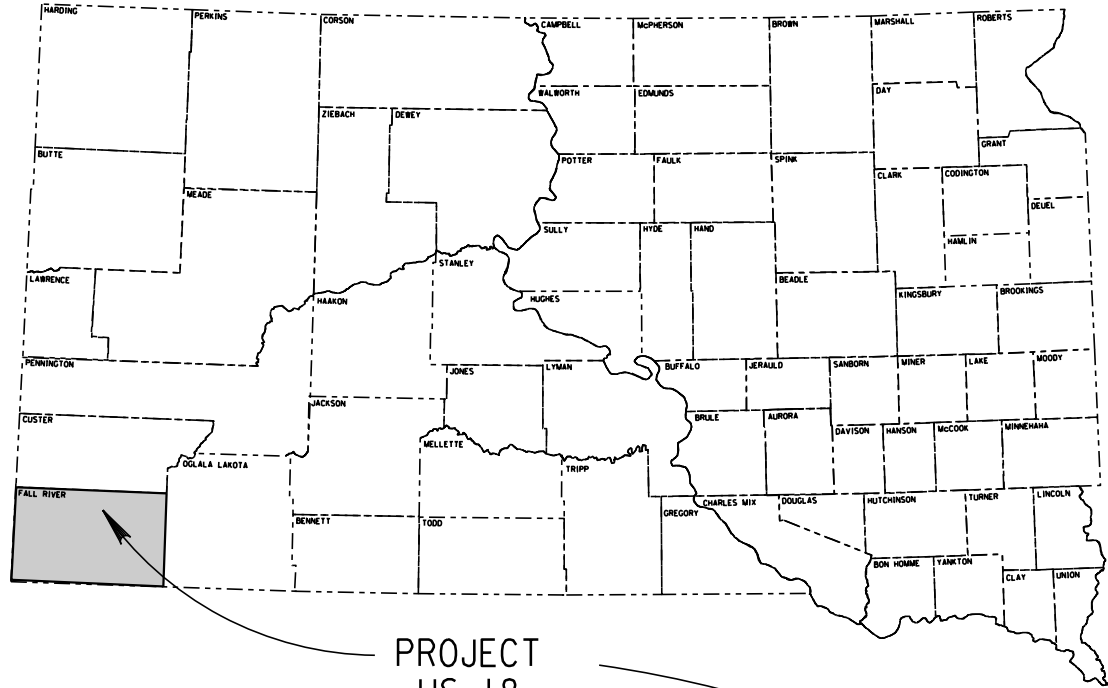


PLOT SCALE - 1:200

PLOTTED FROM - TRRC12608



PROJECT
US 18
MRM 39.5

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT 018-492
US HIGHWAY 18
FALL RIVER COUNTY

TYPE C RETAINING WALL
PCN i5a0

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-492	1	9
Plotting Date: 05/10/2018			
Revise Date: - -			
Initials:			

INDEX OF SHEETS

Sheet	1	Title and Index
Sheets	2 - 3	Estimate, Notes, & Tables
Sheets	4 - 5	Special Details
Sheets	6 - 9	Standard Plates



DESIGN DESIGNATION

ADT (2017)	3475
ADT (2037)	4403
DHV	1118
D	50%
T DHV	1.3%
T ADT	2.8%
V	35

STORM WATER PERMIT

None Required

PLOT NAME - 1

FILE - ... \HSVIA\DUCT\TITLE.DGN

SHEET OF SHEETS

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E1140	Remove Concrete Sidewalk	65.0	SqYd
530E0300	Type C Concrete Retaining Wall	500	SqFt
634E0010	Flagging	30.0	Hour
634E0110	Traffic Control Signs	149.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0265	Type 3 Barricade, 6' Double Sided	4	Each
634E0420	Type C Advance Warning Arrow Board	1	Each

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 Section A 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. 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: <http://www.sddot.com/resources/Manuals/EnvironProcManual.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 Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

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:

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 Environment 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 completely 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 of time not to exceed the duration of the project. Prior to project completion, the waste shall 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: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits.

Action Taken/Required:

All earth disturbing activities outside the project limits 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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	2	9

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 of 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 will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

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

Utilities are not planned to be affected on this project. 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 shall contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

Materials Table	
Remove Concrete Sidewalk	Type C Concrete Retaining Wall
(SqYd)	(SqFt)
65	500

TRAFFIC CONTROL – GENERAL NOTES

- The Contractor shall provide a Sequence of Operations at the Preconstruction Meeting to be approved by the Engineer. Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department’s intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.
- Unless otherwise stated in these plans, no work will be allowed during hours of darkness.
- Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.
- Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 2 calendar days.
- All regulatory signs shall have a minimum mounting height of 5’ in rural locations, even when mounted on portable supports.
- All materials and equipment shall be stored a minimum distance of 30’ from the traveled way during nonworking hours.
- The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.
- All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.
- All construction operations shall 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 shall be used, as determined by the Engineer.

