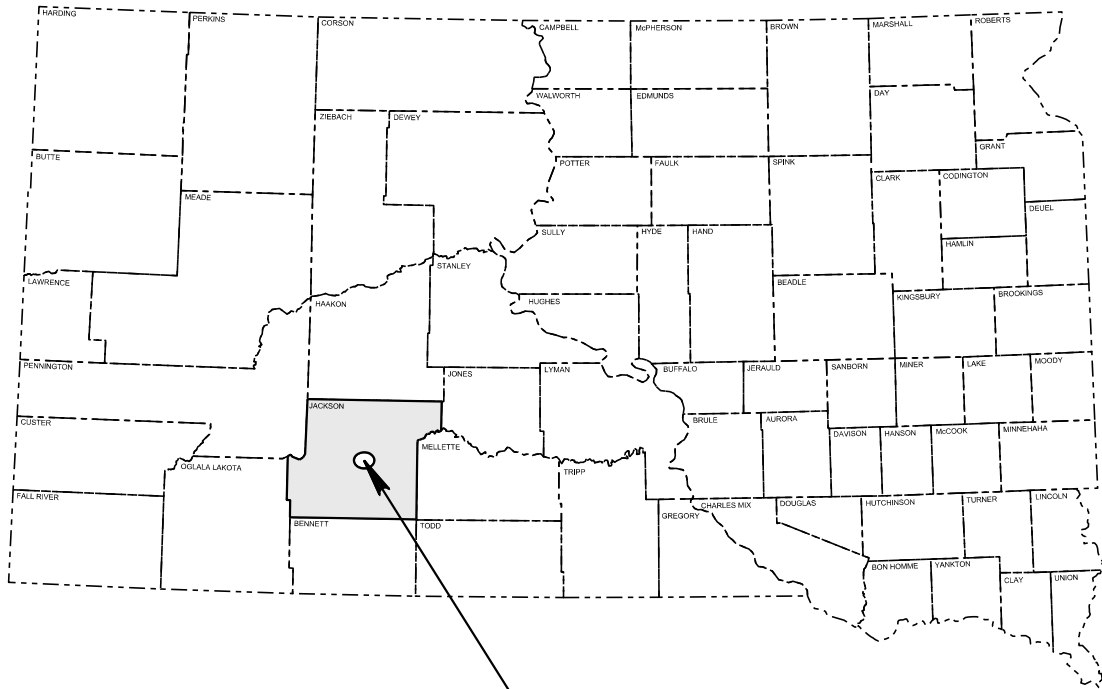


Plot Scale - 1:200

Plotted From - andrewkrebs



PROJECT

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT BRO-B 8036(06)
254TH STREET
JACKSON COUNTY

GRADING AND STRUCTURE REPLACEMENT
STR. NO. 36-273-191
PCN 09MD

PROJECT	SHEET	TOTAL SHEETS
BRO-B 8036(06)	1	53

Plotting Date: 6/28/2024

INDEX OF SHEETS

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- 14-17 Storm Water Pollution Protection Plan (SWPPP)
- 18 Horizontal Alignment Data & Control Data
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- 22-28 Standard Plates
- 29-44 Structure Sheets
- 45-53 Cross Sections

BEGIN BRO-B 8036(06)

Station 2+00 Approximately 955 feet South
and 896 feet West of the north 1/4
corner of Section 10 - Township 43
North - Range 36 West

END BRO-B 8036(06)

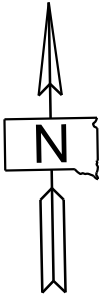
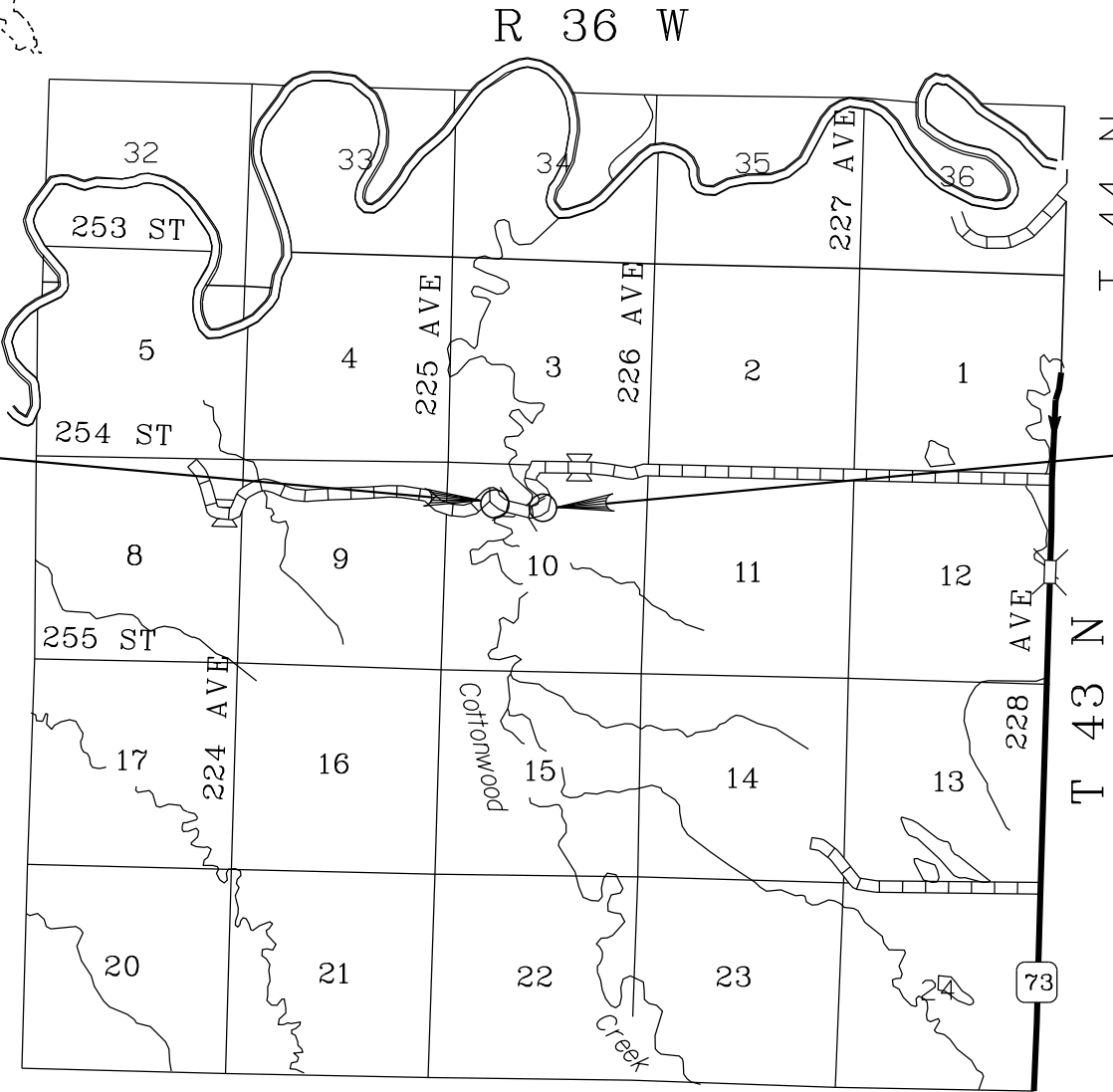
Station 8+50 Approximately 1135 feet South
and 288 feet West of the north 1/4
corner of Section 10 - Township 43
North - Range 36 West

DESIGN DESIGNATION

AADT (2024) 15
AADT (2044) 15
D 50%
T ADT 20.0%
V 20 mph

STORM WATER PERMIT

Major Receiving
Body of Water: Cottonwood Creek
Area Disturbed: 1.22 Acres
Total Project Area: 2.11 Acres
Approx. Begin Lat,Long: 43.7196, -101.5941



Gross Length	650 Feet	0.123 Miles
Length of Exceptions	0 Feet	0 Miles
Net Length	650 Feet	0.123 Miles

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Revised 6/25/2025
FOR BIDDING PURPOSES ONLY

 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	2	53

Estimate of Grading Quantities

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
004E0030	Maintenance of Traffic Diversion(s)	Lump Sum	LS
004E0050	Remove Traffic Diversion(s)	Lump Sum	LS
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	0.227	Mile
009E3250	Miscellaneous Staking	0.227	Mile
009E3280	Slope Staking	0.227	Mile
009E3290	Structure Staking	1	Each
100E0100	Clearing	Lump Sum	LS
110E0500	Remove Pipe Culvert	33	Ft
110E0510	Remove Pipe End Section	2	Each
110E1690	Remove Sediment	5.0	CuYd
110E1700	Remove Silt Fence	137	Ft
120E0010	Unclassified Excavation	1,312	CuYd
120E0600	Contractor Furnished Borrow Excavation	530	CuYd
230E0010	Placing Topsoil	369	CuYd
260E3010	Gravel Surfacing	168.0	Ton
450E4758	18" CMP 14 Gauge, Furnish	36	Ft
450E4760	18" CMP, Install	36	Ft
450E5211	18" CMP Flared End, Furnish	2	Each
450E5212	18" CMP Flared End, Install	2	Each
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	31	Each
634E0110	Traffic Control Signs	180.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	6	Each
734E0010	Erosion Control	Lump Sum	LS
734E0103	Type 3 Erosion Control Blanket	228	SqYd
734E0154	12" Diameter Erosion Control Wattle	510	Ft
734E0165	Remove and Reset Erosion Control Wattle	128	Ft
734E0602	Low Flow Silt Fence	547	Ft
734E0610	Mucking Silt Fence	38	CuYd
734E0620	Repair Silt Fence	137	Ft
734E0630	Floating Silt Curtain	265	Ft
831E0110	Type B Drainage Fabric	865	SqYd

Structure No. 36-273-191

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E5000	Concrete Penetrating Sealer	241.8	SqYd
120E7000	Select Granular Backfill	13.3	Ton
250E0030	Incidental Work, Structure	Lump Sum	LS
410E0030	Structural Steel, Miscellaneous	Lump Sum	LS
420E0100	Structure Excavation, Bridge	14	CuYd
430E0200	Bridge End Embankment	207	CuYd
430E0300	Granular Bridge End Backfill	26.7	CuYd
460E0030	Class A45 Concrete, Bridge Deck	77.9	CuYd
460E0050	Class A45 Concrete, Bridge	17.0	CuYd
470E0420	Type T101 Bridge Railing	224	Ft
480E0100	Reinforcing Steel	3,844	Lb
480E0200	Epoxy Coated Reinforcing Steel	10,090	Lb
510E0300	Preboring Pile	120	Ft
510E3401	HP 12x53 Steel Test Pile, Furnish and Drive	75	Ft
510E3405	HP 12x53 Steel Bearing Pile, Furnish and Drive	325	Ft
560E8036	36" Minnesota Shape Prestressed Concrete Beam	377	Ft
635E8120	2" Rigid Conduit, Schedule 40	16	Ft
700E0310	Class C Riprap	987.5	Ton
700E1100	Overburden Excavation for Riprap	540	CuYd
831E0110	Type B Drainage Fabric	1,021	SqYd
831E1030	Perforated Geocell	380	SqFt

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

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 0.16 acres of stream (includes temporary and permanent) becoming impacted. Refer to the 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)
Cottonwood Creek	4+49 to 5+92 L/R	0.05	0.04	0.00	0.07	0.16

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 the plans.

The contractor will complete excavation after temporary diversion is in place, if required, with minimal standing water to create the profile of slope protection specified in plans. Once the instream work is completed, the removed material will be placed on top of the riprap to match the natural ground, proposed groundline, or specified shape and elevations shown in plans. When overburden extends into the streambed it will form the channel bottom and profile as specified in plans. The finished ground under the bridge will be shaped to match the upstream and downstream channel and flood plain. See Overburden Excavation for Riprap note within structure sheets.

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



COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B6: MIGRATORY BIRDS WORK RESTRICTION

Migratory birds may use structures for nesting, which primarily occurs from April 1st-August 31st.

Action Taken/Required:

All Swallows are state and federally protected under the Migratory Bird Treaty Act of 1918. It is illegal for any person to take, possess, transport, sell, or purchase them or their parts, such as feathers, nests, or eggs, without a permit. Active nests with eggs or chicks inside may not be touched or destroyed without a permit from the U.S. Fish and Wildlife Service (USFWS). Inactive (empty) nests do not require a permit to destroy. Nest or bird removal applications must be justified with strong, compelling reasons such as a health or safety hazard towards humans and/or birds or damage to property.

Construction activities should not occur in the locations listed in the table below during the migratory bird work restriction without prior approval from the SDDOT Environmental Office to avoid conflicts with nesting migratory birds.

Table of Migratory Bird Restrictions

Station	Migratory Bird Restrictions
4+49 to 5+92 L/R	April 1- August 31

If necessary, you may do the following to prevent birds from nesting:

Before birds arrive:
Remove old nests and any traces of mud. Since old nests can be reused, remove any potential nests before the birds arrive from winter migration.

Place physical barriers on potential nesting sites to prevent birds from nesting. You may use products such as coroplast, polytetrafluoroethylene (Teflon), Bird Slide™, plexiglass, plastic sheeting, or silicon-based paint coated to the surface.

Physical barriers may be a permanent deterrent in preventing birds from nesting in nuisance locations.

After birds arrive:
Remove mud nests frequently, in between nest construction. They may eventually give up on that site if they are not successful in building a nest. You may only destroy nests that do not have eggs or chicks within.

Play sounds of alarm and distress calls of cliff and barn swallows to disrupt nest construction.

If project activities cannot be conducted outside of the seasonal restriction the Contractor will notify the Project Engineer and the Environmental Office Biologist (605-773-3309) to coordinate with the USFWS.

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

Cottonwood 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/swd_permitting/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 EPA 2022 Construction General Permit is required for this project. The SDDOT is the owner of this permit and will submit the NOI to EPA 15 days prior to project start in order to obtain coverage. Work can begin after authorization is received from the EPA. This permit provides coverage for construction and dewatering activities for this project.

The Contractor must adhere to the “Special Provision Regarding Storm Water Discharge to Waters of the United States within Indian Reservations”.

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.

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 Tribal Historic Preservation Office (THPO) 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.

THPO 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
5+50	Cottonwood Creek	2194.8'

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 O: SECTION 401 WATER QUALITY CERTIFICATION

The SDDOT has obtained a Clean Water Act Section 401 Water Quality Certification from the Environmental Protection Agency (EPA) regarding an US Army Corp of Engineers CWA Section 404 Permit for the actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 401 certification. A copy of the EPA CWA 401 Certification must be retained on-site.



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 Engineer'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.

- 1. Install traffic control signs and devices.
- 2. Install erosion and sediment control measures.
- 3. Install traffic diversion.
- 4. Dismantle and remove the existing structure.
- 5. Construct the new structure.
- 6. Construct proposed roadway per the typical sections.
- 7. Open the roadway to through traffic.
- 8. Remove traffic diversion.
- 9. Seeding, restoration, and final site clean-up.
- 10. Remove traffic control signs and devices.

COUNTY RESPONSIBILITIES

Jackson County will be responsible for the following at no cost to the Contractor.

- 1. Right of way and temporary and permanent easements.
- 2. Furnish and install final surfacing.
- 3. Furnish and install temporary and/or permanent fencing.
- 4. Furnish and install permanent signing.
- 5. Remove silt fence and erosion control wattles in permanently seeded areas.

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 County.

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

All construction operations will be conducted in the general direction of traffic movement.

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.

TRAFFIC DIVERSION

The traffic diversion is located between Stations 25+60 and 31+08. The traffic diversion will be constructed according to Section 4.5 A of the Specifications. Installation and removal of the traffic diversion will meet all requirements as set forth in the South Dakota Surface Water Quality Standards.

The traffic diversion located between Stations 25+60 and 31+08 will be constructed according to the geometric layouts shown in the plans with the temporary drainage structure(s) provided in the following table. The temporary structure sizes are designed to pass the design flood frequency flows without overtopping the traffic diversion grade, to minimize potential upstream flooding, and are sized to meet FEMA (Federal Emergency Management Agency) requirements where applicable.

The structure(s) will be placed at the flowline elevation and location as stated in the "Table of Temporary Drainage Structures in Traffic Diversion". If the Contractor proposes to use a different size drainage structure and/or a different geometric layout for the temporary diversion, the proposal must be submitted to the Engineer during the project preconstruction meeting. Construction of the traffic diversion(s) will not be allowed until the proposal is approved.

Table of Temporary Drainage Structures in Traffic Diversion

Traffic Diversion Location	Design Flood Frequency	* Flowline Elevation	Ordinary High Water Elevation	Temporary Structure
27+70	2 year	2189.7	2194.8	3-48" CMP

* The flowline elevation is at the centerline of the traffic diversion.

Costs to provide temporary drainage structures will be incidental to the contract lump sum price for "Maintenance of Traffic Diversion(s)".

The topsoil will be removed from the limits of the traffic diversion prior to construction and replaced upon removal of the traffic diversion.

Traffic diversions in waterways will be constructed such that any material placed below the ordinary high water elevation will conform to the requirements of class C riprap. Type B drainage fabric will be placed under the riprap and under the diversion embankment that is placed in a wetland as shown in the construction plans. The Type B drainage fabric will also be placed above the riprap. The quantity of riprap used in the traffic diversion is included in the quantity for "Class C Riprap" in the Estimate of Structure Quantities. The quantity of riprap used for the traffic diversion will be reused as riprap for the structure and all costs incurred to place and remove the riprap at the traffic diversion and subsequently place the riprap at the structure will be incidental to the contract unit price per ton for "Class C Riprap". The traffic diversions will be built in close conformity to the plan gradeline.

The quantity of Unclassified Excavation and Topsoil needed to construct the traffic diversion is shown in the table on the Temporary Traffic Diversion Profile sheet. The quantities for both items of are included for the respective bid items in the Estimate of Quantities.

Water for use by the Contractor for compaction of roadway embankments or gravel surfacing for the temporary traffic diversion must be furnished by the Contractor. The Contractor is responsible for loading, purchasing, hauling and application of the water. No separate measurement will be made for water for compaction. The cost of water for compaction of the roadway embankment or gravel surfacing for the temporary traffic diversion will be incidental to the contract lump sum price for "Maintenance of Traffic Diversion(s)".

Maintenance of Traffic Diversion(s) will consist of furnishing and installing the temporary drainage structure, maintaining the driving surface for the traveling public, and maintaining the inslopes against possible erosion to protect the integrity of the diversion; as directed by the Engineer.

Once the structure is reopened to traffic, the traffic diversion will be removed. Embankment material resulting from the removal of the traffic diversion that cannot be reused will be wasted in accordance with the Environmental Commitments notes.

Unless otherwise shown in the plans, the traffic diversions will be removed such that the original ground surface contours and elevations are restored and the hydraulic capacity of the waterway is maintained. The removal will be done in such a manner that there is minimal disturbance to the channel bed. Any excess material will be wasted in a manner and location approved by the Engineer. All costs restoring the disturbed areas to the existing conditions and any other work necessary to remove the traffic diversion will be incidental to the contract lump sum price for "Remove Traffic Diversion(s)".



WATER FOR DUST CONTROL

The Contractor will apply water for dust control to the temporary traffic diversion which meets the requirements of Section 205 of the Specifications. No separate payment will be made for water used as dust control. All water used for dust control will be incidental to the contract lump sum price for “Maintenance of Traffic Diversion(s)”.

TABLE OF TRAFFIC DIVERSION RIPRAP AND DRAINAGE FABRIC

Station	L/R	Ordinary High Water Elevation	Traffic Diversion Riprap (Ton)	Class C Riprap (Ton)	Type B Drainage Fabric (SqYd)
27+70		2194.8	493.0	987.5	865

SHRINKAGE FACTOR: Embankment +35%

UNCLASSIFIED EXCAVATION

The plans quantity for “Unclassified Excavation” as shown in the table below will be the basis of payment.

Topsoil will be salvaged and stockpiled prior to construction. Limits of the work, depth of salvage, and stockpile location will be directed by the Engineer. The stockpile location will be determined by the Contractor and approved by the Engineer.

All costs to remove and stockpile the topsoil will be incidental to the contract unit price per cubic yard for “Unclassified Excavation”.

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

TABLE OF UNCLASSIFIED EXCAVATION

	(CuYd)
Excavation (Mainline)	549
Excavation (Diversion)	394
Topsoil	369
Total	1,312

CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer. The plans quantity for “Contractor Furnished Borrow Excavation” as shown in the Estimate of Quantities will be the basis of payment for this item.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

TABLE OF CONTRACTOR FURNISHED BORROW EXCAVATION

	(CuYd)
Borrow Excavation (Mainline)	530
Total:	530

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 13 MGal. No separate payment will be made for the Water for Embankment and all costs associated will be incidental to the contract unit price per cubic yard of “Unclassified Excavation”.

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

Special ditch grades and other sections of the roadway different than the typical section(s) will be constructed to the limits shown on the cross sections.

PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and temporary easements. Payment for Placing Topsoil will be plans quantity unless changes are directed by the Engineer.

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

Station	to	Station	L/R	Quantity (CuYd)
2+00		8+50	L	135
2+00		8+50	R	52
25+60		31+08	L&R	182
Total:				369

All costs to place the topsoil will be incidental to the contract unit price per cubic yard for “Placing Topsoil”.

TABLE OF GRAVEL SURFACING (TEMPORARY DIVERSION)

Station	to	Station	Quantity (Ton)
25+60		31+08	168

CORRUGATED METAL PIPE

Corrugated metal pipes will have 2 3⁄8-inch x 1⁄2-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes will have 3-inch x 1-inch or 5-inch x 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

Areas within the project have soils that are highly corrosive to steel. The corrugated metal pipe at station 7+29 will be polymer coated 14 gauge steel. Any required connection bands, elbows, tees, crosses, wyes, reducers, and transitions will also be polymer coated. The connection bands will be 24 inches wide. All polymer coated corrugated metal pipe and components will be in conformance with AASHTO M245. Riveted pipe will not be allowed.

All damage to the polymer coating will be repaired in accordance with the manufacturer’s recommendations prior to installation of the pipe.

All costs associated with the polymer coating including repair of polymer coating will be incidental to the corresponding CMP contract items.

Metal pipe end sections connected to polymer coated CMP will be aluminum-coated (Type 2) in accordance with AASHTO M36. All costs associated for gauge, coating, and connections will be incidental to the corresponding CMP End Section contract items.

TABLE OF PIPE CULVERT AND END SECTION REMOVAL

Station	Remove Pipe End Section (Each)	Remove Pipe Culvert (Ft)
7+29	2	33



CONSTRUCTION STAKING
(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Grade Staking				Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)	Structure Staking Quantity (Each)
					Length (Mile)	Lane Factor	*Sets of Stakes	**Grade Staking Quantity (Mile)			
254 ST	2+00	8+50	2	650	0.123	1	1	0.123	0.123	0.123	
Temporary Traffic Diversion	25+60	31+08	1	548	0.104	1	1	0.104	0.104	0.104	
Structure #36-273-191	4+95.40	5+91.40									1
Totals:								0.227	0.227	0.227	1

* 1 = Blue Top Stakes Only (Gravel Surfacing)

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



 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	9	53

EROSION CONTROL

The estimated area requiring erosion control is 53152 square feet. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, surface roughening, seeding, fertilizing, and mulching will be incidental to the contract lump sum price for “Erosion Control”.

The limits of erosion control work will be determined by the Engineer during construction.

Surface Roughening

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

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 lump sum price for “Erosion Control”.

The mycorrhizal inoculum will be as shown below or an approved equal:

Product	Manufacturer
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 www.mycorrhizae.com
AM 120 Multi Species Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 www.reforest.com
LALRISE Prime and Max WP	Lallemand Specialties Inc. Milwaukee, WI Phone: 1-844-590-7781 www.lallemandplantcare.com

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 all-natural slow release fertilizer will be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com
Nature Safe	Nature Safe Fertilizers Irving, TX Phone: 1-605-759-5622 www.naturesafe.com

Mulching (Grass Hay or Straw)

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

Permanent Seeding

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways and 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

EROSION CONTROL WATTLE

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

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

Erosion control wattles will remain on the project to decompose.

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

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



TABLE OF EROSION CONTROL WATTLE

Station	Location	Diameter (Inch)	Quantity (Ft)
26+50 to 29+90 R	Ditch Bottom	12	90
27+10 to 29+60 L	Ditch Bottom	12	60
4+20 to 4+50 R	Ditch Bottom	12	40
4+29 R	Pipe Inlet	12	20
4+96 to 5+91	Along Bridge Grading	12	200
	Additional Quantity:	12	100
		Total:	510

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:

<http://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)
2+90 to 4+99 L	Inside perimeter of easement	217
6+00 to 7+08 L	Inside perimeter of easement	130
	Additional Quantity:	200
		Total: 547

FLOATING SILT CURTAIN

Floating silt curtains will be installed at locations noted in the table and at locations determined by the Engineer during construction.

The Contractor will determine the water depth and other waterway characteristics such as stream flow velocity and seek technical advice from the manufacturer before ordering the floating silt curtain so that the floating silt curtain installed is the correct type for the individual sites.

The Contractor will install the floating silt curtain in accordance with the manufacturer's installation instructions or as directed by the Engineer.

The Contractor will maintain the floating silt curtains for the duration of the project to ensure continuous protection of the waterway.

A list of known manufacturers of floating silt curtain is shown below for informational purpose. Contractors may also use Engineer approved floating silt curtain from manufacturers that are not included in the list.

ABASCO, LLC Humble, TX Phone: 1-281-466-1500 www.abasco.net	Aer-Flo, Inc. Bradenton, FL Phone: 1-800-823-7356 www.aerflo.com
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ACME Environmental Tulsa, OK Phone: 1-855-563-2666 www.acmeboom.com	ENVIRO-USA, LLC Cap Canaveral, FL Phone: 1-321-222-9551 www.enviro-usa.com
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Elastec/American Marine, Inc. Carmi, IL Phone: 1-618-382-2525 www.turbiditycurtains.com	Geo-Synthetics, LLC (GSI) Waukesha, WI Phone: 1-800-444-5523 www.geosynthetics.com
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Parker Systems, Inc.
Chesapeake, VA
Phone: 1-866-472-7537
www.parkersystemsinc.com

TABLE OF FLOATING SILT CURTAIN

Station	Location	Quantity (Ft)
5+40	Along shoreline under bridge	140
5+70	Along shoreline under bridge	125
		Total: 265

EROSION CONTROL BLANKET

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

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

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

An additional quantity of Type 3 Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

TABLE OF EROSION CONTROL BLANKET

Station	Location	Type	Quantity (SqYd)
4+50 to 4+91 R	Channel Bank	3	59
4+99 to 5+39 L	Channel Bank	3	26
5+41 to 5+78 R	Channel Bank	3	76
5+80 to 5+97 L	Channel Bank	3	17
	Additional Quantity:	3	50
Total Type 3 Erosion Control Blanket:			228



1:200
Plot Scale -
andrewkrebs
Plotted From -

TYPICAL GRADING SECTION

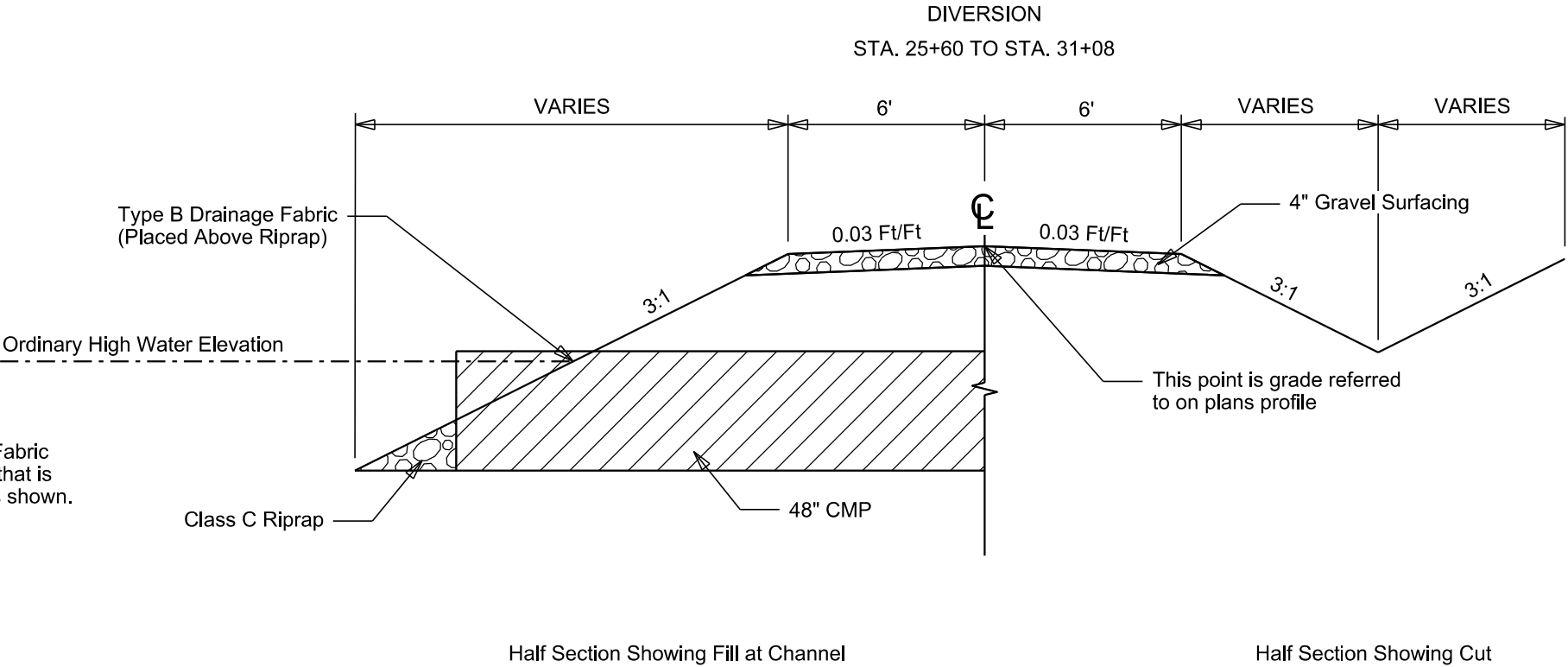
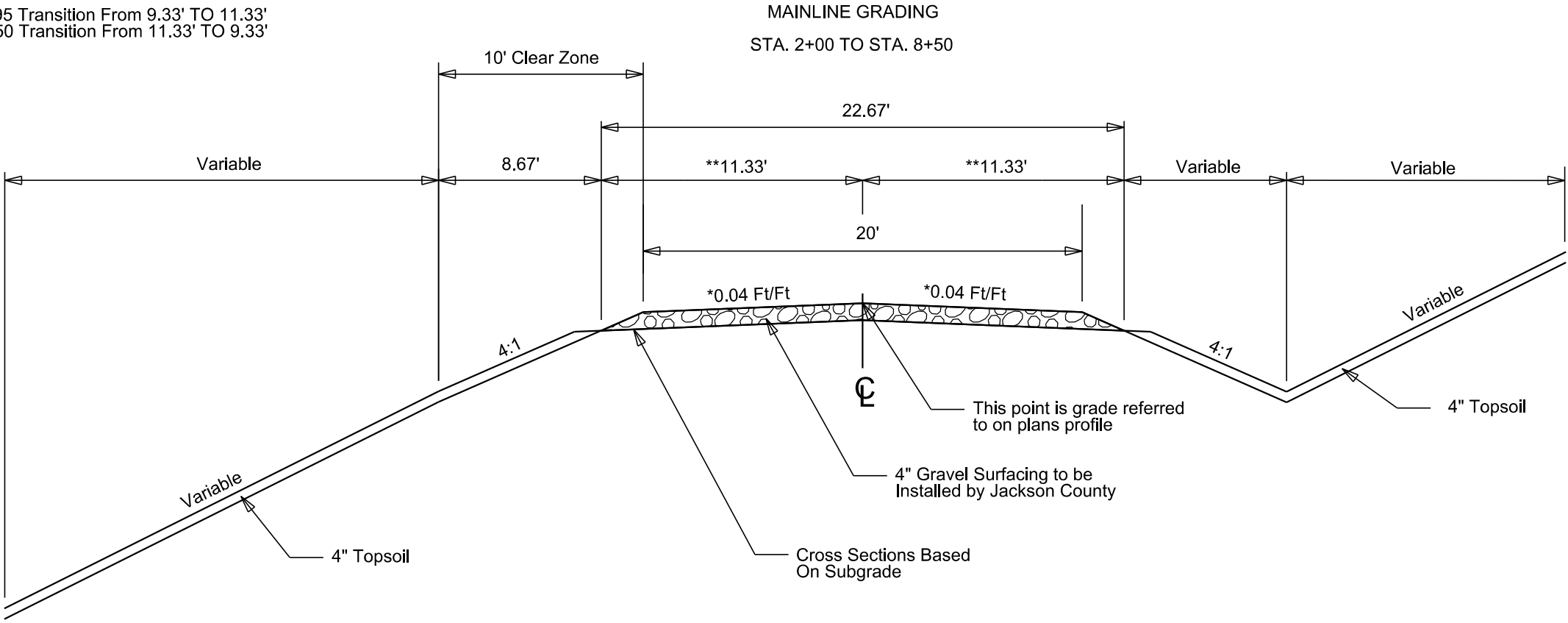
FOR BIDDING PURPOSES ONLY

KJ STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	11	53

Plotting Date: 6/28/2024

*Utilize 0.02 Ft/Ft Across Bridge
STA. 3+95 TO STA 4+95 Transition from .04 Ft/Ft to .02 Ft/Ft
STA. 5+91 TO STA 6+91 Transition from .02 Ft/Ft to .04 Ft/Ft

**STA. 2+00 TO STA. 4+95 Transition From 9.33' TO 11.33'
STA. 5+91 TO STA. 8+50 Transition From 11.33' TO 9.33'



Place Type B Drainage Fabric below any embankment that is placed in Other Water as shown.



