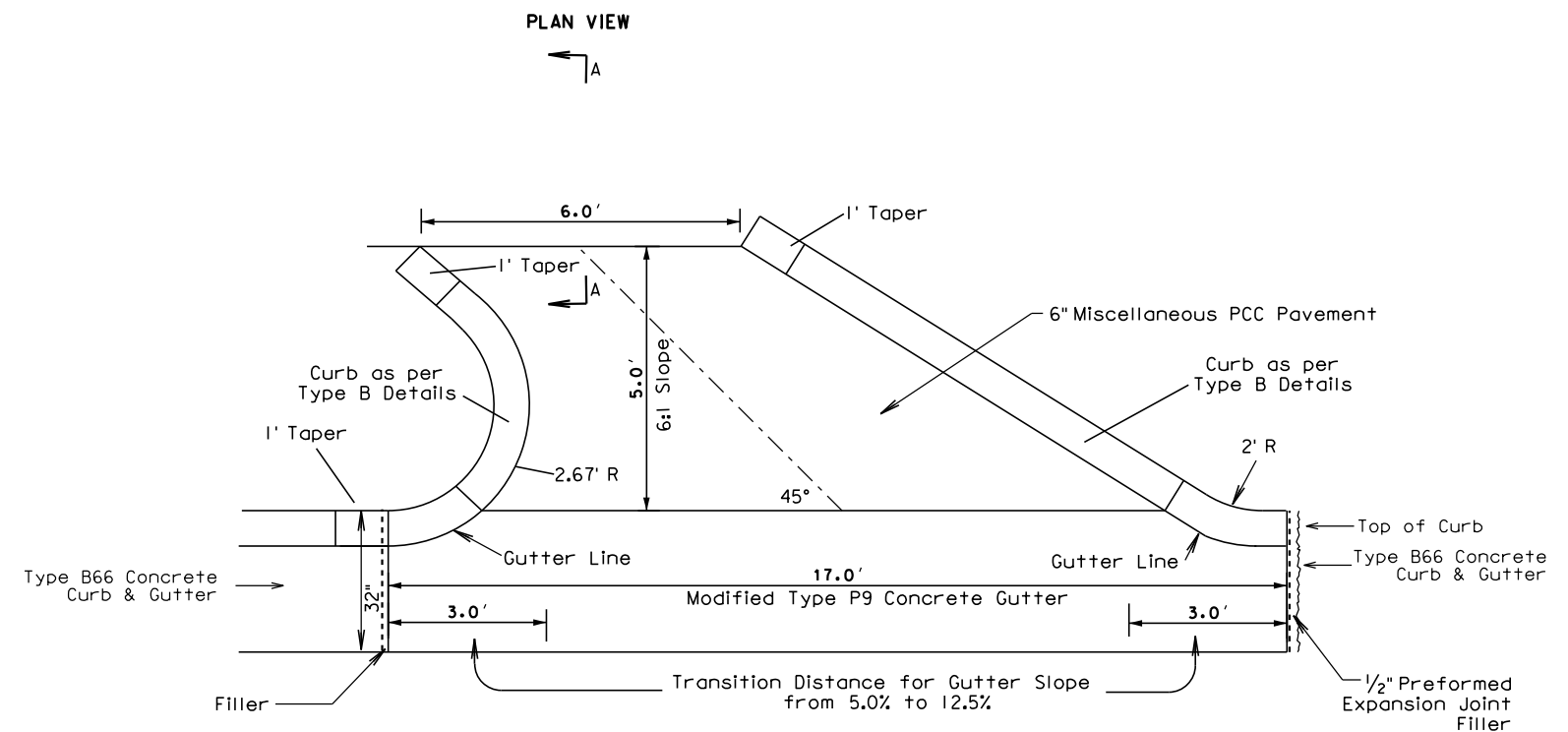
MODIFIED TYPE P9 CONCRETE GUTTER



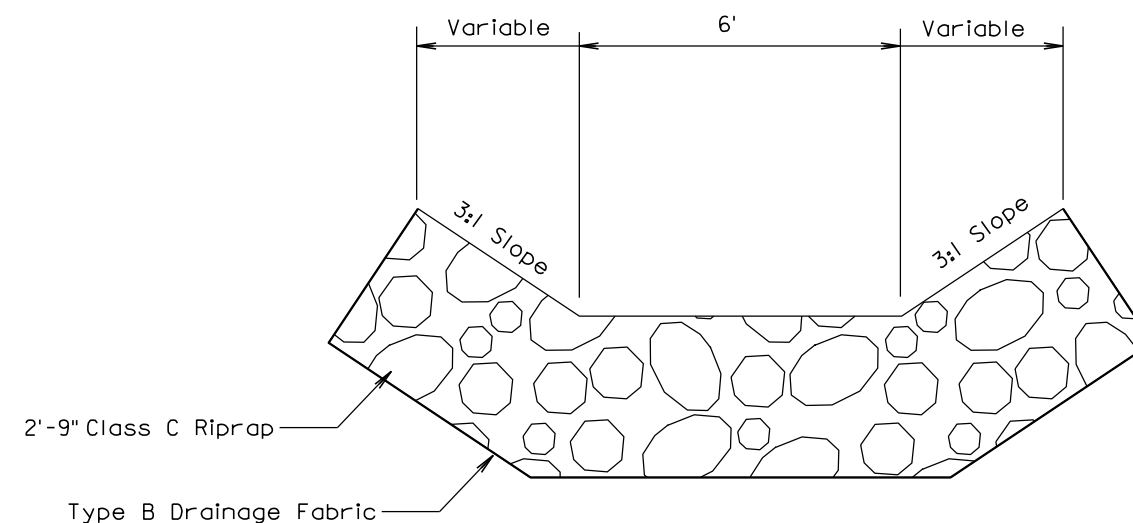
GENERAL NOTES:

- The concrete for the Modified Type P9 Concrete Gutter shall comply with the requirements of the Standard Specifications for Class M6 Concrete.
- When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.20.
- Transverse contraction joints shall be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.
- When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter shall be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.
- When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter shall be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least 1/4 the thickness of the concrete.
- Curb along 6" Miscellaneous PCC Pavement will be poured monolithically and will be measured and paid as 6" Miscellaneous PCC Pavement.

CURB OPENING DETAILS



RIPRAP CHANNEL SECTION 17+68-56' R to 17+70-31' R





PROJECT
NH 014A(34)39

SECTION SHEET
Non 28/53

FED. ROAD DIST. NO.	STATE OF	PROJECT NO.	LOCAL YEAR	SHEET NO.	TOTAL SHEETS
5	S.D.	U028-1(6)	13	15	115

NW 1/4 Sec. 27, T5N, R3E, BHM

See Cross Sections
for special shoulder
and slope treatment.
Lt & Rt.

172+20± to 173+70 Lt.
Put in 150 L.F. Straight
Steel Beam Guide Rail.

BEGIN PROJECT U028-1(6)

LAWRENCE COUNTY
Sta. 168+70.6 = Sta. 168+70.6
on U221(13) = A point 748 feet
South & 3953 feet West of the
NE Cor. Sec. 27-T5N-R3E, BHM.

See Sheet N210
for Bituminous
Pavement Transition

See Sheet N211
for Details and
Locations of Type B 65
Conc. Curb & Gutter.

171+53
Extend Existing
18" CMP with 2'
CMP Rt. & 2'
Flared Ends.

168+70± to 183+50 Rt.
Put in 1475 L.F. Straight
Steel Beam Guide Rail.

168+70 to 179+10
As necessary - Water Line to
be relocated by City of Deadwood
under force account agreement.
No Federal Participation.

171+37± to 175+24± Rt.
Put in Reinforced Concrete
Crib Retaining Wall. See
Sheet No. 28.

PC 168+70.6
PI 170+74.2
PT 172+76.1
Δ 12°10' Rt.
D 3'
T 2036'
L 405.5'
R 1910.0'

PI 168+70.6
El. 65.05
No V.C.

PI 173+50
El. 48.40
V.C. 400'

