

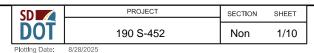
Project Location MRM 0.12 to 0.17

STATE OF SOUTH DAKOTA **DEPARTMENT OF TRANSPORTATION** PLANS FOR PROPOSED

190 S-452 **INTERSTATE I-190** PENNINGTON COUNTY

Riprap & Culvert Grate Installation

PCN i7YC



INDEX OF SHEETS

Sheet 1: Sheet 2-3: Sheet 4: Sheet 5-6: Sheet 7-8: Shee 9-10:

Title Sheet
Estimate of Quantites and Notes
Plan Sheet
Culvert Grate Detail
Orignal Construction Plans
Standard Plates





DESIGN DESIGNATION

11250 16301 1715 50.0% 1.0% 2.1%

STORM WATER PERMIT

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E1140	Remove Concrete Sidewalk	52.0	SqYd
110E1700	Remove Silt Fence	115	Ft
450E8500	Trash Guard, Furnish	2	Each
450E8501	Trash Guard, Install	2	Each
634E0110	Traffic Control Signs	32.0	SqFt
700E1200	Partially Grouted Class B Riprap	235.0	Ton
734E0602	Low Flow Silt Fence	115	Ft
734E0610	Mucking Silt Fence	8	CuYd
734E0620	Repair Silt Fence	29	Ft
831E0110	Type B Drainage Fabric	245	SqYd

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 E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

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:

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

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

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

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

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

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

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or 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 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO/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.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

LOW FLOW SILT FENCE

Low flow silt fence will be installed prior to earth disturbing activities and remain in place for the duration of the project.

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

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

Low flow silt fence will be placed at the locations noted in the plans 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.

PARTIALLY GROUTED CLASS B RIPRAP

Class B Riprap will be ledge rock.

See Special Provision for Partially Grouted Class B Riprap

PEDESTRIAN ACCESS

The Contractor will not impede access to existing sidewalk while accessing the work area under I-190.

SEQUENCE OF OPERATIONS

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

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor.

Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

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

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

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

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

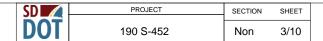
All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following riprap and trash guard installation.

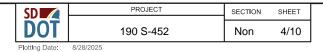
ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 32.0		32.0	

RAPID CITY POLICE DEPARTMENT COORDINATION

The Contractor will coordinate with Lt. Tim Doyle (E:<u>TimDoyle@rcgov.org</u> P: 605.394.4131) with the Rapid City Police Department (RCPD) prior to beginning work. The RCPD will ensure the work area is safe prior to construction activities.