INVENTORY OF TRAFFIC CONTROL DEVICES

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R9-9	SIDEWALK CLOSED	3	24" x 12"	2.0	6.0
R9-11	SIDEWALK CLOSED AHEAD with ARROW (L or R) CROSS HERE	2	24" x 18"	3.0	6.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS 149.0 SQFT			

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 6' Double Sided	4 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	1 Each

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	3	9

PLOT SCALE - 1"=40'

PLOTTED FROM - TRRC12608

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-492	4	9

Plotting Date: 05/10/2018

PLOT NAME - 2

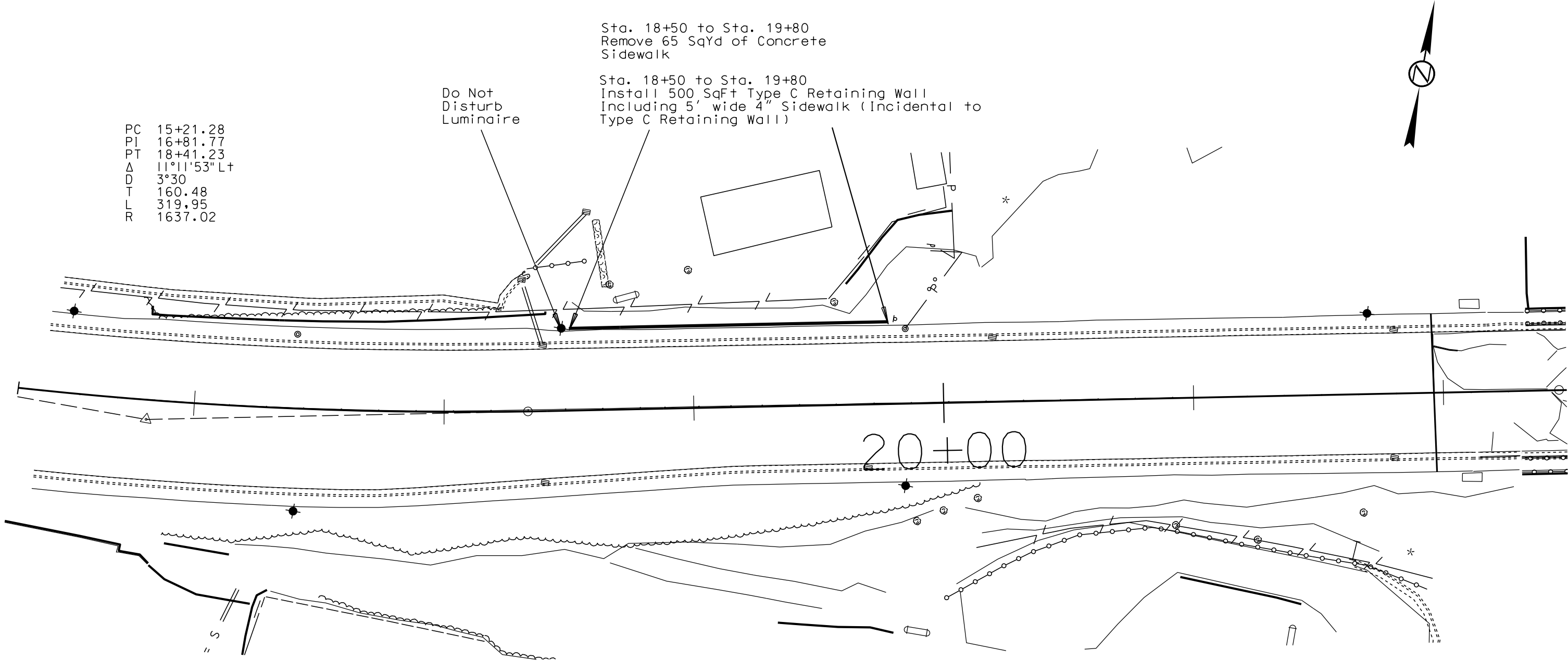
FILE - ... \HSV\ADUCT\PLAN1.DGN

PC 15+21.28
PI 16+81.77
PT 18+41.23
Δ 11°11'53" Lt