B.M. #16 - Elev 4658.74
Iron Pin & Gds.
104' Lt. Sta. 170+20



PLAN	DATE
SURVEYED BY	
NOTED BY	
DATE	

PROFILE	DATE
SURVEYED BY	
NOTED BY	
DATE	

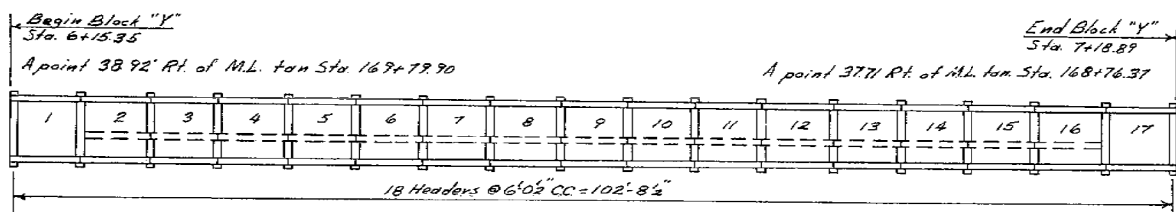
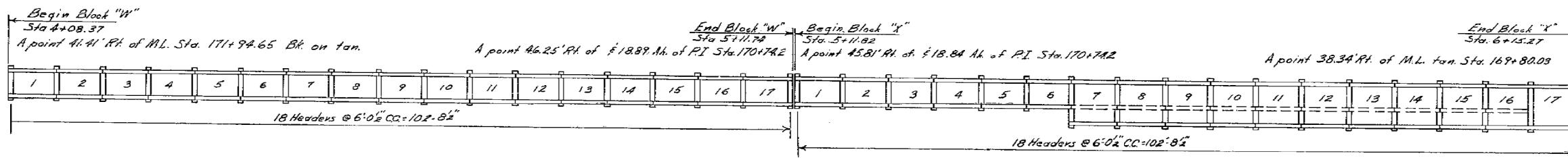
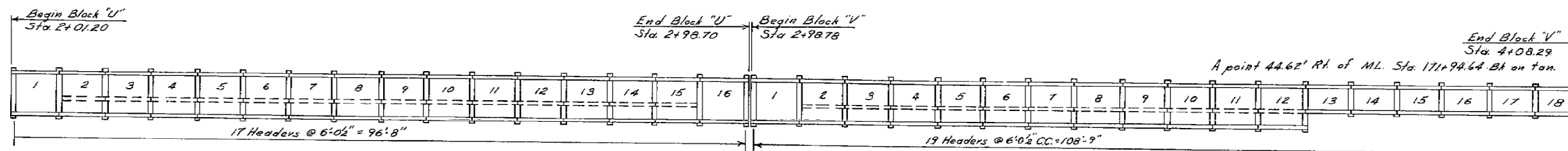
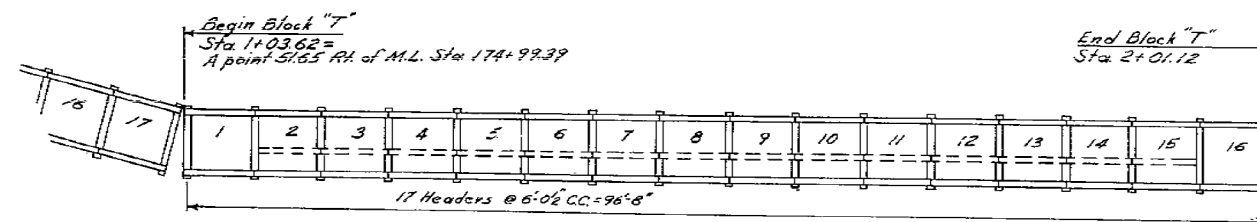
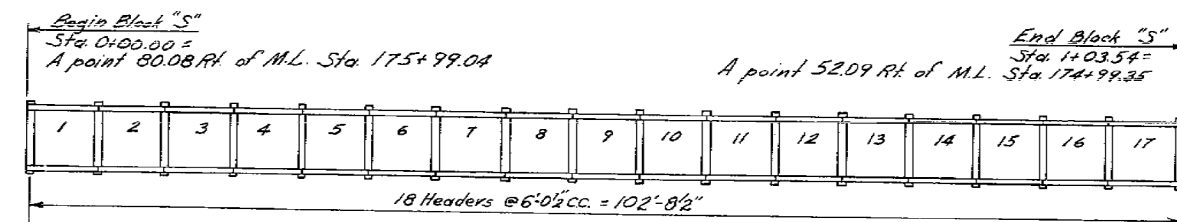
Plotting Date: 12/29/2025

Sheet 1 of 3

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Construction Change Plans No. 1

ESTIMATED QUANTITY SCHEDULE
FOR
REINFORCED CONCRETE CRIB WALL
STA. 168+75± TO STA. 176+00±
U028-1(6) LAWRENCE CO.



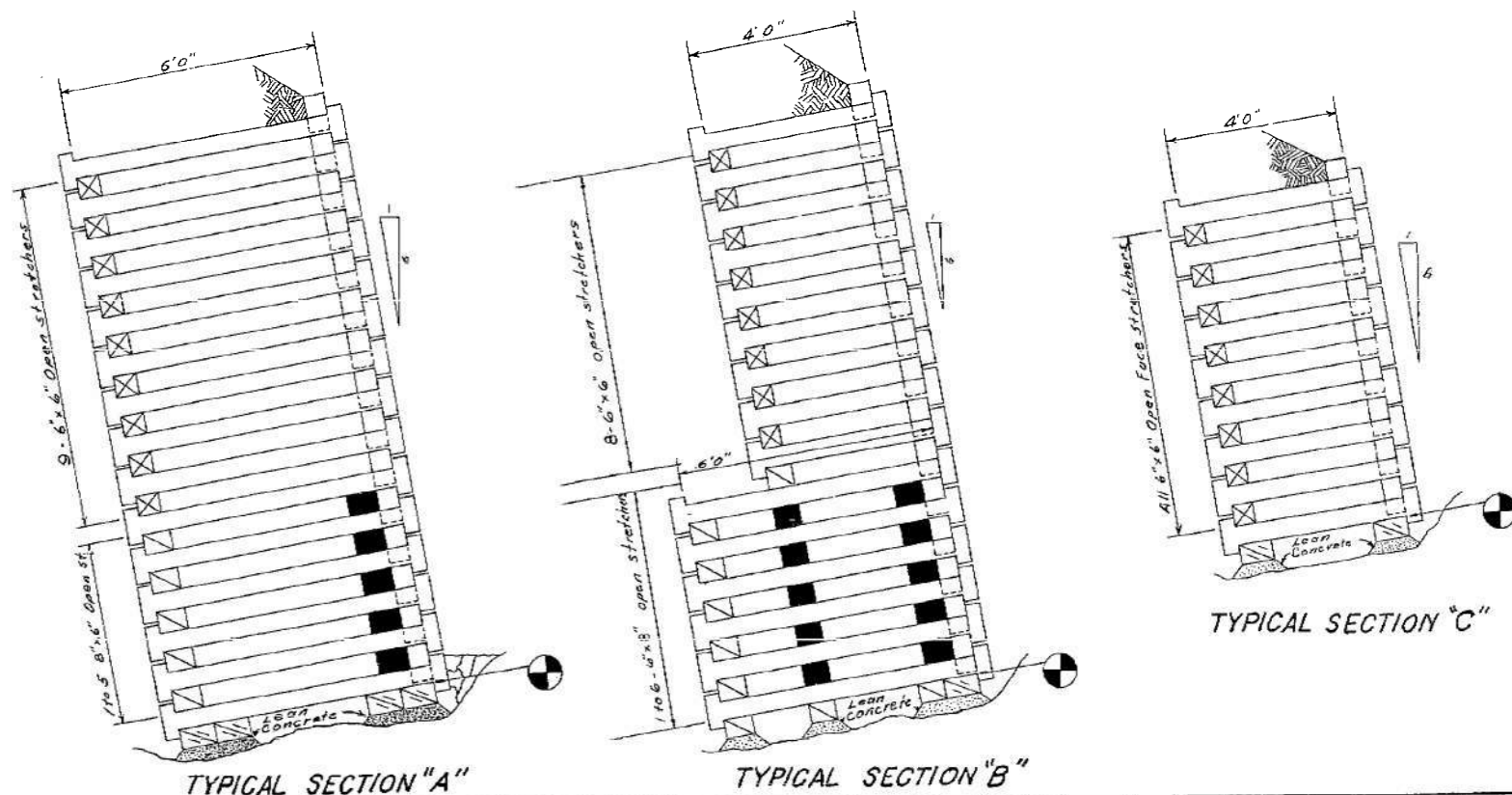
GENERAL NOTES

1. The reference points as given on the crib layout are to the crib offset line. The offset line is parallel to the face of each crib. The offset for each crib is given in the quantity tables and is the distance from the offset line to the top front face of the sill. In block "X", the offset is a negative distance because the tiers of the crib are descending rather than ascending.
2. The elevations for each crib sill is given in the table of quantities and is the elevation of the top front face of the sill.
3. The typical section to which each crib is built is listed in the quantity tables.
4. When typical section "A" is specified for the first and last cribs of a block, the outside headers are to be 5"x10".
5. 6"x10" closed stretchers are to be used in the front of all crib sections for all tiers.

