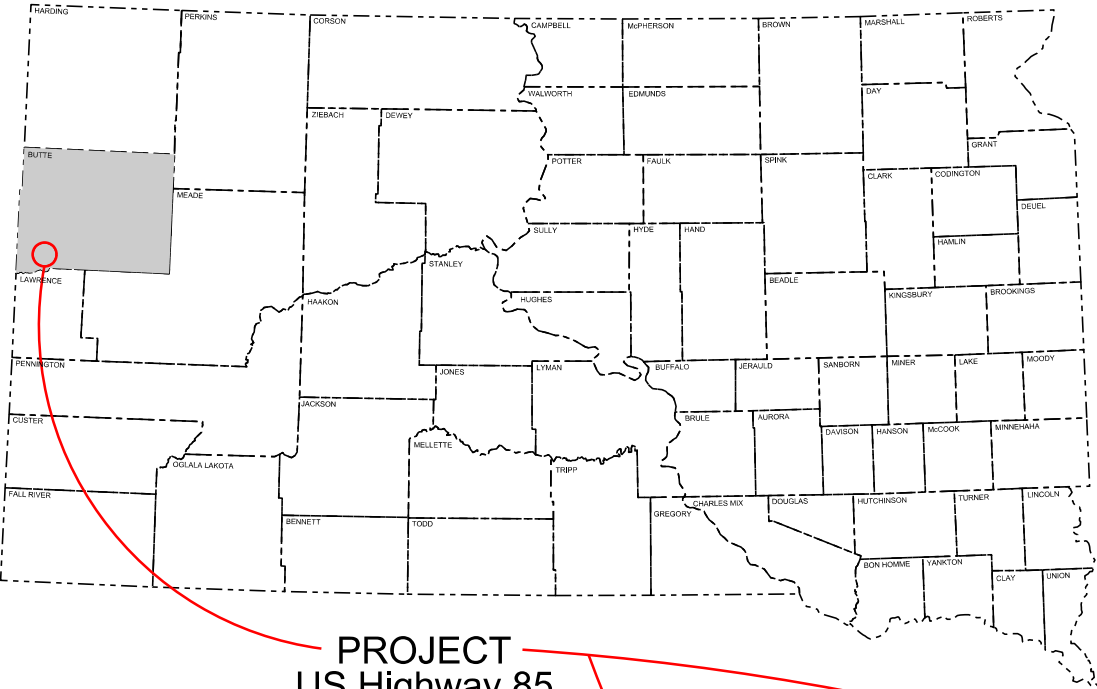


Plot Scale - 1:200

Plotted From - Irrc12608



PROJECT
US Highway 85
MRM 54 to MRM 55

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT 085-471
US HIGHWAY 85
BUTTE COUNTY