D 3°30'
T 160.48
L 319.95
R 1637.02

Do Not
Disturb
Luminaire

Sta. 18+50 to Sta. 19+80
Remove 65 SqYd of Concrete
Sidewalk

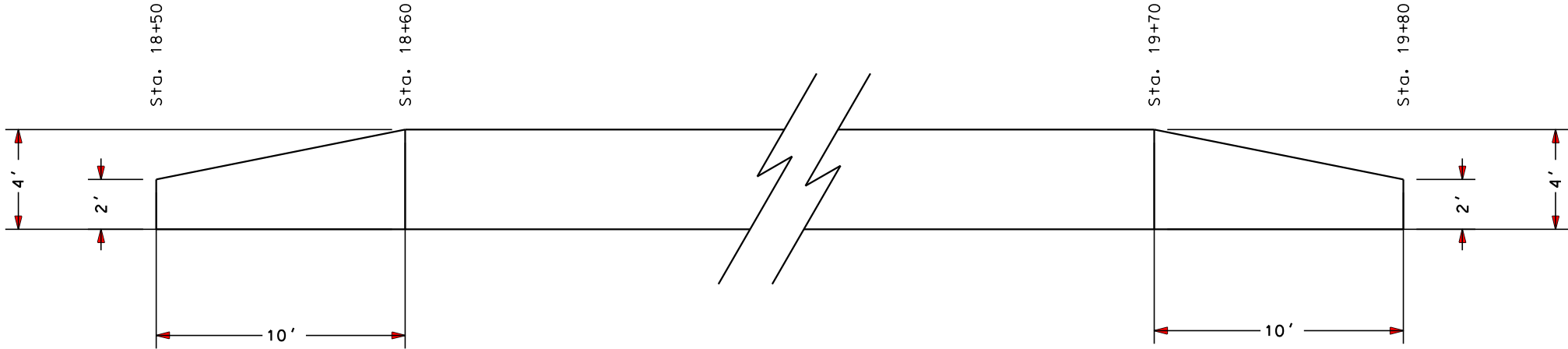
Sta. 18+50 to Sta. 19+80
Install 500 SqFt Type C Retaining Wall
Including 5' wide 4" Sidewalk (Incidental to
Type C Retaining Wall)



TYPE C RETAINING WALL DETAIL

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-492	5	9

Plotting Date: 05/10/2018



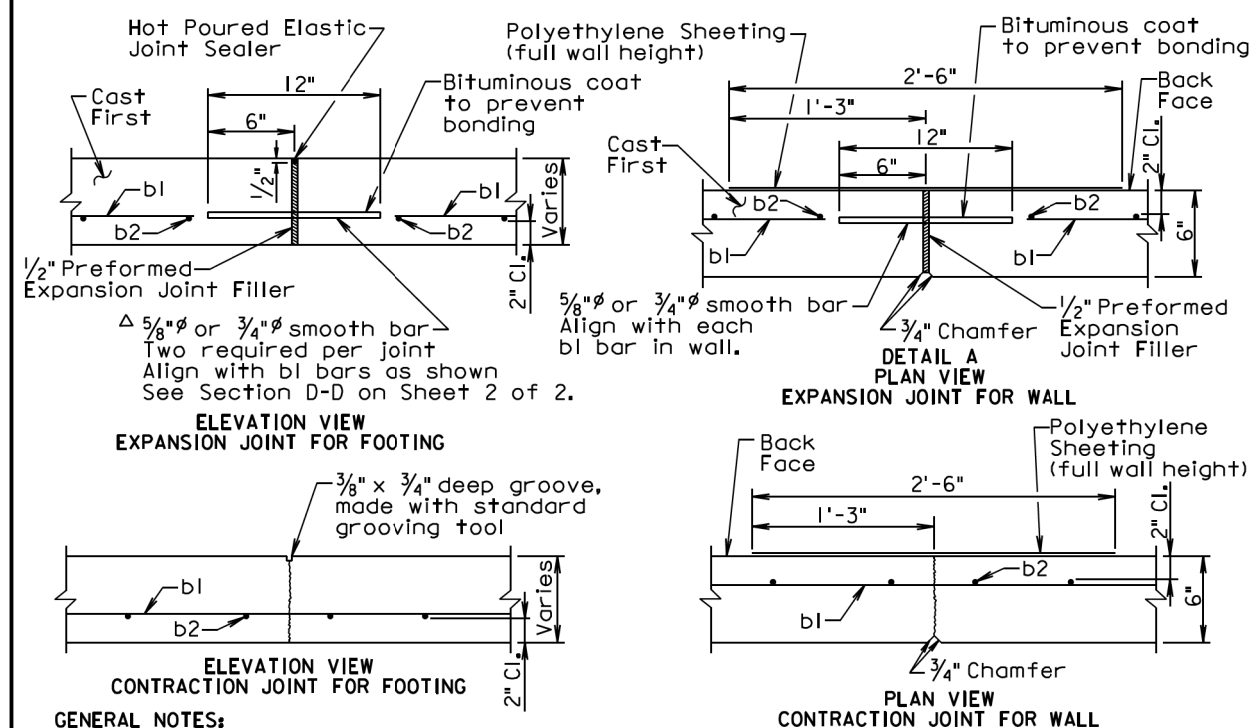
PLOT SCALE - 1:200

PLOTTED FROM - TRRC12608

PLOT NAME - 3

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Plotting Date: 05/10/2018



GENERAL NOTES:

The Type C Concrete Retaining Wall shall be placed adjacent to pavement or curb and gutter as shown in Section D-D on sheet 2 of 2.