Plot Scale - 1:80

Plotted From - andrewkrebs

TRAFFIC CONTROL PLAN

FOR BIDDING PURPOSES ONLY

KJ STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	12	53

Plotting Date: 6/28/2024

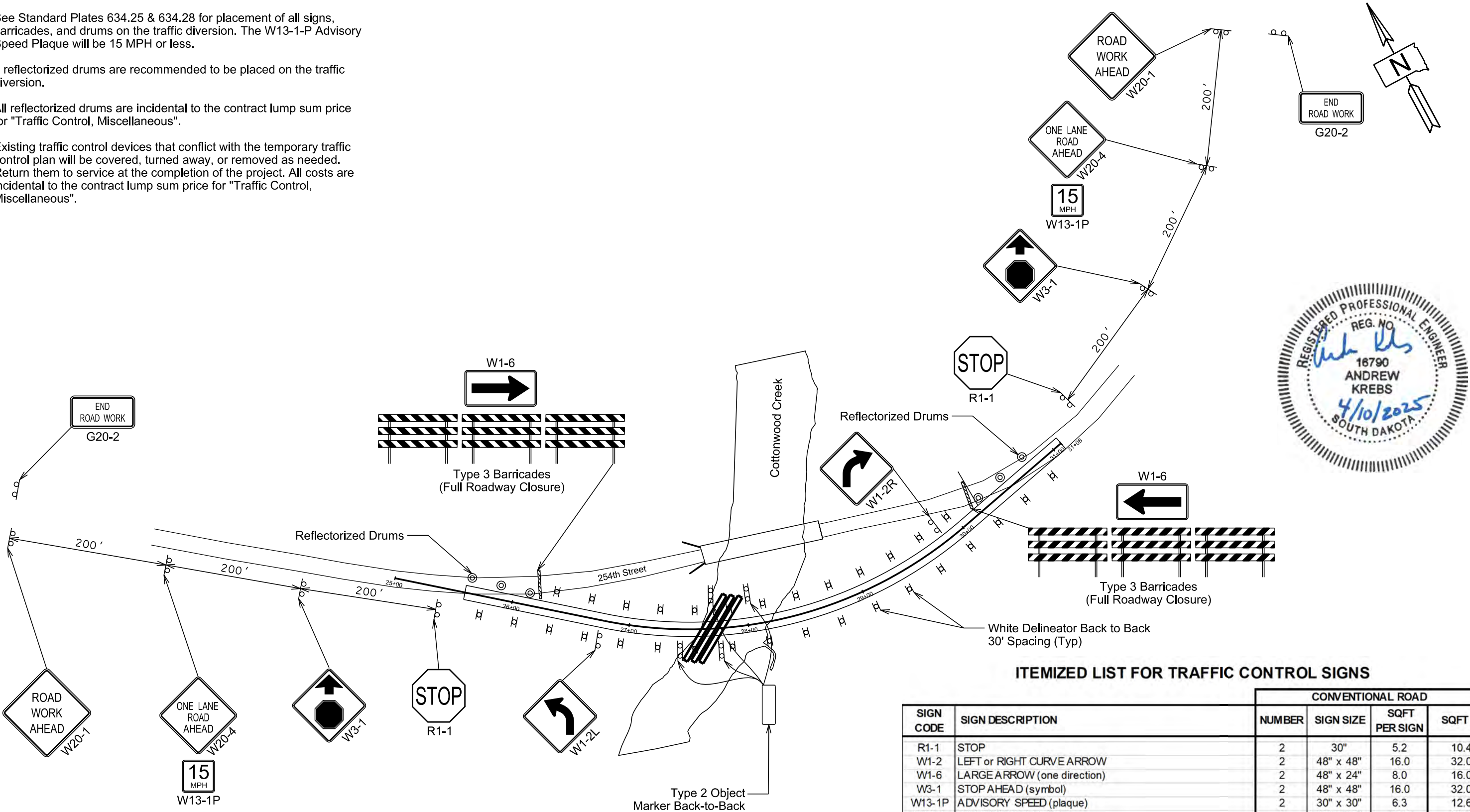
Notes:

See Standard Plates 634.25 & 634.28 for placement of all signs, barricades, and drums on the traffic diversion. The W13-1-P Advisory Speed Plaque will be 15 MPH or less.

6 reflectorized drums are recommended to be placed on the traffic diversion.

All reflectorized drums are incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

Existing traffic control devices that conflict with the temporary traffic control plan will be covered, turned away, or removed as needed. Return them to service at the completion of the project. All costs are 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
R1-1	STOP	2	30"	5.2	10.4
W1-2	LEFT or RIGHT CURVE ARROW	2	48" x 48"	16.0	32.0
W1-6	LARGE ARROW (one direction)	2	48" x 24"	8.0	16.0
W3-1	STOP AHEAD (symbol)	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
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
-	TYPE 2 OBJECT MARKER BACK TO BACK	4	6" x 12"	1.0	4.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		180.0			

Plot Scale - 1:40

Plotted From - andrewkrebs

EROSION CONTROL PLAN

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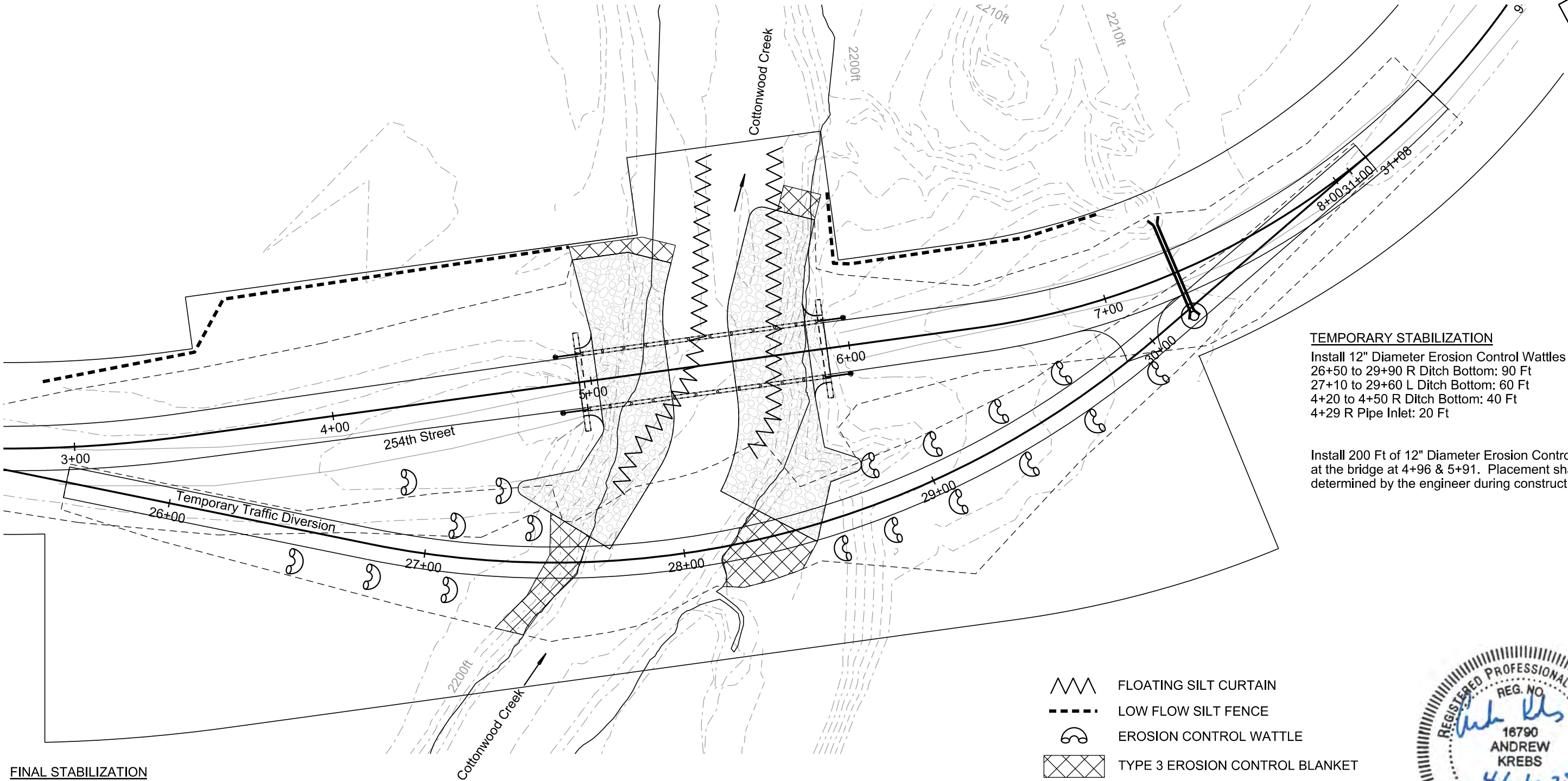
KLL STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	13	53

Plotting Date: 6/28/2024

PERIMETER CONTROL

Install Floating Silt Curtain along the bank of the creek at the following locations:
Approximately 5+40 along shoreline under bridge: 140 Ft
Approximately 5+70 along shoreline under bridge: 125 Ft

Install Low Flow Silt Fence at the following locations:
Approximately 2+90 L to 4+99 L inside perimeter of easement: 217 Ft
Approximately 6+00 L to 7+08 L inside perimeter of easement: 130 Ft



TEMPORARY STABILIZATION

Install 12" Diameter Erosion Control Wattles
26+50 to 29+90 R Ditch Bottom: 90 Ft
27+10 to 29+60 L Ditch Bottom: 60 Ft
4+20 to 4+50 R Ditch Bottom: 40 Ft
4+29 R Pipe Inlet: 20 Ft

Install 200 Ft of 12" Diameter Erosion Control Wattles at the bridge at 4+96 & 5+91. Placement shall be determined by the engineer during construction.

FINAL STABILIZATION

Install Type 3 Erosion Control Blanket at the following locations:
4+50 to 4+91 R Channel Bank: 59 SqYd
4+99 to 5+39 L Channel Bank: 26 SqYd
5+41 to 5+78 R Channel Bank: 76 SqYd
5+80 to 5+97 L Channel Bank: 17 SqYd

- FLOATING SILT CURTAIN
- LOW FLOW SILT FENCE
- EROSION CONTROL WATTLE
- TYPE 3 EROSION CONTROL BLANKET
- CLASS C RIPRAP



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** 2.11 Acres
- **5.3 (3b): Total Area to be Disturbed** 1.22 Acres
- **5.3 (3c): Maximum Area Disturbed at One Time** 1.22 Acres
- **5.3 (3d): Existing Vegetative Cover (%)** 70%
- **5.3 (3d): Description of Vegetative Cover** Native Prairie Grasses
- **5.3 (3e): Soil Properties:** Buff Silty Sand, Light Brown Silt Clay, Pierre Shale
- **5.3 (3f): Name of Receiving Water Body/Bodies** Cottonwood 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 traffic control signs and devices	
Install erosion and sediment control measures	
Install traffic diversion	
Dismantle and remove the existing structure	
Construct the new structure and channel grading	
Construct proposed roadway per the typical sections	
Install aggregate surfacing (by County Forces)	
Remove traffic diversion	
Seeding, restoration, and final site clean-up	
Remove traffic control signs and devices	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES
All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

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

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

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 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	14	53

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

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

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

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

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

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.

 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	16	53

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.

HORIZONTAL ALIGNMENT DATA

FOR BIDDING PURPOSES ONLY

	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	18	53

MAINLINE

Type	Station		Northing	Easting
POB	0+00		508024.112	1634854.912
		TL= 190.81 S 52°07'25" E		
PC	1+90.81		507906.960	1635005.529
PI	2+67.22	R = 500.00 Delta = 17°22'38" L	507860.048	1635065.841
PT	3+42.46		507833.290	1635137.412
		TL= 306.25 S 69°30'03" E		
PC	6+48.71		507726.043	1635424.268
PI	7+86.55	R = 300.00 Delta = 49°21'22" L	507677.771	1635553.386
PT	9+07.14		507744.299	1635674.114
		TL= 100.03 N 61°08'34" E		
PC	10+07.17		507792.576	1635761.724
PI	10+55.81	R = 200.00 Delta = 27°20'21" L	507816.052	1635804.326
PT	11+02.60		507856.471	1635831.388
		TL = 31.92 N 33°48'13" E		
POE	11+34.52		507882.999	1635849.149

TRAFFIC DIVERSION

Type	Station		Northing	Easting
POB	25+00.00		507877.541	1635043.287
		TL= 178.72 S 50°11'05" E		
PC	26+78.72		507763.102	1635180.567
PI	28+52.01	R = 353.00 Delta = 52°17'33" L	507652.144	1635313.670
PT	30+00.90		507689.582	1635482.864
		TL= 107.20 N 77°31'22" E		
POE	31+08.10		507712.743	1635587.533

CONTROL DATA

Horizontal and Vertical Control Points						
Point	Station	Offset	Description	Northing	Easting	Elevation
1			5/8" REBAR W/KLJ AC	508207.975	1634814.019	2211.49
2	3+73	102' L	5/8" REBAR W/KLJ AC	507905.650	1635201.562	2205.23
3	6+84	97' R	5/8" REBAR W/KLJ AC	507627.169	1635434.015	2213.84

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone NAD 83(2011); epoch 2010.00; Geoid12B; CSF = 1.00019366



Plot Scale - 1:45

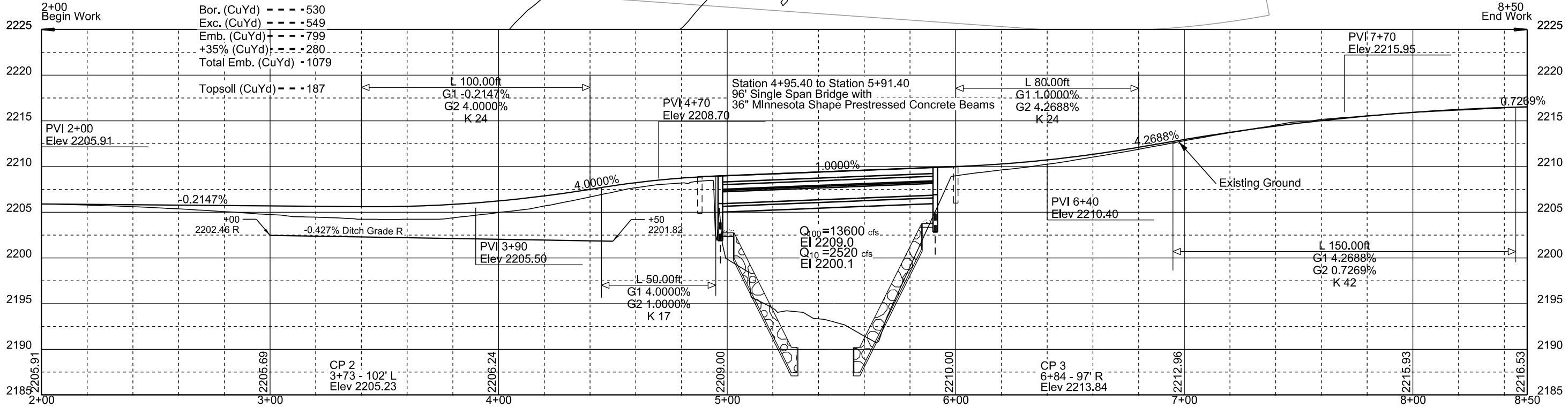
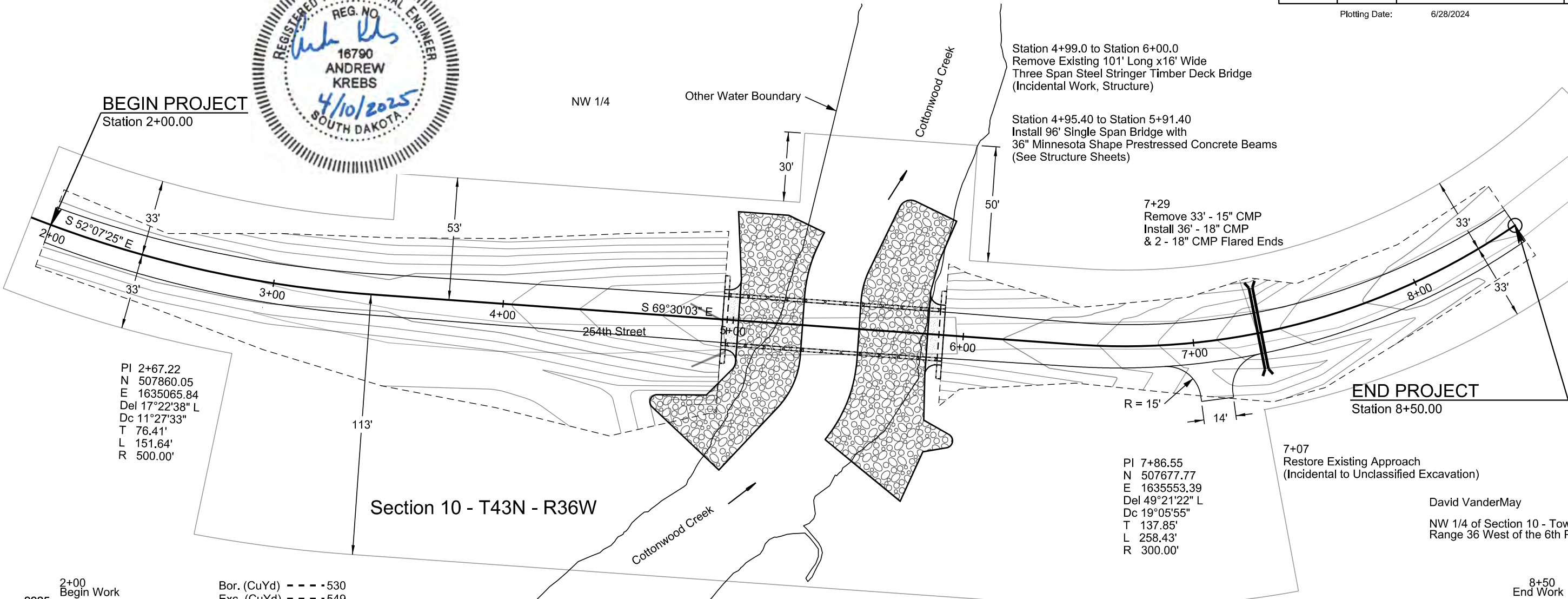
Plotted From - andrewkrebs

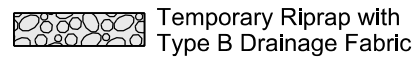


FOR BIDDING PURPOSES ONLY

PROJECT	SHEET	TOTAL SHEETS
BRO-B 8036(06)	19	53

Plotting Date: 6/28/2024





Plot Scale - 1:46.52

Plotted From - andrewkrebs

EASEMENT PLAN

FOR BIDDING PURPOSES ONLY

KLL STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	21	53

Plotting Date: 6/28/2024

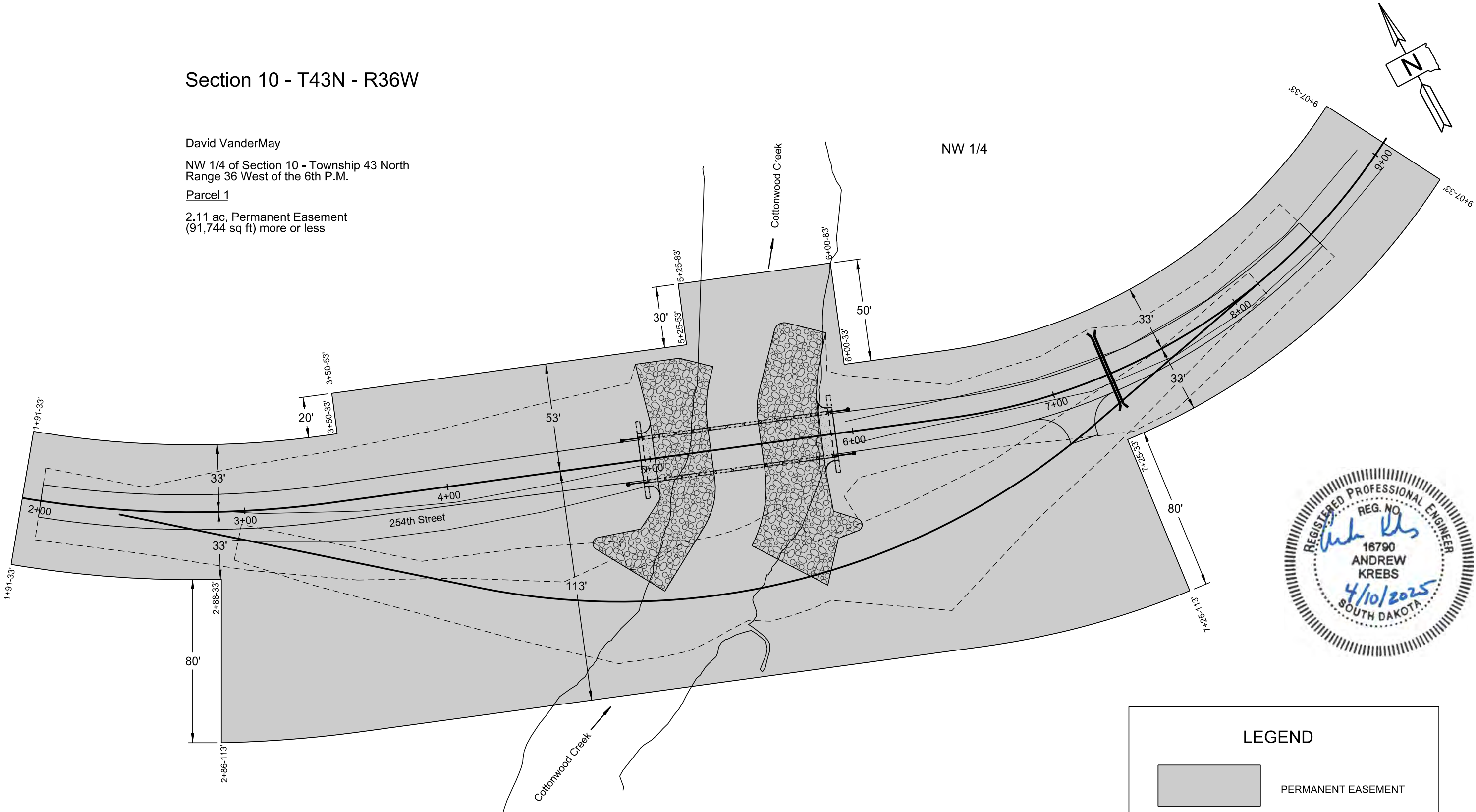
Section 10 - T43N - R36W

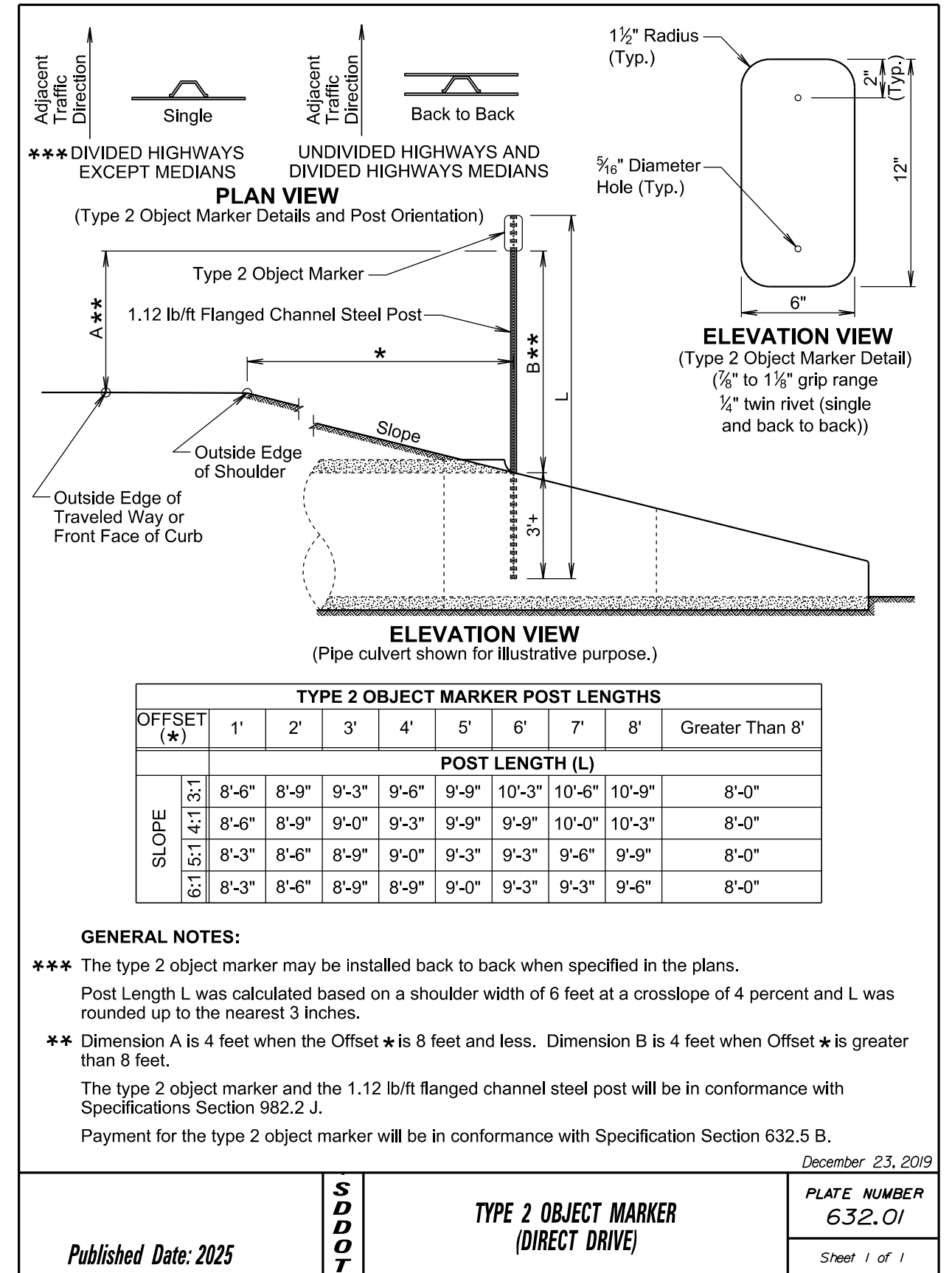
David VanderMay

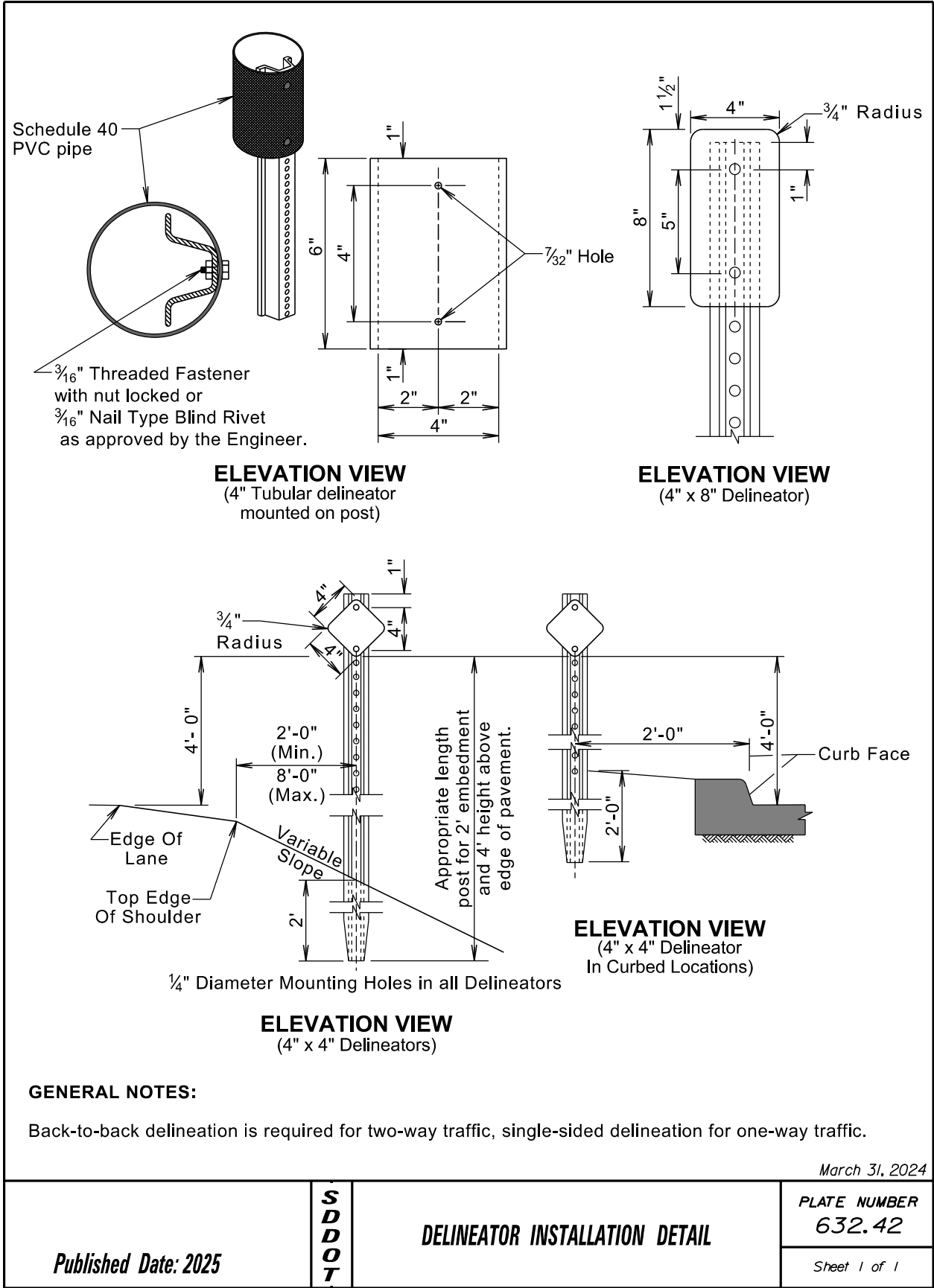
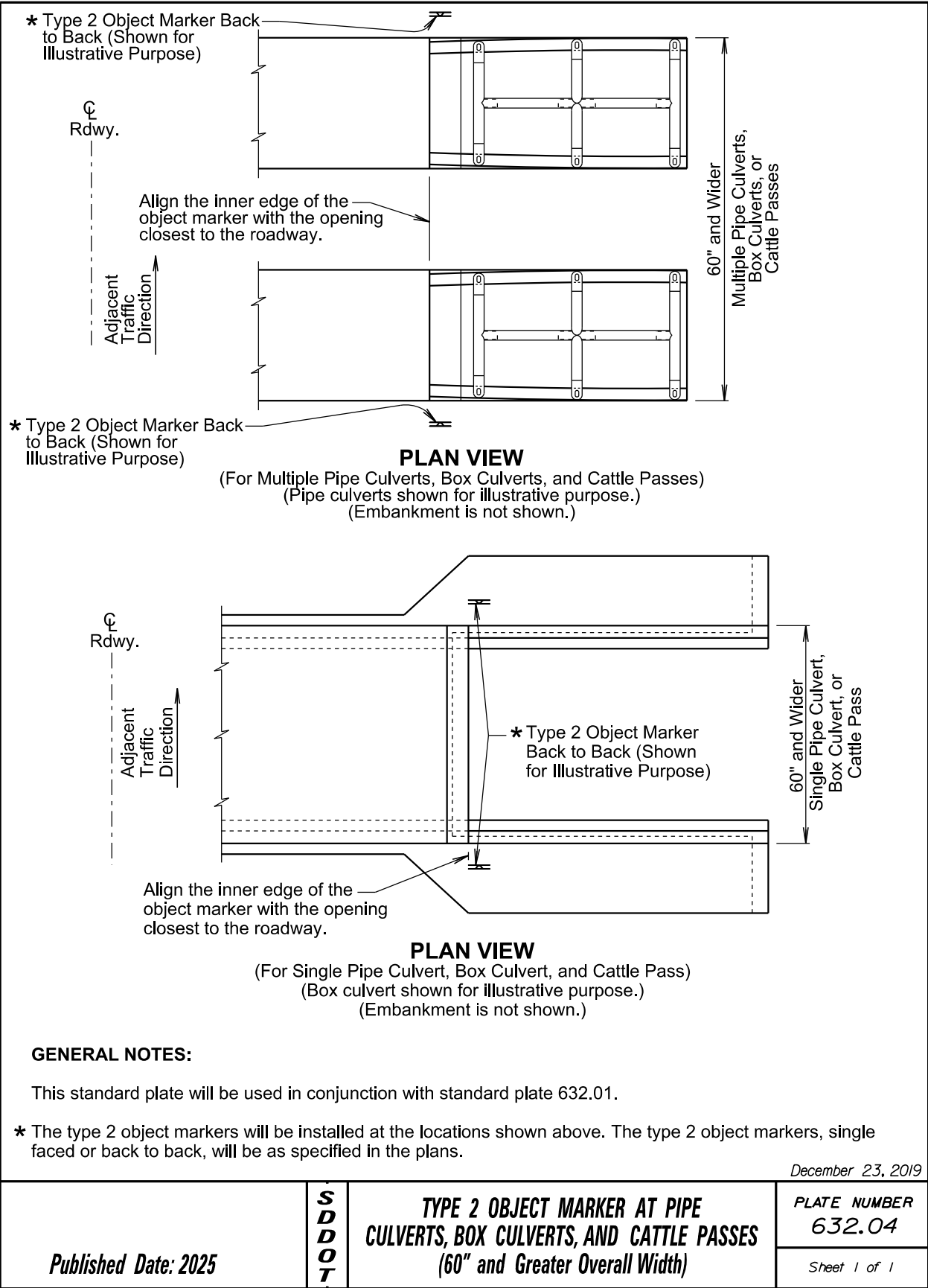
NW 1/4 of Section 10 - Township 43 North
Range 36 West of the 6th P.M.