Legend

Existing Terrain



Riprap



Remove Concrete Sidewalk

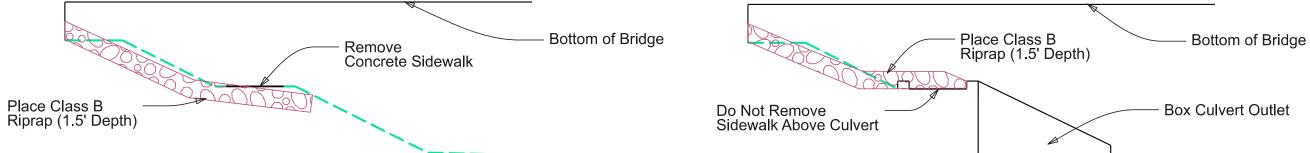
10



Low Flow Silt Fence

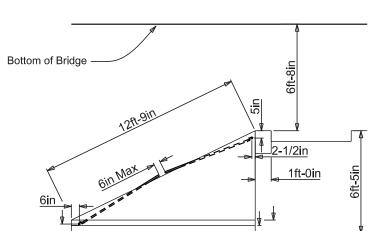


Typical Sections



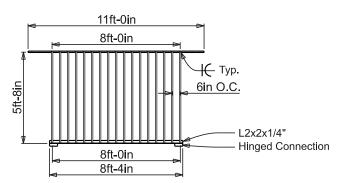
CULVERT GRATE DETAIL





ELEVATION VIEW

11ft-6in



DOT

Plotting Date: 8/27/2025

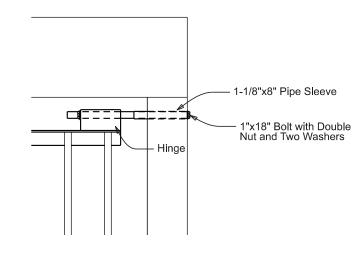
PROJECT

190 S-452

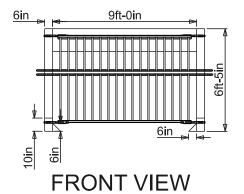
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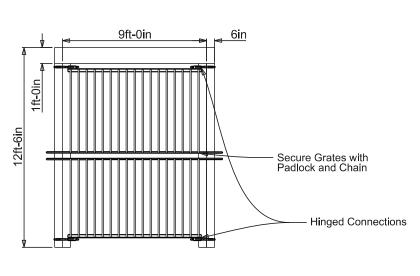
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GRATE DETAIL

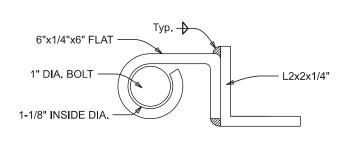


Plan **HINGE ASSEMBLY**





PLAN VIEW



SECTION HINGE

Angles will conform to ASTM A36. Bolts will conform to ASTM A307. Nuts will conform to ASTM A563. Washers will conform to ASTM F436. Bars will conform to ASTM A575.

Hot dip galvanized per ASTM A153 or Primed/ Finish painted with Silver Zinc Base paint as requested.

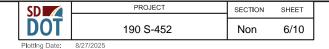
The cost of all required hardware will be incidental to the contract unit price per each for "Trash Guard, Furnish"

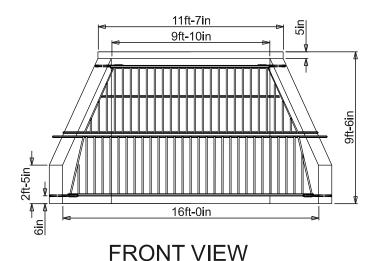
Alternate design allowed with approval of the Engineer.

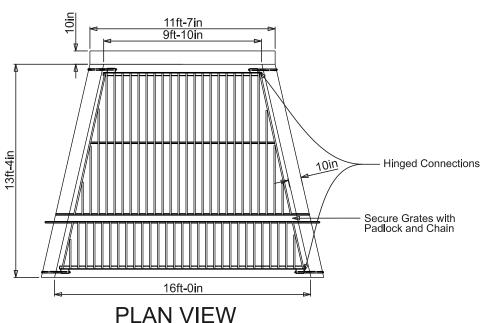
TRASH GUARD BAR AND BOLT SIZES			
HOLE/PIPE SLEEZE DIA. REQ'D	BOLT DIA.	BAR SIZE	
1 1/8"	1"	1"	

CULVERT GRATE DETAIL

FOR OUTLET WEST OF I-190





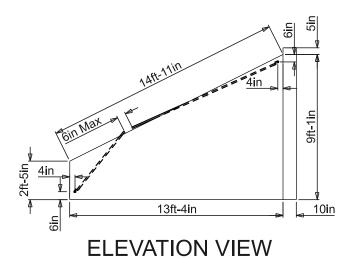


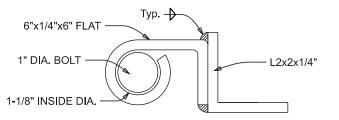
Note: Angles will conform to ASTM A36. Bolts will conform to ASTM A307. Nuts will conform to ASTM A563. Washers will conform to ASTM F436. Bars will conform to ASTM A575.

Hot dip galvanized per ASTM A153 or Primed/ Finish painted with Silver Zinc Base paint as requested.

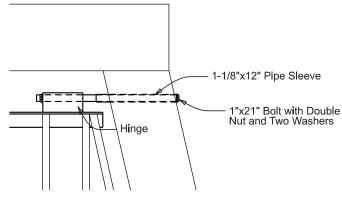
The cost of all required hardware will be incidental to the contract unit price per each for "Trash Guard, Furnish"

Alternate design allowed with approval of the Engineer.