*The sidewalk width of the Type C Concrete Retaining Wall shall not be wider than 8 feet or narrower than 5 feet. See plans for specified width.

In the areas where the retaining wall footing is to be placed, a 2 inch thickness of cushion material shall be placed and compacted. The cushion material shall conform to Section 651.2 C. of the Specifications.

All concrete shall be Class M6 and conform to Section 462 of the Specifications.

All reinforcing steel shall be epoxy coated and shall conform to ASTM A615, Grade 60. The smooth bar may conform to ASTM A615, Grade 40. The epoxy coating shall conform to ASTM A775.

For variable height walls, the top bl bar shall be placed parallel to the top of the wall.

The bl bars shall be lapped a minimum of 12 inches.

A $\frac{3}{4}$ inch chamfer shall be provided on all exposed retaining wall edges.

Use Detail B on sheet 2 of 2 for constructing corners in the retaining wall.

The maximum expansion joint spacing shall be 90 feet and the maximum contraction joint spacing shall be 30 feet. The contraction and expansion joints shall be placed to match pavement or curb joints where possible.

The exposed retaining wall surfaces shall receive a finish in accordance with 460.3 L of the Specifications. The exposed surface of the retaining wall footing, when used as a sidewalk, shall receive a broom finish.

The Type C Concrete Retaining Wall shall be measured to the nearest square foot of front face area.

All costs for excavation, furnishing and placing backfill and cushion material, labor, equipment, preformed expansion joint filler, all reinforcing steel including the smooth bars, and all concrete except in the areas of PCC driveway and approach pavement, shall be incidental to the contract unit price per square foot for "Type C Concrete Retaining Wall".

The concrete used for the retaining wall footing that extends into the approach and/or driveway pavement shall be paid for at the contract unit price per square yard for the corresponding "PCC Approach Pavement" and/or "PCC Driveway Pavement" bid items. June 26, 2015

SDOT

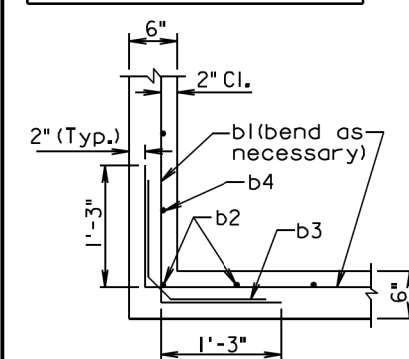
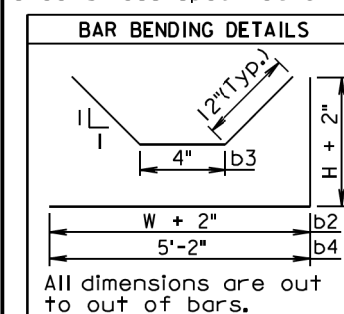
TYPE C CONCRETE RETAINING WALL

PLATE NUMBER
530.01

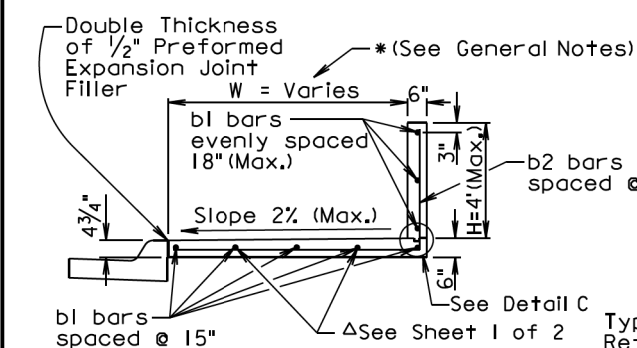
Sheet 1 of 2

Published Date: 2nd Qtr. 2018

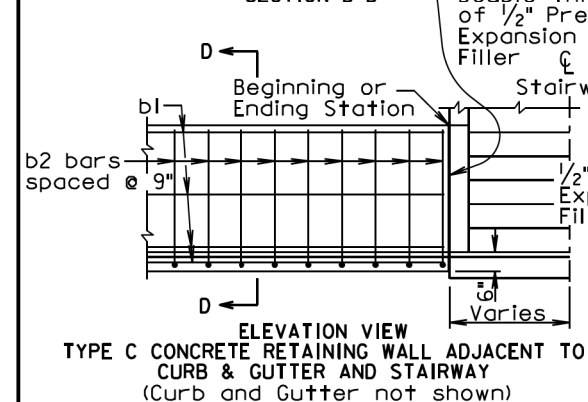
Use No. 4 bars for all reinforcing steel unless specified otherwise.