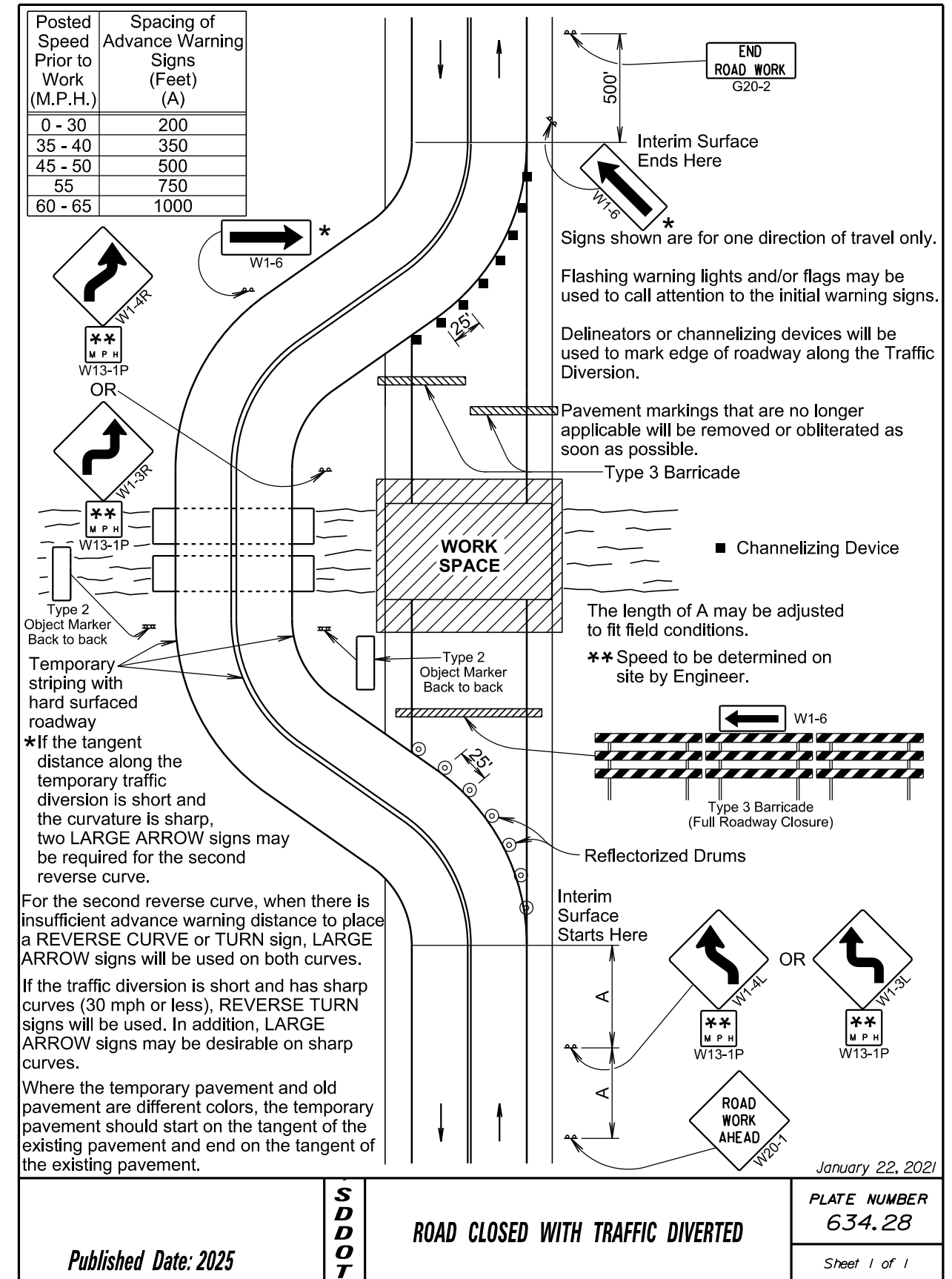
Parcel 1

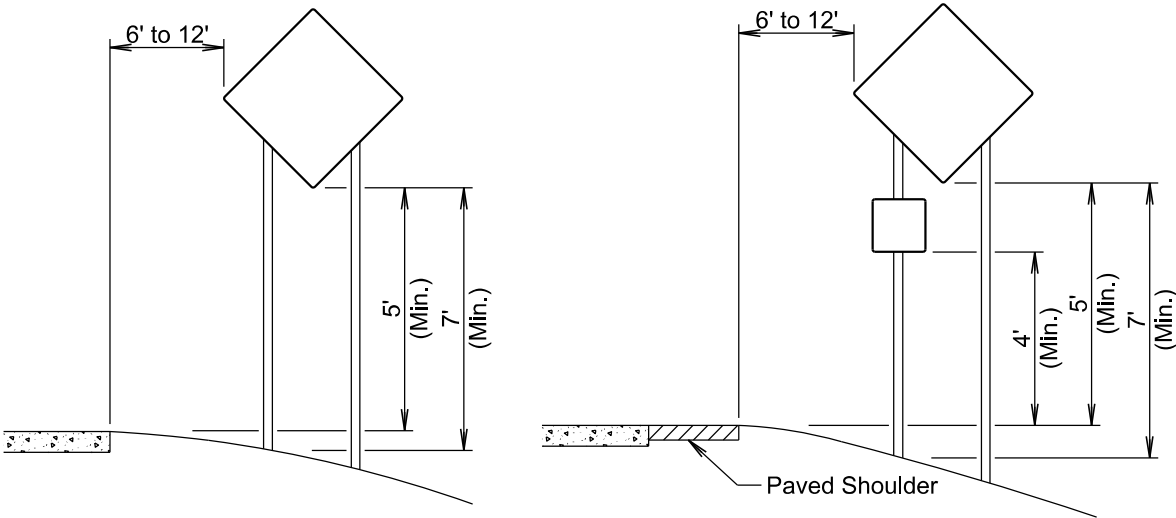
2.11 ac, Permanent Easement
(91,744 sq ft) more or less





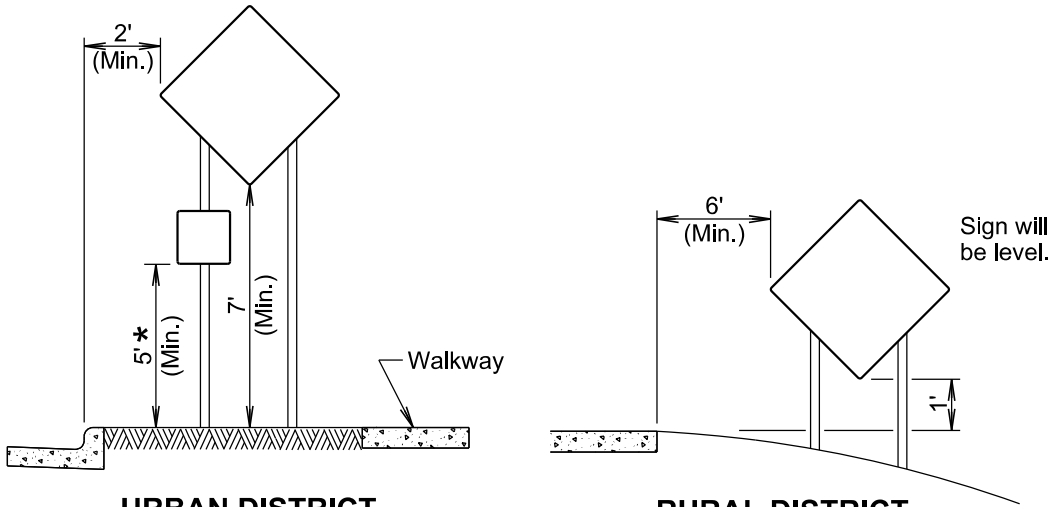






RURAL DISTRICT

RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT

RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

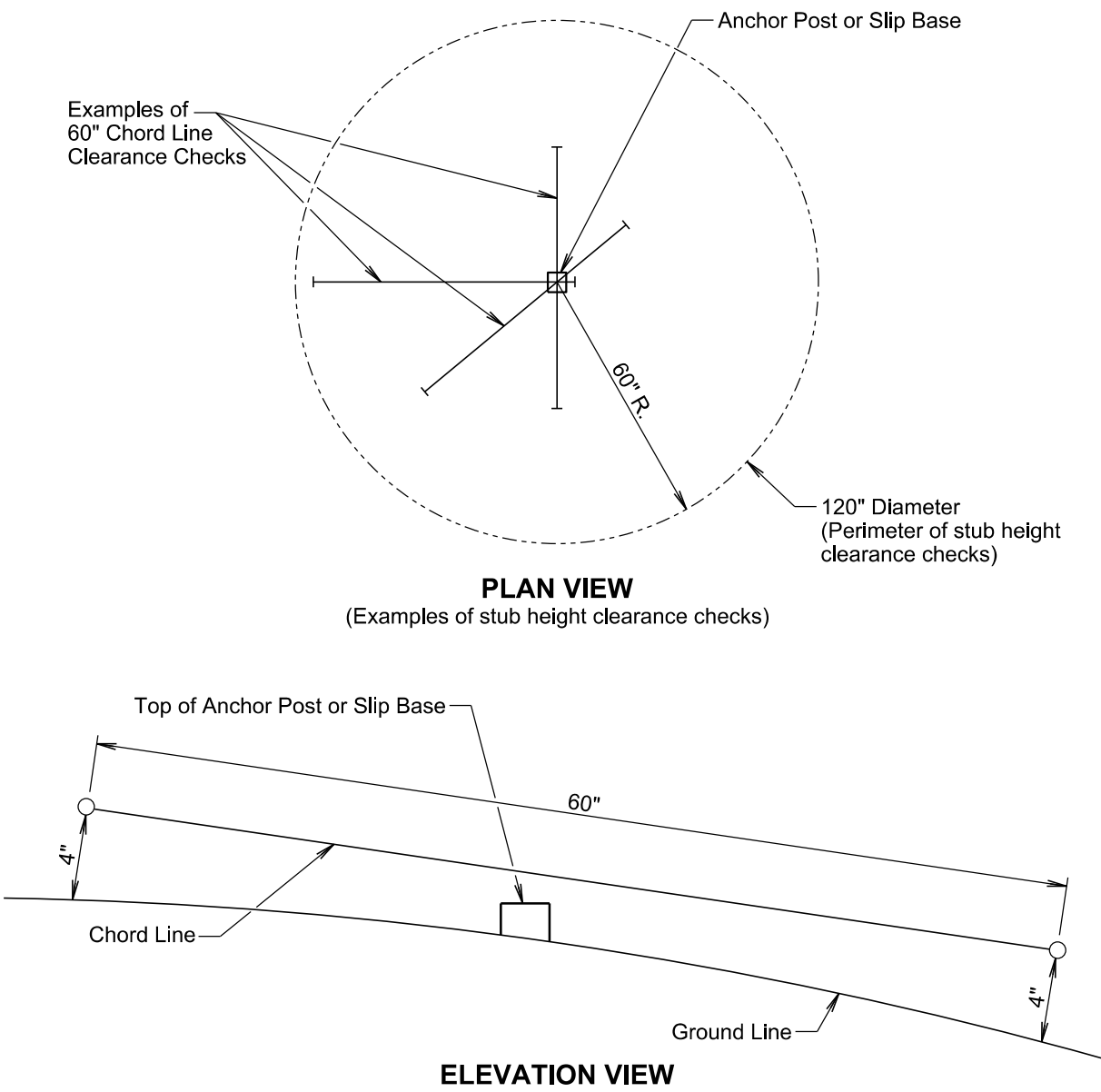
Published Date: 2025

SD
DOT

CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

PLATE NUMBER
634.85

Sheet 1 of 1



PLAN VIEW

(Examples of stub height clearance checks)

ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

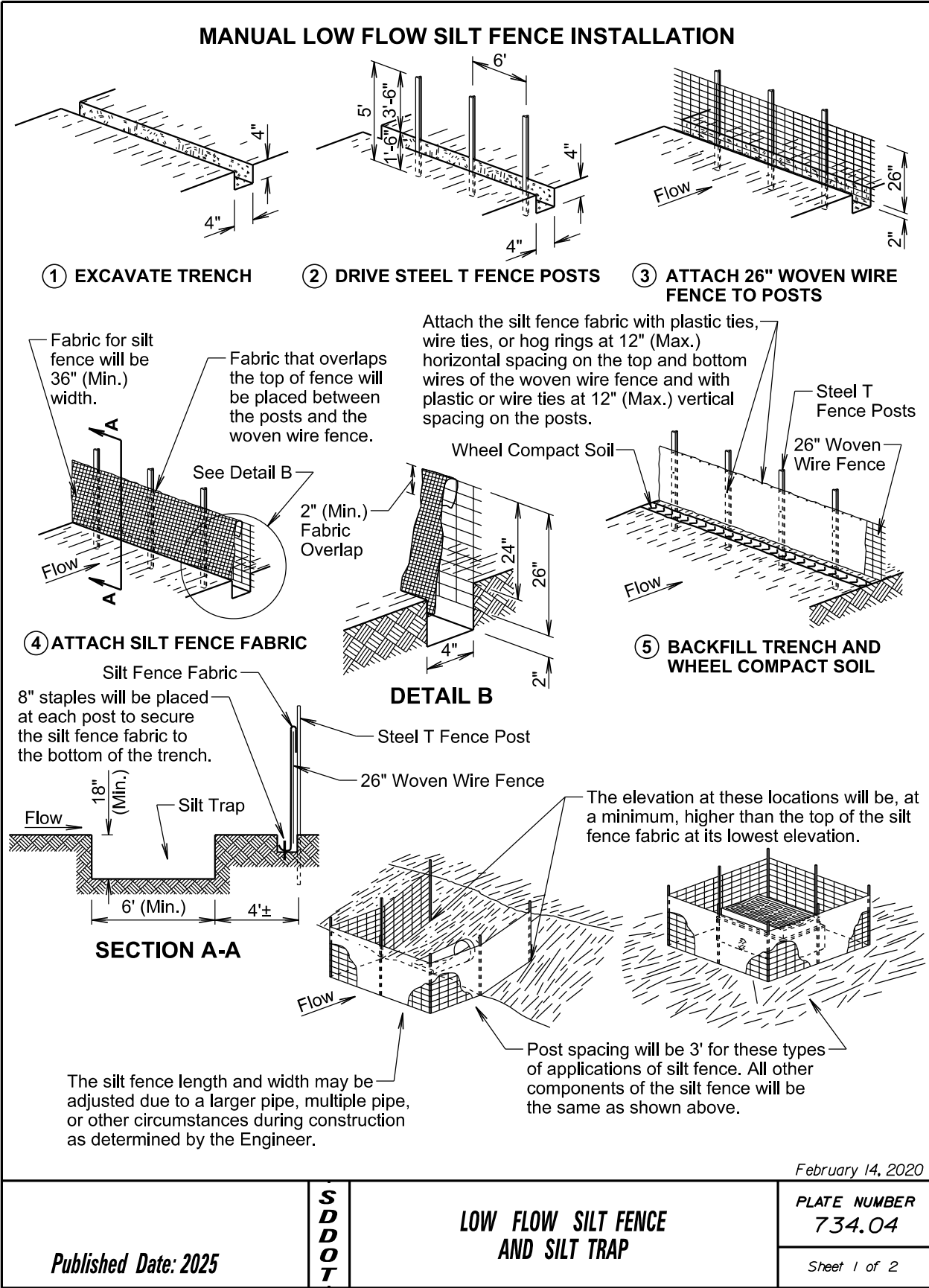
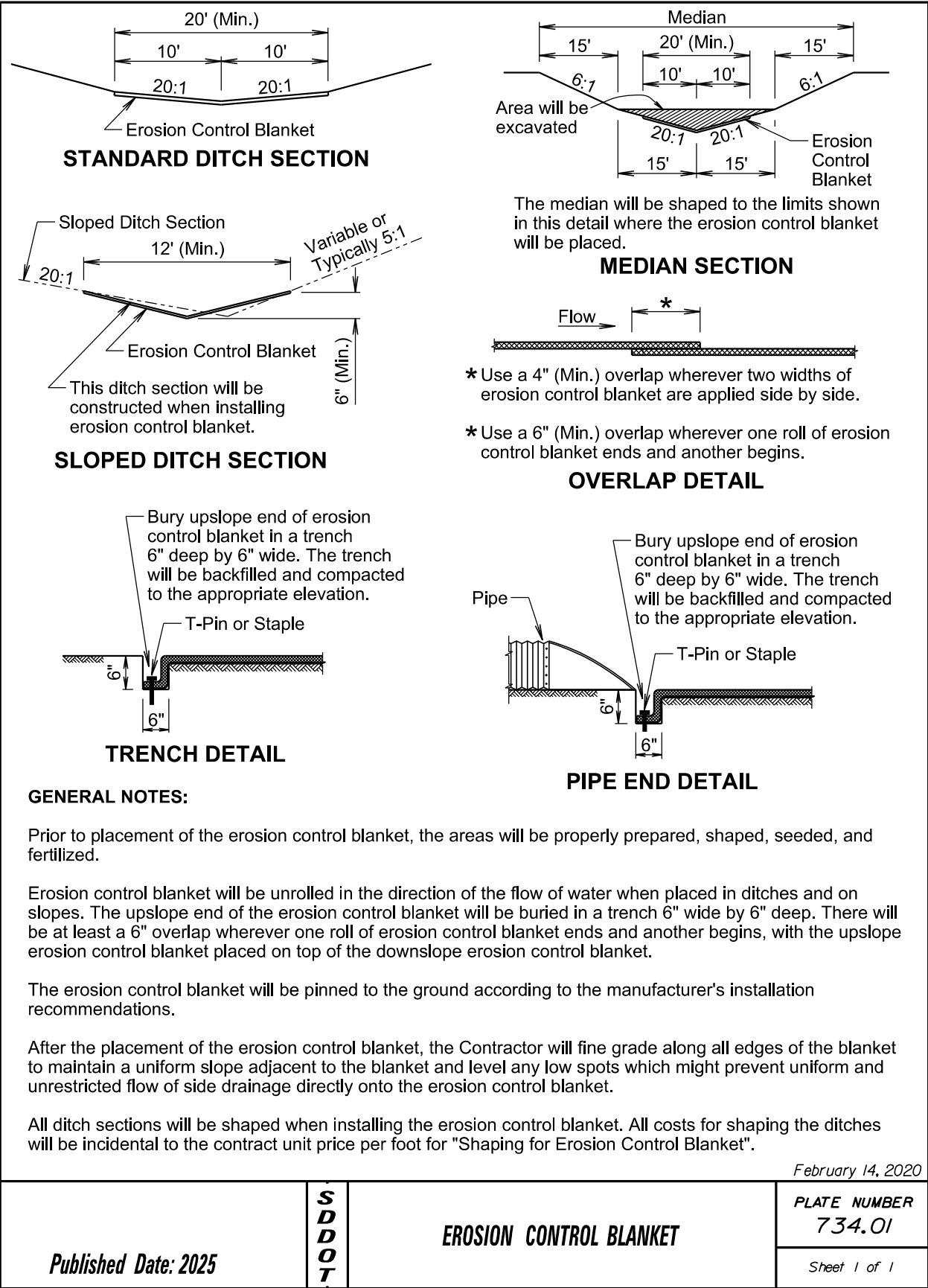
Published Date: 2025

SD
DOT

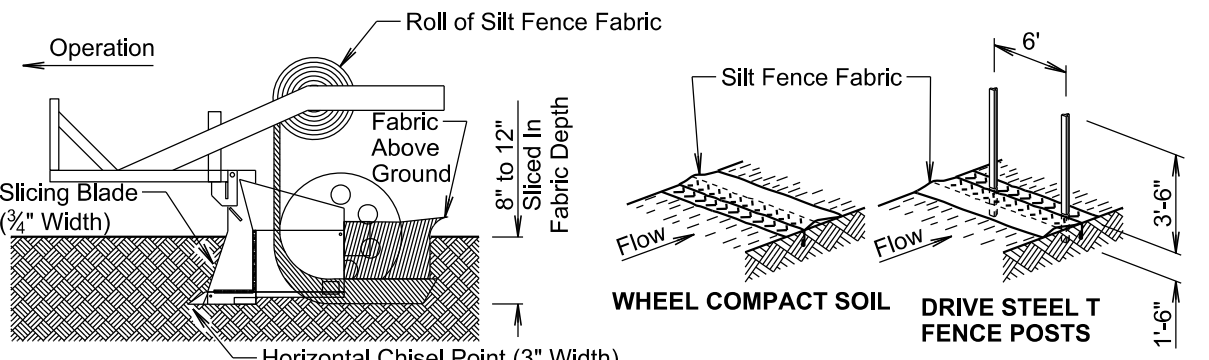
BREAKAWAY SUPPORT STUB CLEARANCE

PLATE NUMBER
634.99

Sheet 1 of 1



MACHINE SLICED LOW FLOW SILT FENCE INSTALLATION



1 INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

Silt fence fabric will be overlapped a minimum of 2" at top of woven wire fence.

2 WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.

Attach the silt fence fabric with plastic ties, wire ties, or hog rings at 12" (Max.) horizontal spacing on the top and bottom wires of the woven wire fence and with plastic or wire ties at 12" (Max.) vertical spacing on the posts.

3 ATTACH 26" WOVEN WIRE FENCE TO POSTS AND ATTACH SILT FENCE FABRIC.

The elevation at these locations will be, at a minimum, higher than the top of the silt fence fabric at its lowest elevation.

The silt fence length and width may be adjusted due to a larger pipe, multiple pipe, or other circumstances during construction as determined by the Engineer.

The radius of the silt fence will be the minimum capable by the slicing machine. The post spacing will be 3' for these types of applications of silt fence. All the other components of the silt fence will be the same as shown above.

GENERAL NOTES:

A silt trap will be provided when specified by a plan note. All costs for constructing the silt trap will be incidental to the contract unit price per cubic yard for "Silt Trap".

If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end will be provided on top of the extra length of silt fence fabric to prevent underflow.

February 14, 2020

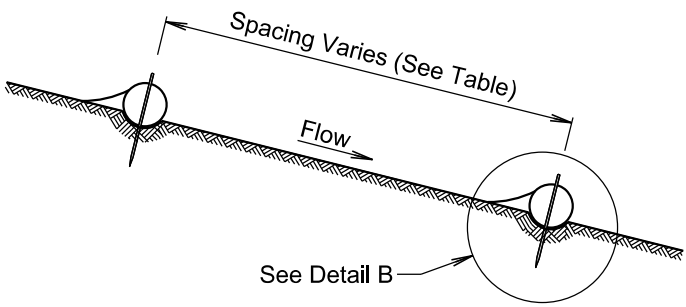
SD
DOT

LOW FLOW SILT FENCE
AND SILT TRAP

PLATE NUMBER
734.04

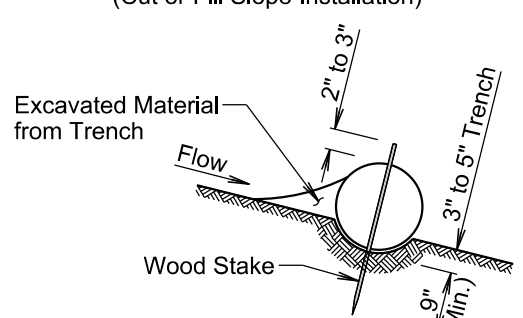
Sheet 2 of 2

Published Date: 2025

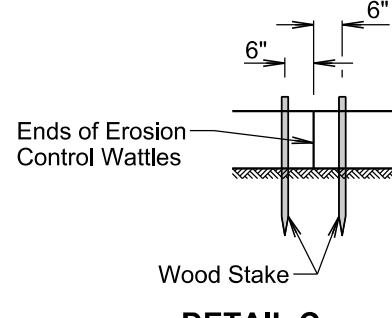


CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft.)
1:1	10
2:1	20
3:1	30
4:1	40

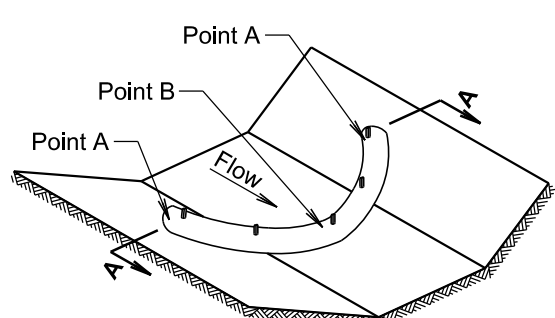
ELEVATION VIEW
(Cut or Fill Slope Installation)



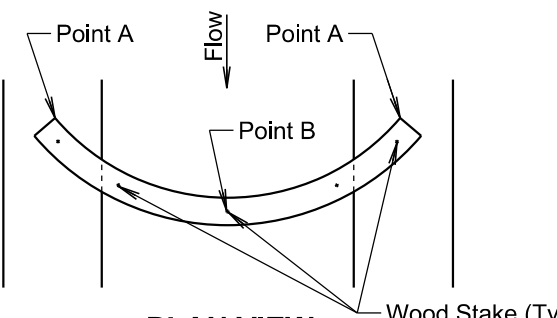
DETAIL B
(Typical of All Installations)



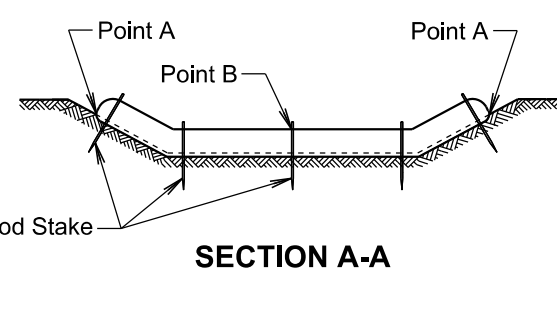
DETAIL C
(See General Notes)



ISOMETRIC VIEW
(Ditch Installation)



PLAN VIEW
(Ditch Installation)



SECTION A-A

DITCH INSTALLATION	
Grade	Spacing (Ft.)
2%	150
3%	100
4%	75
5%	50

February 14, 2020

SD
DOT

EROSION CONTROL WATTLE

PLATE NUMBER
734.06

Sheet 1 of 2

Published Date: 2025

GENERAL NOTES:

At cut or fill slope installations, wattles will be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor will dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes will be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes will be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles will be 3' to 4'.

Where installing running lengths of wattles, the Contractor will butt the second wattle tightly against the first and will not overlap the ends. See Detail C.

The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping will be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping will be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials will be incidental to the contract unit price per foot for the corresponding erosion control wattle contract item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

February 14, 2020

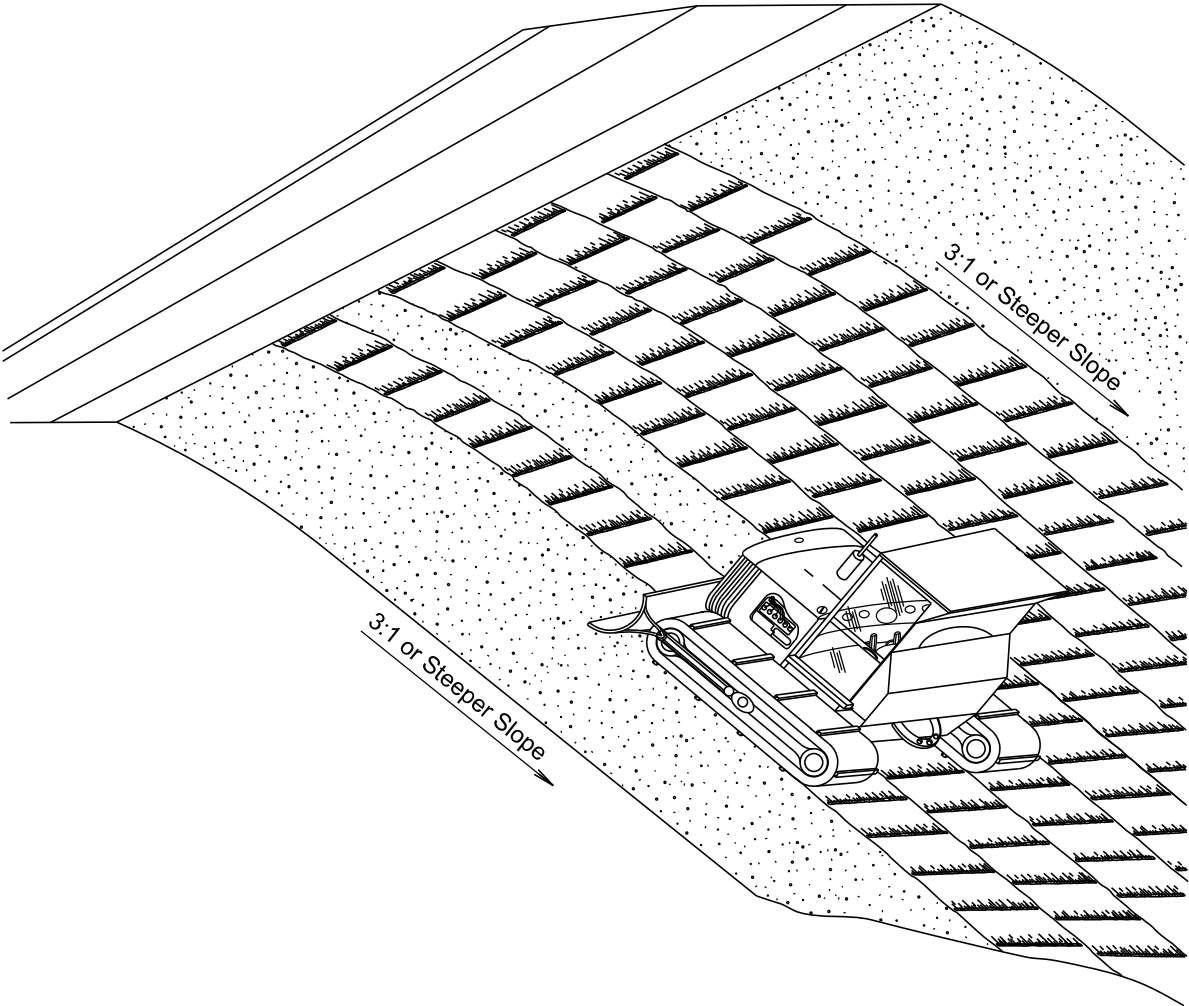
Published Date: 2025

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EROSION CONTROL WATTLE

PLATE NUMBER
734.06

Sheet 2 of 2



GENERAL NOTES:

Where practical, surface roughening will be done on slopes 3:1 and steeper and on slopes deemed necessary by the Engineer.

The equipment used for surface roughening will be equipped with tracks that are capable of creating ridges in the soil that are perpendicular to the slope. The final condition of the surface roughening will be approved by the Engineer.

Measurement for surface roughening will be to the nearest tenth of an acre.

All costs associated with surface roughening including labor, equipment, and materials will be incidental to the contract unit price per acre for "Surface Roughening".

February 14, 2020

Published Date: 2025

S
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SURFACE ROUGHENING

PLATE NUMBER
734.25

Sheet 1 of 1

The elevations shown in these plans are based on the National Geodetic Survey (NGS) North American Vertical Datum of 1988 (NAVD88).

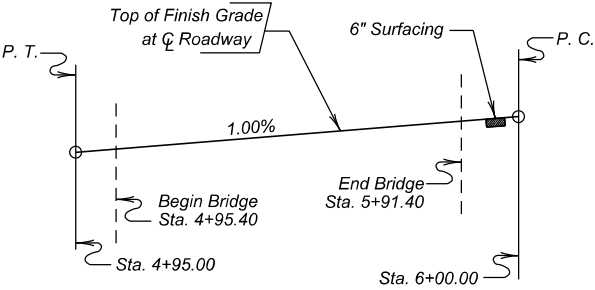
NOTES:
T.S. @ ϕ Elev. = Top of Slab at Centerline Elevation
T.S. @ ED Elev. = Top of Slab at Edge of Deck

FOR BIDDING PURPOSES ONLY

PROJECT	SHEET	TOTAL SHEETS
BRO-B 8036(06)	29	53

**-X081-
INDEX OF BRIDGE SHEETS**

- Sheet No. 1 - General Drawing
Sheet No. 2 - Estimate of Structure Quantities and Notes
Sheet No. 3 - Notes (Continued)
Sheet No. 4 - Notes (Continued)
Sheet No. 5 - Subsurface Investigation and Pile Layout
Sheet No. 6 - Abutment Details (A)
Sheet No. 7 - Abutment Details (B)
Sheet No. 8 - Superstructure Details
Sheet No. 9 - Girder Details
Sheet No. 10 - Erection Data and Slab Form Elevations
Sheet No. 11 - Steel Diaphragm Details
Sheet No. 12 - Type T101 Bridge Railing Details
Sheet No. 13 - Details of Bridge End Backfill
Sheet No. 14 - Riprap Layout
Sheet No. 15 - Standard Plates
Sheet No. 16 - Standard Plates (Continued)



GRADELINE DATA

HYDRAULIC DATA

Q_d	2520 cfs
A_d	475 sq. ft.
V_d	5.3 fps
Q_F	2520 cfs
Q_{100}	13600 cfs
$Q_{OT_{fr}}$	8000 cfs
V_{MAX}	9.3 fps

Q_d = Design discharge for the proposed bridge based on 10 year frequency. Elev. 2200.1
 $Q_{OT_{fr}}$ = Overtopping discharge and frequency 40 year recurrence interval. Elev. 2205.3 @ Sta. 3+50
 Q_F = Designated peak discharge for the basin approaching proposed project based on 10 year frequency.
 Q_{100} = Computed discharge for the basin approaching proposed project based on 100 year frequency. Elev. 2209.0
 V_{MAX} = Maximum computed outlet velocity for the proposed bridge, based on 100 year frequency.
The hydraulic data contained in these plans is valid only if the overflow section is maintained. Alteration of the overflow section will require re-analysis of the hydraulics at this site to determine its effect on public safety.