LEGEND

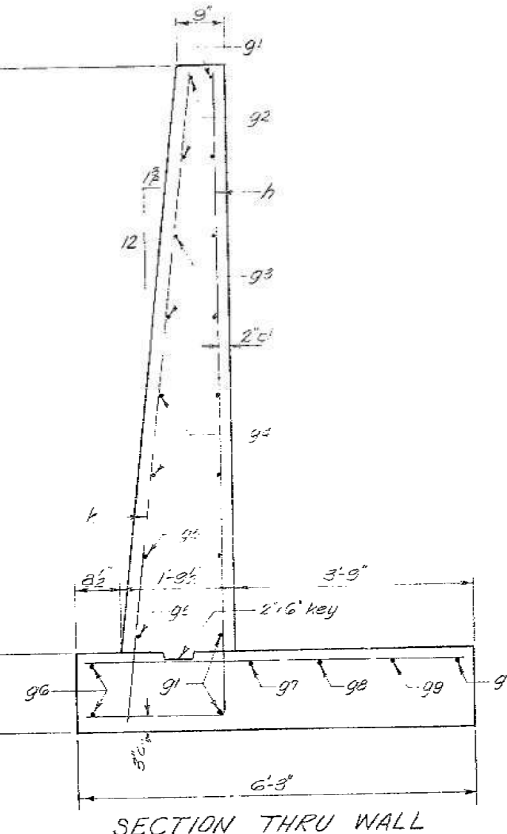
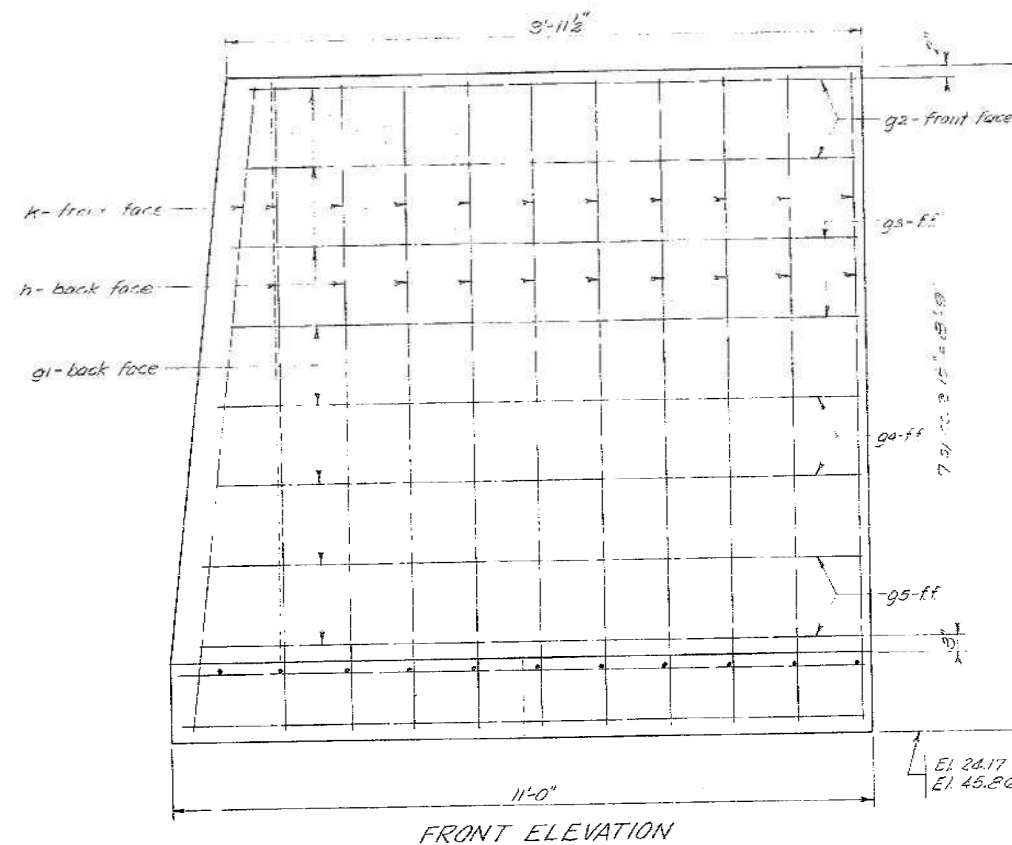
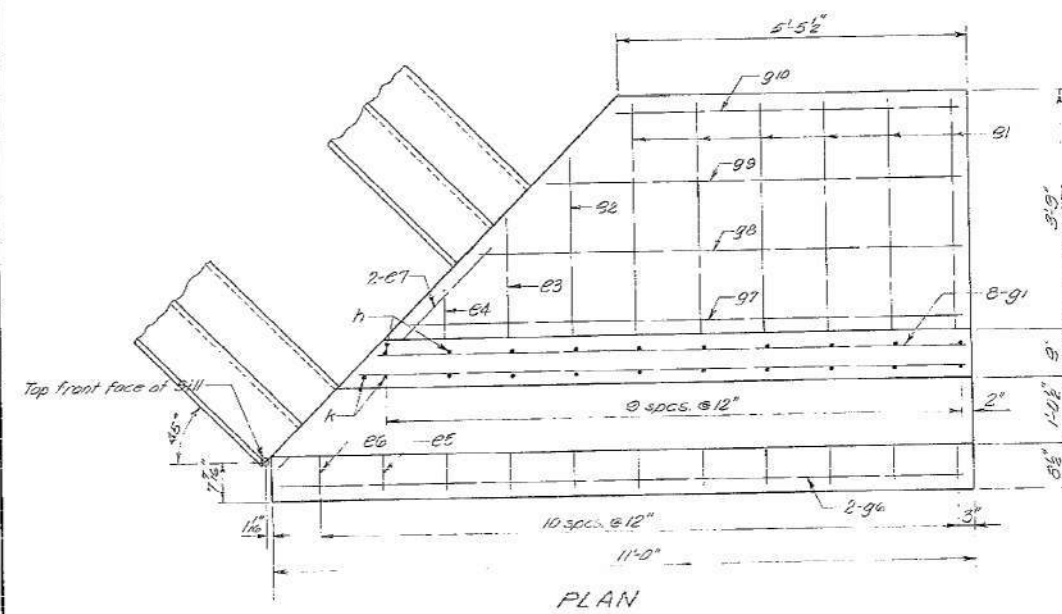
- 6"x6" Open Stretcher
- Closed Face Stretcher
- 8"x6" Open Stretcher
- 8"x8"x5 1/2" Block
- 10"x6" Open Stretcher
- Point of Elevation & Offset

GENERAL DRAWING FOR REINFORCED CONCRETE CRIB WALL STA. 168+75± TO STA. 176+00± U028-1(6) LAWRENCE CO.



FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL
5	S.D.	02846	3	3

REINFORCING SCHEDULE					
Mk.	No.	Size	Length	Type	Bending Details
E1	6	5	6'-0"	Str	
E2	1	1	5'-3"	1	
E3	1	1	4'-3"	1	
E4	1	1	3'-3"	1	
E5	1	1	2'-3"	1	
E6	1	1	1'-3"	1	
E7	2	5	4'-9"	1	
G1	9	4	8'-6"	1	
G2	2	1	9'-6"	1	
G3	2	1	9'-9"	1	
G4	2	1	10'-0"	1	
G5	2	1	10'-3"	1	
G6	2	1	10'-9"	1	
G7	1	1	8'-9"	1	
G8	1	1	7'-6"	1	
G9	1	1	6'-6"	1	
G10	1	4	5'-3"	Str	
h	10	85	12'-0"	21	
k	11	5	10'-0"	Str	



ESTIMATED QUANTITIES			
ITEM	UNIT	CRIB 'S'	CRIB 'Y'
Class A Concrete	Cu. Yds	6.8	6.8
Reinforcing Steel	Lbs	500	500
Structure Excavate	Cu. Yds		

RETAINING WALL
AT
END OF CRIB BLOCKS 'S' & 'Y'

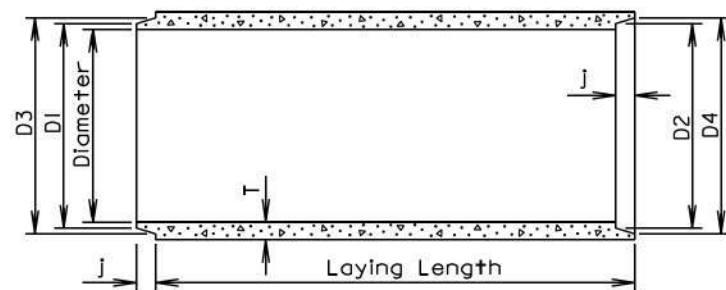
LAWRENCE CO. U028-1(6)

SOUTH DAKOTA
DEPARTMENT OF HIGHWAYS

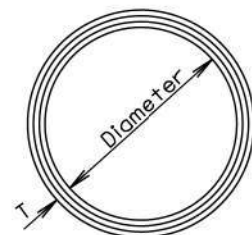
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
KC	KSW		[Signature]

TOLERANCES IN DIMENSIONS

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



LONGITUDINAL SECTION



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.

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 1/8	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

June 26, 2015

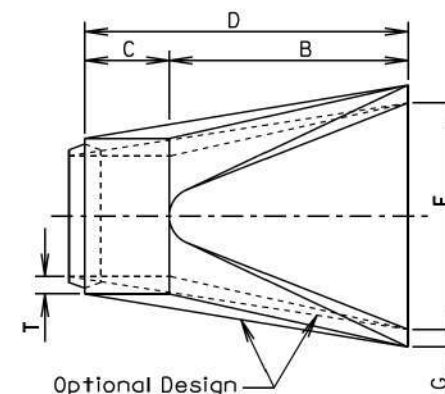
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REINFORCED CONCRETE PIPE

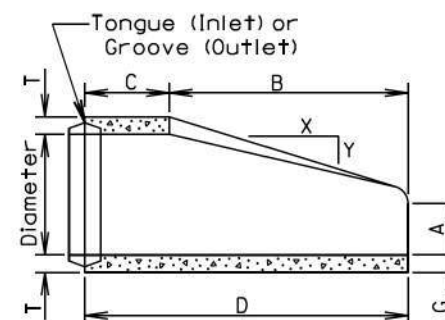
PLATE NUMBER
450.01

Sheet 1 of 1

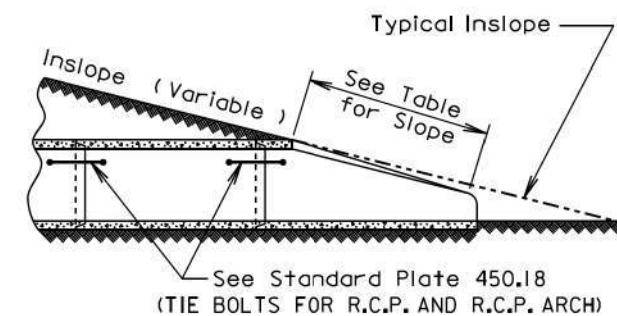
Published Date: 2026



TOP VIEW



LONGITUDINAL SECTION

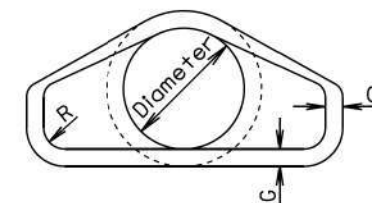


SLOPE DETAIL

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	48 7/8	72 7/8	24	2	1 1/2
15	740	2.4:1	2 1/4	6	27	46	73	30	2 1/4	1 1/2
18	990	2.3:1	2 1/2	9	27	46	73	36	2 1/2	1 1/2
21	1280	2.4:1	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	1 1/2
24	1520	2.5:1	3	9 1/2	43 1/2	30	73 1/2	48	3	1 1/2
27	1930	2.5:1	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	1 1/2
30	2190	2.5:1	3 1/2	12	54	19 3/4	73 3/4	60	3 1/2	1 1/2
36	4100	2.5:1	4	15	63	34 3/4	97 3/4	72	4	1 1/2
42	5380	2.5:1	4 1/2	21	63	35	98	78	4 1/2	1 1/2
48	6550	2.5:1	5	24	72	26	98	84	5	1 1/2
54	8240	2:1	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	1 1/2
60	8730	1.9:1	6	35	60	39	99	96	5	1 1/2
66	10710	1.7:1	6 1/2	30	72	27	99	102	5 1/2	1 1/2
72	12520	1.8:1	7	36	78	21	99	108	6	1 1/2
78	14770	1.8:1	7 1/2	36	90	21	111	114	6 1/2	1 1/2
84	18160	1.6:1	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2
90	20900	1.5:1	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	6

June 26, 2015

SD
DOT

R. C. P. FLARED ENDS

PLATE NUMBER
450.10

Sheet 1 of 1

Published Date: 2026

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.