DETAIL B
PLAN VIEW OF WALL CORNER DETAIL



SECTION D-D



TYPE C CONCRETE RETAINING WALL ADJACENT TO
CURB & GUTTER AND STAIRWAY
(Curb and Gutter not shown)

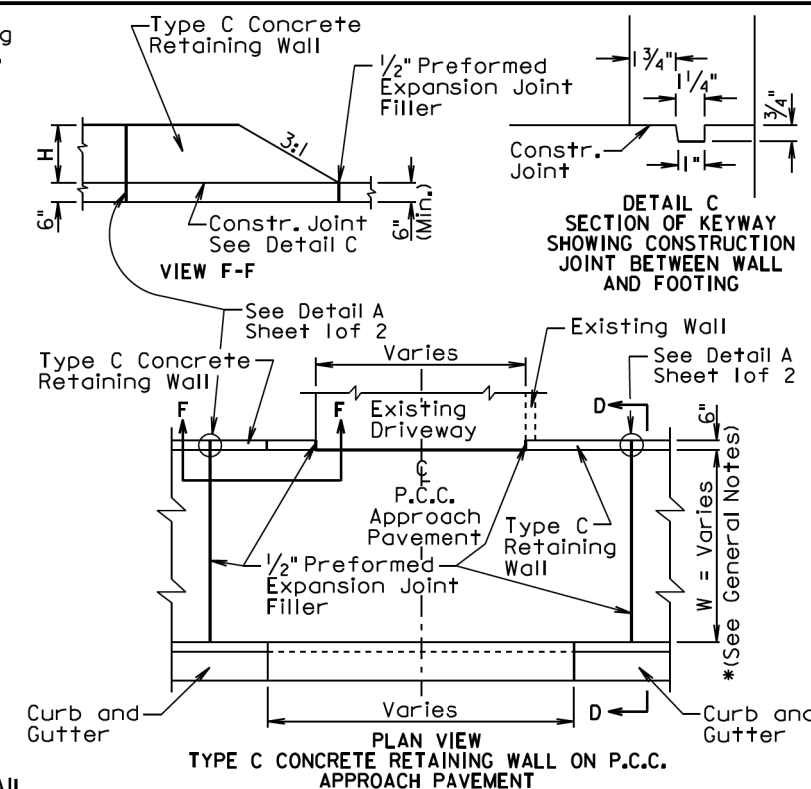
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TYPE C CONCRETE RETAINING WALL

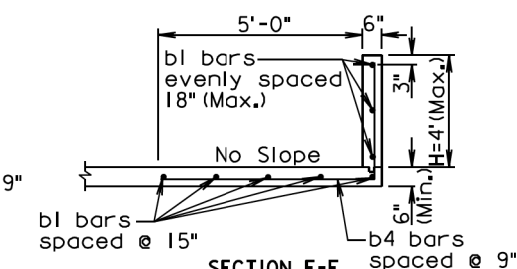
PLATE NUMBER
530.01

Sheet 2 of 2

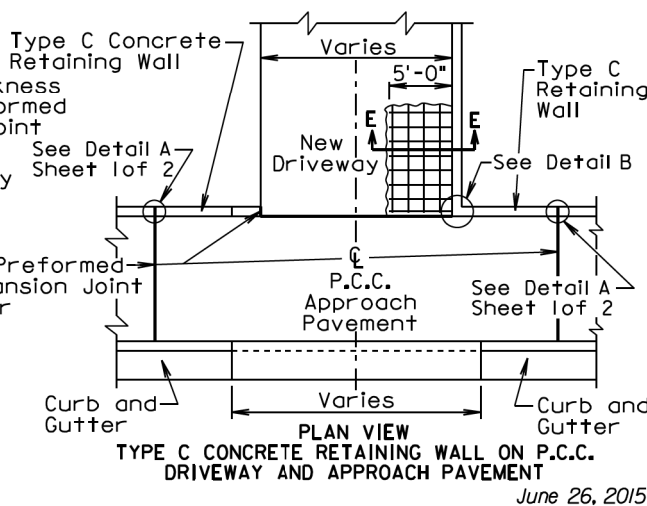
Published Date: 2nd Qtr. 2018



PLAN VIEW
TYPE C CONCRETE RETAINING WALL ON P.C.C.
APPROACH PAVEMENT

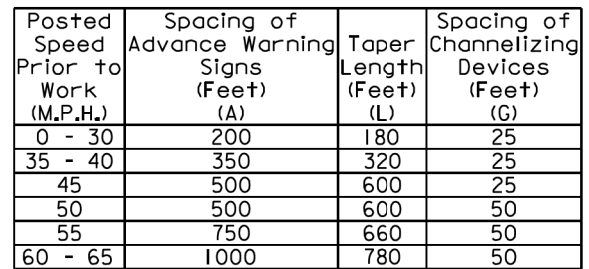


SECTION E-E

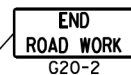


TYPE C CONCRETE RETAINING WALL ON P.C.C.
DRIVEWAY AND APPROACH PAVEMENT

June 26, 2015



■ Channelizing Device



The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The **SHOULDER WORK** sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