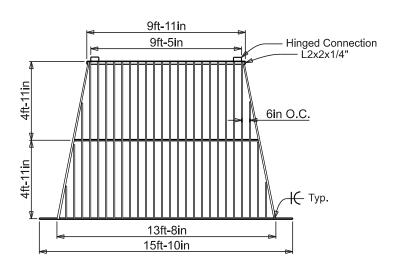


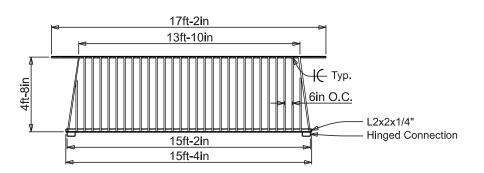
SECTION HINGE



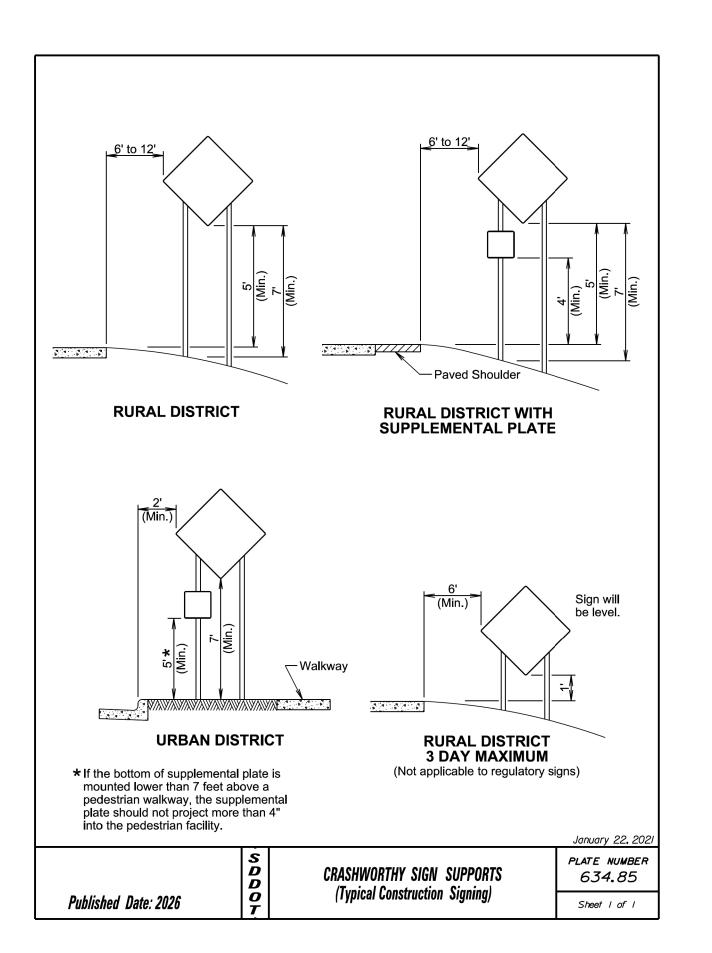
Plan HINGE ASSEMBLY

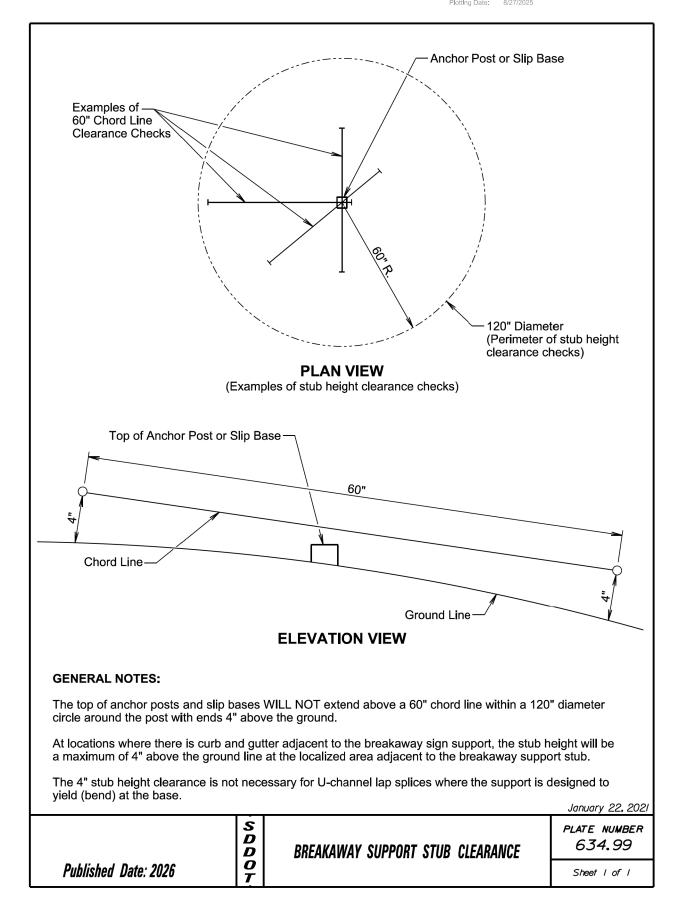
TRASH GUARD BAR AND BOLT SIZES				
HOLE/PIPE SLEEZE DIA. REQ'D	BOLT DIA.	BAR SIZE		
1 1/8"	1"	1"		