Published Date: 2026

SD
DOT

TIE BOLTS FOR R.C.P. AND R.C.P. ARCH

April 8, 2025

PLATE NUMBER
450.18

Sheet 1 of 1

PLAN VIEW

ELEVATION VIEW

PLATE A

CONNECTING PIN DETAIL

ASSEMBLED CONNECTING PIN

Published Date: 2026

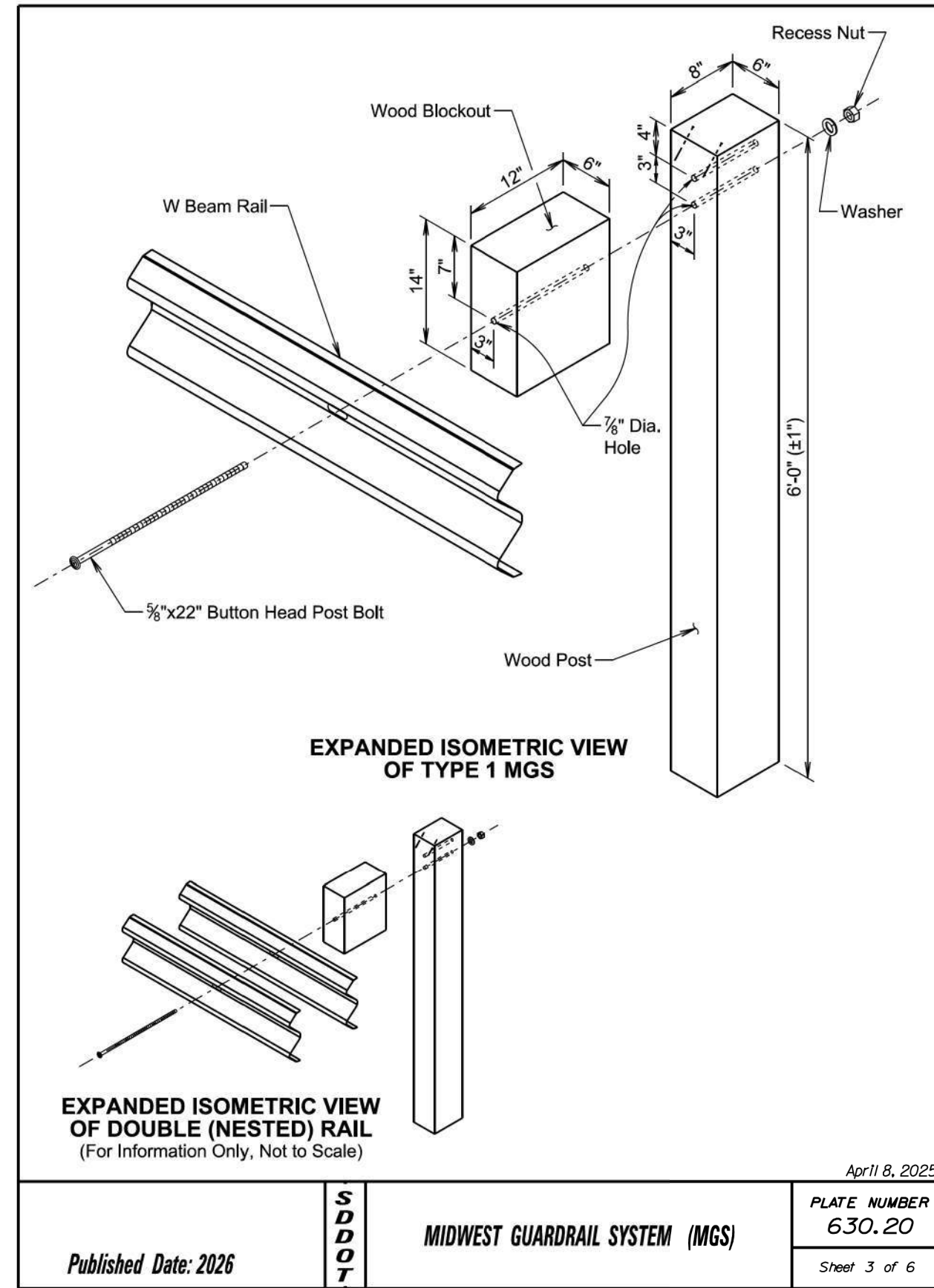
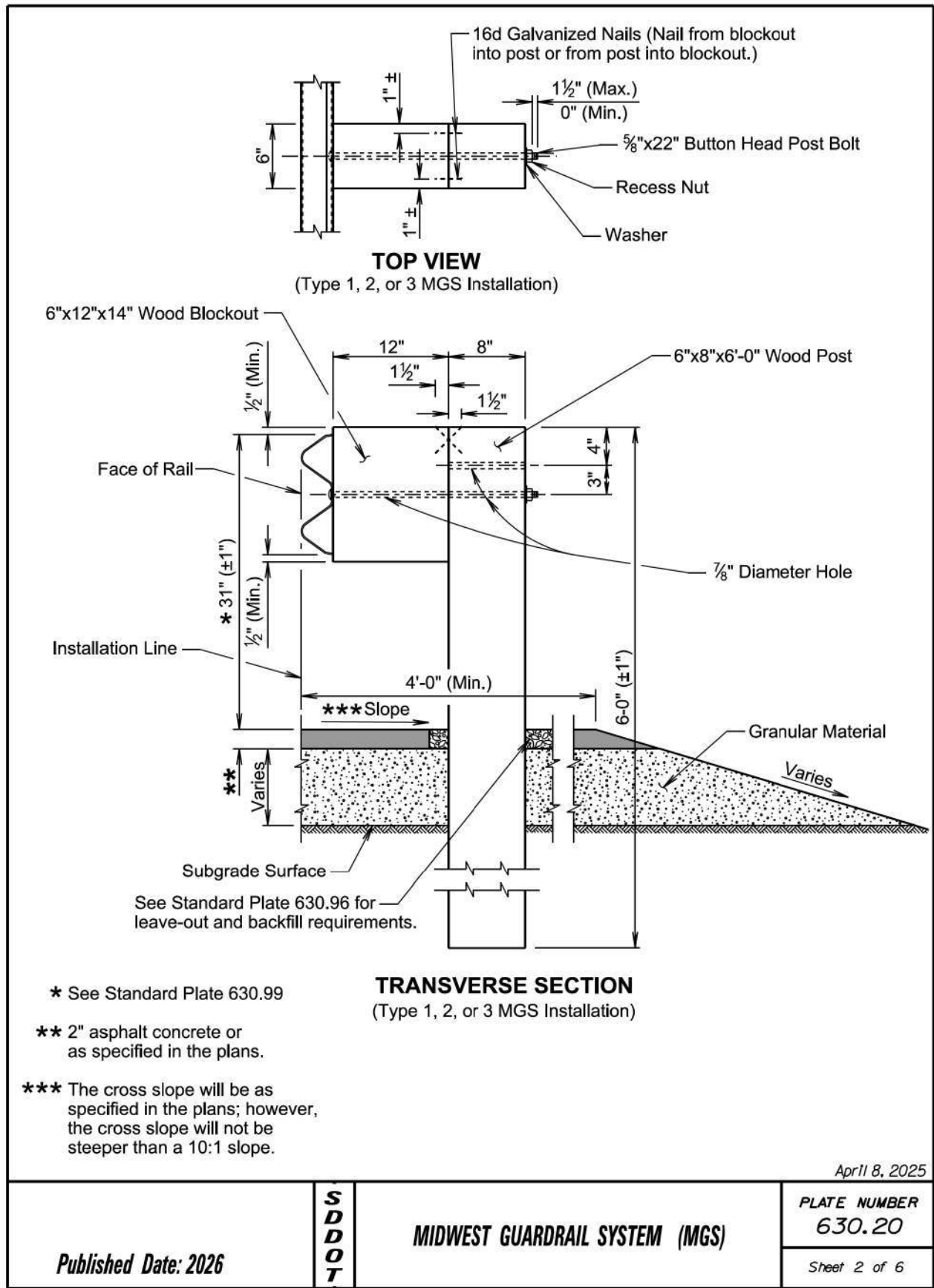
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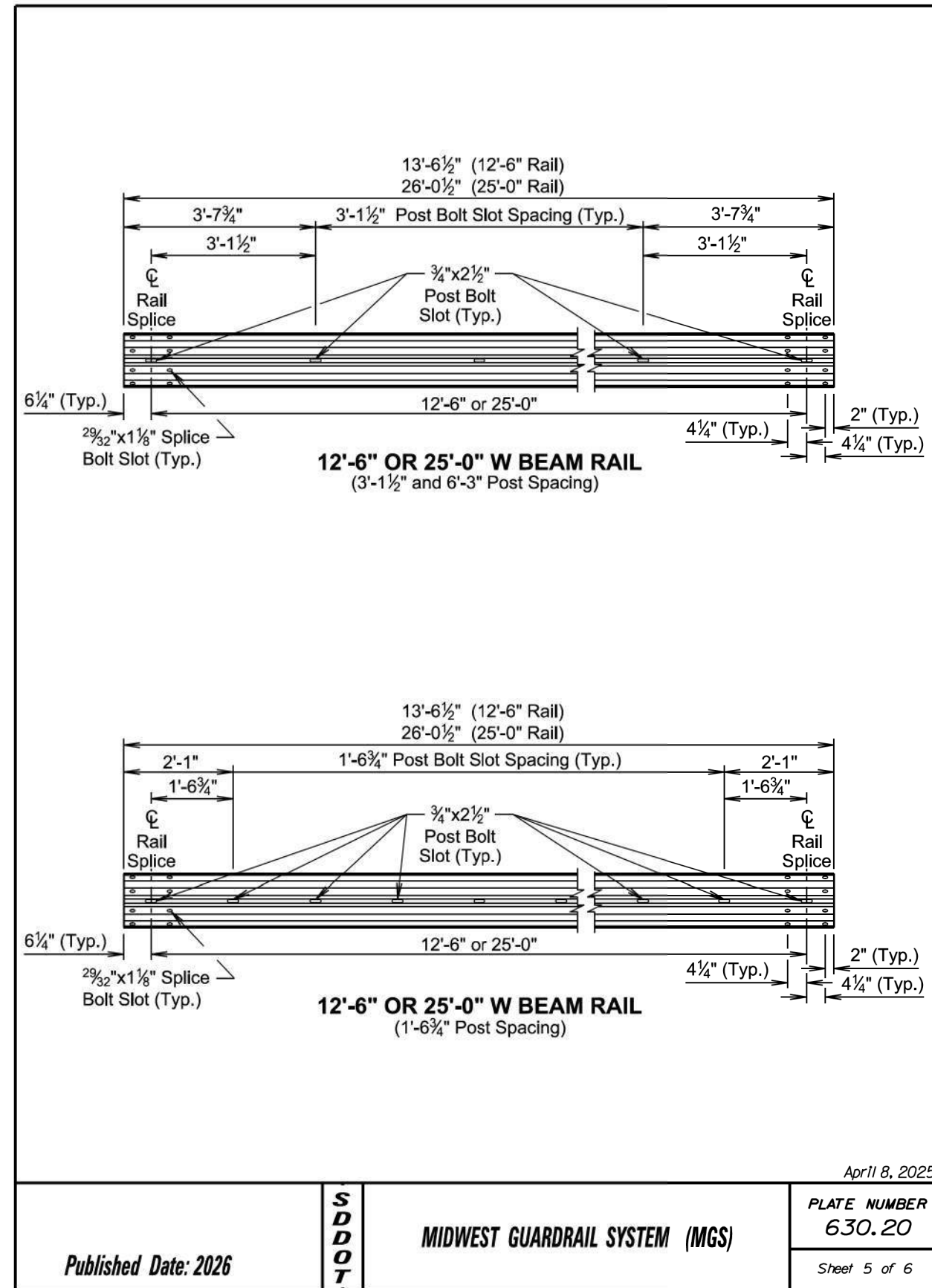
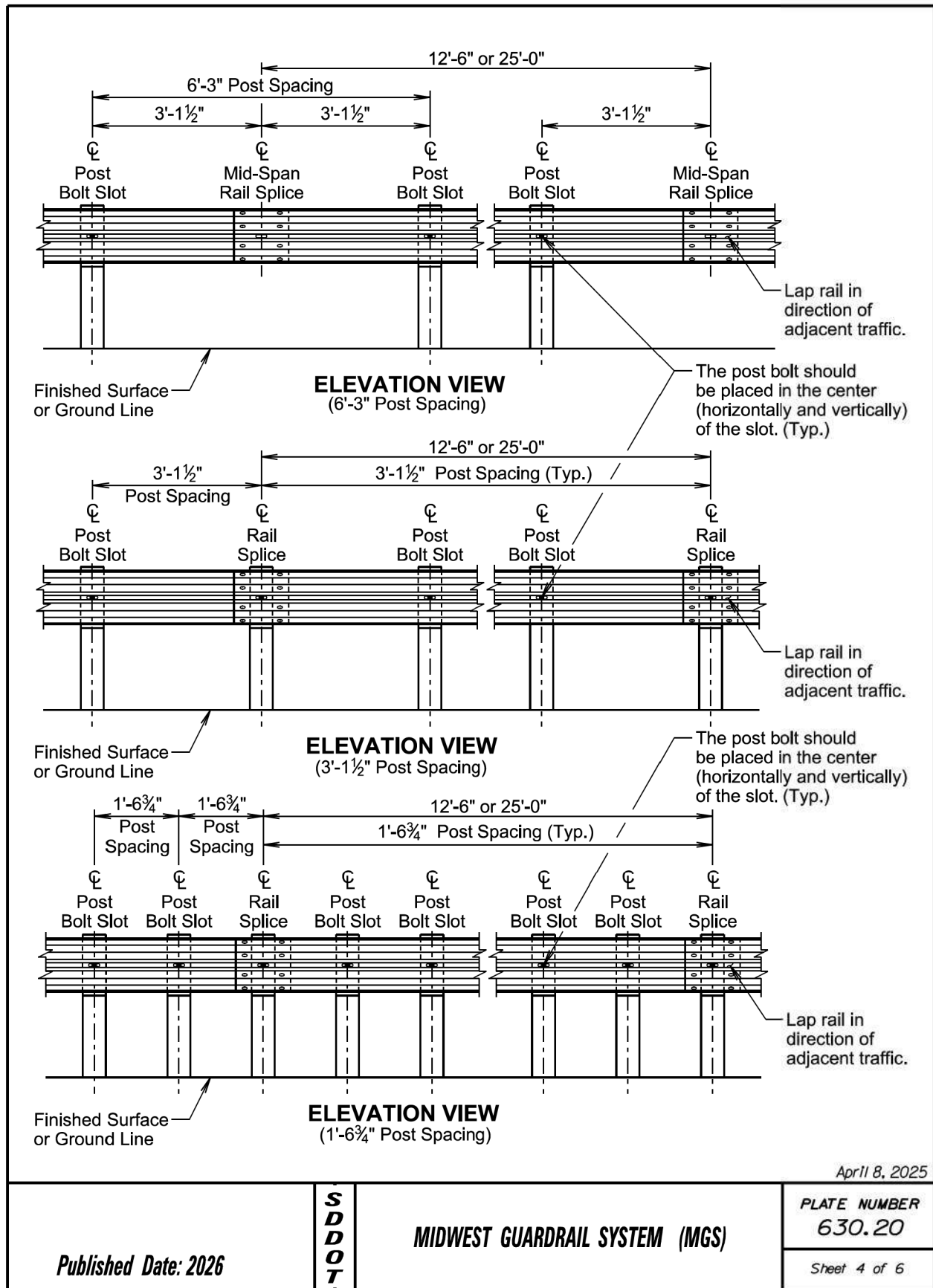
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(F SHAPE INTERIOR SECTION)