—WORK SPACE

A diamond-shaped sign with a black border. The text "SHOULDER WORK" is written in bold, black, sans-serif capital letters in the center. The code "W21-5" is written in black, sans-serif capital letters along the bottom right edge of the diamond.

June 3, 2016

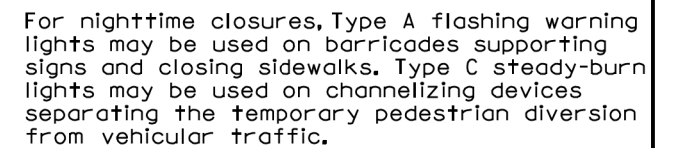
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GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS

PLATE NUMBER
634.03

Sheet 1 of 1

Published Date: 2nd Qtr. 2018



Street lighting should be considered.

 Longitudinal Pedestrian Barricade
and


Additional advance warning may be necessary.

Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs, as needed.

Signs may be placed along a temporary diversion to guide or direct pedestrians. Examples include KEEP RIGHT and KEEP LEFT signs.

Additional advance warning may be necessary.

PEDESTRIAN DETOUR

PEDESTRIAN DIVERSION

September 14, 2016

**S
D
D
O
T**

GUIDES FOR TRAFFIC CONTROL DEVICES PEDESTRIAN DETOUR AND PEDESTRIAN DIVERSION

PLATE NUMBER
634.34

Sheet 1 of 1

Published Date: 2nd Qtr. 2018

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

* Spacing is 40' for 42" cones.