SHOULDER REPAIR
PCN i5vq

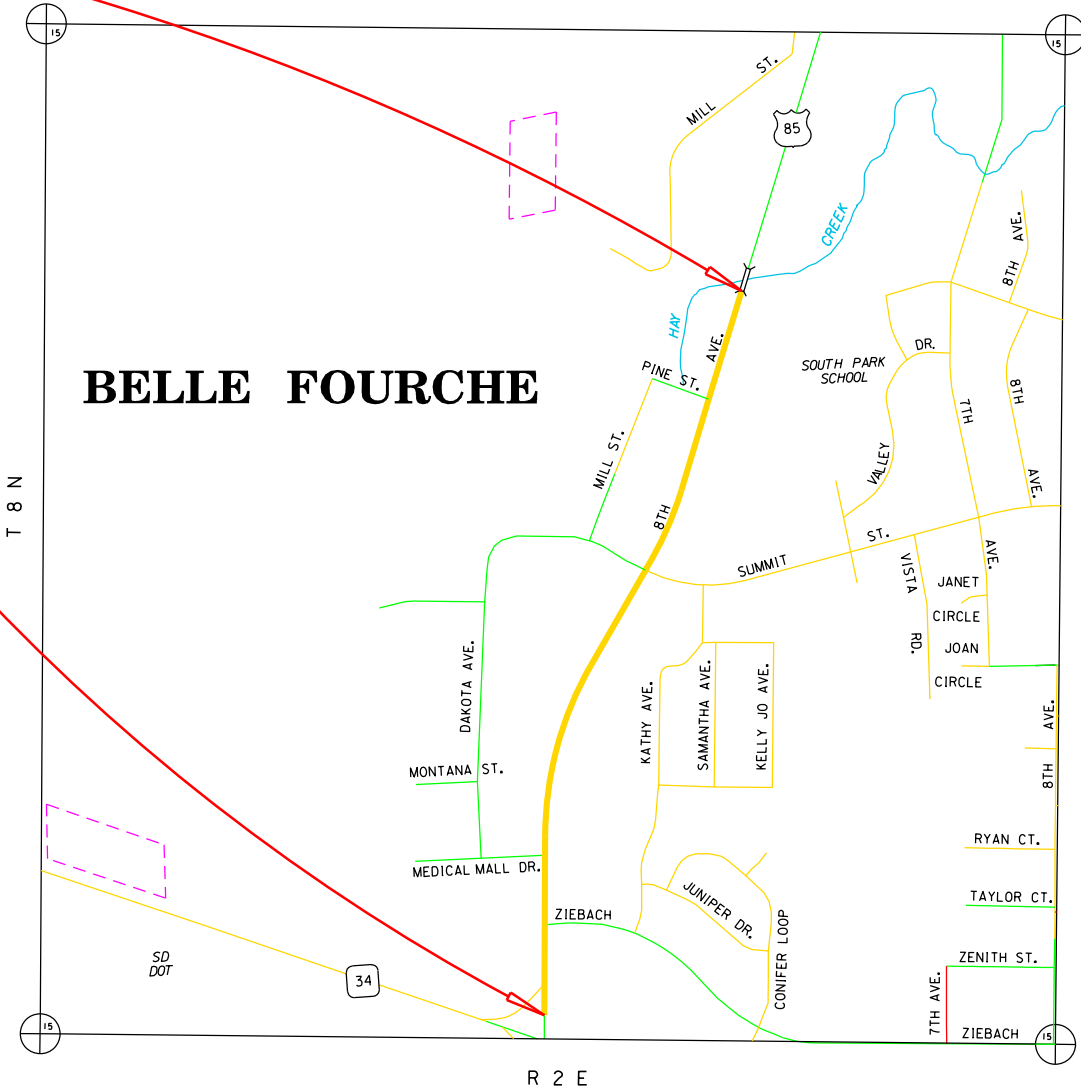
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	1	22

Plotting Date: 02/26/2020

INDEX OF SHEETS

1	General Layout with Index
2-6	Estimate with General Notes & Tables
7-9	Typical Section
10-11	Cross-Sections
12-16	Special Details
17-22	Standard Plates

BELLE FOURCHE



DESIGN DESIGNATION

AADT (2019)	12225
AADT (2039)	13765
DHV	1583
D	51%
DHV T%	5.1%
AADT T%	11.3%
V	35 mph

STORM WATER PERMIT
None Required

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E7150	Remove Sign for Reset	5	Each
110E7152	Remove Delineator for Reset	3	Each
120E0010	Unclassified Excavation	499	CuYd
120E6200	Water for Granular Material	40.7	MGal
230E0100	Remove and Replace Topsoil	Lump Sum	LS
280E0020	Full Depth Reclamation, Shoulder	2,702	SqYd
320E1200	Asphalt Concrete Composite	394.9	Ton
632E2100	Reset Delineator	3	Each
632E2520	Type 2 Object Marker	4	Each
632E3500	Reset Sign	5	Each
633E1400	Pavement Marking Paint, 4" White	2,431	Ft
634E0010	Flagging	300.0	Hour
634E0110	Traffic Control Signs	271.1	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
730E0210	Type F Permanent Seed Mixture	26	Lb
731E0100	Fertilizing	1,380	Lb
732E0250	Fiber Mulching	1,840	Lb
734E0154	12" Diameter Erosion Control Wattle	880	Ft

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: <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 Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

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 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 waters within South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment to prevent and control the introduction and spread of invasive species into the project vicinity.

Action Taken/Required:

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

Additional information and mapping of Aquatic Invasive Species in South Dakota can be accessed at: <http://sdleastwanted.com/maps/default.aspx>. and submitted to DENR monthly. Additional information can be found at <http://denr.sd.gov/des/sw/WhatisaDMR.aspx>

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:

- 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”.
- 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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	3	22

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

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 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.

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 Project Engineer to determine modifications that will be necessary to avoid utility impacts.