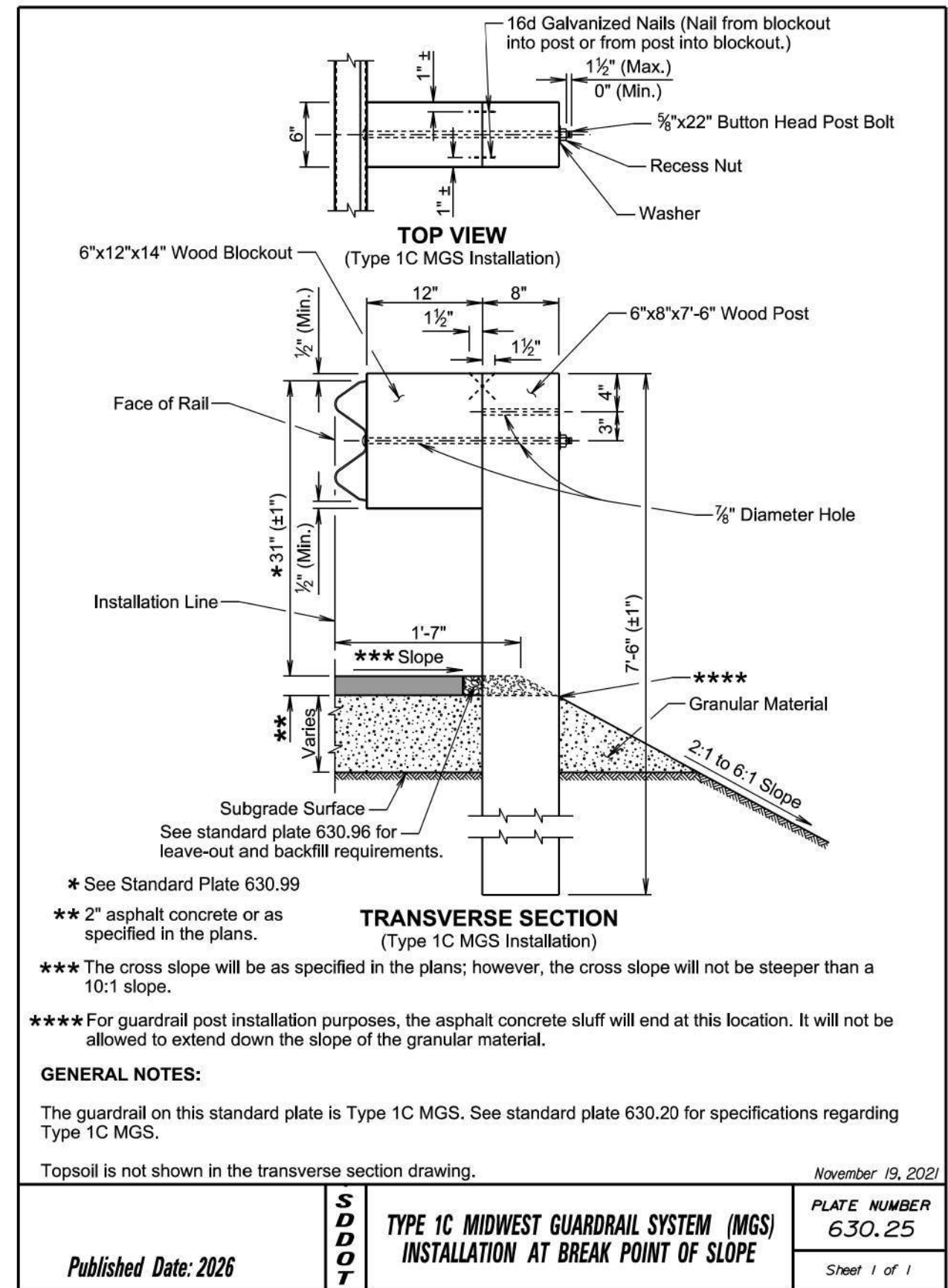
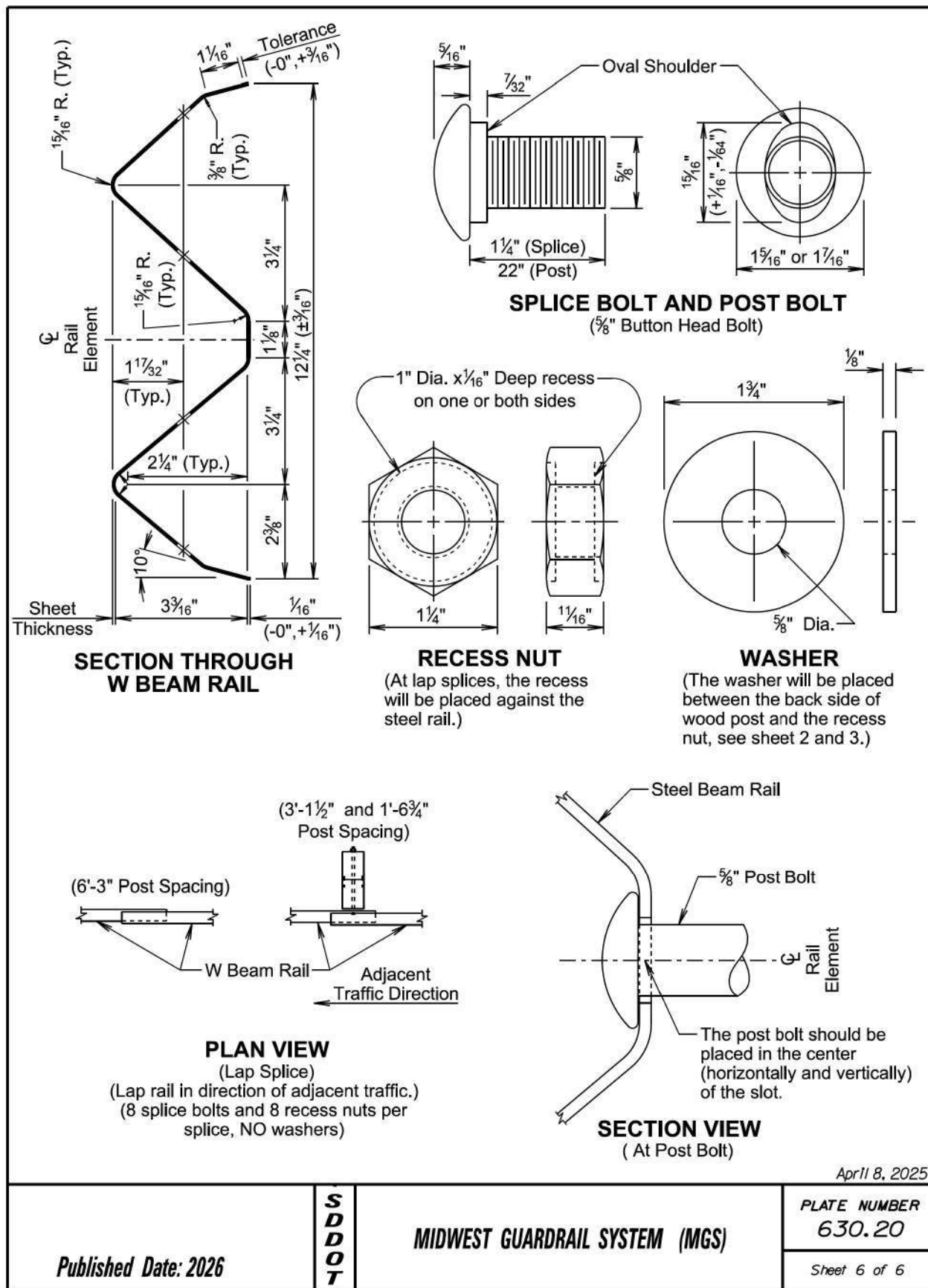
September 14, 2018