⊙ Reflectorized Drum

■ Channelizing Device

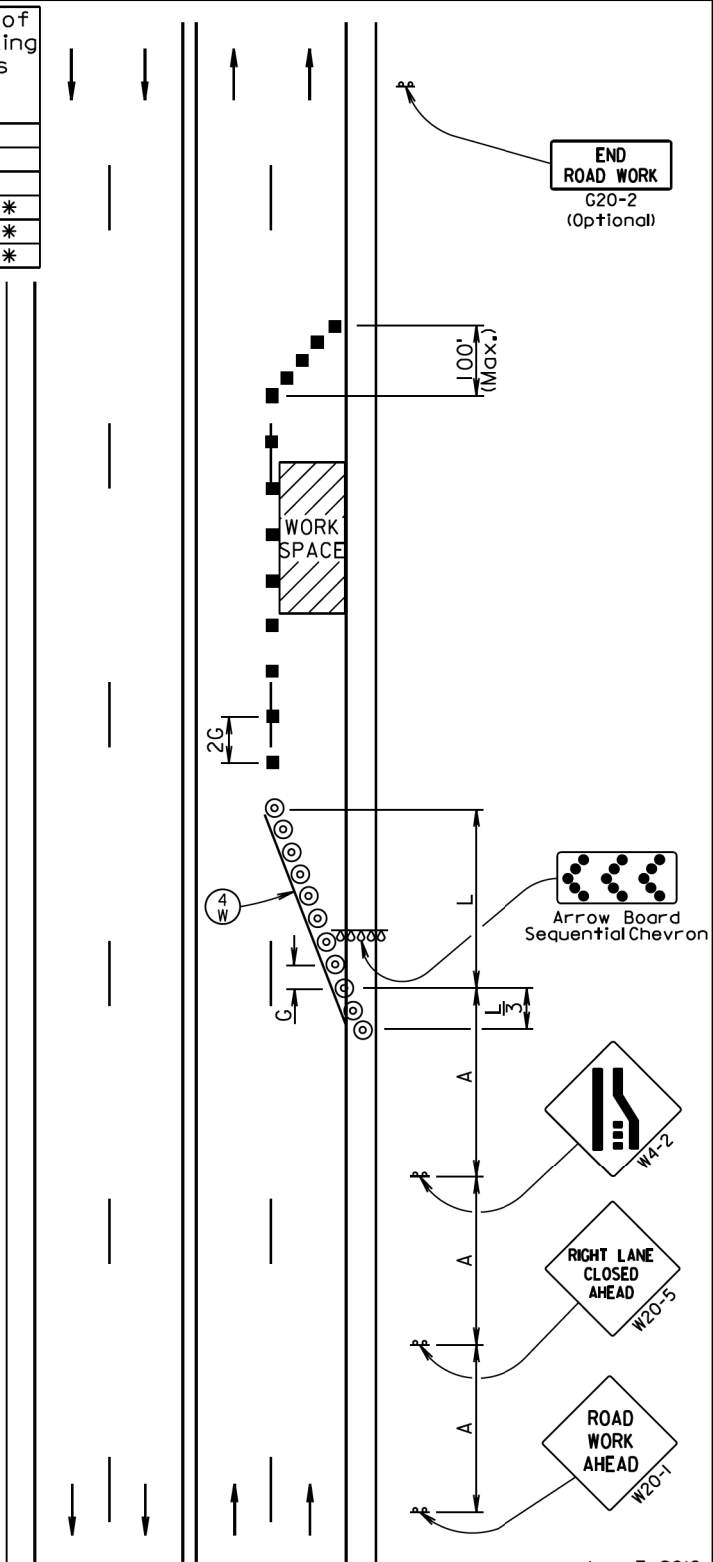
④ 4" White Temporary Pavement Marking

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

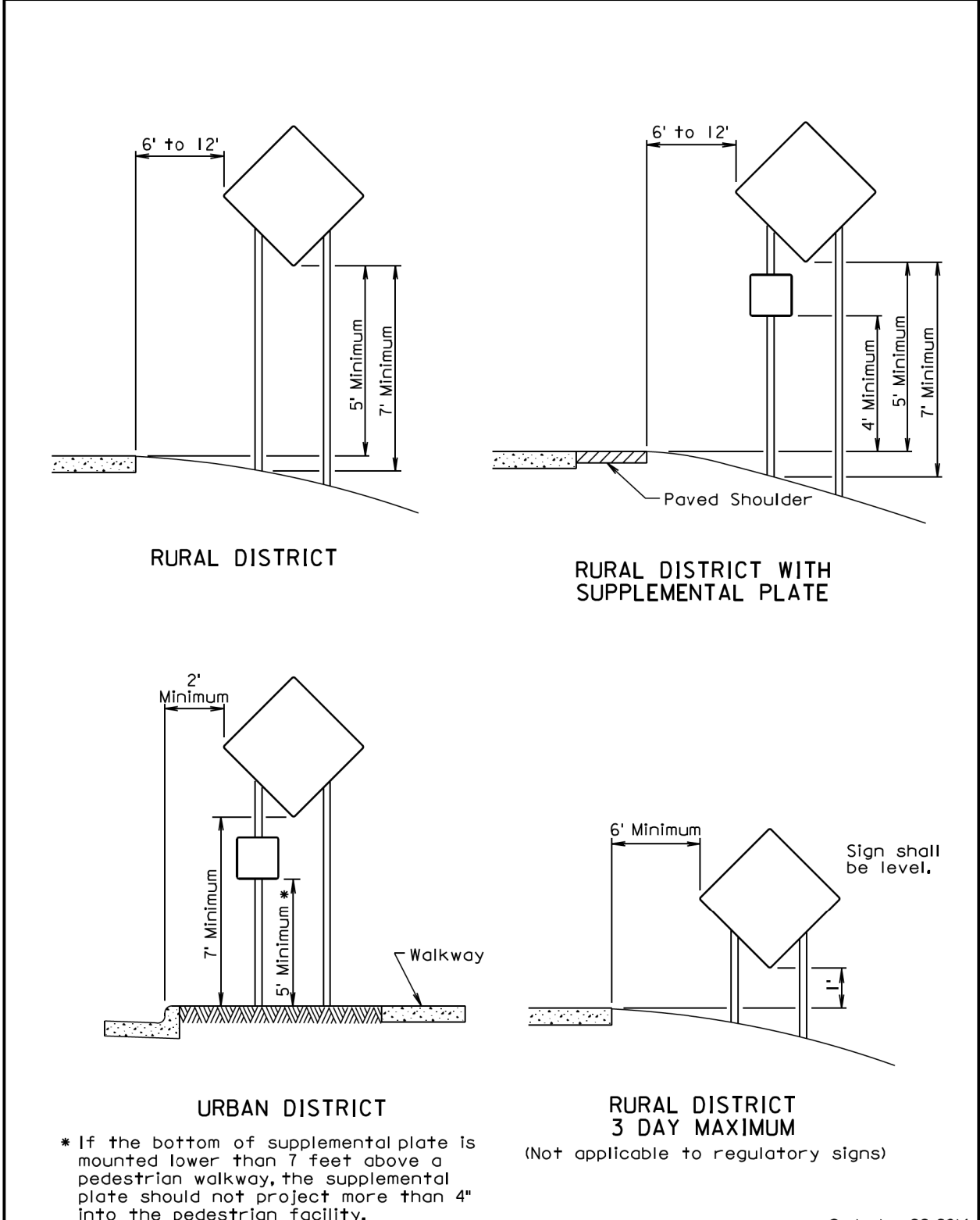
Temporary pavement markings shall be used if traffic control must remain overnight.