UNCLASSIFIED EXCAVATION

Payment will be based on plans quantity. Further measurements will not be made unless there is a change made in the limits of work.

Any excess excavated material not used as embankment will be treated as waste material and disposed of according to Commitment H: Waste Disposal Site.

WATER FOR EMBANKMENT

The cost of water for compaction of the embankment material will be incidental to the various other contract items. Four percent plus or minus moisture will be required at the time of compaction unless otherwise directed by the Engineer.

WATER FOR GRANULAR MATERIAL

Water for Granular Material will be placed at the rate of 20 gallons per cubic yard of Full Depth Reclamation.

FULL DEPTH RECLAMATION, SHOULDER

Asphalt concrete mix and granular base material will be processed in place so that a uniform blend is obtained. The material will be handled to ensure that salvaged material is not lost down the inslope. The final rolling of the top surface of the materials will embed as many loose stones as possible. The finished surface will be smooth and free from waves and the Contractor will finish the surfacing materials to within 0.5% of the typical section cross slope. The requirements of specifications 280.3.A, 280.3.C, 280.4, and 280.5 will apply.

Saw cutting of the existing asphalt pavement will be incidental to the contract unit price per square yard for Full Depth Reclamation, Shoulder.

Any excess material not used will be treated as waste material and disposed of according to Commitment H: Waste Disposal Site.

SURFACING THICKNESS DIMENSIONS

Plans quantity will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans quantity may be varied to achieve the required elevation.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite will be placed to a depth of 4” in two 2” lifts.

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

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

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.

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.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

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

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

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

The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

Standard Plate 634.42 will be utilized at the intersections of US 85 with SD34, Ziebach St., and Summit St.

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting.

Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	4	30"	5.2	20.8
R3-7R	RIGHT LANE MUST TURN RIGHT	1	30" x 30"	6.3	6.3
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0
W9-2	LANE ENDS MERGE LEFT	1	48" x 48"	16.0	16.0
W20-1	ROAD WORK AHEAD	8	48" x 48"	16.0	128.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	8	36" x 18"	4.5	36.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		271.1			

FLAGGING

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

PRESS RELEASE ANNOUNCEMENTS

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

REMOVE AND RESET SIGNS

The Contractor will reset signs at the same station from which they are removed at offset shown in the typical details.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer's recommendations.

This material will consist of a durable high build, low VOC, fast drying, waterborne traffic paint with a 100% acrylic polymer (Arkema DT-400, Dow HD-21A, or equivalent). The Contractor will provide certification that the material is one of the following products or an equivalent as approved by the Operations Traffic Engineer:

Diamond Vogel's Waterborne High Build Polymer Marking Paint
Ennis-Flint's High Build Polymer Marking Paint

No further testing of this material will be required. Reflective media will consist of glass beads.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 22.5 Gals/Mile
Glass Beads = 8.0 Lbs/Gal.

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

REMOVE AND REPLACE TOPSOIL

Prior to beginning resurfacing operations, a 4" depth of topsoil will be bladed down the respective inslope and left in a windrow 16'+/- from the subgrade shoulder. Following completion of resurfacing operations, topsoil will be bladed back up the inslope to the point indicated on the typical section.

The estimated amount of topsoil to be removed and replaced is 520 CuYd.

All costs associated with removing and replacing the topsoil along areas to be resurfaced will be incidental to the contract lump sum price for Remove and Replace Topsoil.

MYCORRHIZAL INOCULUM

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

- 25% *Glomus intraradices*
- 25% *Glomus aggregatum or deserticola*
- 25% *Glomus mosseae*
- 25% *Glomus etunicatum*

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

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

PERMANENT SEEDING

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

Type F Permanent Seed Mixture will consist of the following:

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

FIBER MULCHING

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

An additional 2% by weight of tackifier will be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier will be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

Fiber mulch will be applied at the rate of 2,000 pounds per acre.