**GENERAL DRAWING
FOR**

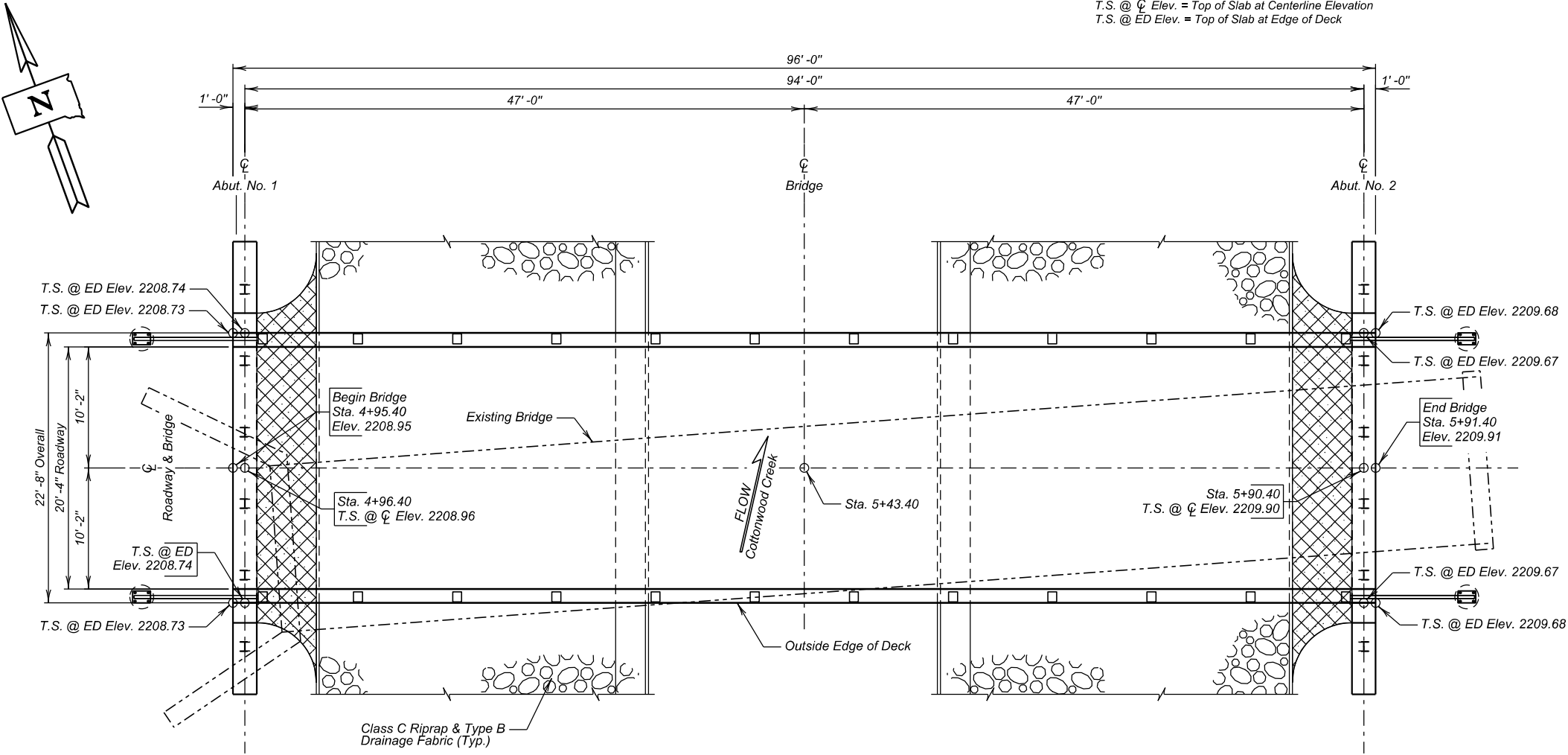
96'-0" PRESTR. GIRDER BRIDGE
20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

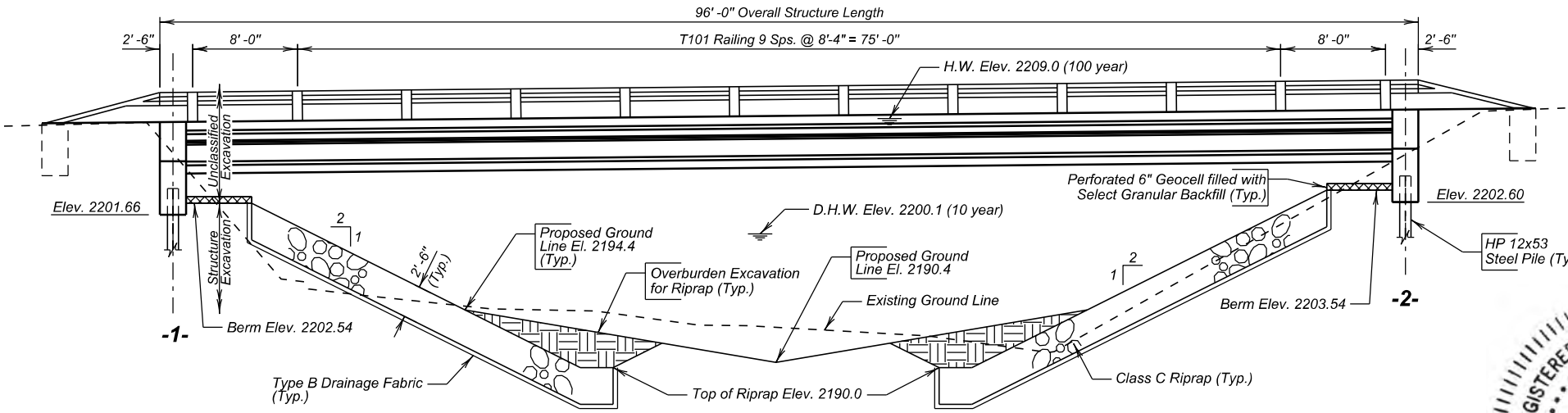
JACKSON COUNTY
S. D. DEPT. OF TRANSPORTATION
APRIL 2025

1 OF 16

DESIGNED BY SD	CK. DES. BY MI	DRAFTED BY SM	BRIDGE ENGINEER
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PLAN



ELEVATION



STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRO-B 8036(06)	30	53

ESTIMATE OF STRUCTURE QUANTITIES

ITEM	QUANTITY	UNIT	REMARKS
Concrete Penetrating Sealer	241.8	SqYd	See Special Provision
Select Granular Backfill	13.3	Ton	
Incidental Work, Structure	Lump Sum	LS	
Structural Steel, Miscellaneous	Lump Sum	LS	
Structure Excavation, Bridge	14	CuYd	
Bridge End Embankment	207	CuYd	
Granular Bridge End Backfill	26.7	CuYd	
Class A45 Concrete, Bridge Deck	77.9	CuYd	
Class A45 Concrete, Bridge	17.0	CuYd	
Type 101 Bridge Railing	224	Ft	
Reinforcing Steel	3,844	Lb	
Epoxy Coated Reinforcing Steel	10,090	Lb	
Preboring Pile	120	Ft	
HP 12x53 Steel Test Pile, Furnish and Drive	75	Ft	
HP 12x53 Steel Bearing Pile, Furnish and Drive	325	Ft	
36" Minnesota Shape Prestressed Concrete Beam	377	Ft	
2" Rigid Conduit, Schedule 40	16	Ft	
Class C Riprap	987.5	Ton	
Overburden Excavation for Riprap	540	CuYd	
Type B Drainage Fabric	1,021	SqYd	
Perforated Geocell	380	SqFt	

BRIDGE SPECIFICATIONS

- Design Specifications: AASHTO LRFD Bridge Design Specifications, 9th Edition.
- Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2015 Edition and required provisions, supplemental specifications and special provisions as included in the proposal.

BRIDGE DESIGN LOADING

- Girders are designed simple for AASHTO HL-93 Live Load.
- Dead Load includes 22 psf for future wearing surface on the roadway.

DESIGN MATERIAL STRENGTHS*

Class A45 Concrete	$f'_c = 4,500$ psi
Reinforcing Steel (ASTM A615, Gr. 60)	$f_y = 60,000$ psi
Piling (ASTM A572 Grade 50)	$f_y = 50,000$ psi

*For prestressed beams, see notes regarding Prestressed Girders.

GENERAL CONSTRUCTION

- All lap splices shown are contact lap splices unless noted otherwise.
- All exposed concrete corners and edges will be chamfered 3/4-inch unless noted otherwise.
- Use 2-inch clear cover on all reinforcing steel except as shown otherwise on plans.
- The Contractor will imprint on the structure the date of new construction as specified and detailed on Standard Plate 460.02.
- Requests for construction joints or reinforcing steel splices at points other than those shown, must be submitted to the Engineer for prior approval. If additional splices are approved, no payment will be allowed for the added quantity of reinforcing steel.
- Bridge berms will be constructed to the plans template prior to any pile driving or construction of abutment footings. See Standard Plate 120.10 as appropriate. Berm slopes will not be disturbed after construction. Any alterations to the berm or slopes after berm construction will be submitted to the Bridge Construction Engineer for approval. Allow 30 days for review of proposals.
- The elevation of the bridge deck is 4 inches above subgrade elevation at begin and end bridge.

INCIDENTAL WORK, STRUCTURE

- In place centerline Sta. 4+99.00 to centerline Sta. 6+00.83 is a 102' three span steel girder bridge with a 14'-0" roadway. The superstructure consists of 2 adjacent steel girders. The deck is timber. The substructures consist of timber abutments, supported on timber piling, and steel beam pier caps supported and steel beam piling.
- Break down and remove the existing bridge to 1-foot below finished groundline, or as required to construct the new structure in accordance with Section 110 of the Construction Specifications. All portions of the existing bridge will be removed and disposed of by the Contractor on a site obtained by the Contractor and approved by the Engineer in accordance with the Environmental Commitments.
- During demolition of the structure, efforts shall be taken to prevent material from falling into the creek.
- The foregoing is a general description of the in-place bridge and should not be construed to be complete in all details. Before preparing the bid, it shall be the responsibility of the Contractor to make a visual inspection of the structure to verify the extent of the work and materials involved.

NOTICE - LEAD BASED PAINT

Be advised that the paint on the steel surfaces of the existing structure may contain lead. The Contractor should plan operations accordingly and inform employees of the hazards of lead exposure.

DESIGN MIX OF CONCRETE

- All structural concrete will be Class A45 Concrete unless otherwise indicated.
- Type II cement conforming to Section 750 is required except Type III cement may be used for prestressed beams.
- Grout design mix will be as specified in Section 460.2 K of the Construction Specifications. A compressive strength of 2000 psi will be attained by the grout prior to erection of any beams. Chamfer edges of grout pads 3/4-inch. The quantity of grout is included in and will be paid for at the contract unit price per cubic yard for Class A45 Concrete, Bridge.

ABUTMENTS

- Preboring piling at each abutment is required to ten feet.
- The HP 12x53 Piling were designed using a factored bearing resistance of 98 tons per pile. Piling will develop a field verified nominal bearing resistance of 245 tons per pile.
- One test pile will be driven at each abutment and will become part of the pile group.
- The contractor will have sufficient pile splice material on hand before pile driving is started. See Standard Plate 510.40.
- Piles will not be driven out of position by more than three inches in the direction parallel to the girder centerline. A pile-driving template will be used to ensure this accuracy.
- Abutment backwalls above the construction joint must be cast concurrently with the deck slab. The concrete used for the pile cap and wings shall be Class A45 Concrete, Bridge. The concrete used for the backwall shall be Class A45 Concrete, Bridge Deck. All abutment and bridge deck concrete shall have attained design strength prior to backfilling.



ESTIMATE OF STRUCTURE QUANTITIES AND NOTES FOR 96'-0" PRESTR. GIRDER BRIDGE

Str. No. 36-273-191

APRIL 2025

2

16

DESIGNED BY: SD	DRAWN BY: SM	CHECKED BY: MI	BRIDGE ENGINEER
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STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRO-B 8036(06)	31	53

PILE DRIVING

1. A drivability analysis was performed using the wave equation analysis program (GRLWEAP). The following pile hammers were evaluated and found to produce acceptable driving stresses:

Delmag D30-32 SPI D30 APE D30-32 APE D30-42 APE D30-52
2. Pile hammers not listed will require evaluation and approval prior to use from the Geotechnical Engineering Activity. Requests for evaluation of hammers not listed will be submitted a minimum of 5 business days prior to installation of piles.

SUPERSTRUCTURE

1. Girder lifting hooks will be cut off before placement of concrete deck slab.
2. The use of an approved deck finishing machine will be required during placement of bridge deck concrete. The deck finishing machine will be adjusted and operated in such a manner that the screed or screeds are parallel with the centerline of the bridge. The finish machine and concrete placement will be parallel to the skew of the bridge.
3. The concrete bridge deck will be placed and finished at a minimum rate of 46 feet of deck per hour measured along centerline roadway. If concrete cannot be placed and finished at this rate, the Engineer will order a header installed and operations stopped. If a header is required sometime during the pour operation, its location will be at or as near as possible to the three-quarter point of the span. Notify the Bridge Construction Engineer if deck pour operations are stopped. Operations may resume only when the Engineer is satisfied that a rate of 46 feet per hour can be maintained and the concrete has attained a minimum compressive strength of 2000 psi.

PRESTRESSED GIRDERS

1. Minimum concrete compressive strength f'_{ci} = **7,500** psi at 28 days for all girders and f'_{ci} = **6,500** psi for all Girders.
2. All mild reinforcing steel will be deformed bars conforming to ASTM A615, Grade 60.
3. Individual tendons in all pretensioned sections will consist of seven-wire uncoated Type 270K Strands having a nominal diameter of 0.6-inch and a minimum ultimate strength of 58600 lbs. per cable. An initial tensile force of 44000 lbs. will be applied to all 0.6-inch cables in all girders. All prestressing steel will conform to AASHTO M203. (low-relaxation strands).
4. All prestressed girders within a span will be cast within an 8-day period. If not, the newest girder will be at least 6 weeks old before the deck slab is poured. The girders will be poured in all steel forms.
5. Prestressed concrete girders will always be lifted by the devices provided in the top flanges near the ends of the girders. Types of lifting devices other than those shown on the plans may be used provided they are approved by the Office of Bridge Design. The design of the lifting devices will be the responsibility of the fabricator.

6. Each beam will be marked showing structure number, casting date, and beam number. Marking will be on the face of the beam near the end and the location will be exposed after the diaphragms have been cast. Facia beams will be marked on an inside face. All markings will be stenciled and clearly legible. For beam designations and locations, see superstructure layout plan and Erection Data sheet.
7. The physical properties of the elastomeric bearing pads will conform to the requirements of Section 18.2 of the AASHTO LFRD Bridge Construction Specification and the AASHTO Materials Specification M251. The elastomeric bearing pads will conform to Grade 70 (durometer). The cost of the pads will be incidental to the contract unit price per cubic yard for Class A45 Concrete, Bridge. Certification that pads are 70 durometer and meet the requirements of AASHTO LFRD Bridge Construction Specification Section 18.2 and AASHTO Materials Specification M251 will be furnished to the Engineer with the shop drawings. No laminated bearing pads will be allowed.
8. All exposed corners will be chamfered 3/4-inch or rounded to 3/4-inch radius.
9. Dead Load of girder taken as effective at transfer. Cut strands flush with end of girder and coat end of strands with mortar, EXCEPT the strands that are to be extended and bent,
10. The Contractor will be responsible for ensuring that transportation stresses, handling and erection do not cause damage to the girder.

ABUTMENT BACKWALL COATING

The material for waterproofing the abutment backwall will be one of the products from the approved products list. The acceptable abutment backwall coating suppliers are listed on the approved products list at the following Internet address:

<http://apps.sd.gov/applications/HC60ApprovedProducts/ProductList.aspx>

The cost of furnishing and applying the coating will be incidental to the contract unit price per cubic yard for Class A45 Concrete, Bridge.

BOLT TESTING

The certified mill test reports for all bolts used on the project will include the test results for all the testing specified in section 972.2 D of the Construction Specifications. Some of these tests are supplemental tests that must be requested at the time the bolts are ordered. It is the responsibility of the Contractor to notify the bolt supplier of these requirements.

FALL PROTECTION

1. The Contractor will install a Fall Protection System conforming to OSHA Regulations. When working on the girders prior to decking installation, a Horizontal Lifeline – or other OSHA approved system will be installed. The Contractor will have one Personal Fall Arrest System (PFAS) available for use by a Department Inspector. The PFAS will be compatible with the installed Fall Protection System.
2. Modifications to any bridge components used to accommodate the Fall Protection System will be shown on the Falsework Plans and/or the appropriate Shop Plans. Field welding to bridge components shall not be allowed. Field placed concrete inserts or drilled-in anchor bolts will be allowed if approved by the Engineer. All costs associated with providing the Fall Protection System will be incidental to the other contract items.

SHOP PLANS

Shop plans will be required as specified by the Construction Specifications.

The fabricator will submit shop plans in accordance with the Specifications. Send shop plan submittals to KLJ, 18 E. Main St., Ste. 229, Rapid City, SD 57701. After review, corrections (if necessary), and approval by KLJ, the Office of Bridge Design will review the submittals, authorize fabrication, arrange for fabrication inspection, and distribute the shop drawings.



NOTES (CONTINUED)
FOR
96'-0" PRESTR. GIRDER BRIDGE

Str. No. 36-273-191

APRIL 2025

3

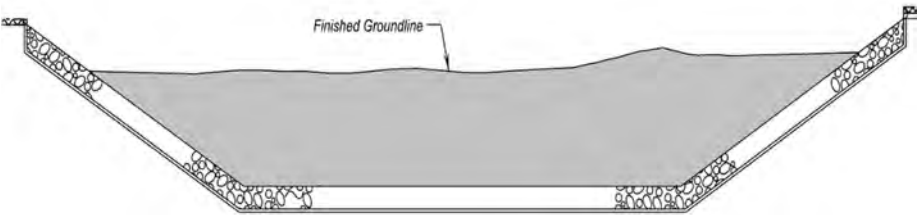
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DESIGNED BY: SD	DRAWN BY: SM	CHECKED BY: MI	BRIDGE ENGINEER
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STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRO-B 8036(06)	32	53

OVERBURDEN EXCAVATION FOR RIPRAP

1. This work will consist of the removal and replacement of material between the limits of the finished groundline and the top of the riprap. See diagram below (overburden is in grey).



2. Excavation is to be completed after temporary diversion method is in place, if required, with minimal standing water to create the profile of slope protection specified in plans.
3. The removed material will be placed on top of the riprap to the natural ground, proposed groundline, or specified shape and elevations shown in plans. When overburden extends into the streambed it will form the channel bottom and profile as specified in plans. The finished ground under the bridge will be shaped to match the upstream and downstream channel and flood plain.
4. Any excess material will become the property of the Contractor for disposal. The Contractor may elect to spread the waste material onsite in a manner and location approved by the Engineer, or the Contractor may elect to dispose the excess material offsite. Regardless of which option is selected, all costs associated with the disposal of waste material will be incidental to the contract unit price per cubic yard of "Overburden Excavation for Riprap".
5. The overburden material will be placed on top of the riprap and have a maximum lift depth of 1' – 0" and compacted free of flowing water or standing water in excess or four inches above the riprap at the lowest elevation.
6. Compaction effort will produce a surface that does not pump, rut, or otherwise displace when traveled over with construction equipment to the satisfaction of the Engineer. Material may be added to excavated material to facilitate compaction and handling. Importing, stockpiling, blending, and/or wasting of materials will be incidental to the contract unit price for Overburden Excavation for Riprap.
7. Payment for Overburden Excavation for Riprap will be at the contract unit price and will be full compensation for labor, equipment, tools, and incidentals, including furnishing, installing, and removal of any temporary works necessary to complete the work. Payment will be for plans quantity unless measurement is ordered by the Engineer.
8. Before preparing the bid, it is the responsibility of the Contractor to verify existing conditions to determine if a temporary diversion method and/or dewatering will be required. If required, the Contractor must submit the temporary diversion method and/or dewatering for approval to the Construction Engineer 30 days prior to construction.

PERFORATED GEOCELL

1. Perforated Geocell will be from the following company or equivalent:

Company: Agtec
Phone: 1-818-724-7657
Website: <http://www.agtec.com>

2. Perforated Geocell will be 6 inches tall with Type B Drainage Fabric underlying the perforated Geocell. Installation will adhere to the manufacturer's recommendation.
3. Perforated Geocell will be filled with the Select Granular Backfill in accordance with Section 850 of the Construction Specifications.
4. Perforated Geocell will be paid for at the contract unit price per square foot. Payment will be full compensation for furnishing and installing the Perforated Geocell.
5. Select Granular Backfill will be paid for at the contract unit price per ton of material furnished. Payment will be full compensation for furnishing, loading, hauling, and placing the Select Granular Backfill.



NOTES (CONTINUED)
FOR
96'-0" PRESTR. GIRDER BRIDGE

Str. No. 36-273-191

APRIL 2025

3

16

DESIGNED BY: SD	DRAWN BY: SM	CHECKED BY: MI	BRIDGE ENGINEER
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FOR BIDDING PURPOSES ONLY

KLI	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	33	53

Pierre Shale is a marine shale with a textural classification that varies from silt clay to clay silt. Color varies from buff gray to black. The formation may contain concretion zones that are normally thin but occasionally are massive. These zones may be considered hard and dense. Thin zones may be present that are cemented resulting in claystone or siltstone seams. Bentonite zones may be encountered but are normally less than one half inch thick. Nonweathered Pierre Shale is considered to be "Soft Rock".

The Geotechnical Engineering Activity has all of the boring logs and laboratory test results available for review at the Central Office in Pierre.

LEGEND

- Penetration Test
- ◒

Water
- ◻

Sample Zone
- Drive Test
- ⊖

Caved

Drive tests are conducted by dropping a 490 pound hammer 30 inches to drive a 2 7/8 inch drill stem to measure the resistance to penetration of the soil.

Penetration test holes are drilled with a 6 5/8 inch diameter hollow stem auger. Penetration tests are conducted by dropping a 140 pound hammer 30 inches to obtain 2 inch nominal diameter samples and to measure the resistance to penetration of the soil. Penetration Test results are listed as uncorrected "N" values in blows per foot. Blows over inches are listed if refusal is achieved, which is 50 blows within one 6 inch set.

GROUNDWATER ELEVATIONS

OCTOBER 2018

F1	2190.4
F2	(DRY) 2195.0
F3	2191.5

MEASURED SKIN FRICTION

	ELEV.	PSF
F2	2188.7	2970

SUBSURFACE INVESTIGATION AND PILE LAYOUT

FOR

96'-0" PRESTR. GIRDER BRIDGE

20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

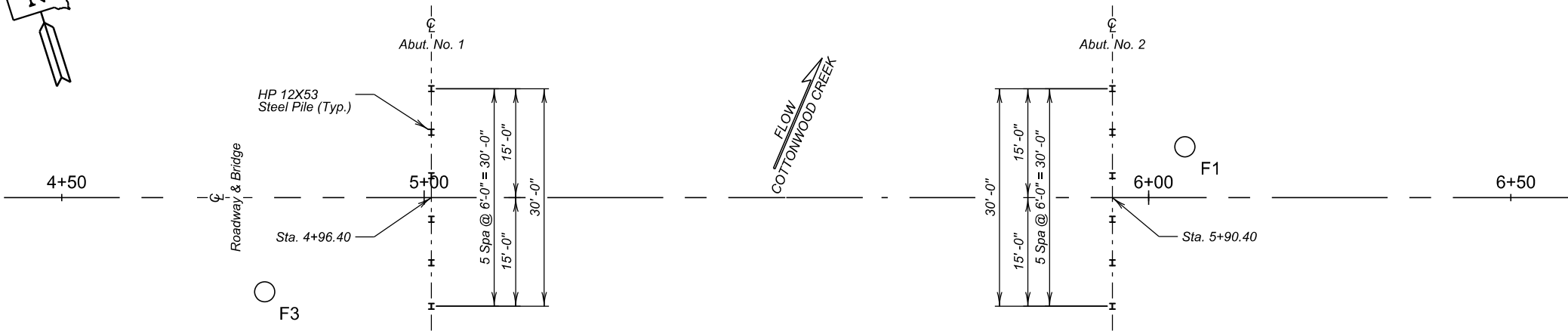
JACKSON COUNTY

S. D. DEPT. OF TRANSPORTATION

APRIL 2025

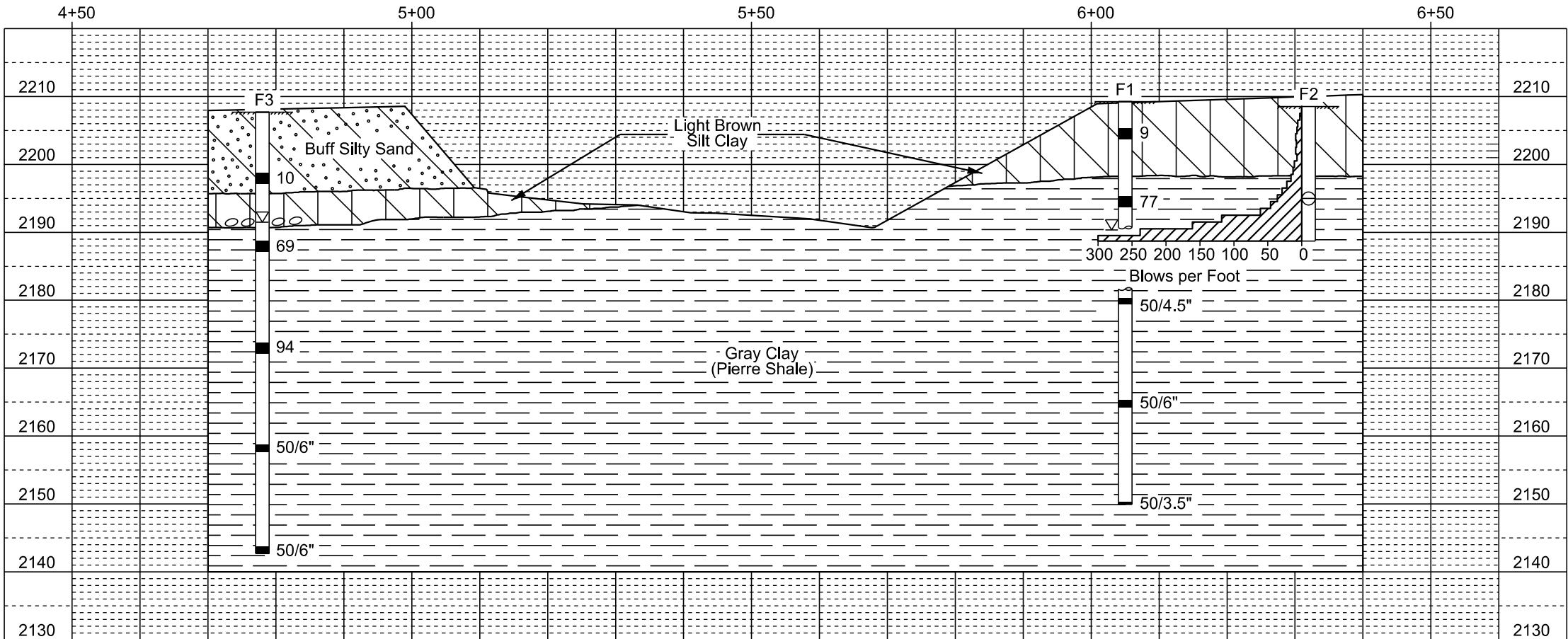
5 OF 16

DESIGNED BY SD	CK. DES. BY MI	DRAFTED BY SM	BRIDGE ENGINEER
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PILING LAYOUT

Hole Number	F1	F1	F3	F3
Station	6+05	6+05	4+78	4+78
Depth	5.5 ft	45.0 ft	10.5 ft	35.5 ft
Soil Color	Beige	Dark Gray	Beige	Dark Gray
Classification	Silt Clay	Clay	Silty Sand	Clay
Strength (Qu)	2,066 psf	6,239 psf	No Test	4,885 psf
Dry Density	82.7 pcf	98.3 pcf	81.3 pcf	89.9 pcf
Wet Density	96.5 pcf	121.6 pcf	88.5 pcf	107.6 pcf
Moisture	16.7 %	23.7 %	8.8 %	19.7 %
Pass No. 10	98.2 %	99.6 %	100.0 %	99.1 %
Pass No. 40	97.7 %	99.6 %	99.9 %	99.1 %
Pass No. 200	90.2 %	99.0 %	54.8 %	98.8 %
Sand Content	8.0 %	0.6 %	45.2 %	0.3 %
Silt Content	42.7 %	38.5 %	44.4 %	36.6 %
Clay Content	47.5 %	60.5 %	10.4 %	62.2 %



4+50

5+00

5+50

6+00

6+50

2210

2200

2190

2180

2170

2160

2150

2140

2130

2210

2200

2190

2180

2170

2160

2150

2140

2130

Light Brown
Silt Clay

Buff Silty Sand

Gray Clay
(Pierre Shale)

Blows per Foot

50/4.5"

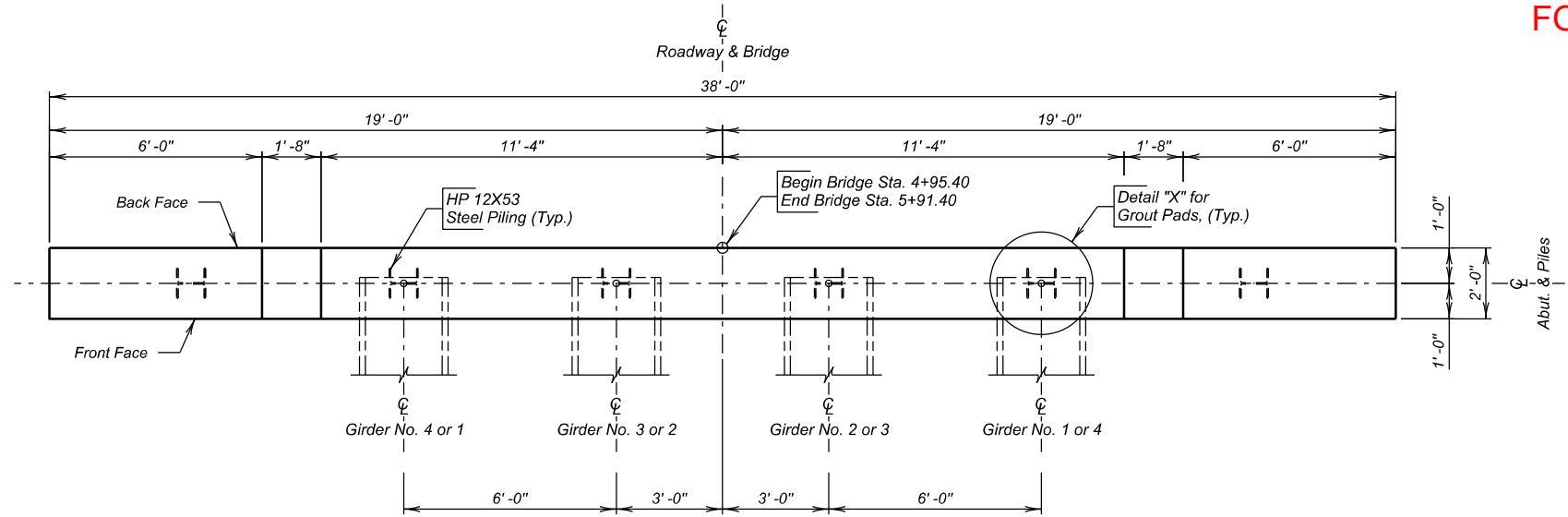
50/6"

50/3.5"

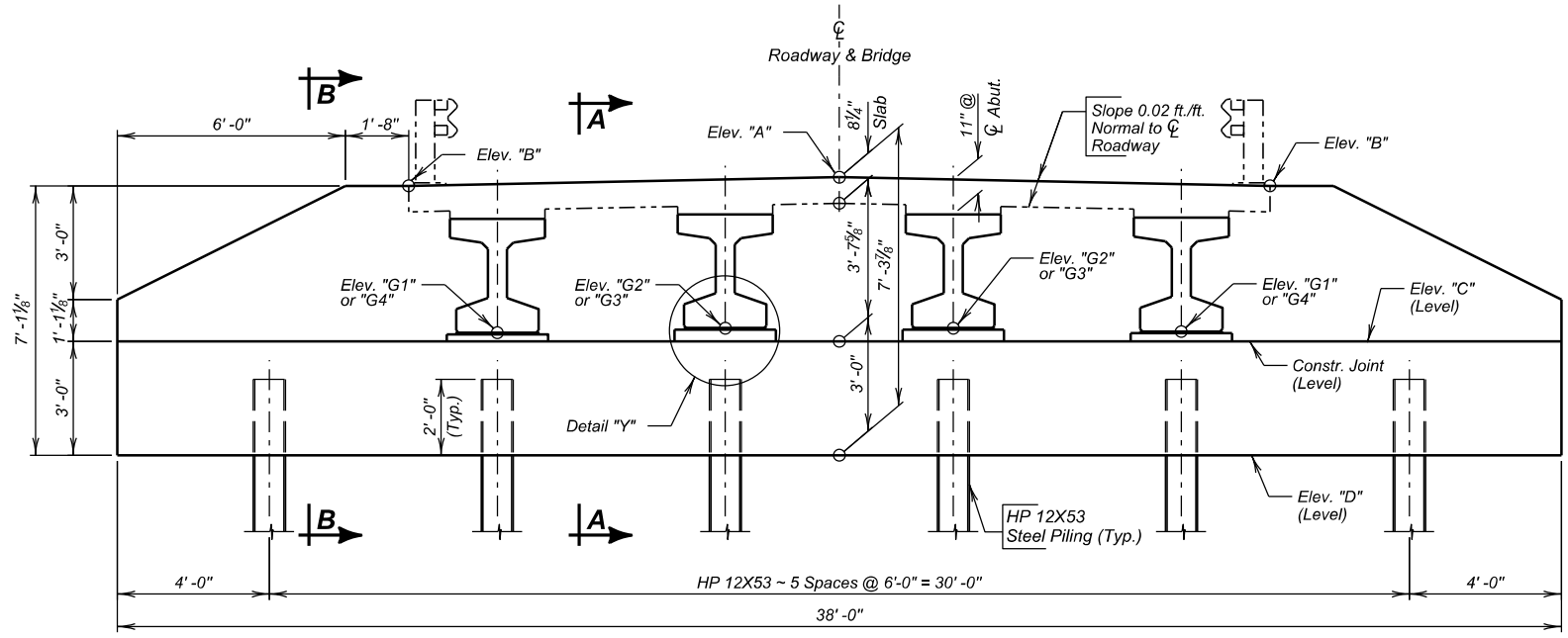
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50/6"

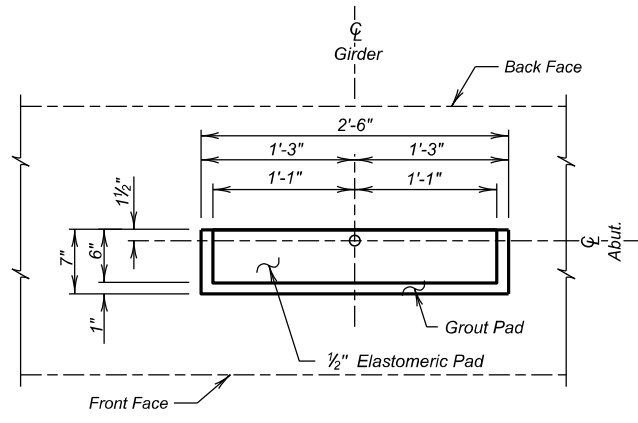
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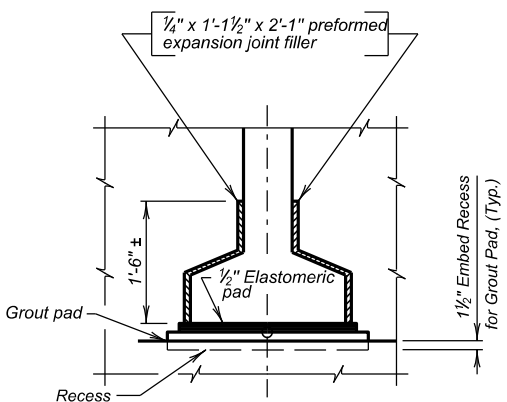
PLAN
(Abut. No. 1 Shown, Abut. No. 2 Similar, by opposite hand)



ELEVATION
(Along ϕ Abutment)



DETAIL "X"



DETAIL "Y"
(Typical at girder ends)

INCREASING STATIONS
Abut No. 1
Abut No. 2
INCREASING STATIONS

ESTIMATED QUANTITIES			
ITEM	UNIT	QUANTITY	
		Abut. No. 1	Abut. No. 2
Class A45 Concrete, Bridge	Cu. Yd.	8.5	8.5
Reinforcing Steel	Lb.	1,922	1,922
Epoxy Coated Reinforcing Steel	Lb.	258	258
Structure Excavation, Bridge	Cu. Yd.	7	7
Preboring Pile	Ft.	6 @ 10' = 60'	6 @ 10' = 60'
HP 12 X 53 Steel Test Pile, Furnish and Drive	Ft.	1 @ 40' = 40'	1 @ 35' = 35'
HP 12 X 53 Steel Bearing Pile, Furnish and Drive	Ft.	5 @ 35' = 175'	5 @ 30' = 150'

Includes 0.1 Cu.Yd. for grout pads for each abutment.