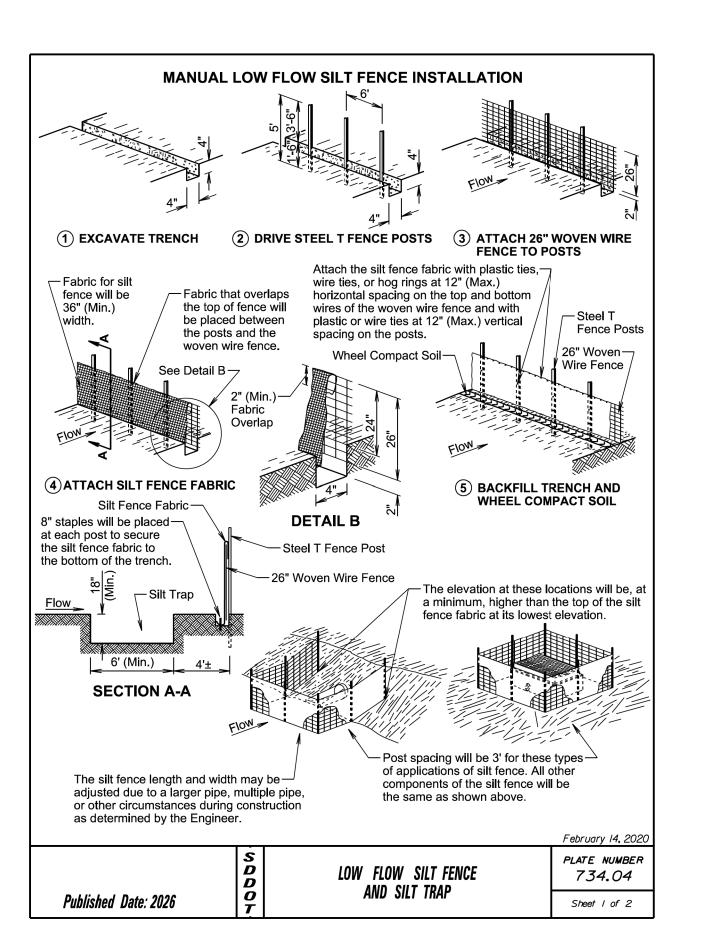


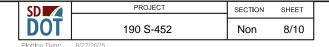


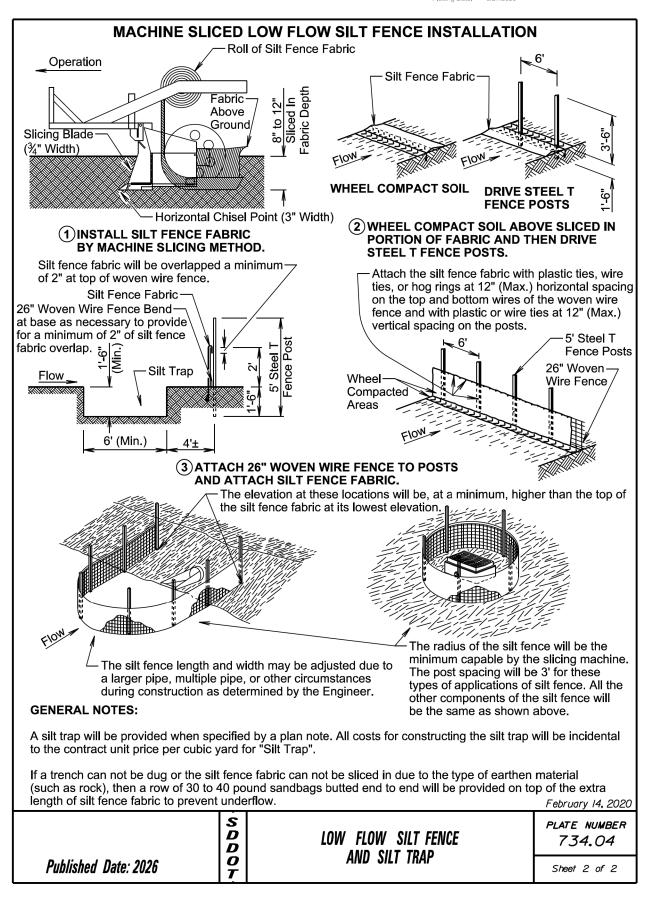
GRATE DETAIL

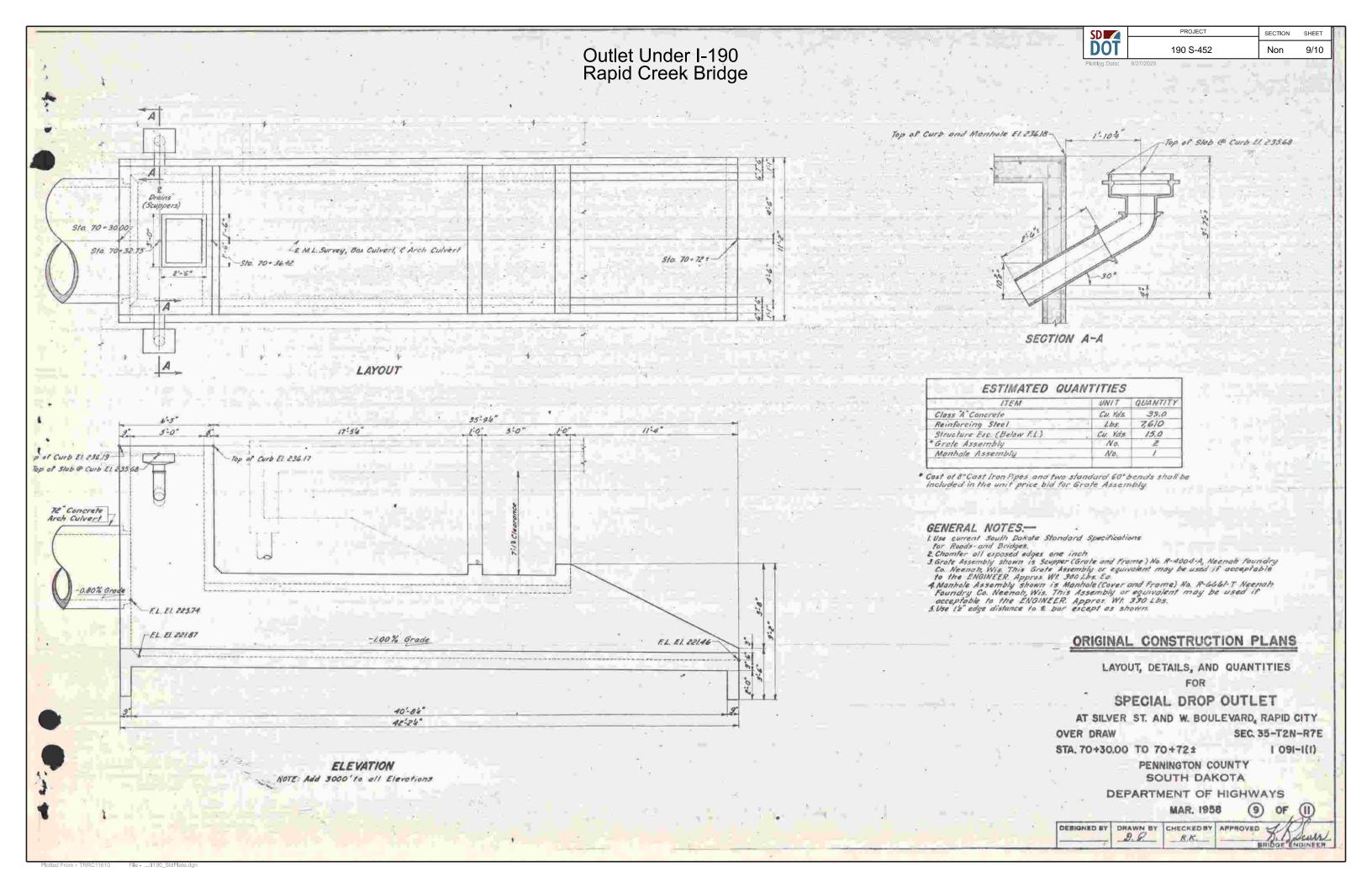






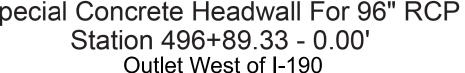


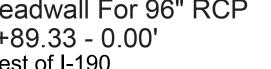


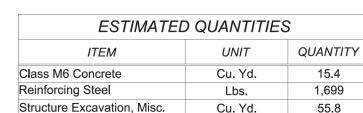


Special Concrete Headwall For 96" RCP Station 496+89.33 - 0.00'

SECTION A-A







DOT

PROJECT

190 S-452

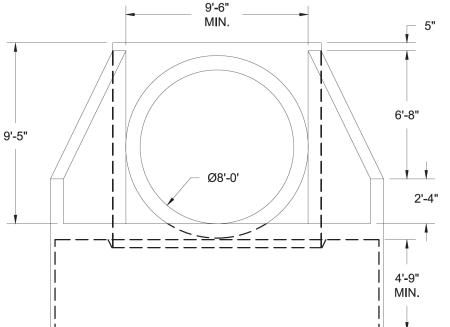
SECTION

Non

55.8

SHEET

10/10



FRONT ELEVATION

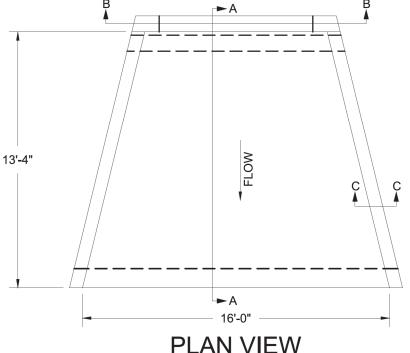
#4 BARS VERT. @ 6" C. TO C. #4 BARS CONSTRUCTION JOINT THROUGH HORIZ. @ WINGS & HEADWALL 12" C. TO C. 2'-4" SEE REBAR DETAIL AND SCHEDULE