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

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

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

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

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:

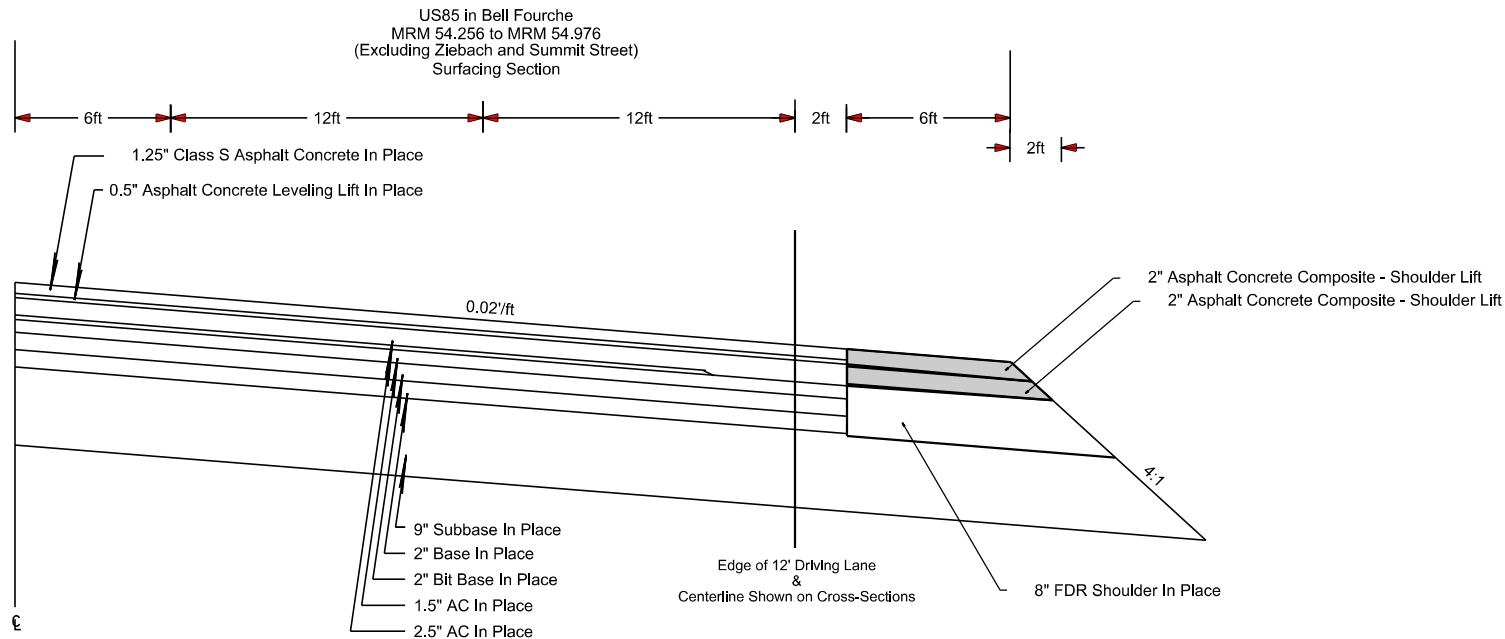
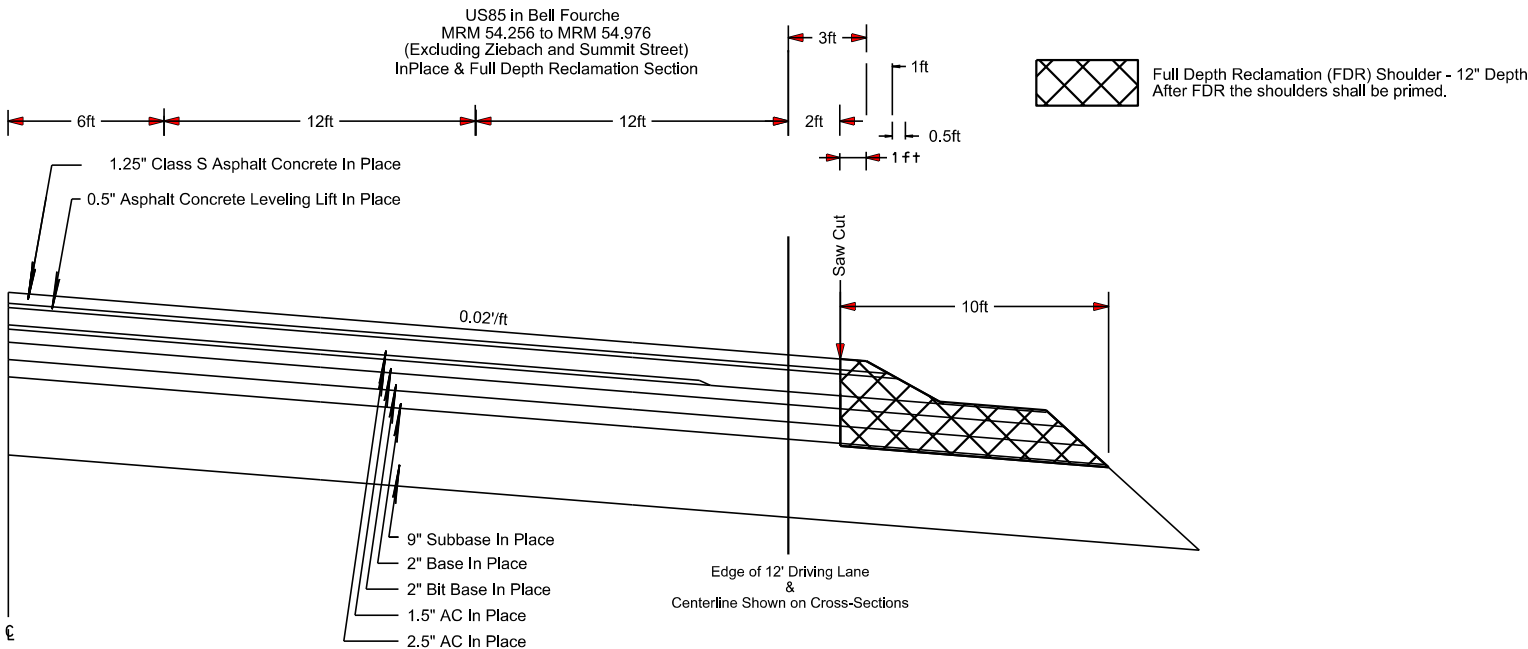
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TYPICAL SURFACING SECTION