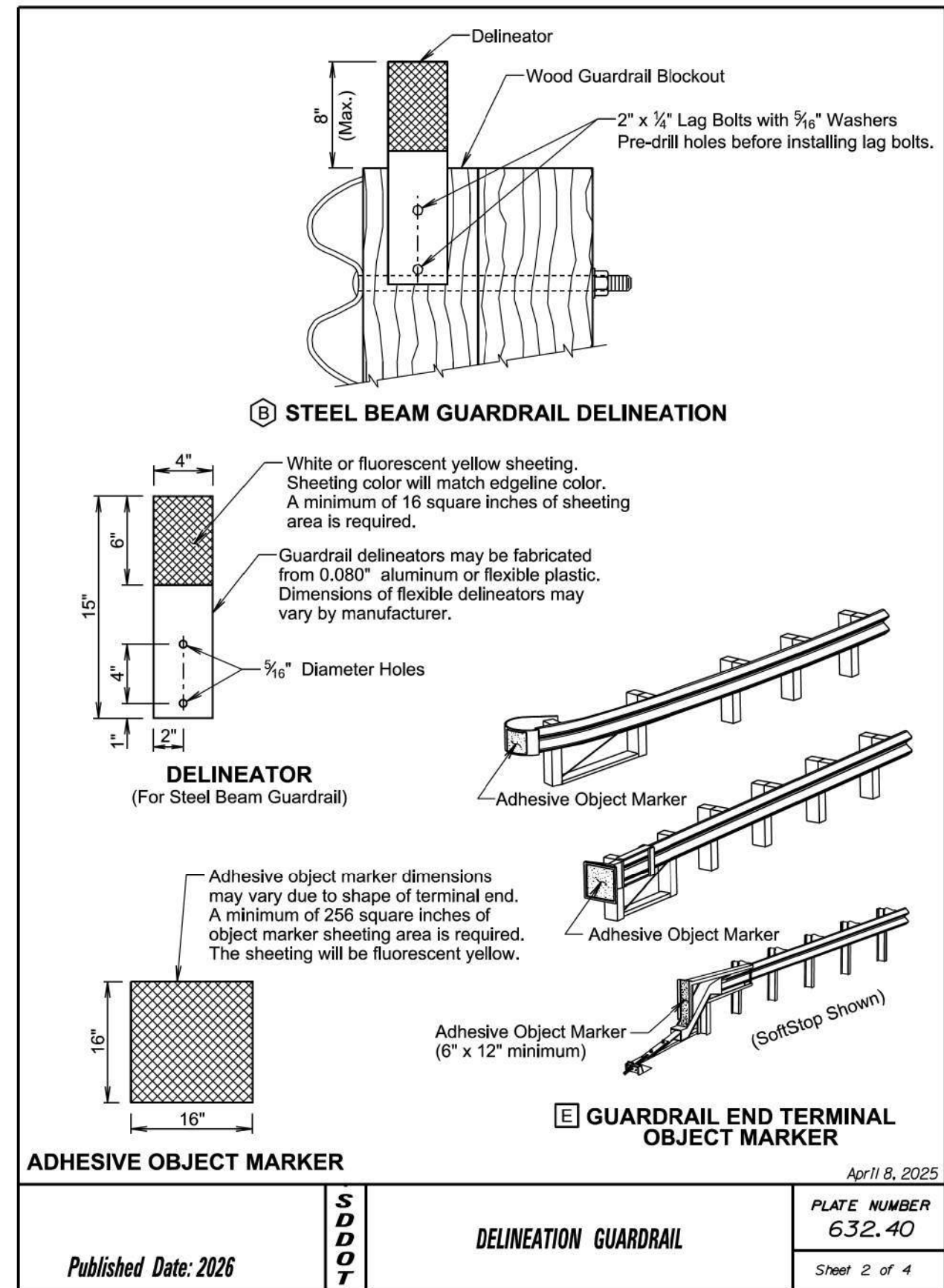
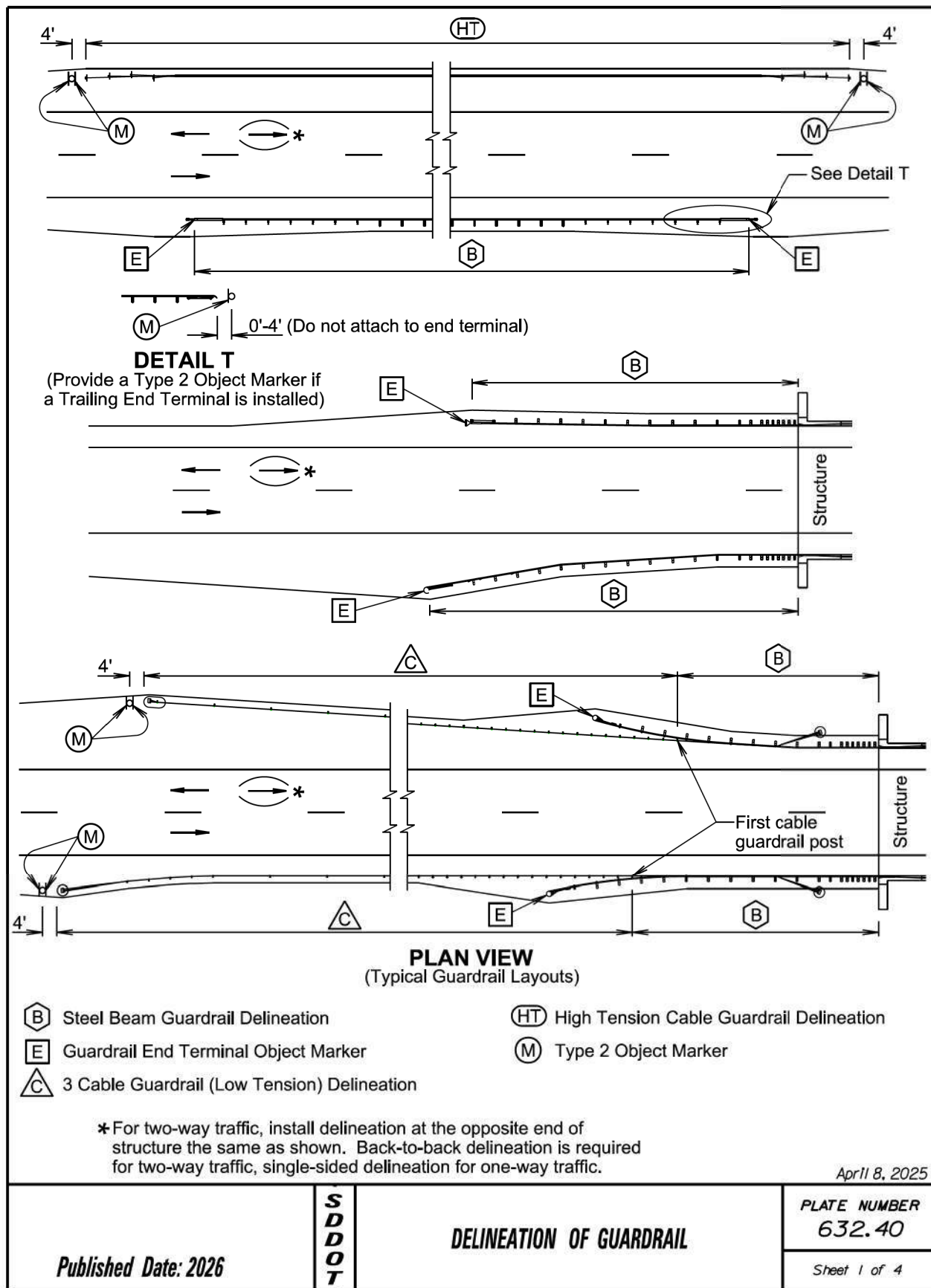
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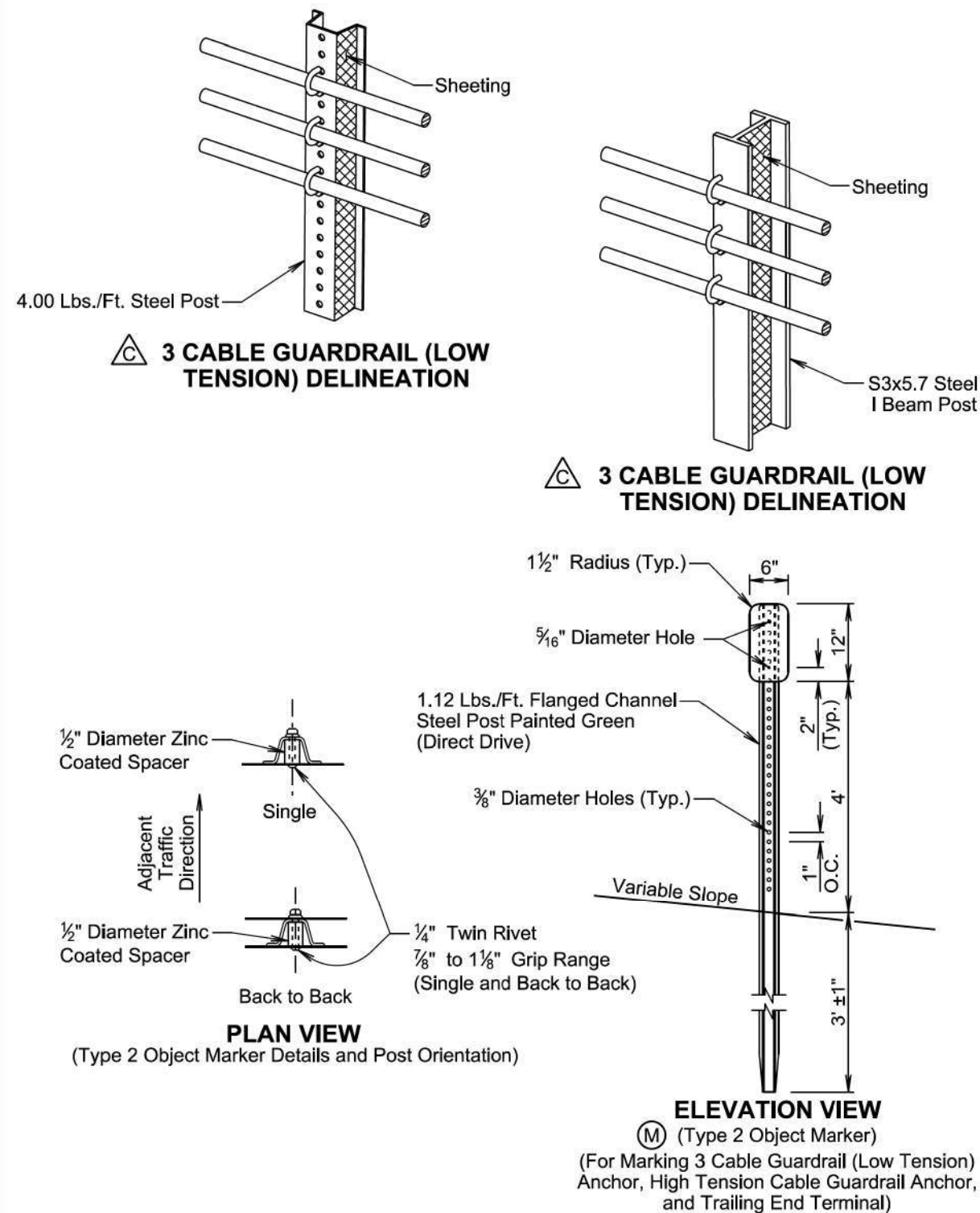
Sheet 1 of 2