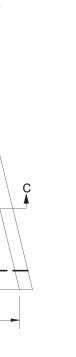
SPECIFICATIONS:

- 1. Design Specifications: AASHTO LRFD Bridge Design Specifications 7th Edition.
- 2. Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2004 Edition and required Provisions, Supplemental Specifications and Special Provisions.
- 3. Construction Specifications: AASHTO LRFD Bridge Construction Specifications, 3rd Edition and required Provisions, Supplemental Specifications and Special Provisions.

GENERAL NOTES:

- All Concrete shall be Class M6 conforming to Section 460.
- Reinforcing steel shall conform to ASTM A615 Grade 60.
- The headwall shall be constructed for a 96" RCP outfall.
- Alternate details will be allowed, subject to approval of the bridge construction engineer.
- Allow 2 weeks for review and approval of alternatives.
- Payment for the Special Concrete Headwall shall be based on the plan quantities of Class M6 Concrete and Reinforcing Steel.





SEE REBAR DETAIL AND SCHEDULE Ø8'-0"

SECTION B-B

#4 BARS 12" C. TO C. 2" CL. **BOTH WAYS** 1'-6" MIN. LAP ABOVE CONST. JOINT (BASIC REINF.) ADD'L. BARS 4' NO. 4 ABOVE **SLAB & IN BOTTOM** SLAB SEE SEC. A-A **CONSTRUCTION JOINT** 2" CL. 1'-6" TYP MIN. LAP

4'-2"

ADDITIONAL BAR DETAIL

SECTION C-C

ORIGINAL CONSTRUCTION PLANS