TABLE OF ELEVATIONS						
Abutment	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "G1" or "G4"	Elev. "G2" or "G3"
No. 1	2208.96	2208.74	2204.64	2201.64	2204.83	2204.95
No. 2	2209.90	2209.68	2205.58	2202.58	2205.77	2205.89

NOTE:
Elevations "A" and "B" are top of slab at centerline of abutment.
Elevations "G1", "G2", "G3", and "G4" are top of grout pad at centerline abutment.
Top of grout pad shall be level and smooth.

NOTE:
Concrete shall be placed in the space under the beams (within the backwall width) during the pour. Care shall be taken to get the concrete vibrated into this area. If upon form removal the space is not completely filled and consolidated, the contractor shall grout in the remaining voids.



ABUTMENT DETAILS (A)
FOR
96'-0" PRESTR. GIRDER BRIDGE
20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

JACKSON COUNTY
S. D. DEPT. OF TRANSPORTATION
APRIL 2025

DESIGNED BY
SD

CK. DES. BY
MI

DRAFTED BY
SM

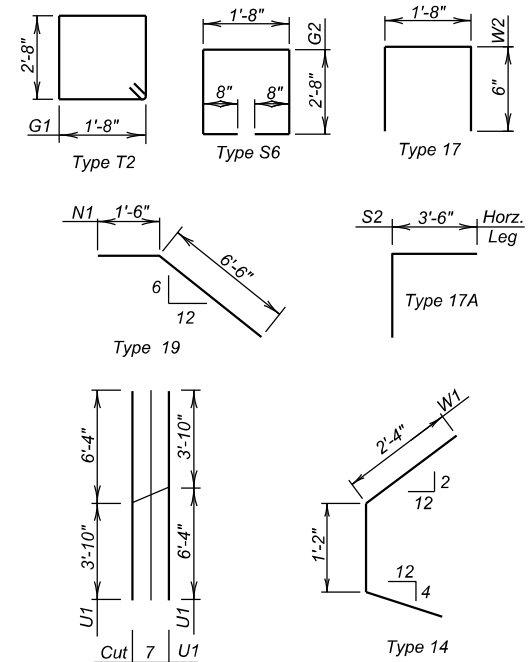
BRIDGE ENGINEER

REINFORCING SCHEDULE

(For One Abutment)

Mk.	No.	Size	Length	Type
E1	4	6	37' - 8"	Stn
E2	5	6	37' - 8"	Stn
E3	2	5	37' - 8"	Stn
E4	1	5	33' - 8"	Stn
E5	1	5	29' - 8"	Stn
E6	6	5	3' - 2"	Stn
E7	6	5	5' - 2"	Stn
E8	2	5	8' - 7"	Stn
E9	2	5	9' - 5"	Stn
E10	2	5	7' - 6"	Stn
E11	2	5	4' - 5"	Stn
G1	33	5	9' - 8"	T2
G2	6	5	8' - 4"	Stn
M1	54	5	6' - 9"	Stn
N1	4	5	7' - 11"	19
S1	2	5	26' - 0"	Stn
S2	27	5	7' - 3"	17
U1	14	5	10' - 2"	Stn
W1	8	5	5' - 10"	14
W2	50	5	2' - 8"	Stn
W3	4	5	4' - 8"	Stn

NOTES:
All dimensions are out to out of bars.
Δ Bars to be Epoxy Coated.
‡ Denotes cut bars.



ABUTMENT DETAILS (B)

FOR

96'-0" PRESTR. GIRDER BRIDGE

20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

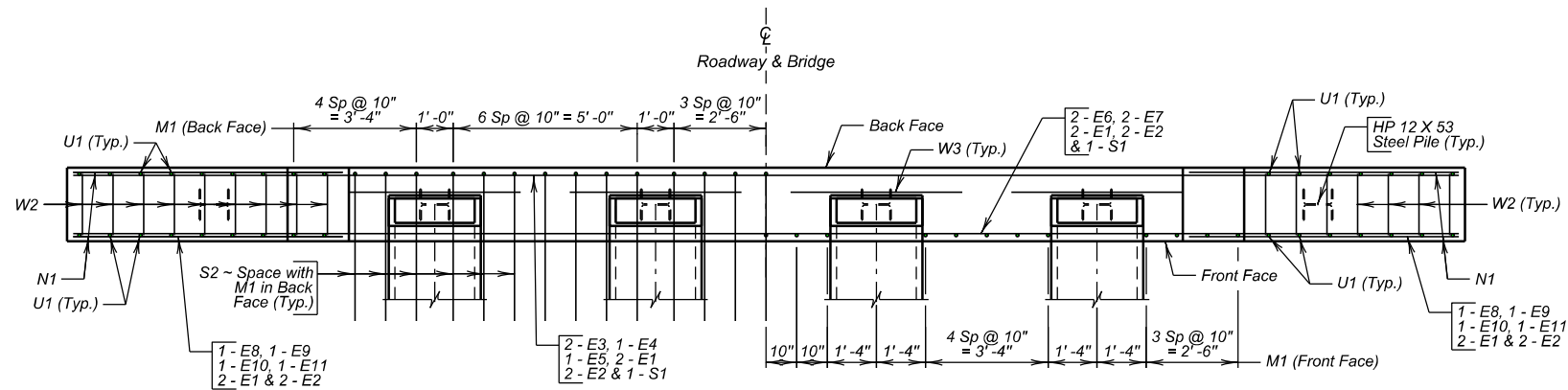
JACKSON COUNTY

S. D. DEPT. OF TRANSPORTATION

APRIL 2025

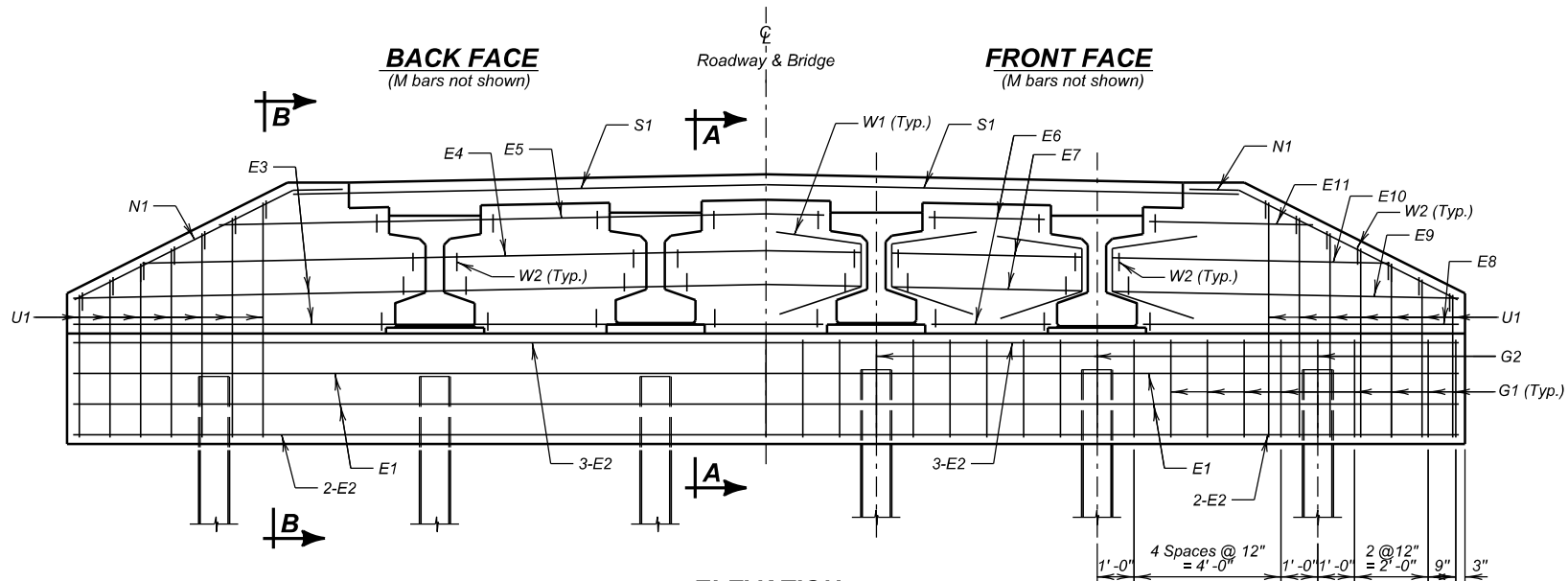
7 OF 16

DESIGNED BY SD	CK. DES. BY MI	DRAFTED BY SM	BRIDGE ENGINEER
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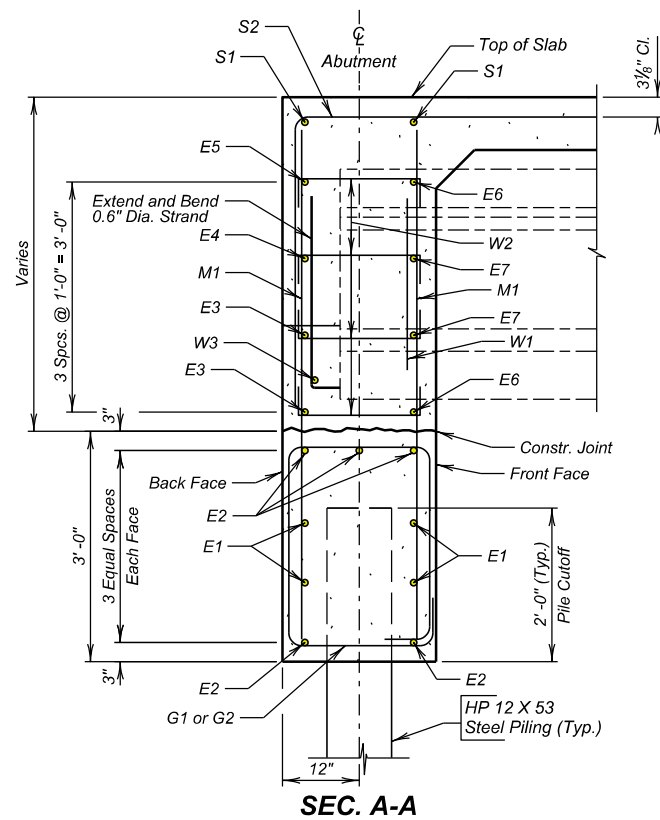
PLAN

(Abut. No. 1 shown, Abut No. 2 similar by opposite hand)

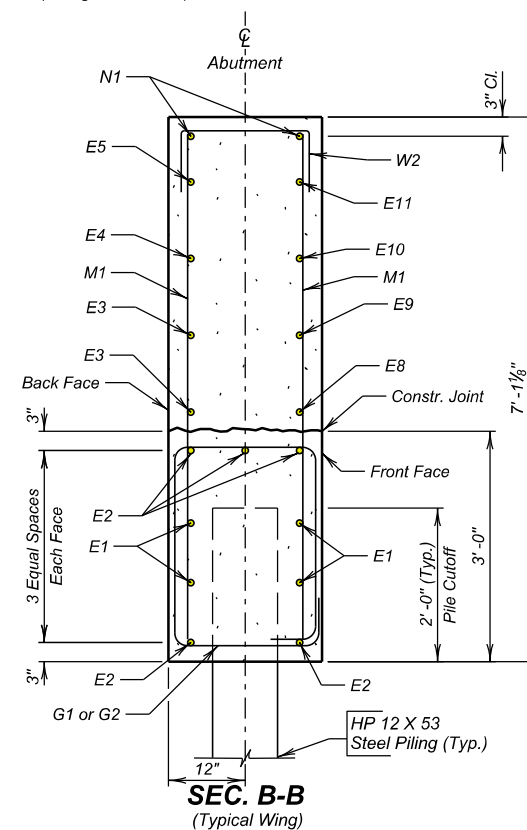


ELEVATION

(Along $\mathbb{C}$ Abutment)

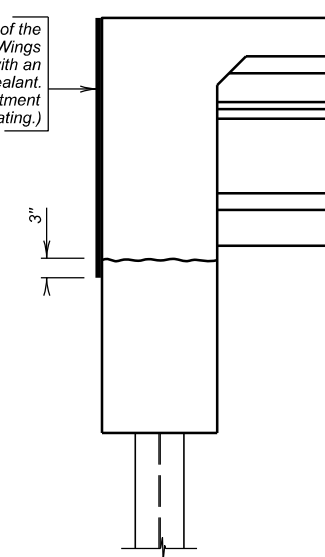


SEC. A-A



SEC. B-B
(Typical Wing)

The face on the back side of the Abutment between the Abut. Wings will be thoroughly coated with an approved waterproof sealant. (See Notes regarding Abutment Backwall Coating.)



ABUTMENT BACKWALL COATING DETAILS

FOR BIDDING PURPOSES ONLY

NOTE:
G1 thru G4 denotes girder line.

KLJ	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	36	53

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type
B1	139	5	22'-4"	Str.
B2	185	4	22'-4"	Str.
D1	50	4	48'-10"	Str.
D2	38	5	49'-1"	Str.

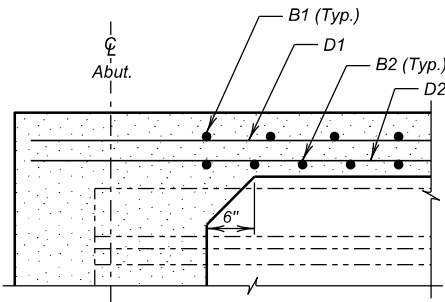
R1	See T101 Bridge Railing Details
R2	See T101 Bridge Railing Details

NOTES:
All dimensions are out to out of bars.
All bars to be epoxy coated.

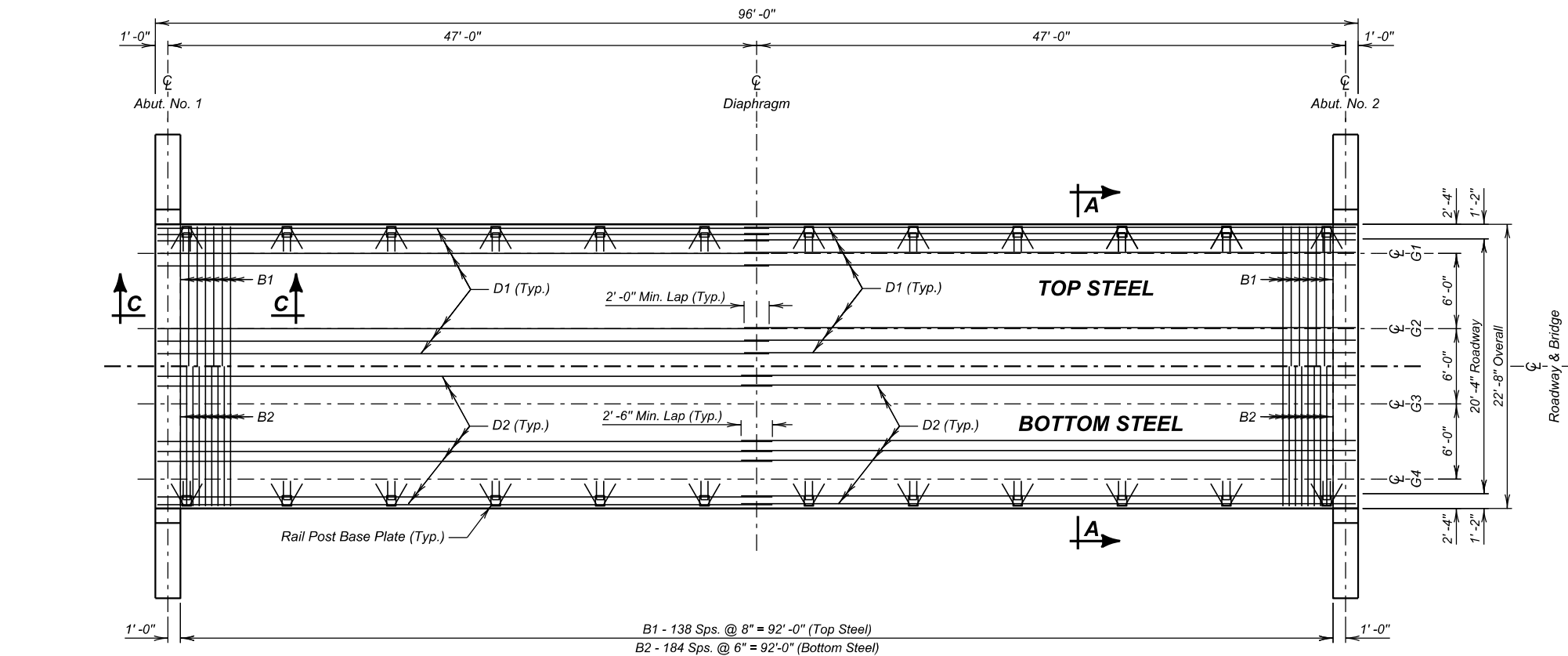
ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
⊗ Class A45 Concrete, Bridge Deck	Cu. Yd.	77.9
Epoxy Coated Reinforcing Steel	Lb.	9,574
36" Minnesota Shape Prestressed Concrete Beam	Ft.	377

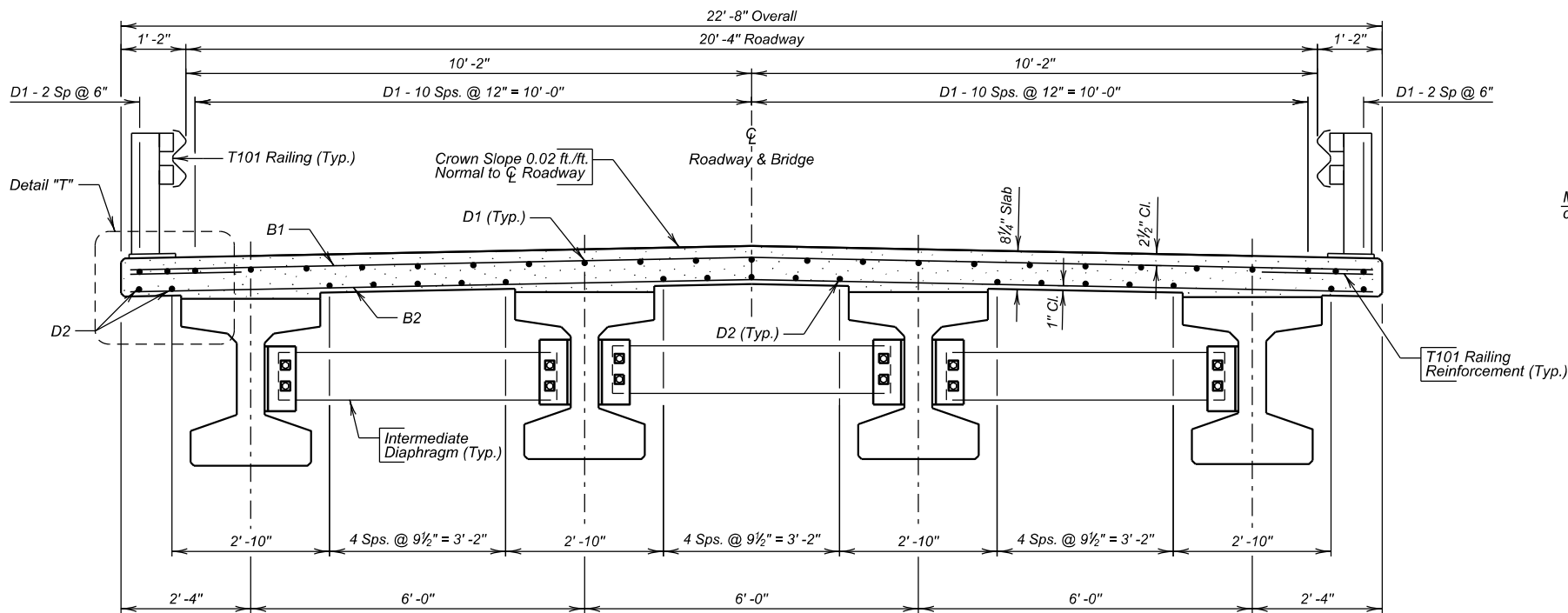
⊗ Includes Concrete for the Abutment End Diaphragms, Wingwalls, Haunch and Slab.
Average depth of 2" was used for the haunch quantity.
Abutment End Diaphragm Reinforcement is included with the Abutment Quantities.



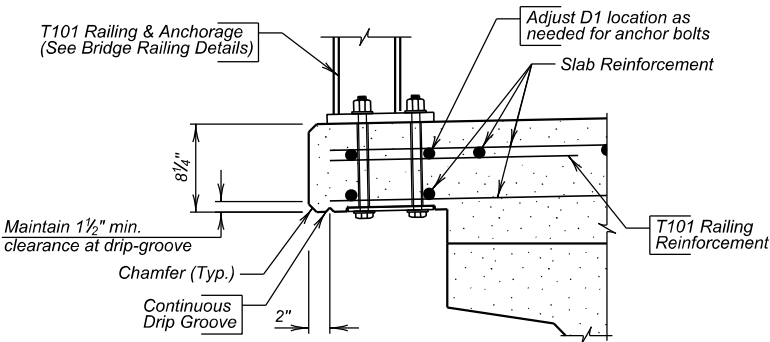
SEC. C-C



PLAN



SEC. A-A



DETAIL "T"



SUPERSTRUCTURE DETAILS

FOR

96'-0" PRESTR. GIRDER BRIDGE

20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

JACKSON COUNTY

S. D. DEPT. OF TRANSPORTATION

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DESIGNED BY SD	CK. DES. BY MI	DRAFTED BY SM	BRIDGE ENGINEER
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6"

3' - 0" Min.
(Typ.)

Bend Radius = 1½" (Typ.)

Holes in Web (Typ.) Reinforced with 1¼" Dia. Std Wt. Steel Pipe Insert, Galvanized

7½"

1' - 3"

Bottom of Beam

1' - 0"

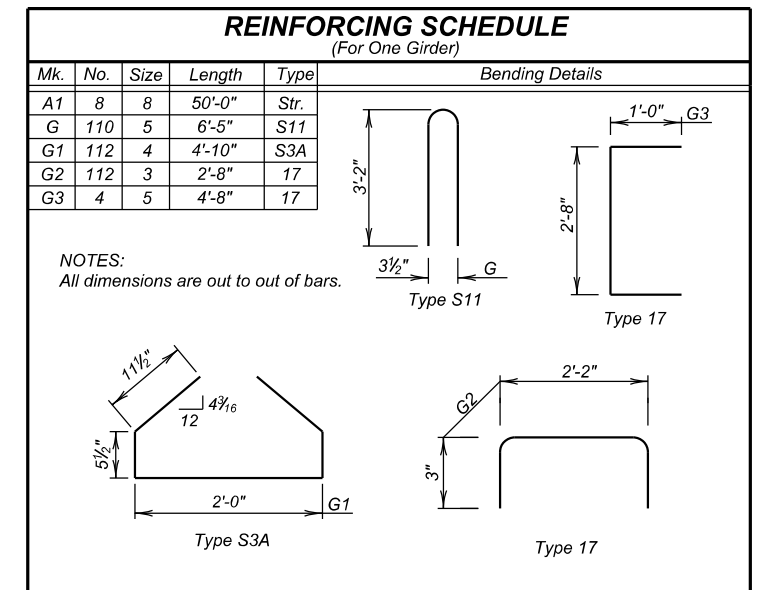
3' - 0"

Lift Unit

0.6" Dia. Seven Wire Prestressing Strands (3-Min.)

Minimum Embedment = 48"

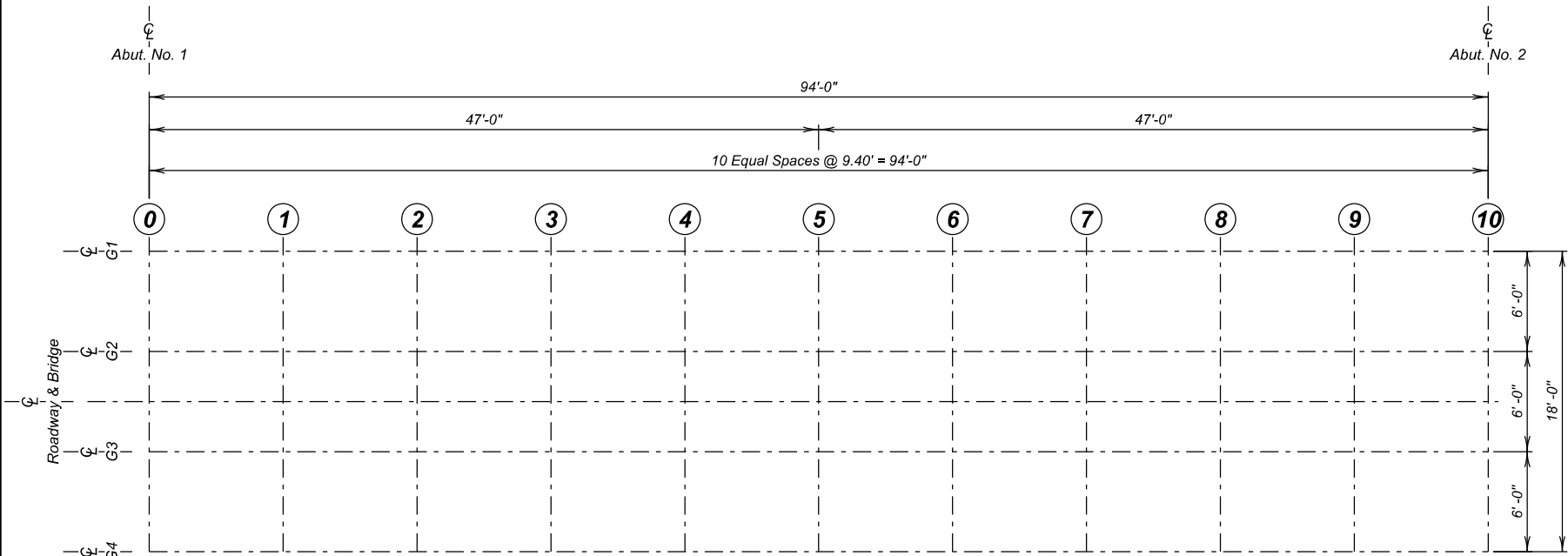
TYPICAL LIFTING DEVICE



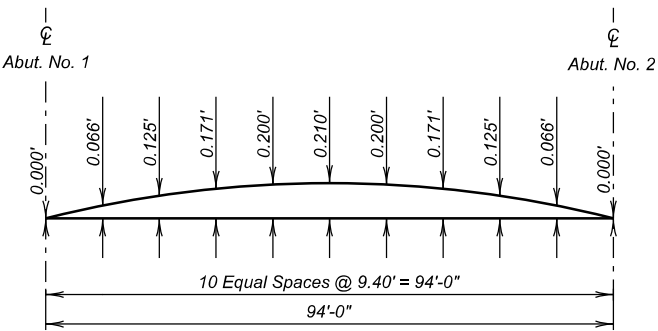
96'-0" PRESTR. GIRDER BRIDGE
 20'-4" ROADWAY
 OVER COTTONWOOD CREEK
 STA. 4+95.40 to STA. 5+91.40
 STR. NO. 36-273-191
 PCN 09MD

JACKSON COUNTY
S. D. DEPT. OF TRANSPORTATION
APRIL 2025

NOTE:
G1 thru G4 Denotes Girder Line.

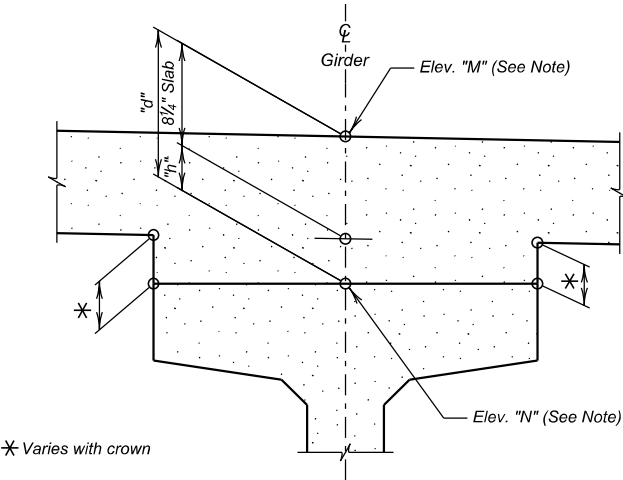


GIRDER LAYOUT



CAMBER DIAGRAM

The Camber shown is the amount which has been added to the theoretical slab elevations to get slab elevations shown in the table of Slab Form Elevations and Calculations. Camber shown is for D.L. of slab, traffic barrier, and haunch, but does not include D.L. of beams.



HAUNCH DETAIL



NOTE:
Based on a "d" of 11" at the $\varnothing$ of each abutment. It is anticipated that the midspan haunch dimension "h" over the $\varnothing$ of each girder will be 1½". If when computing the dimensions in the table, it is found that any dimension "h" is less than zero or greater than 4" the Engineer shall be notified immediately. After the "Table of Slab Form Elevation and Calculations" has been completely filled out and approved for deck forming, a copy must be forwarded to the Engineer for review and analysis for the purpose of securing information relative to camber growth in the beams. This information is necessary for preparing plans for future structures of this type.

The table contains the information necessary to determine the depth of concrete over the girders at points shown. Calculations may be carried in the spaces provided. Elev. "M" is the design elevation of the top of slab before any concrete has been poured. This elevation includes correction for camber and dead load deflection. Elev. "N" is a field measured elevation taken on top of girders at the points shown with the girders in their positions. The elevation must be taken after erection is completed, but prior to placing any of the deck concrete. Girders shall not be supported between bearings when elevations are taken.