MRM 54.256 to MRM 54.976
(Excluding Ziebach Street, Summit Street, and Approach Pavement)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	7	22

Plotting Date: 02/26/2020



PLOT SCALE - 1:7,381:13

PLOTTED FROM - TRRC12608

PLOT NAME - 2

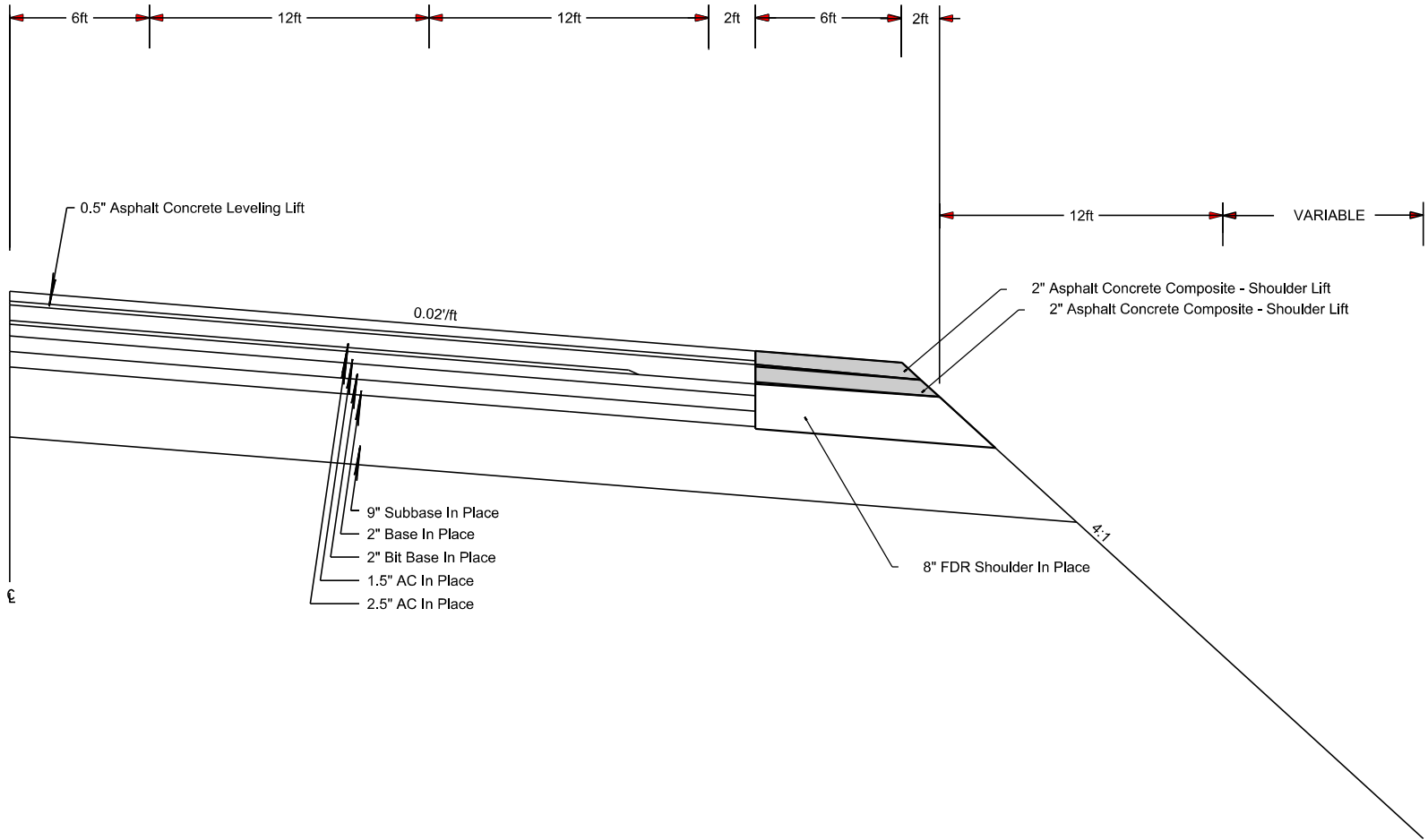
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TYPICAL GRADING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	8	22