April 8, 2025

Published Date: 2026

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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

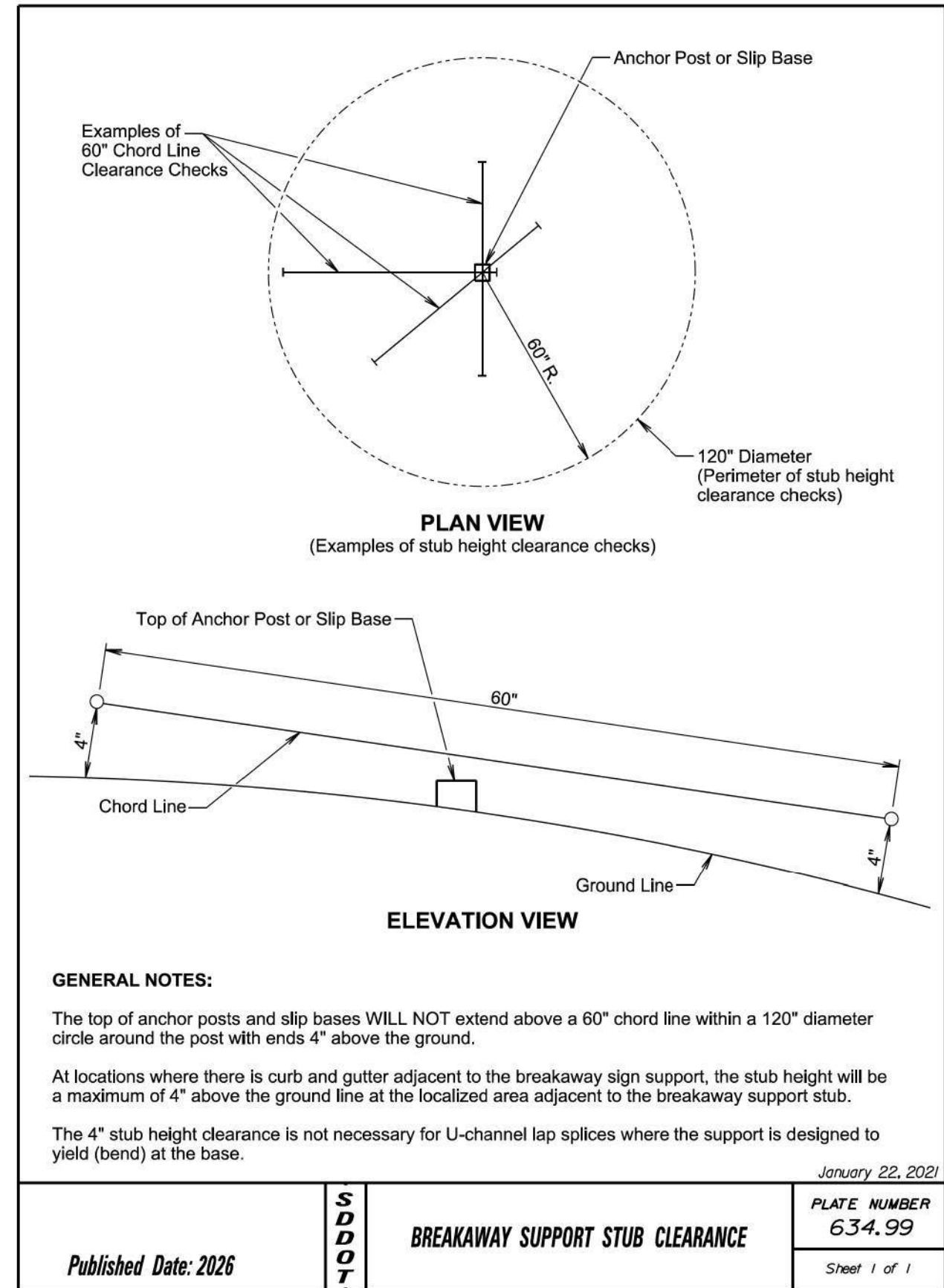
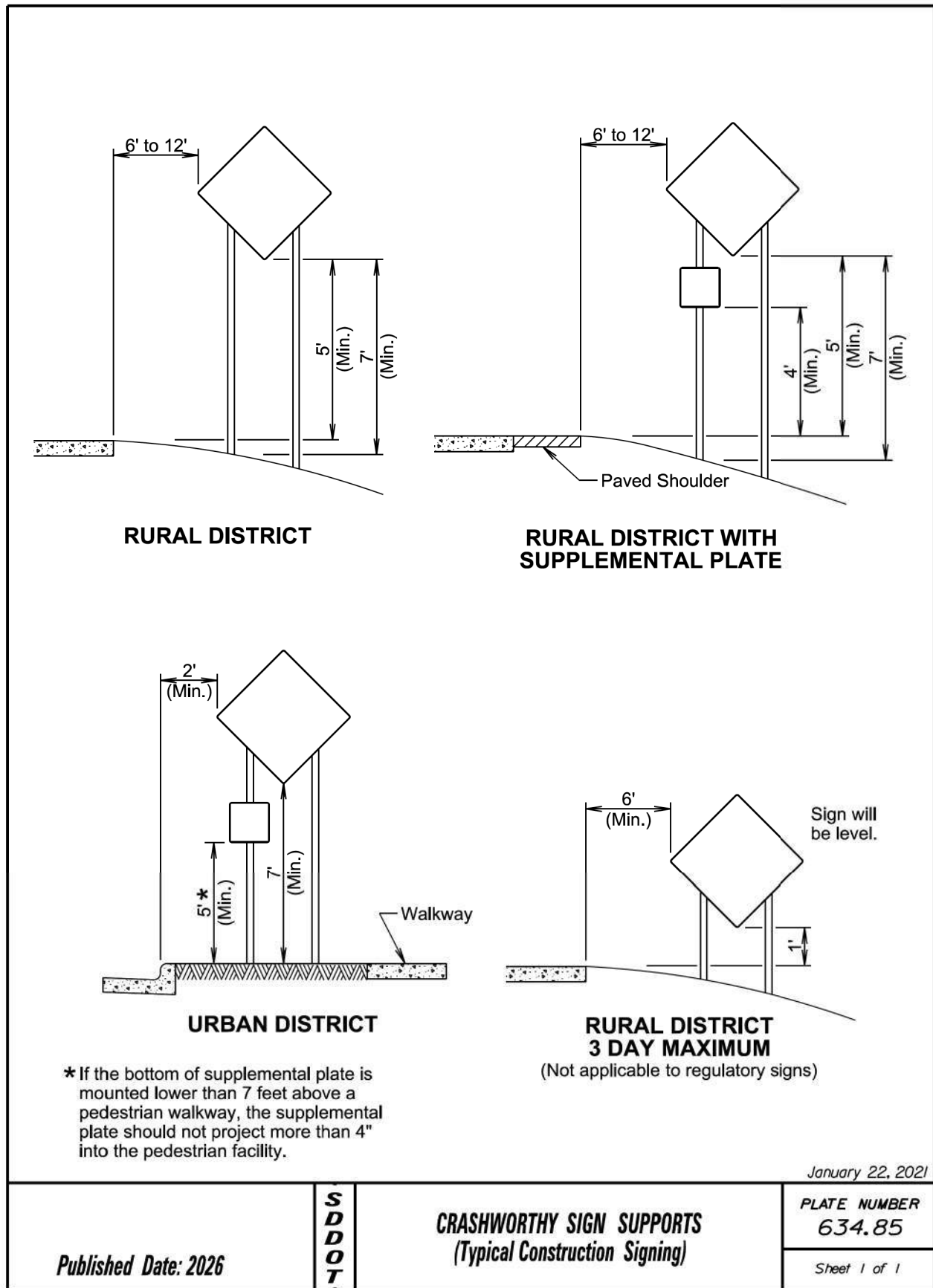
Published Date: 2026