		TABLE OF SLAB FORM ELEVATIONS AND CALCULATIONS										
		0	1	2	3	4	5	6	7	8	9	10
Girder No. 1	Elev. ``M"	2208.781	2208.942	2209.095	2209.235	2209.359	2209.463	2209.547	2209.612	2209.660	2209.696	2209.724
	(-) Elev. ``N"											
	(=) d											
	(-) 0.688'											
	(=) h											
Girder No. 2	Elev. ``M"	2208.901	2209.062	2209.215	2209.355	2209.479	2209.583	2209.667	2209.732	2209.780	2209.816	2209.844
	(-) Elev. ``N"											
	(=) d											
	(-) 0.688'											
	(=) h											
Girder No. 3	Elev. ``M"	2208.901	2209.062	2209.215	2209.355	2209.479	2209.583	2209.667	2209.732	2209.780	2209.816	2209.844
	(-) Elev. ``N"											
	(=) d											
	(-) 0.688'											
	(=) h											
Girder No. 4	Elev. ``M"	2208.781	2208.942	2209.095	2209.235	2209.359	2209.463	2209.547	2209.612	2209.660	2209.696	2209.724
	(-) Elev. ``N"											
	(=) d											
	(-) 0.688'											
	(=) h											

ERECTION DATA AND SLAB FORM ELEVATIONS
FOR

96'-0" PRESTR. GIRDER BRIDGE
20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

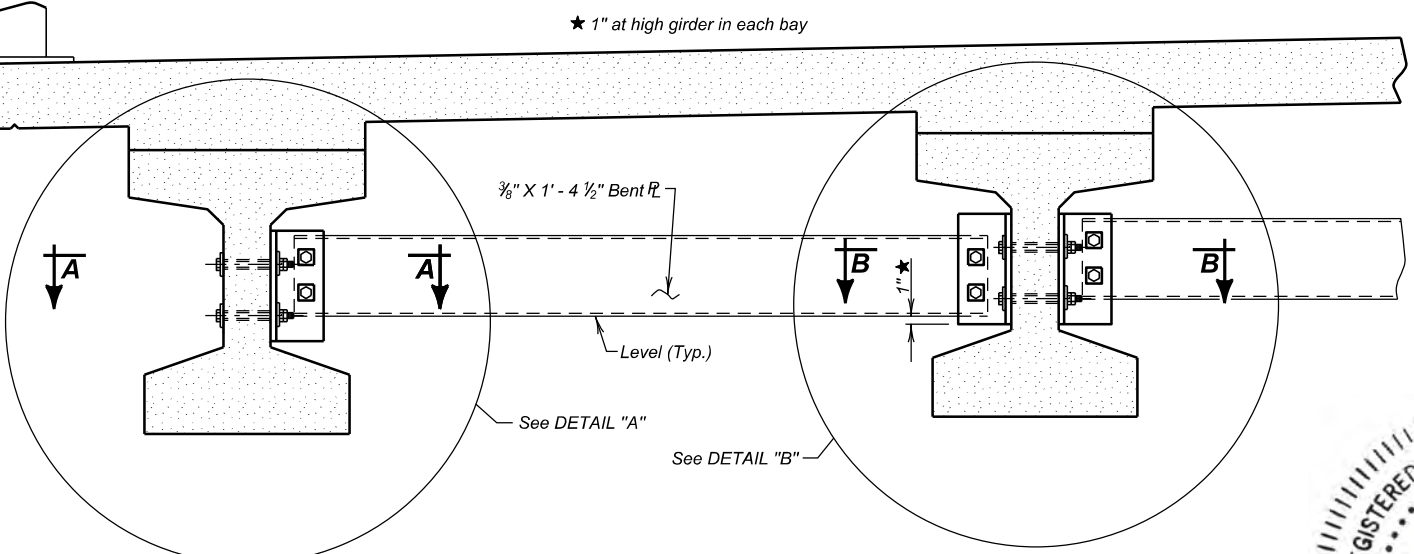
SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

JACKSON COUNTY
S. D. DEPT. OF TRANSPORTATION

APRIL 2025

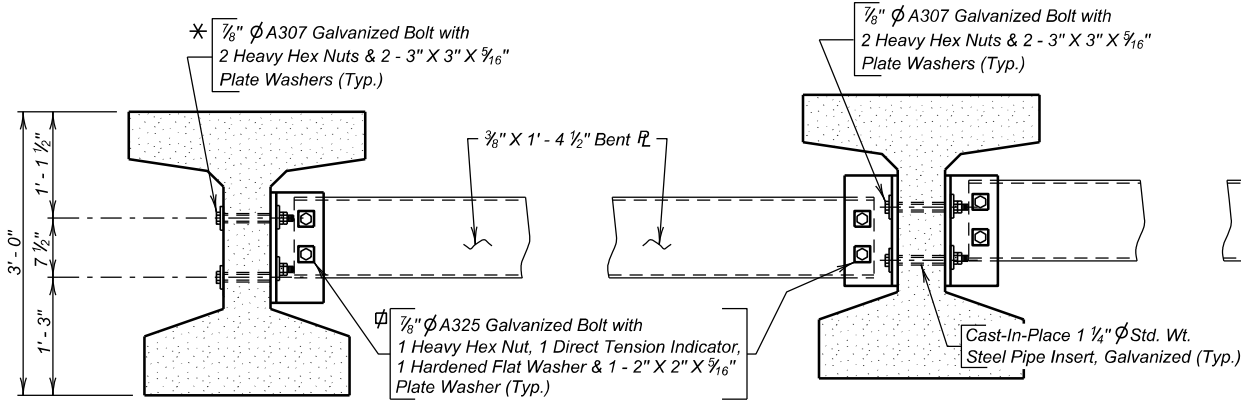
FOR BIDDING PURPOSES ONLY

KLJ STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	39	53



SECTION AT DIAPHRAGM

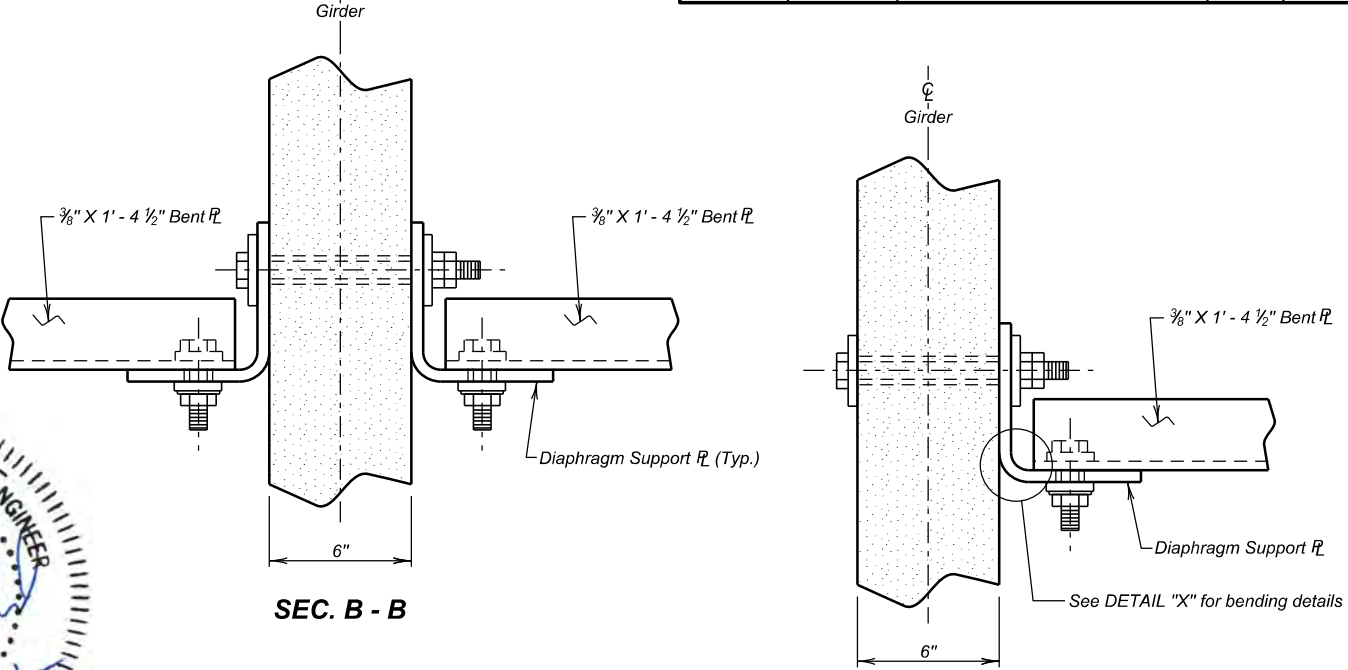
* Bolt head shall be adjacent to the Exterior Face of the Exterior Girder.



DETAIL "A"
(Typ. Exterior Girder)

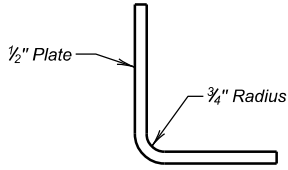
Ø Bolt Head and Direct Tension Indicator shall be adjacent to 1 5/16" Ø holes in Bent Plate Diaphragm.

DETAIL "B"
(Typ. Interior Girder)



SEC. B - B

SEC. A - A



DETAIL "X"

END VIEW BENT
PLATE DIAPHRAGM

NOTES:

1. All steel for the diaphragms including plate washers shall conform to ASTM A36 and shall be galvanized in accordance with ASTM A123 or A153. Bolts, nuts, and washers shall be galvanized in accordance with ASTM F2329. Direct Tension Indicators shall conform to Section 410 of the Specifications.
2. The steel diaphragms between adjacent girders shall be installed as soon as possible and in conjunction with girder erection.
3. All costs associated with furnishing, fabricating, assembly and installation of diaphragms shall be included in the contract lump sum price for Structural Steel, Miscellaneous.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Δ Structural Steel, Miscellaneous	L.S.	Lump Sum

Δ For informational purposes only, the estimated weight of structural steel is 540 Lbs. for 3 diaphragms.

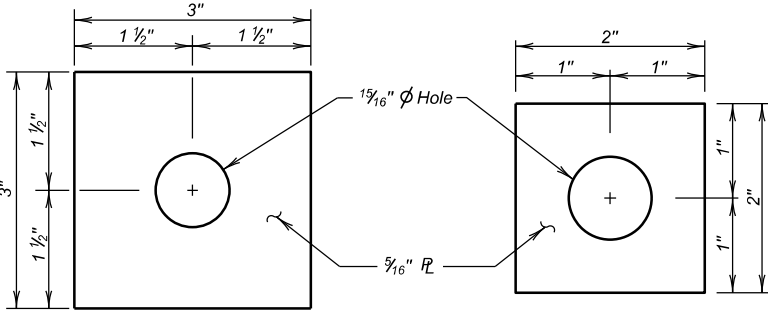
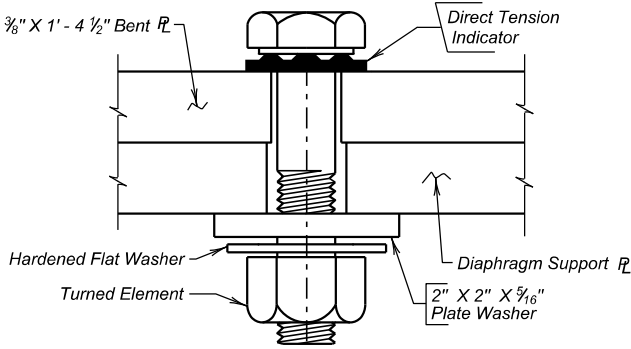
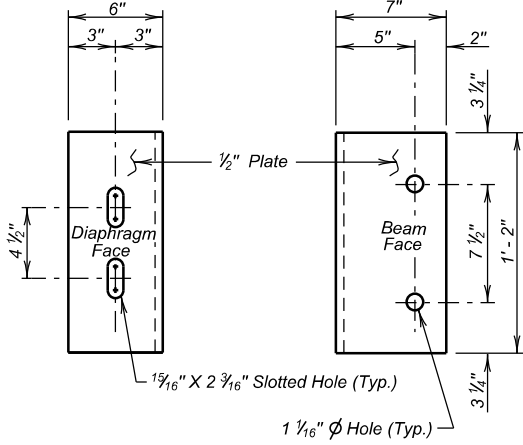


PLATE WASHER DETAILS



DIRECT TENSION INDICATOR
DETAIL



DIAPHRAGM SUPPORT PLATE

STEEL DIAPHRAGM DETAILS

FOR

96'-0" PRESTR. GIRDER BRIDGE

20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

JACKSON COUNTY

S. D. DEPT. OF TRANSPORTATION

APRIL 2025

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[illegible]

Diagram illustrating the dimensions and components of a splice plate connection:

- Overall width: $8\frac{1}{2}"$
- End distances: $4\frac{1}{4}"$ (each side)
- End offsets: $(-\frac{3}{4}" + 1\frac{1}{4}")$ (each side)
- Central gap: $2"$
- Inner offset: $2"(-\frac{3}{4}" + 1\frac{1}{4}")$
- Post Bolt Slot: $\frac{3}{4}" \times 2\frac{1}{2}"$
- Splice Bolt Slot: $29/32" \times 1\frac{1}{8}"$
- Direction of Traffic: Indicated by arrows pointing left.

Lap in the Direction of Traffic

4 Bolt Insert

3" 4 1/4" 4 1/4" 8 1/2" 4" 4" 2"

1" - 4 3/4"

1" Ø Hole (Typ.)

3/4" x 2 1/2" Post Bolt Slot

3 1/2" 1" - 1/4"

3 1/4"

Typical Location-Special End Shoe Washer-8 Required

Splice Bolt C Slots

1" Ø for Bolts,

Technical drawing showing a cross-section of a beam element (labeled "C Beam Element") and its supporting structure. The drawing includes dimensions and labels for various components:

- Top Section:**
 - Face of Rail
 - 1'-0" Min. (Horizontal dimension)
 - 2" (Vertical dimension)
 - 4" (Vertical dimension)
 - 4" (Vertical dimension)
 - 2'-3" (Vertical dimension)
 - 3" (Horizontal dimension)
 - 5 1/2" (Horizontal dimension)
 - 1'-5" (Vertical dimension)
- Supporting Structure:**
 - 4" x 3" Tube Member
 - 5/8" Ø Hex Head Bolts with Hex Head Nuts & Washers (ASTM A307)
 - 1 1/4" Ø x 2 1/2" Double Extra Strong Pipe Sleeve & Washer
 - W6x20
 - 1/2" (Horizontal dimension)
 - 1 3/4" (Horizontal dimension)
 - 2" x 2" x 5/16" (ASTM A36) Plate Washer (Detail D)
 - 10"x9" Plate (Detail B)
 - R2 (Tie to bottom of top mat)
 - 4 Bolts 3/4" Ø with Hex Nut & Washer ASTM A449
 - 5" (Horizontal dimension)
 - 5" (Horizontal dimension)
 - 9" x 8" x 3/8" Plate See Detail "A"
 - R1 (Tie to bottom of top mat)
 - 8 1/4" (Vertical dimension)

RECTANGULAR PLATE WASHER

Technical drawing of a shaft and pulley assembly. The shaft has a diameter of 1.062 inches and a length of 2 inches. The pulley has a diameter of 0.134 inches.

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DESIGNED BY SD	CK. DES. BY MI	DRAFTED BY SM	BRIDGE ENGINEER
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FOR BIDDING PURPOSES ONLY

KLJ STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	41	53

ESTIMATED QUANTITIES (For Two Abutments)		
ITEM	UNIT	QUANTITY
Granular Bridge End Backfill	Cu. Yd.	26.7
Bridge End Embankment	Cu. Yd.	207
2" Rigid Conduit, Schedule 40	Ft.	16
Perforated Geocell	Sq. Ft.	380
Select Granular Backfill	Ton	13.3

Items 1 thru 2 are approximate quantities and contained in the 2" Rigid Conduit, Schedule 40 and are for information only.

- 16 ft. 2" dia. Rigid Conduit, Schedule 40
- 240 sq. ft. Vertical Composite Drain.

Items 3 and 4 are approximate quantities and contained in the Granular Bridge End Backfill and are for information only.

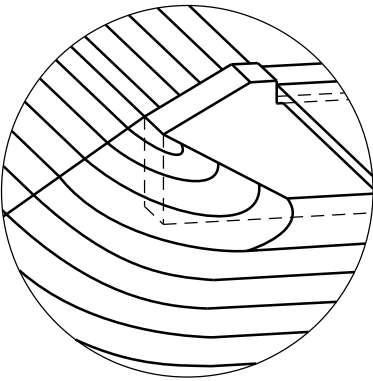
- 204 sq. ft. 6 mil polyethylene Sheeting, not including laps
- 53 sq. yd. Type B Drainage Fabric.

Shrinkage Factor of 1.25 used.

For estimating purposes only, a factor of 1.89 Tons/Cu. Yds. was used to convert Cu. Yds. to Tons.

Provide hole in vertical composite drain and 6 mil polyethylene sheeting to provide drainage through weep holes.

See PERFORATED GEOCELL notes for payment information.



SPILL CONE DETAIL
AT ABUTMENT

DETAILS OF BRIDGE END BACKFILL
FOR

96'-0" PRESTR. GIRDER BRIDGE

20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

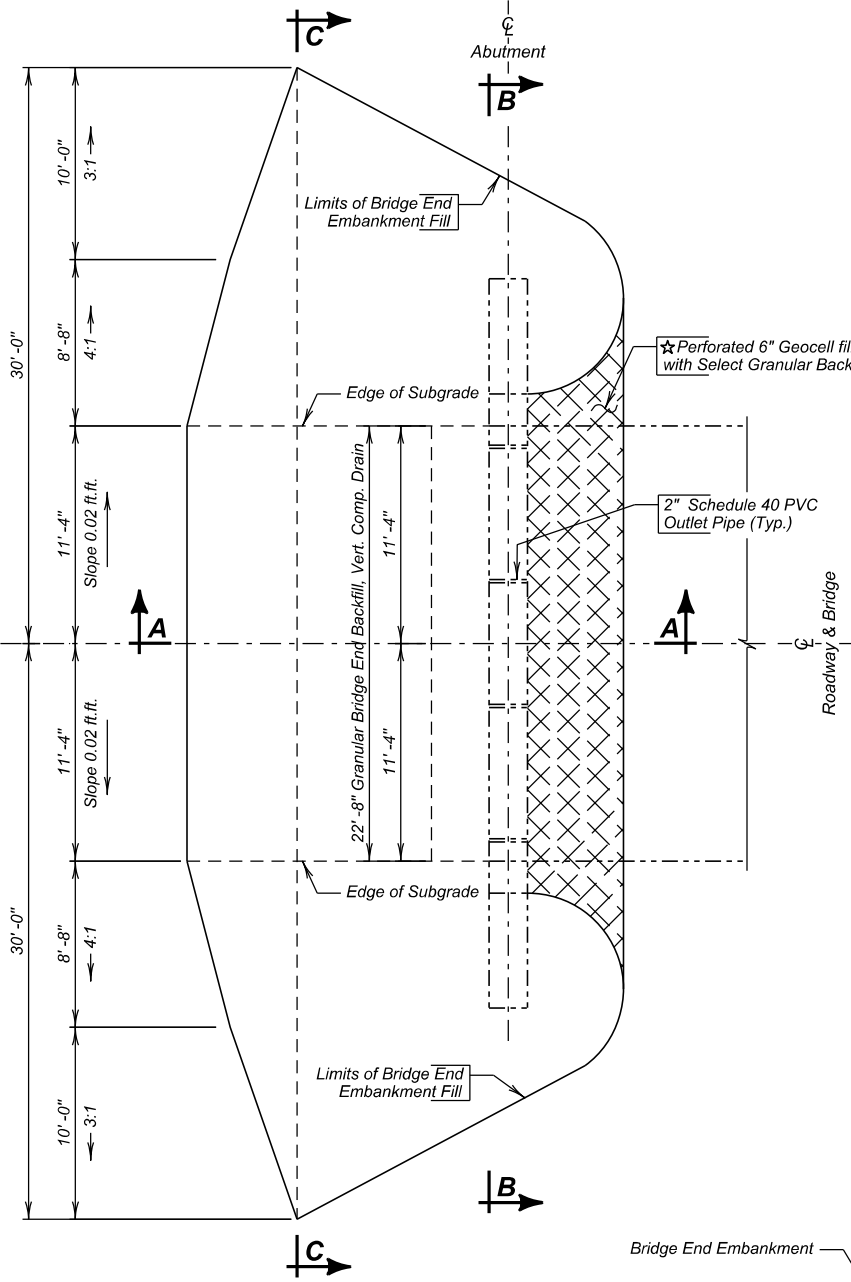
JACKSON COUNTY

S. D. DEPT. OF TRANSPORTATION

APRIL 2025

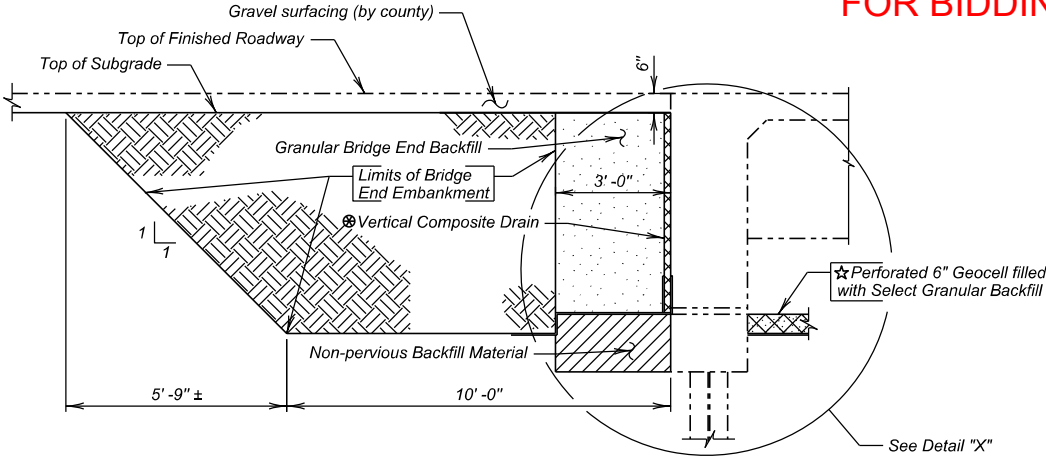
13 OF 16

DESIGNED BY SD	CK. DES. BY MI	DRAFTED BY SM	BRIDGE ENGINEER
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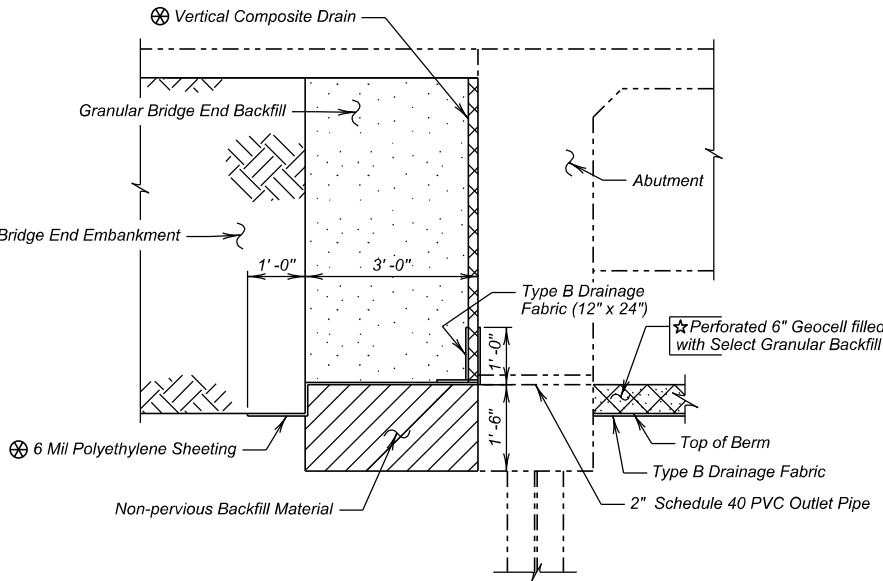


PLAN

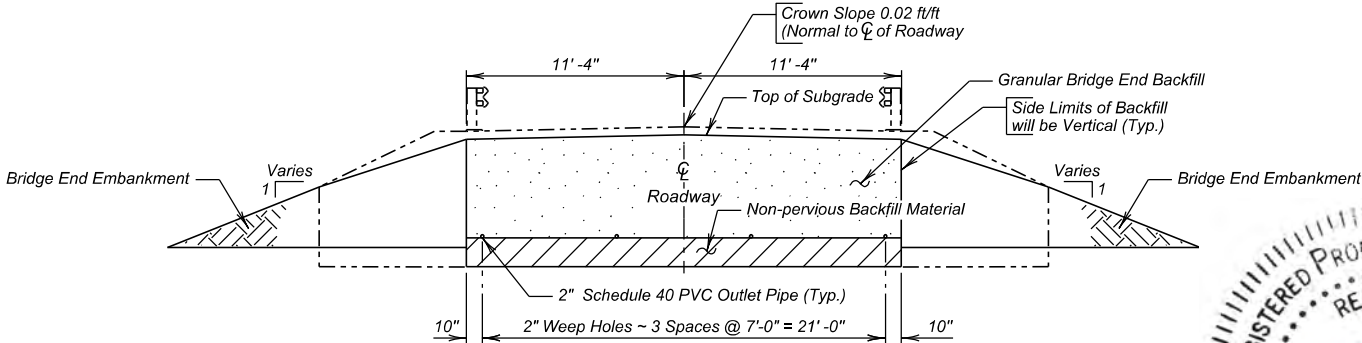
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Abut. No. 2 similar by opposite hand)



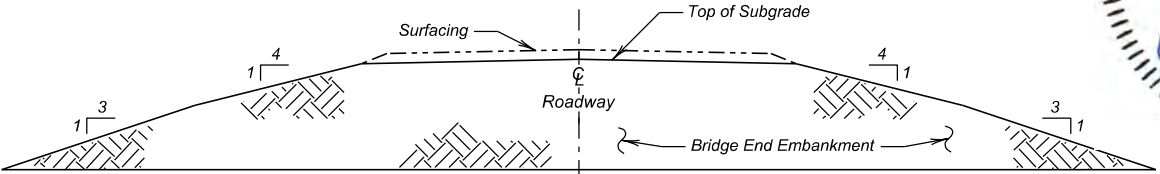
SEC. A-A
(at Rdwy.)



DETAIL "X"



SEC. B-B



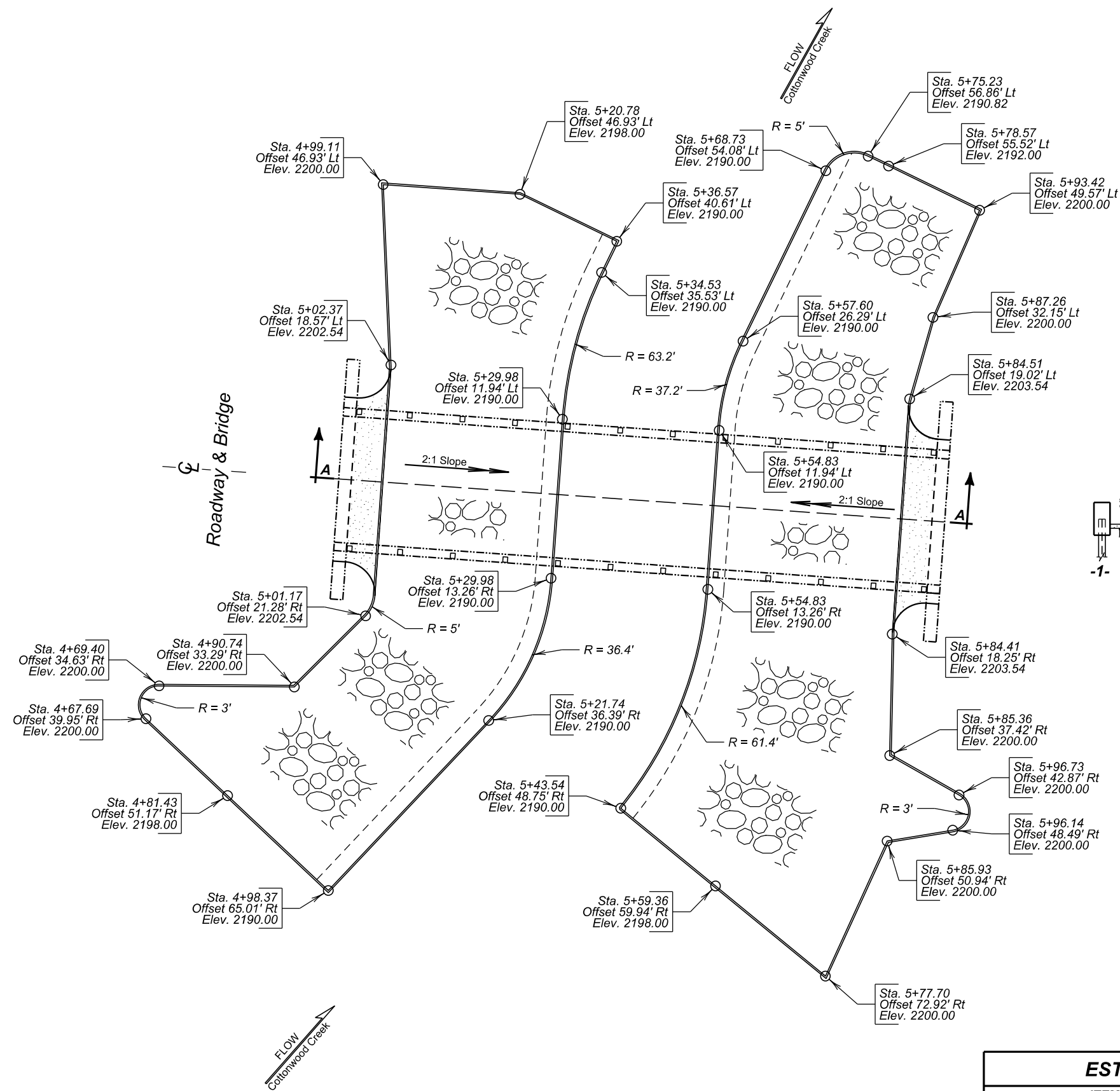
SEC. C-C



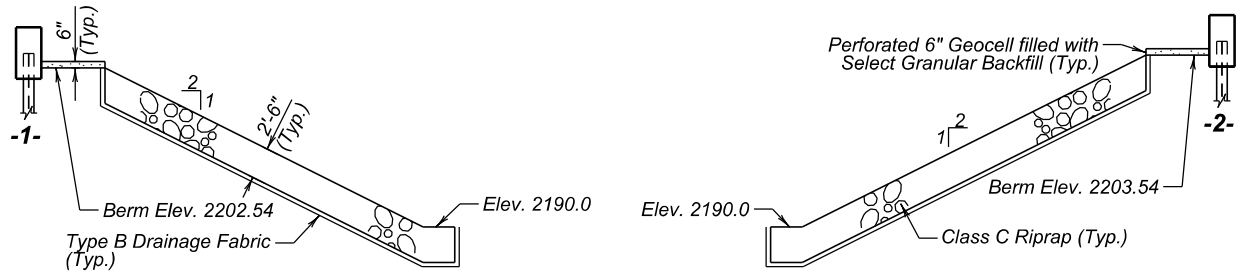
The elevations shown in these plans are based on the National Geodetic Survey (NGS) North American Vertical Datum of 1988 (NAVD88).

FOR BIDDING PURPOSES ONLY

KLI STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	BRO-B 8036(06)	42	53



PLAN
(Riprap Details)



Section A-A



ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Class C Riprap	Ton	987.5
Overburden Excavation For Riprap	Cu. Yd.	540
Type B Drainage Fabric	Sq. Yd.	1021

RIPRAP LAYOUT
FOR
96'-0" PRESTR. GIRDER BRIDGE
20'-4" ROADWAY
OVER COTTONWOOD CREEK
STA. 4+95.40 to STA. 5+91.40
STR. NO. 36-273-191
PCN 09MD

SEC. 10-T43N-R36W
0° SKEW
BRO-B 8036(06)
HL-93

JACKSON COUNTY
S. D. DEPT. OF TRANSPORTATION

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Year Plate See Note 2 (c)

Year Plate

7'- 6" (Single Slope) or 5'- 6" (Jersey)

End Bridge

Year Plate See Note 2 (c)

Year Plate

6"

End Bridge

BARRIER
(With Endblock)

JERSEY BARRIER

Year Plate See Note 2 (c)

Year Plate

6"

End Bridge

TYPE B CURB

SINGLE SLOPE BARRIER

Sheet 1 Of 1

***S
D
D
O
T***

YEAR PLATE DETAILS

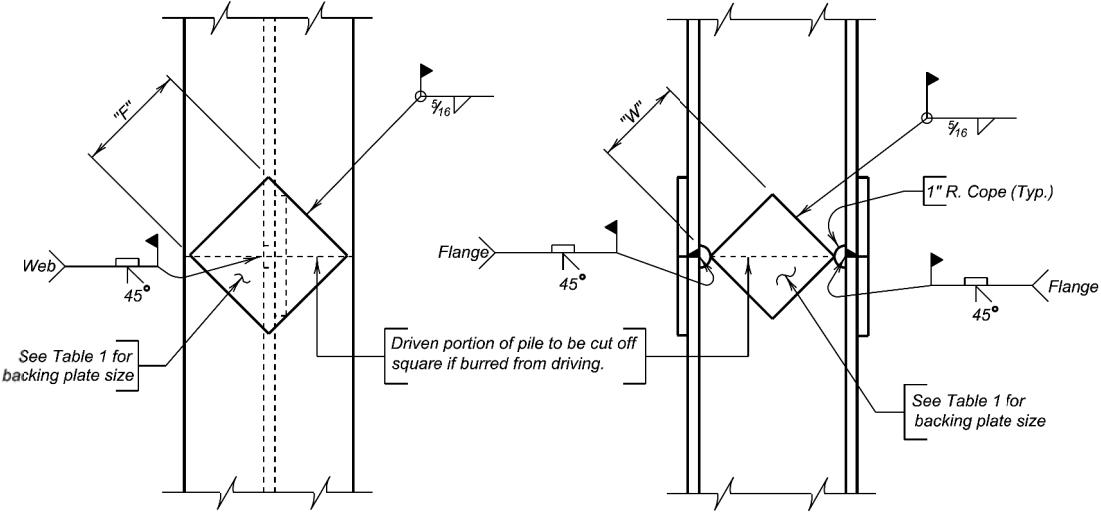


June 26, 2012

Sheet 1 of 1

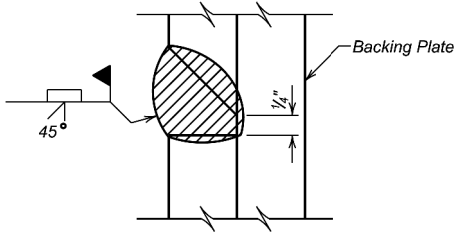
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D
D
O
T**

BRIDGE SURVEY MARKER



NOTE:
Prepare joint surfaces lower end of upper section on the ground and weld on backing plates; then place upper section on lower section and weld.

COMPLETE JOINT PENETRATION WELD DETAIL



GENERAL NOTES:

- Steel for backing plates shall conform to ASTM A709 Grade 50.
- Welding and weld inspection shall be in conformance with AWS D1.5 (Current Year) Bridge Welding Code - Steel.
- Welder must be certified and registered with the SDDOT.
- Backing plate shall at a minimum be as thick as the web of the pile being spliced.
- Web must be coped with 1 inch radius.
- Submit Welding Procedure Specification (WPS) to Bridge Construction Engineer for approval prior to pile driving.