Plotting Date: 02/26/2020

US85 in Bell Fourche
(Excluding Ziebach, Summit Street, and Approach Pavement)
Grading Section



General Notes

The Contractor will be required shape ditch bottom as needed to maintain drainage.

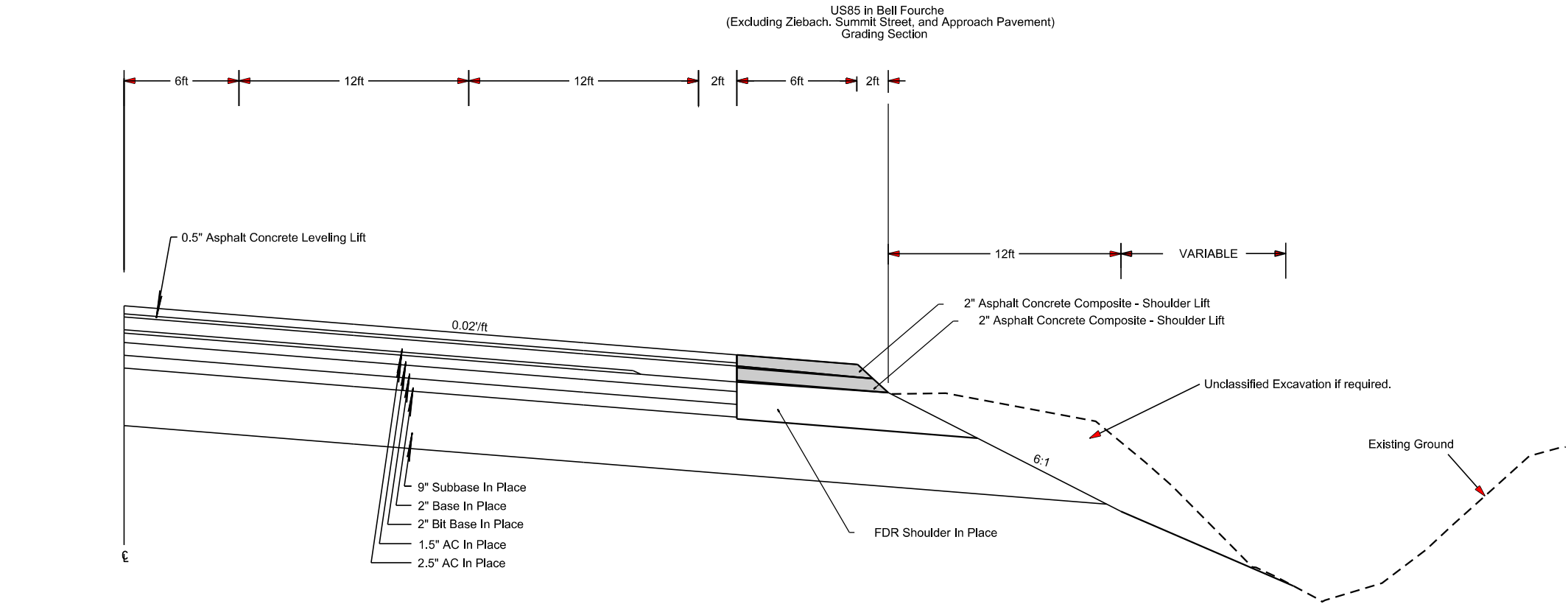
There are a few locations that will require fill and a 4:1 inslope construction. See cross sections for location and width.