The length of A and L may be adjusted to fit field conditions.



June 3, 2016

Published Date: 2nd Qtr. 2018	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
		Sheet 1 of 1	



September 22, 2014

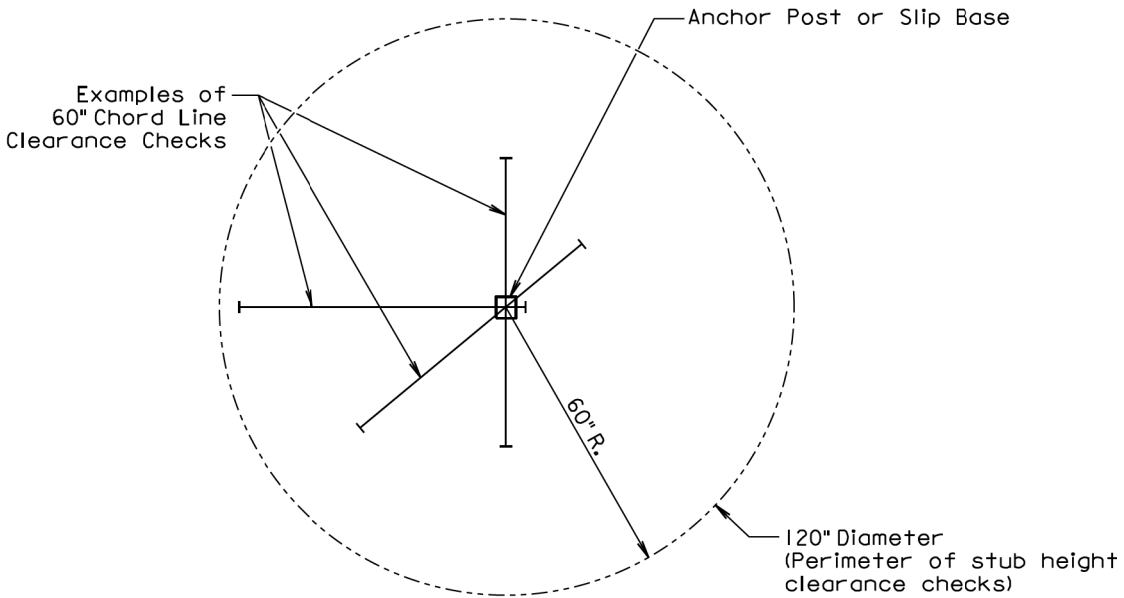
Published Date: 2nd Qtr. 2018	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
		Sheet 1 of 1	

1:200
Plot Scale -

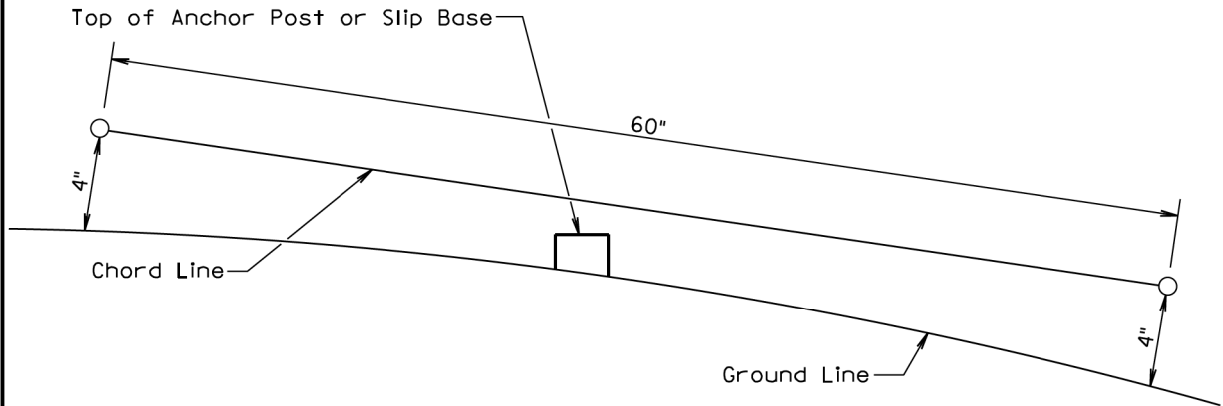
TRRC/2608
- Plotted From -

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	9	9

Plotting Date: 05/10/2018



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL 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 shall 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.

July 1, 2005

Published Date: 2nd Qtr. 2018	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1