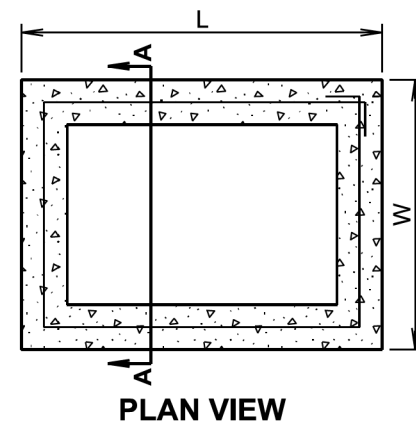
SD
DOT

DELINEATION OF GUARDRAIL

PLATE NUMBER
632.40

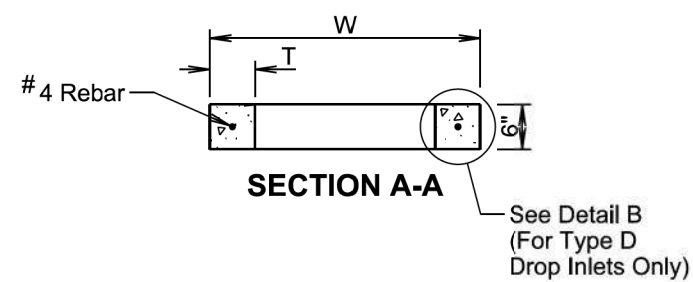
Sheet 4 of 4





For Type D Drop Inlets only:
Use Precast Drop Inlet Collar with
2" chamfer on L sides only.

DETAIL B



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 1/2" 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

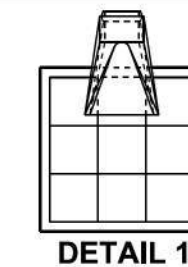
Published Date: 2026

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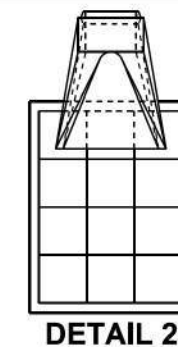
PRECAST DROP INLET COLLAR

PLATE NUMBER
670.99

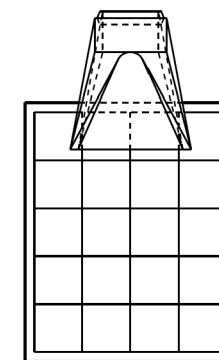
Sheet 1 of 1



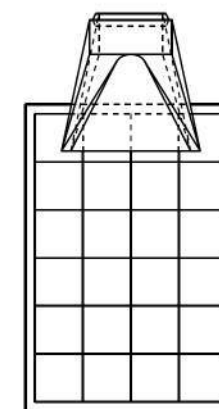
DETAIL 1



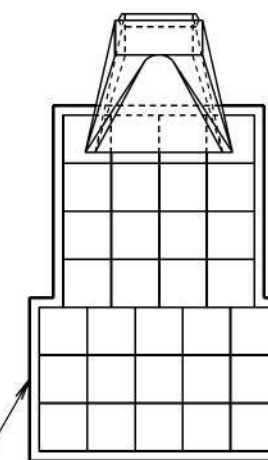
DETAIL 2



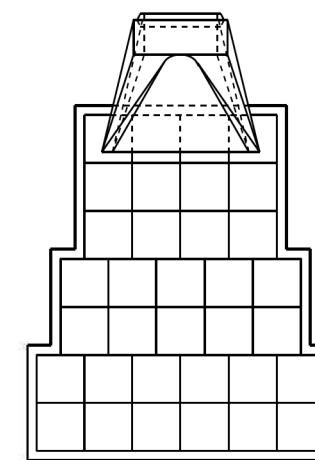
DETAIL 3



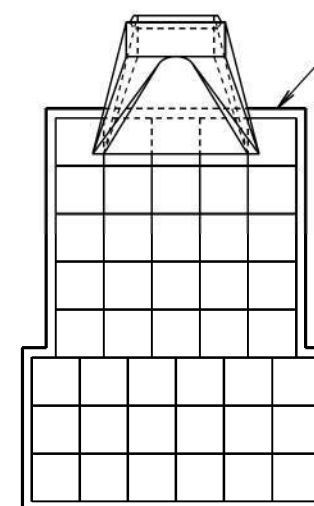
DETAIL 4



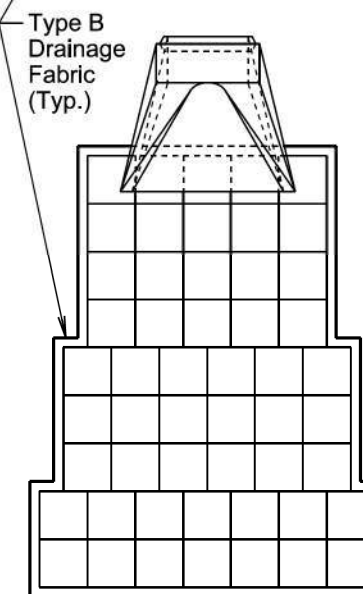
DETAIL 5



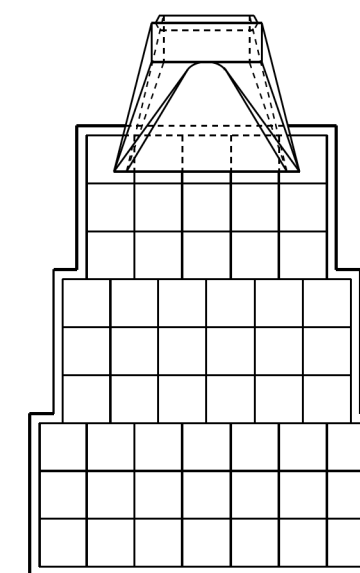
DETAIL 6



DETAIL 7



DETAIL 8



DETAIL 9

Type B
Drainage
Fabric
(Typ.)

February 14, 2020

Published Date: 2026

SD
DOT

BANK AND CHANNEL PROTECTION GABION
PLACEMENT UNDER PIPE END SECTIONS

PLATE NUMBER
720.03

Sheet 1 of 2

* 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

Published Date: 2026	SD DOT	BANK AND CHANNEL PROTECTION GABION PLACEMENT UNDER PIPE END SECTIONS	PLATE NUMBER 720.03
			Sheet 2 of 2

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

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