PILE	10"	12"	14"
"F" FLANGE	6 1/2"	8"	10"
"W" WEB	4 3/4"	6 1/4"	7 1/2"

Published Date: 2025

S

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T

STEEL PILE SPLICE DETAILS

December 23, 2012

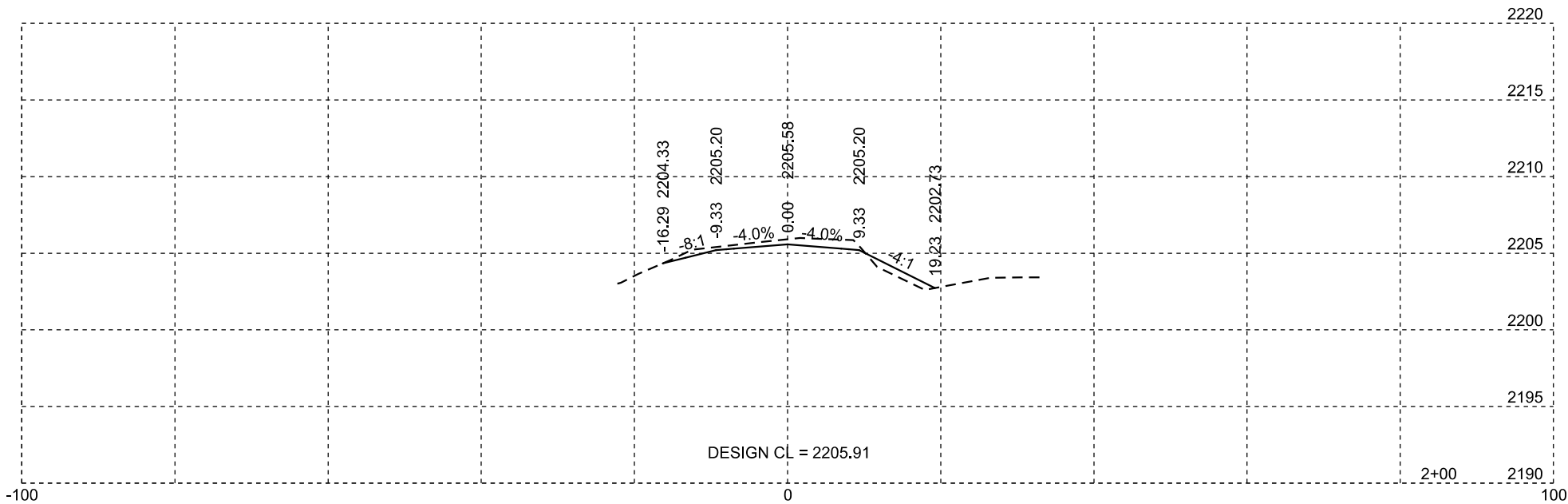
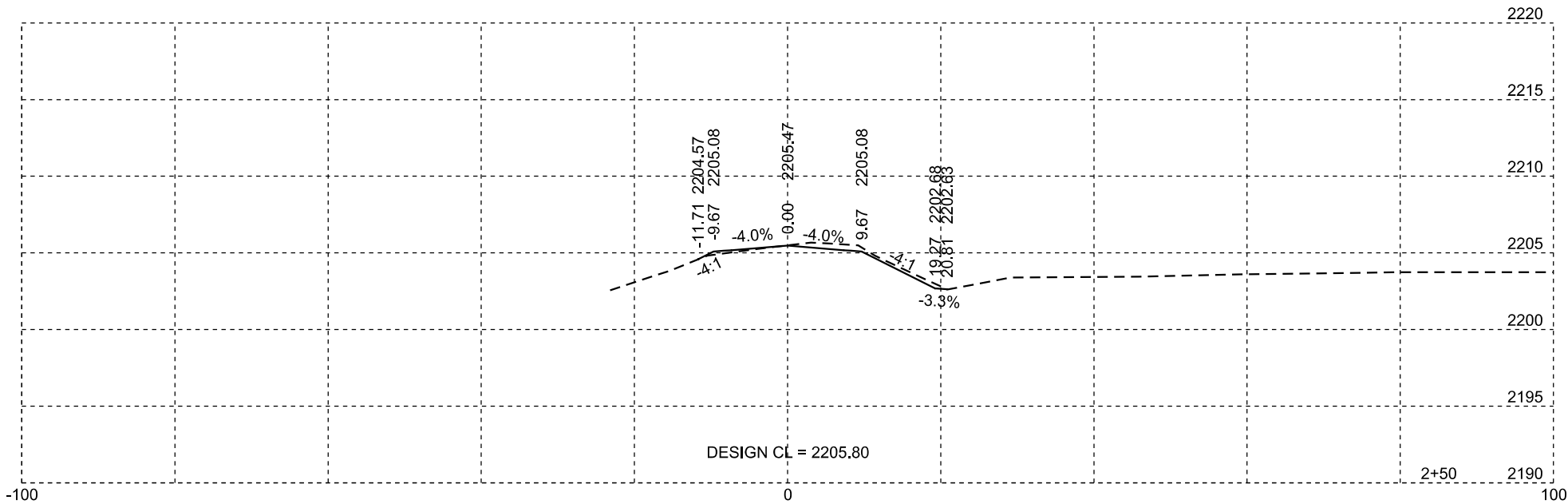
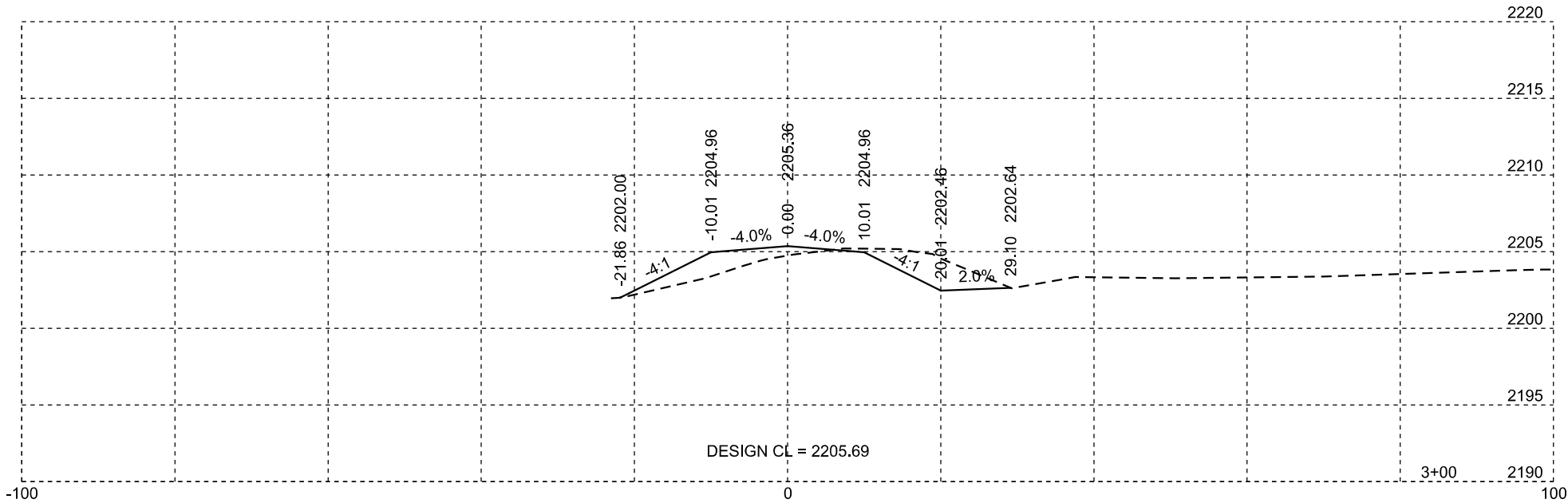
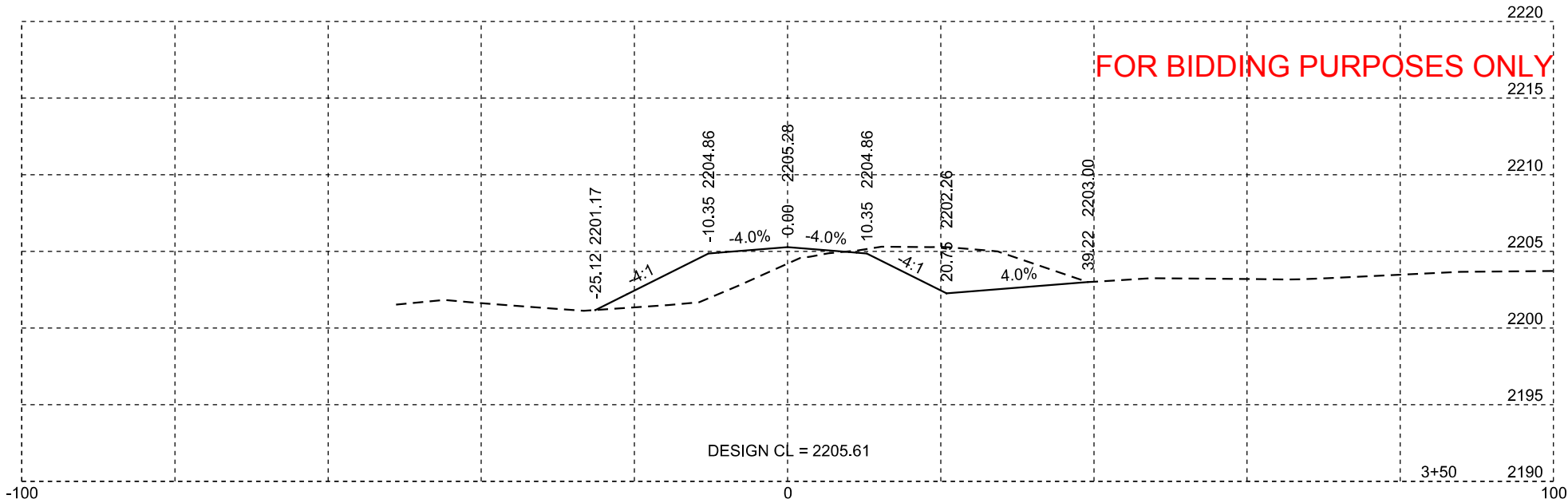
PLATE NUMBER
510.40

Sheet 1 of 1



 KLJ	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	45	53

Plotting Date: 6/28/2024

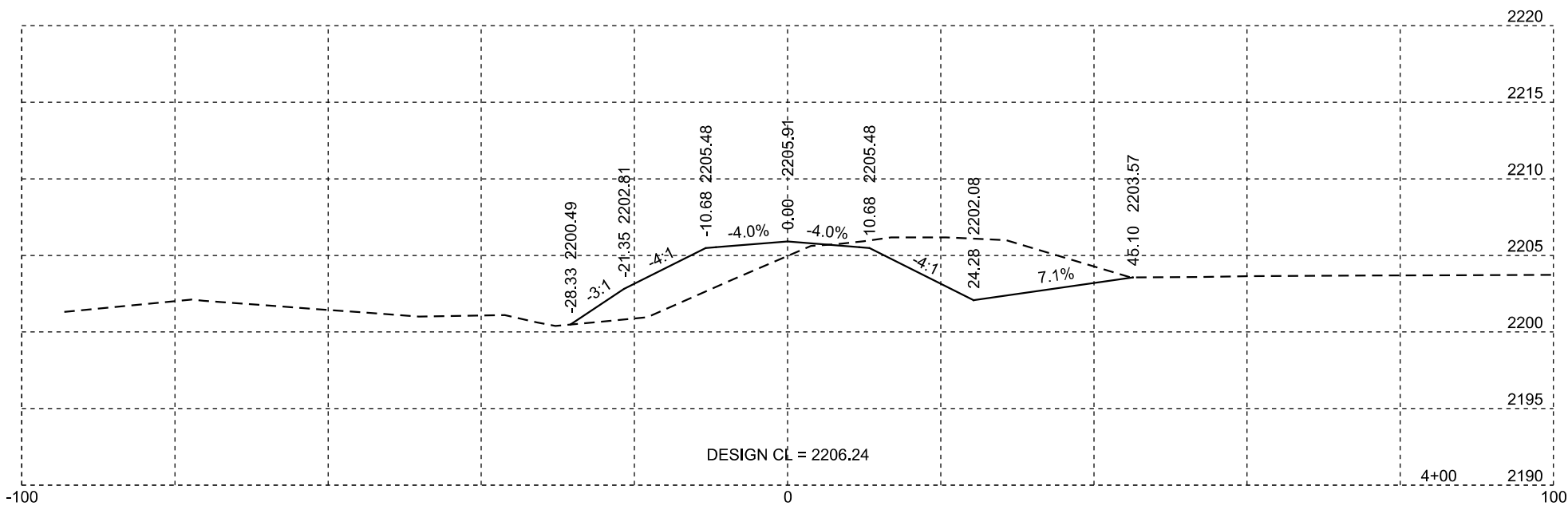
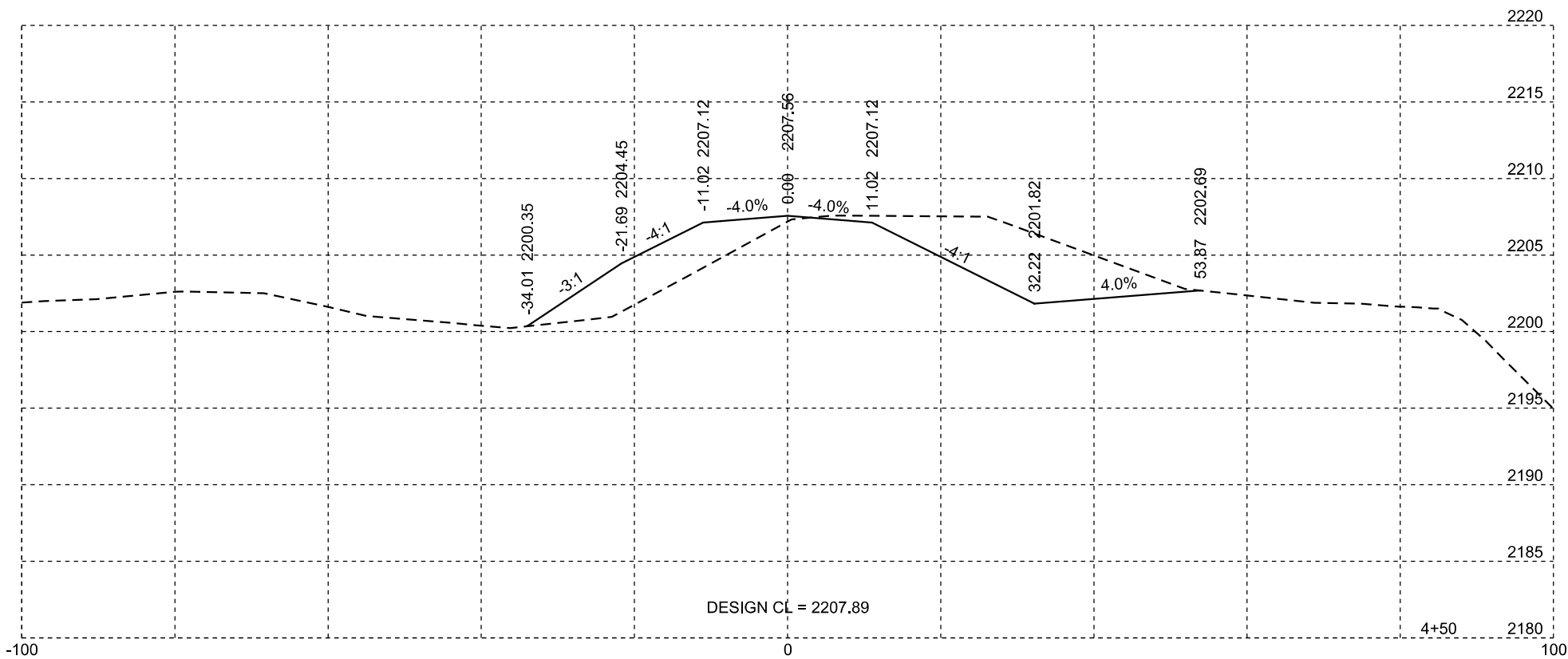
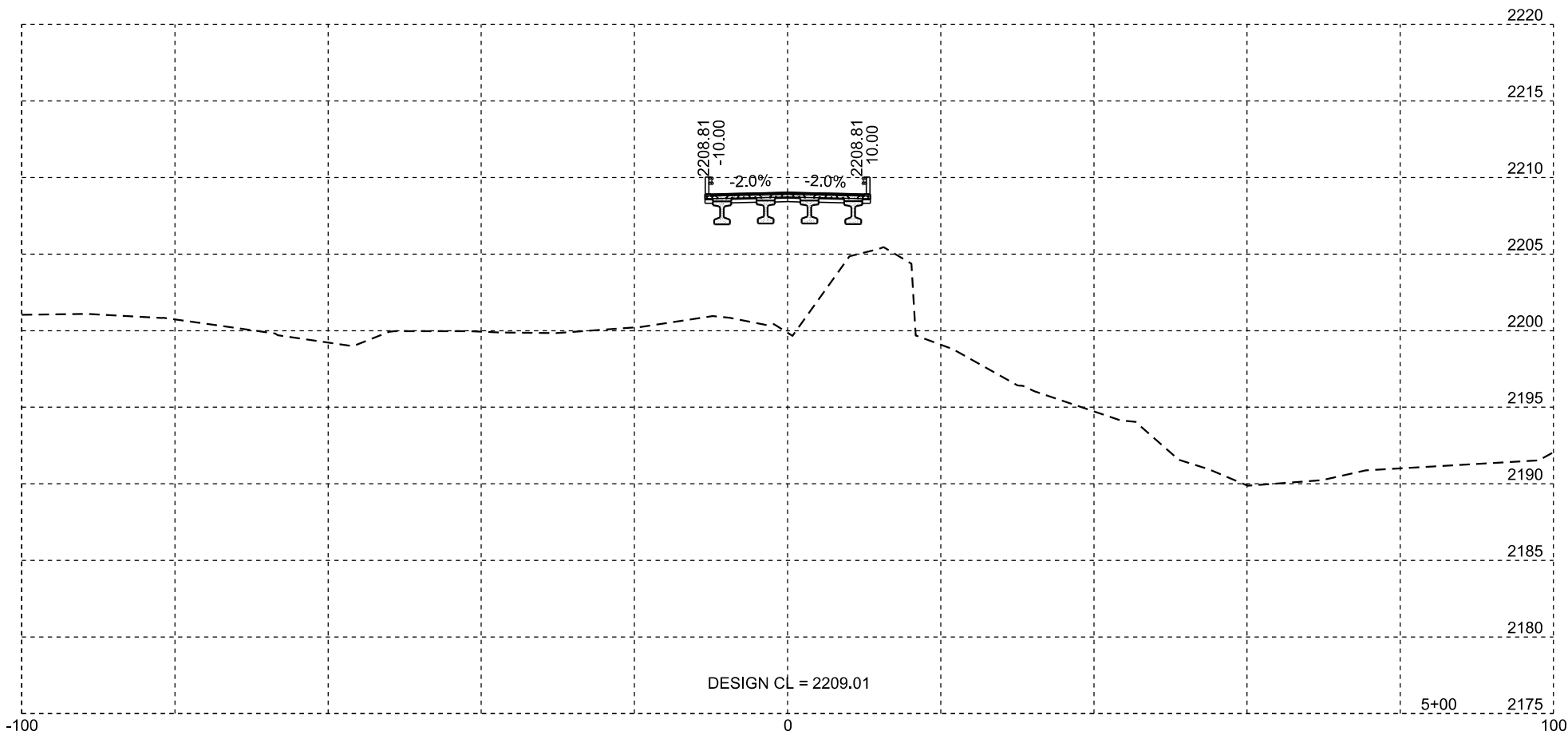




 KLJ	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	46	53

Plotting Date: 6/28/2024

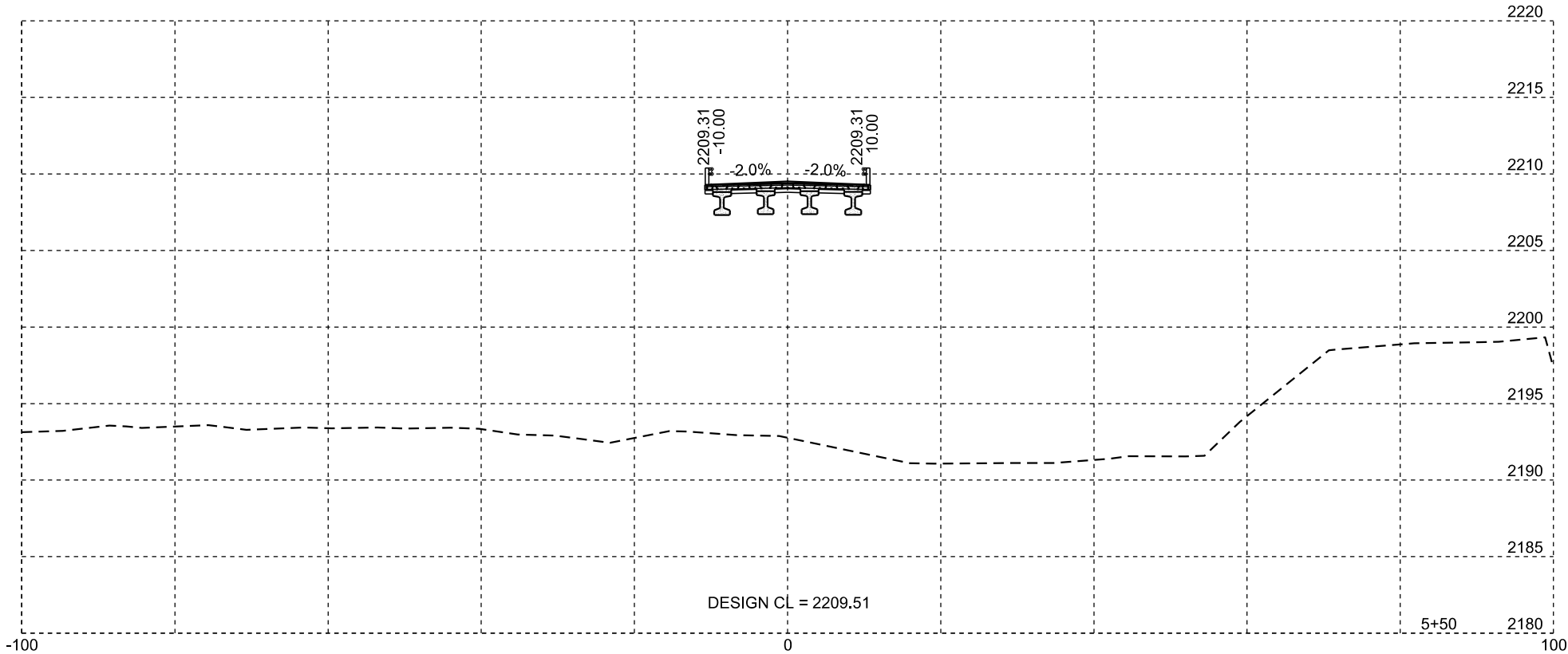
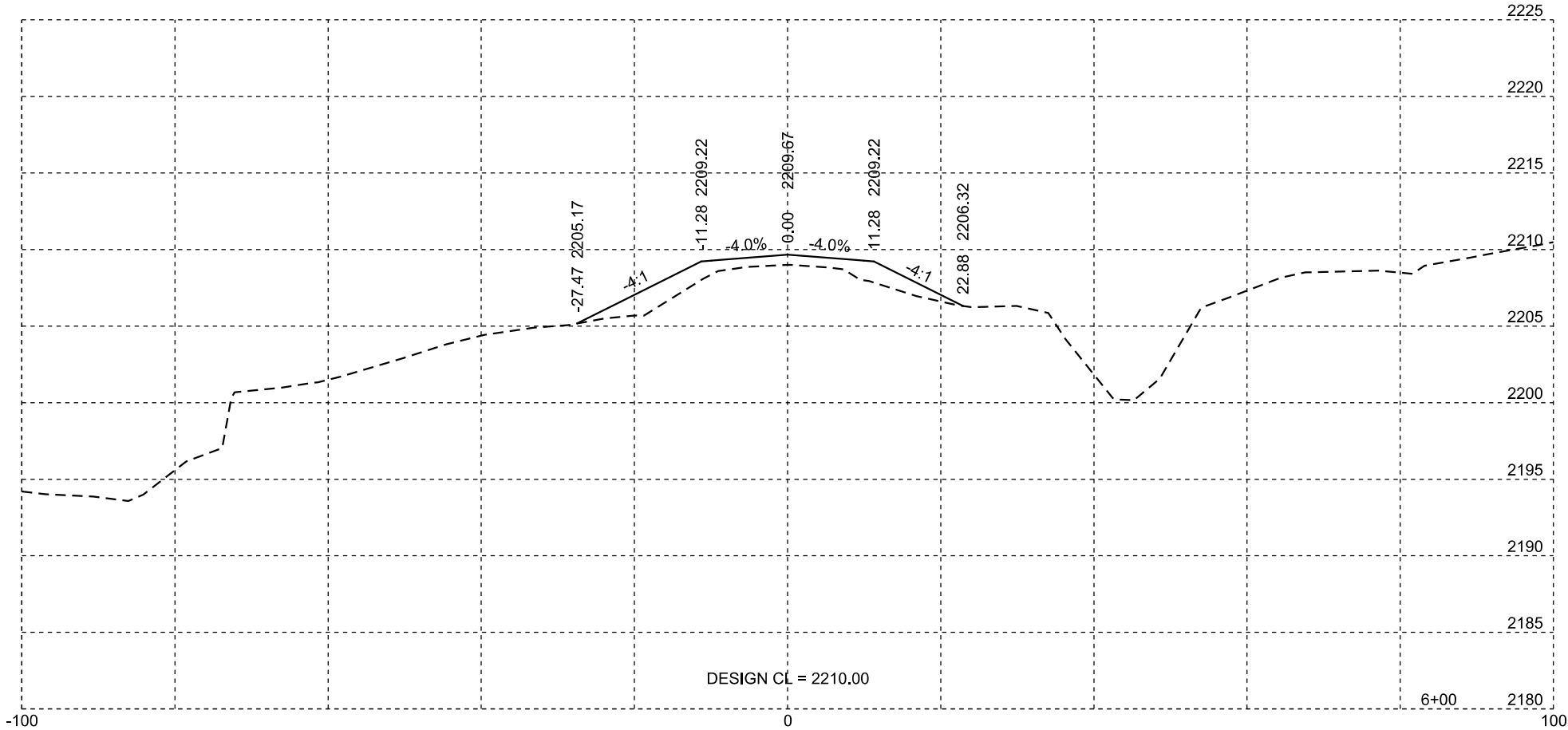
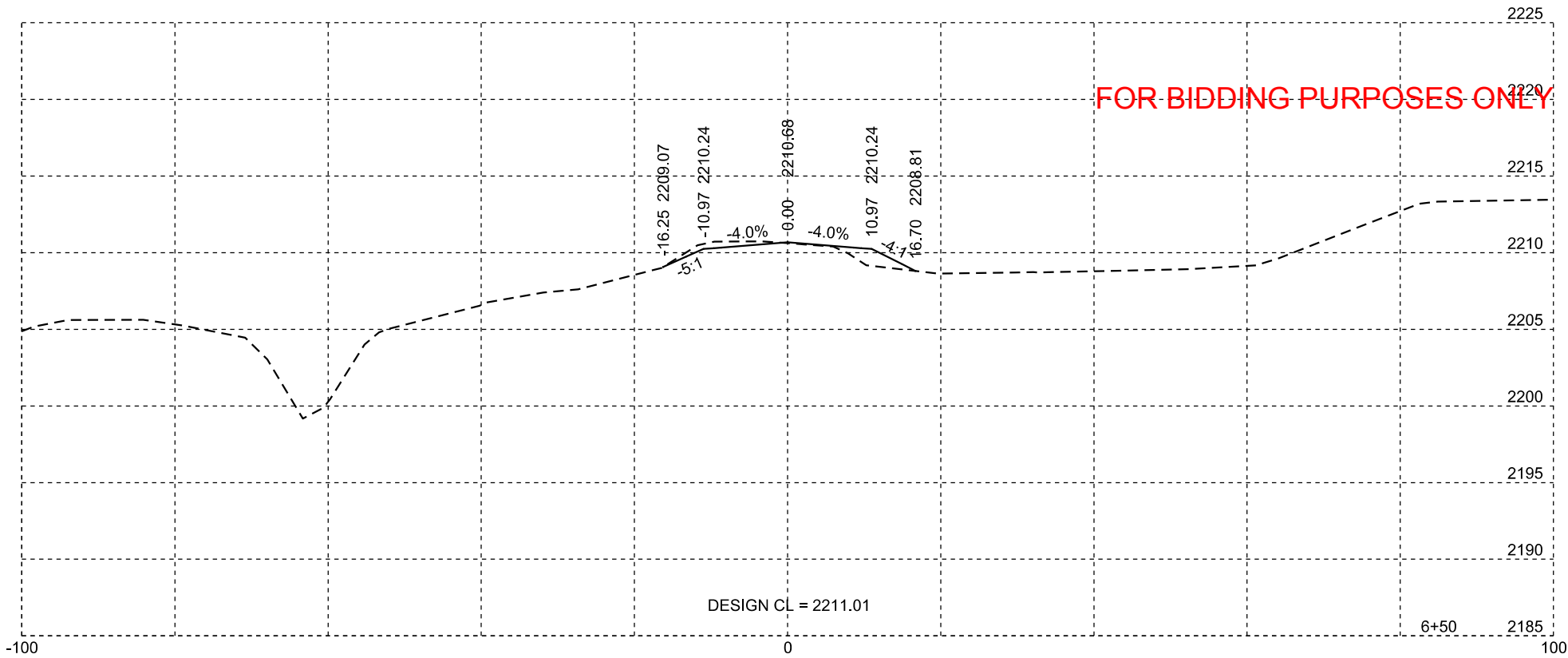
FOR BIDDING PURPOSES ONLY





 KLJ	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	47	53

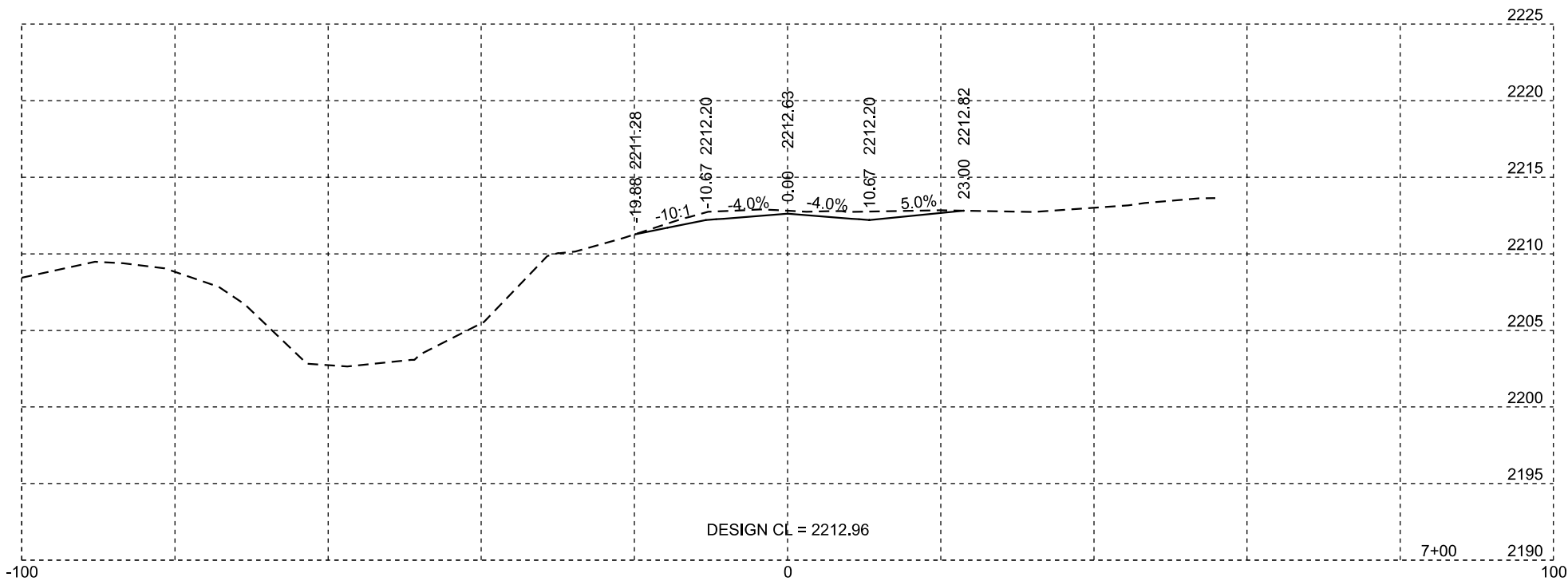
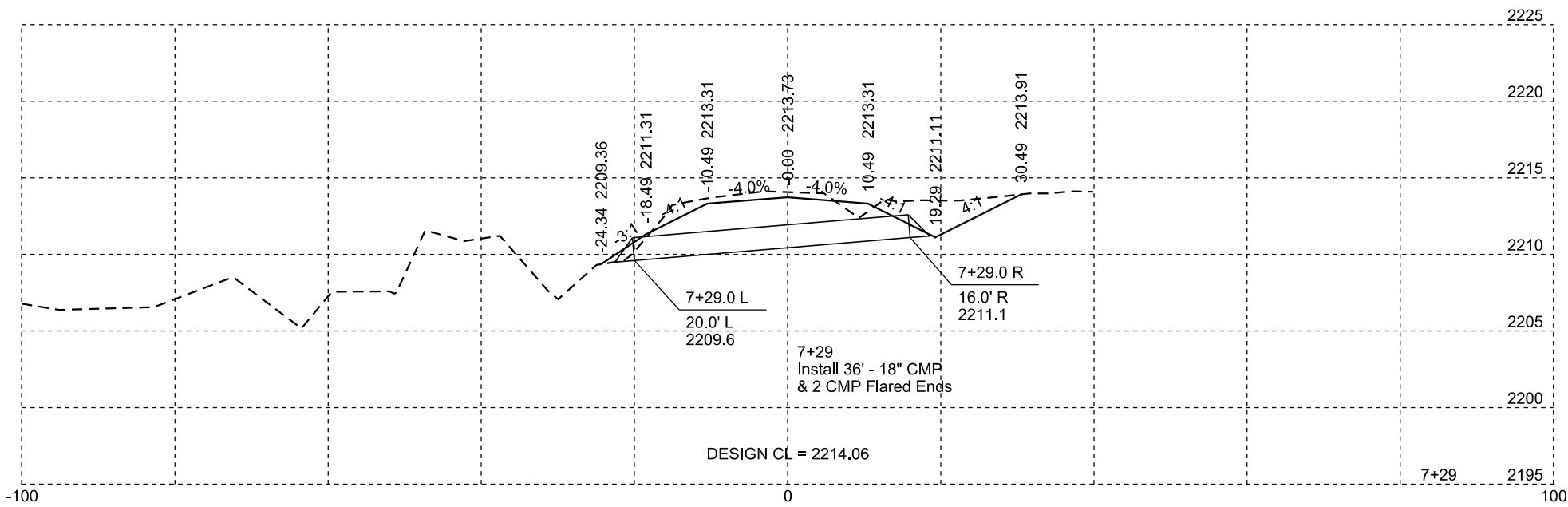
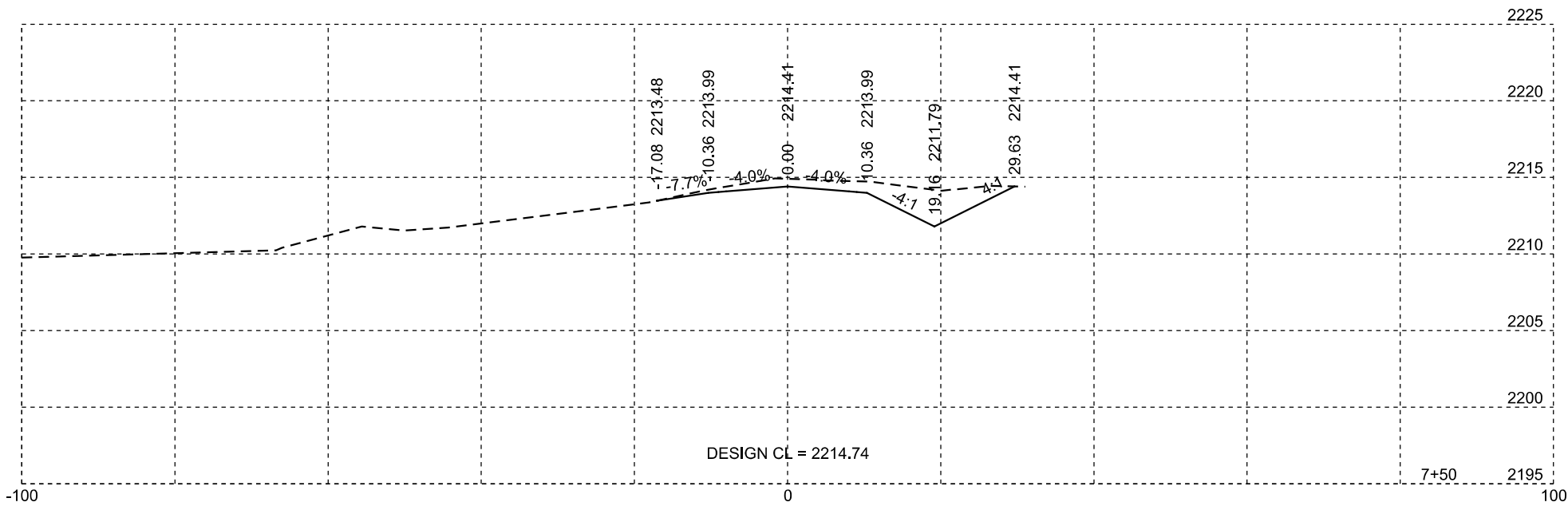
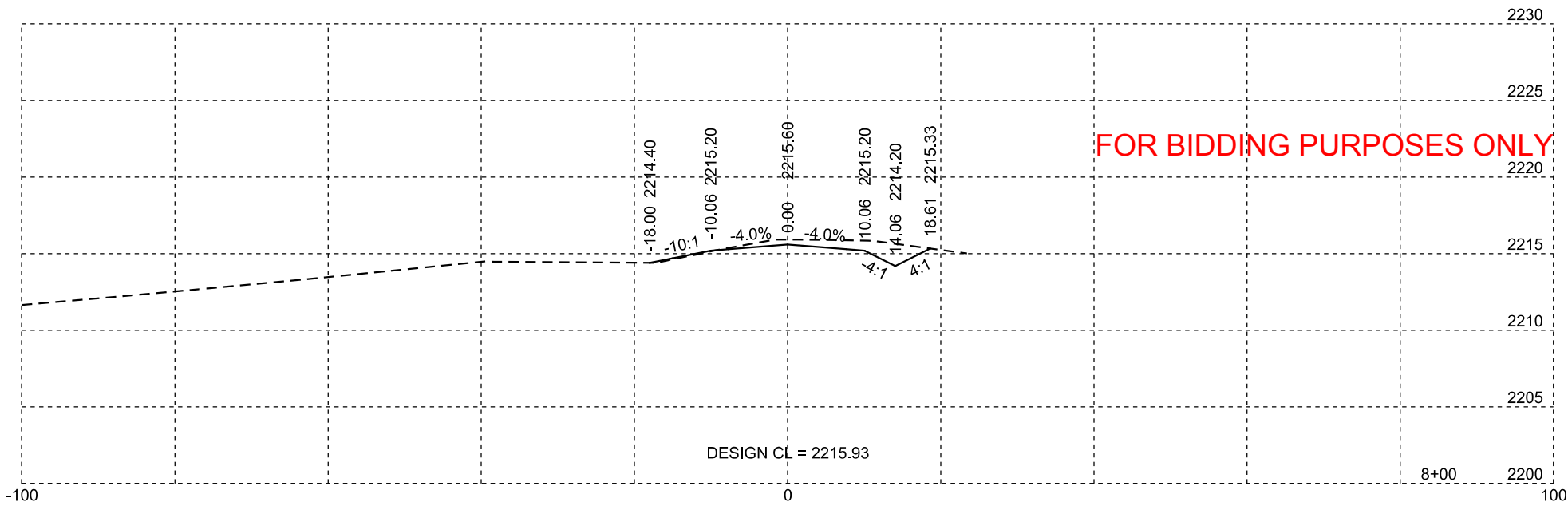
Plotting Date: 6/28/2024





 KLJ	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	48	53

Plotting Date: 6/28/2024

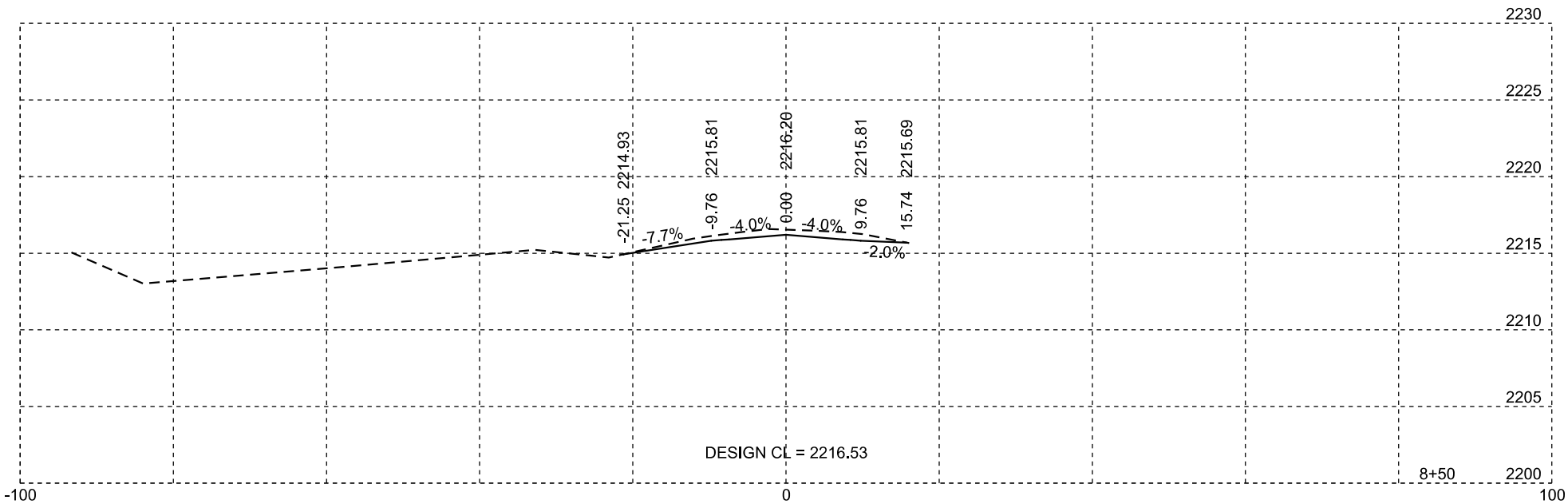




 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	49	53

Plotting Date: 6/28/2024

FOR BIDDING PURPOSES ONLY

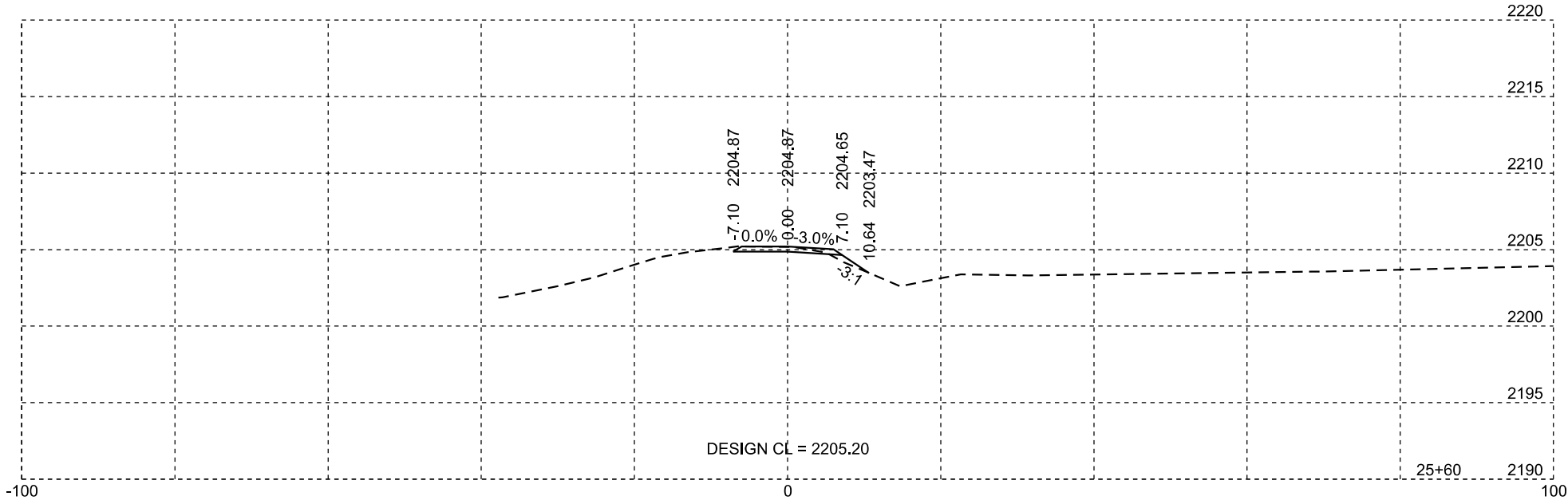
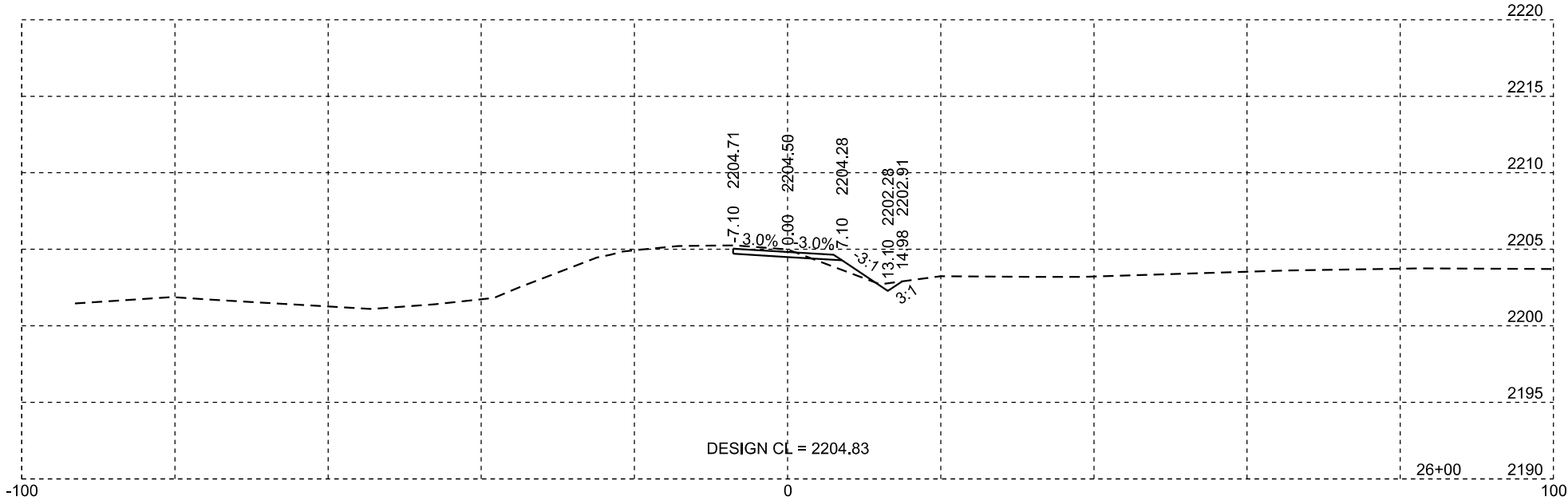
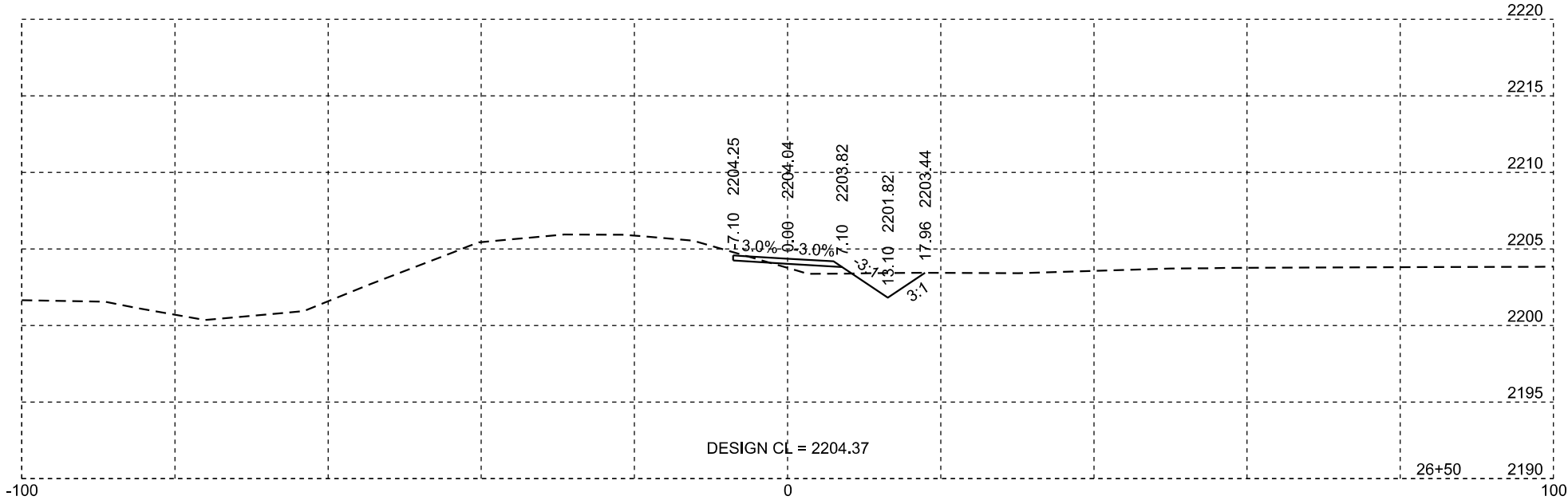
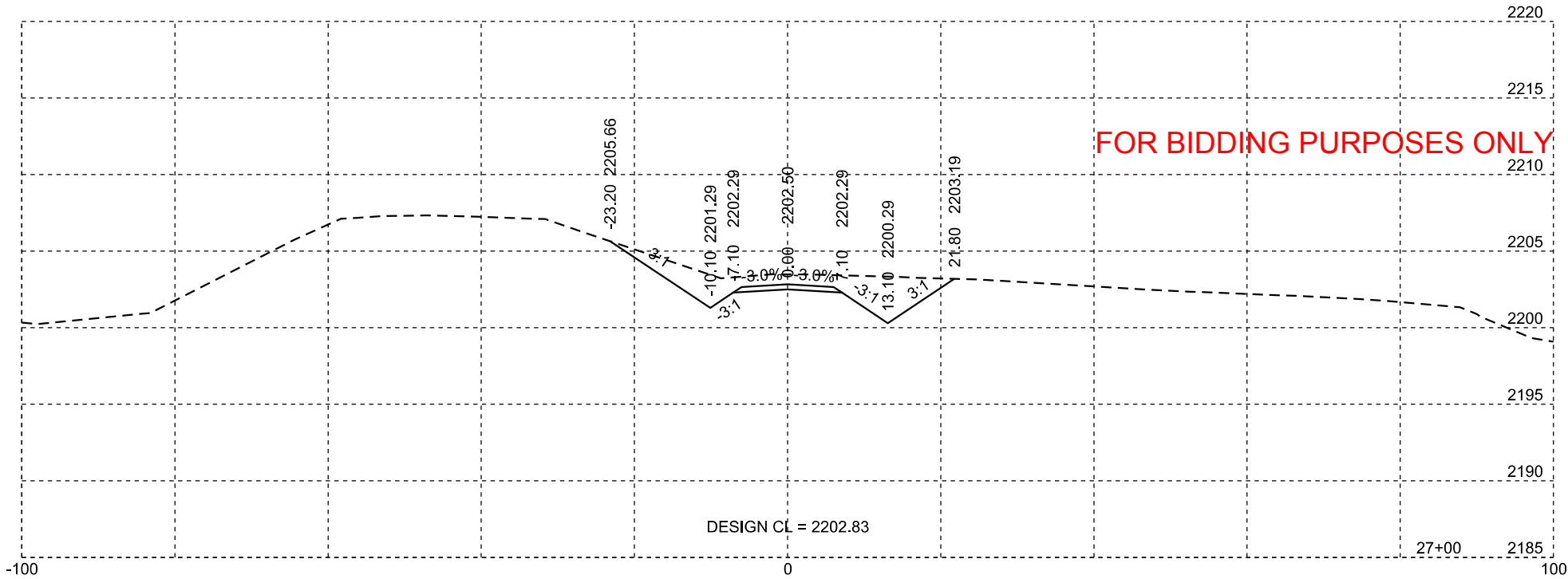




TRAFFIC DIVERSION

 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	50	53

Plotting Date: 6/28/2024



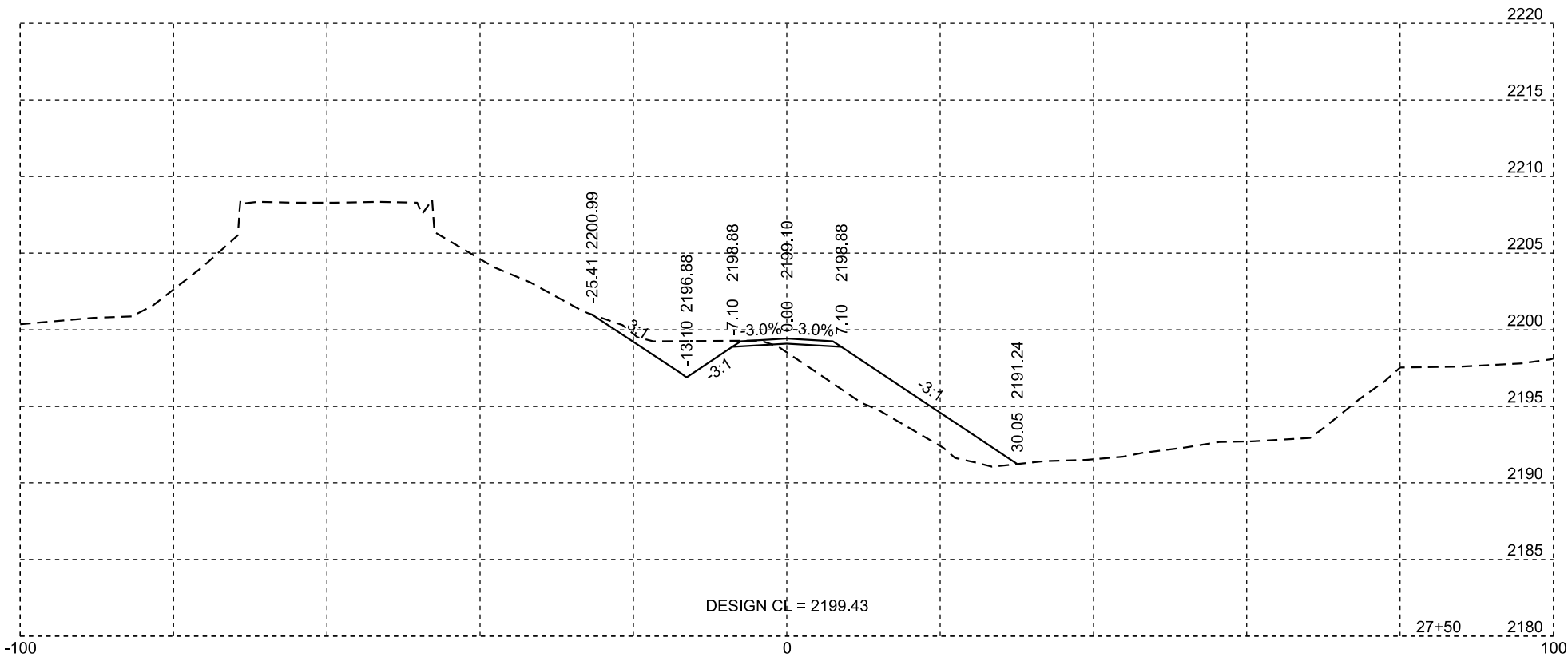
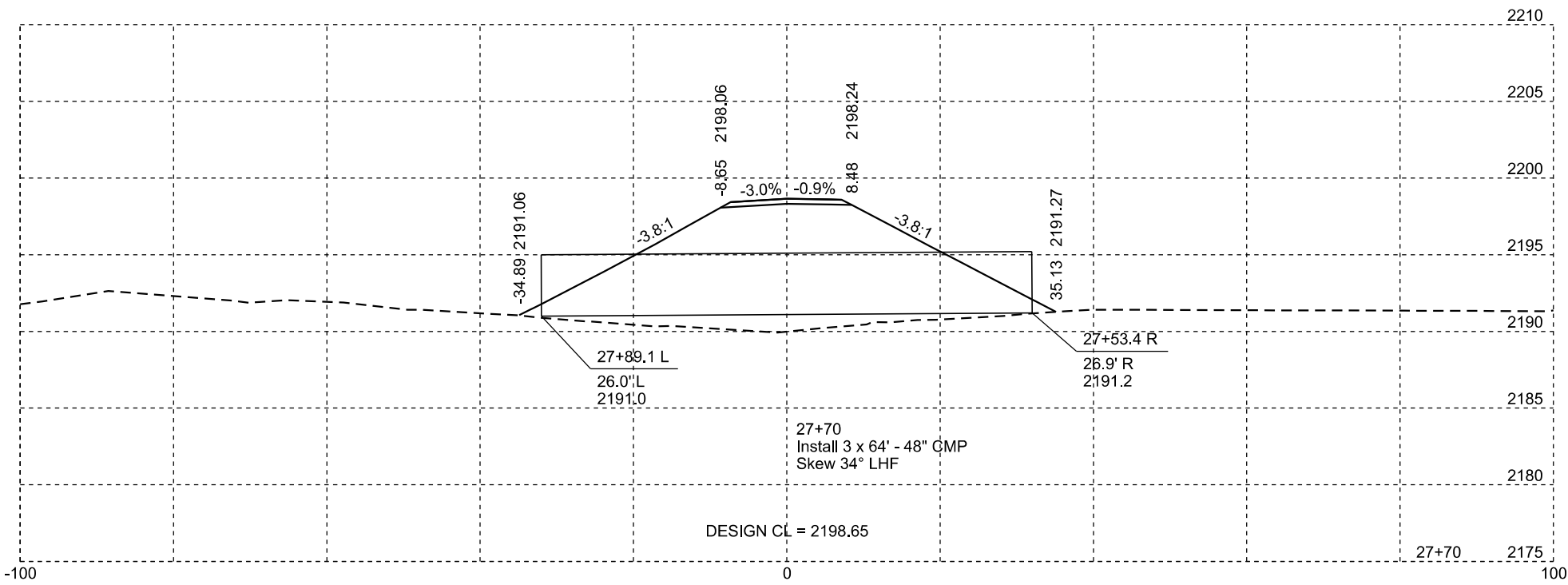
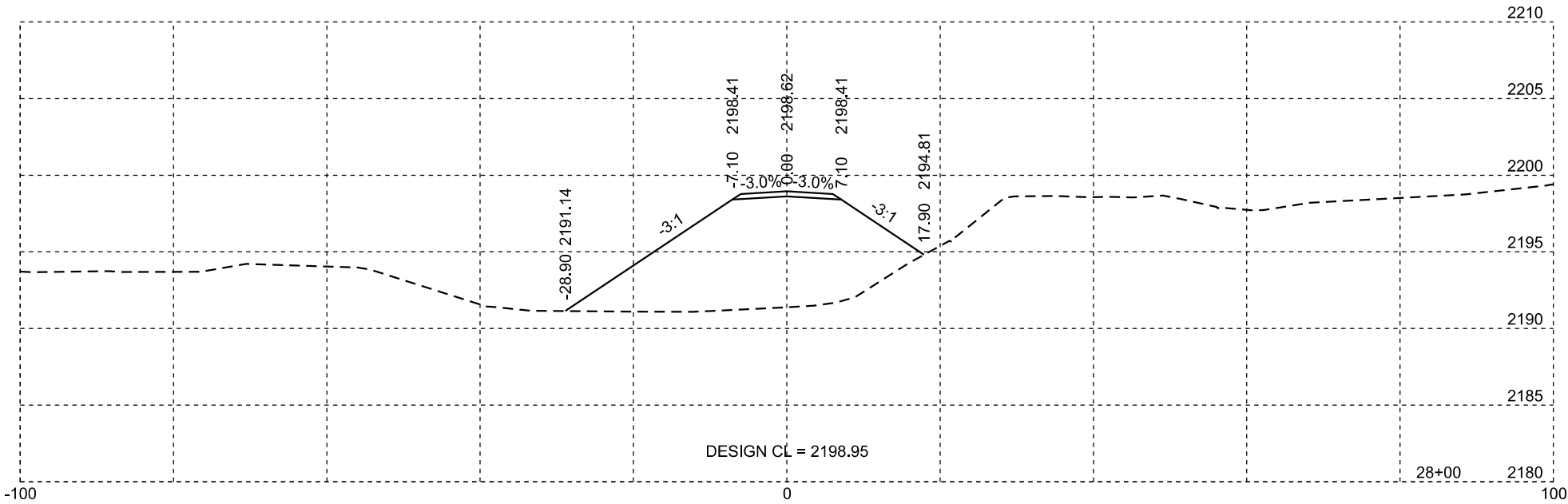


TRAFFIC DIVERSION

 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	51	53

Plotting Date: 6/28/2024

FOR BIDDING PURPOSES ONLY



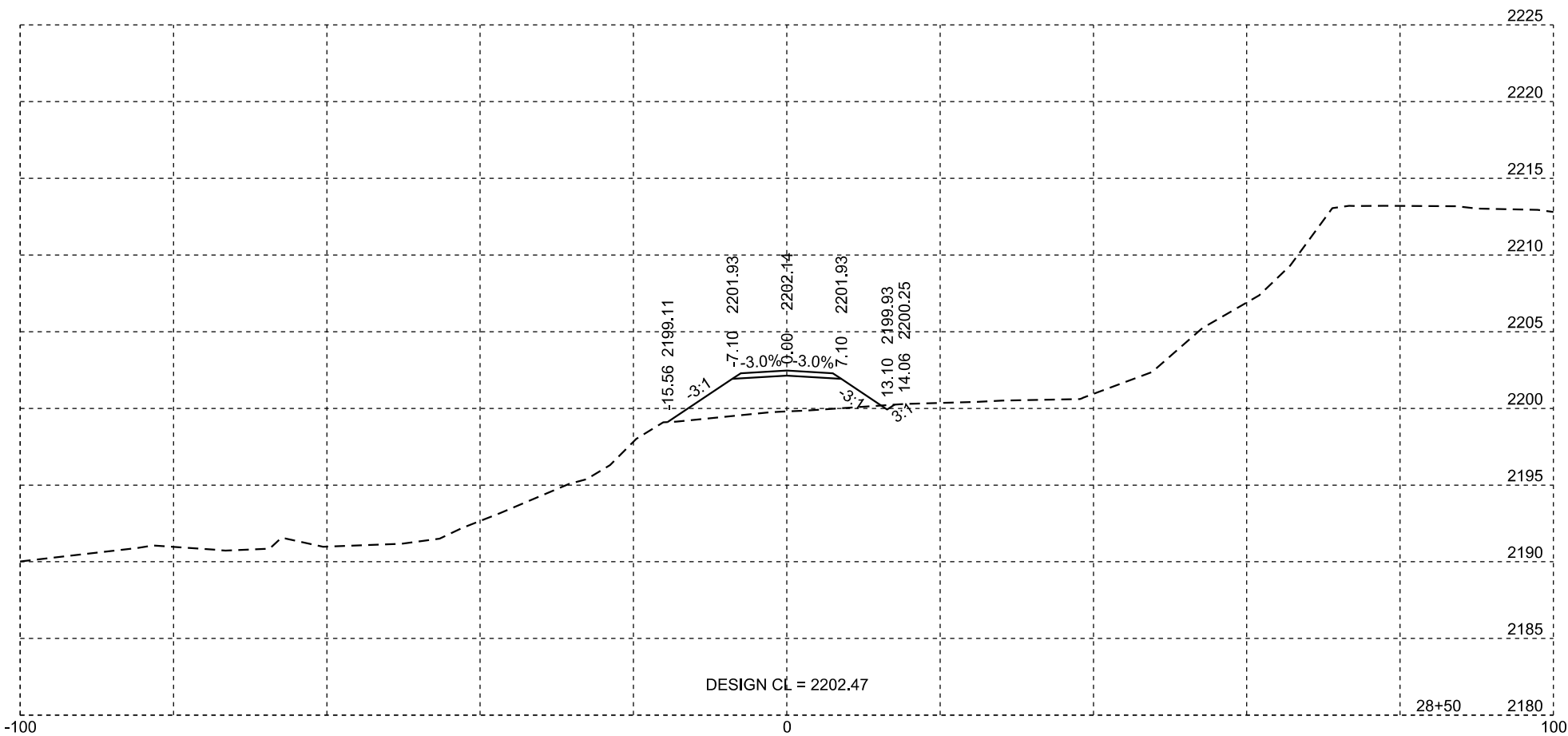
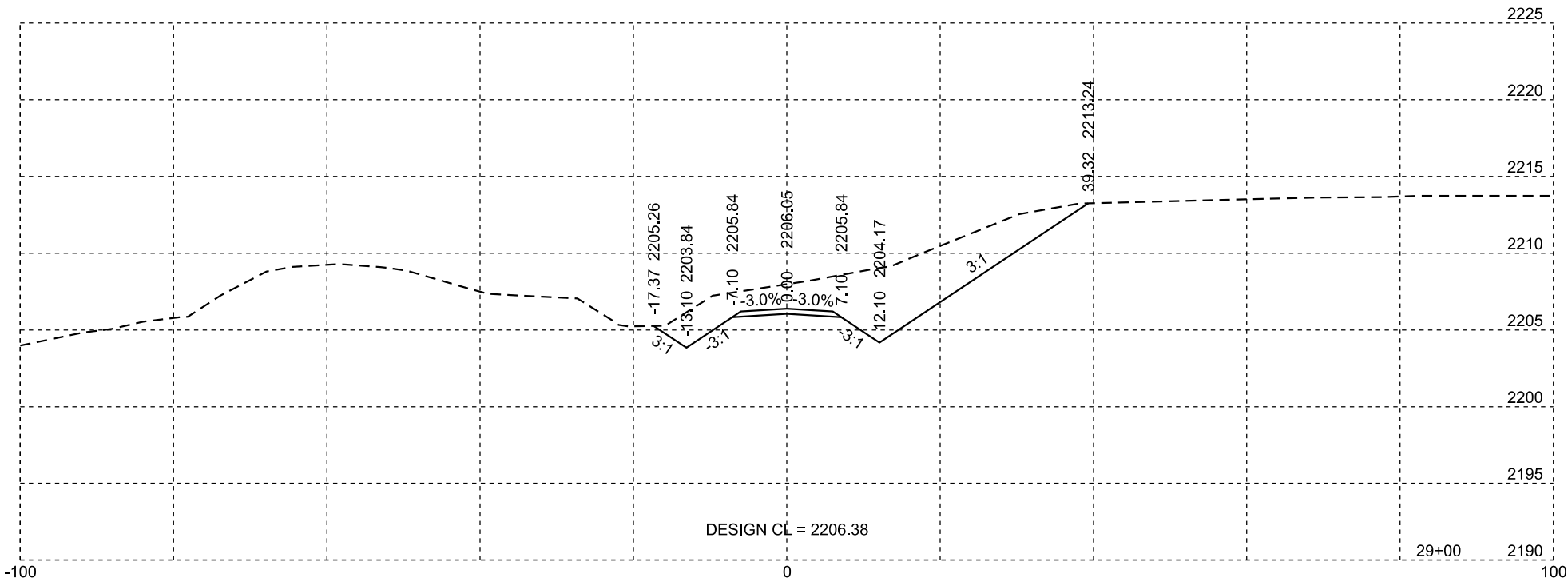
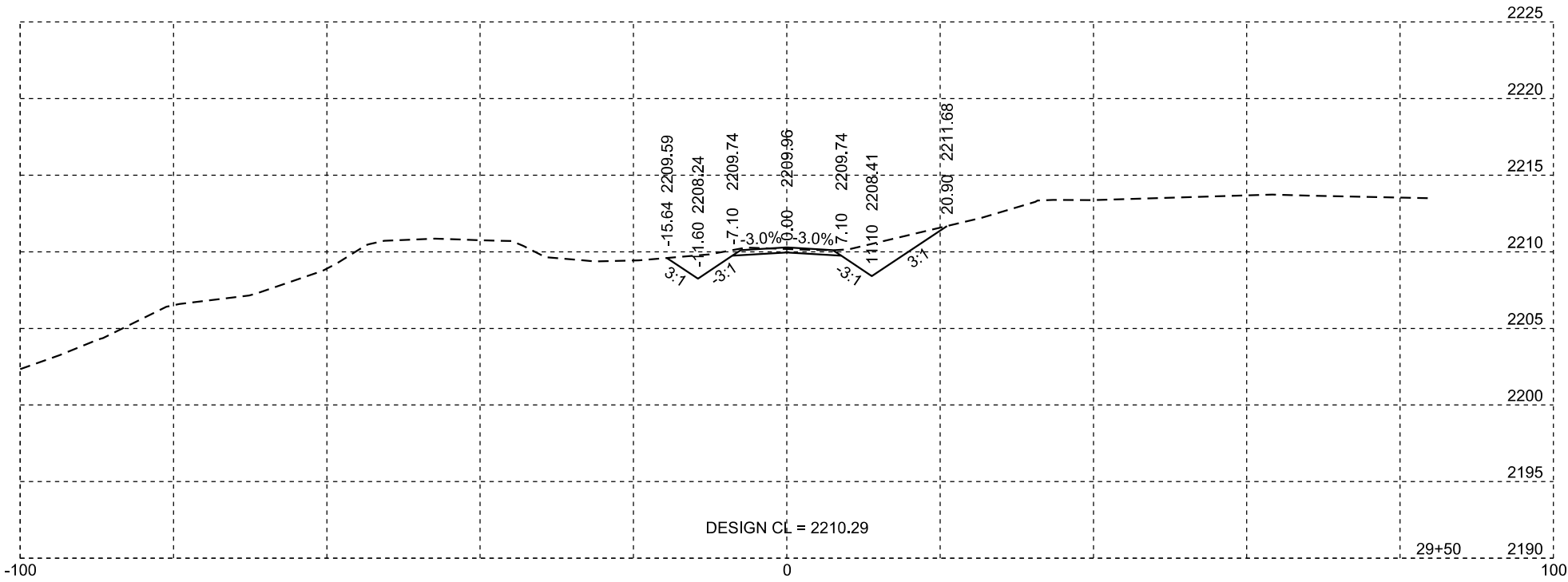


TRAFFIC DIVERSION

 STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8036(06)	52	53

Plotting Date: 6/28/2024

FOR BIDDING PURPOSES ONLY





TRAFFIC DIVERSION

	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		BRO-B 8036(06)	53	53

Plotting Date: 6/28/2024