Warp 4:1 Slope as directed by the Engineer to avoid luminaires, manholes and drainage structures.

TYPICAL GRADING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	9	22

Plotting Date: 02/26/2020



General Notes

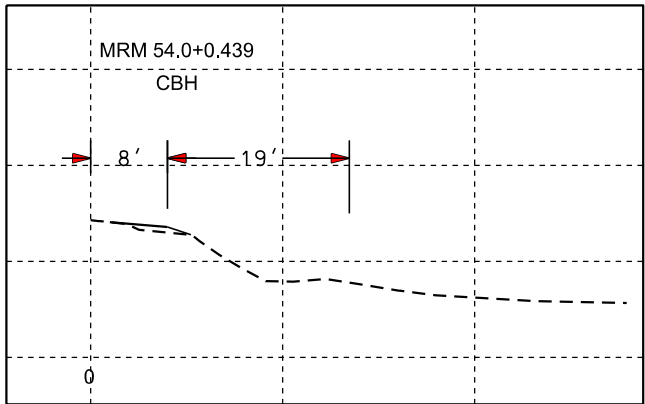
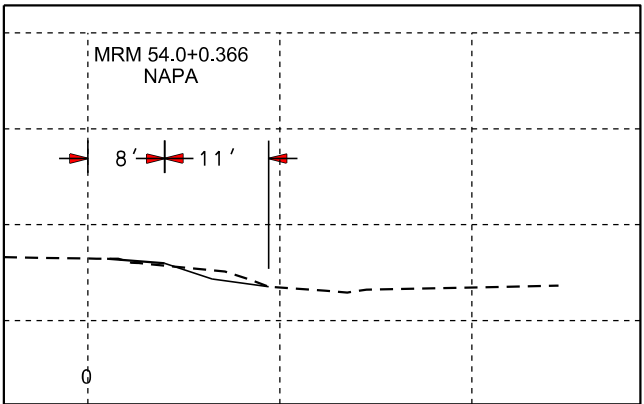
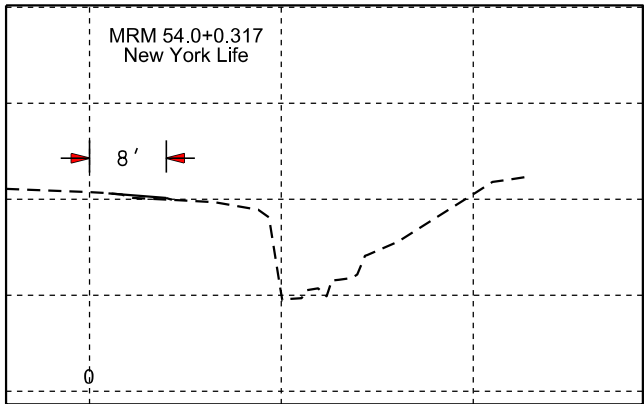
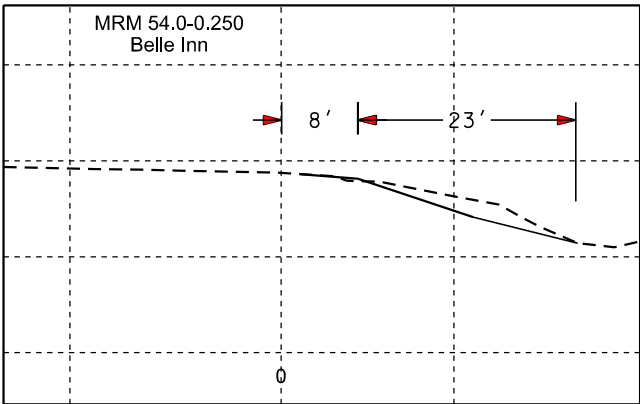
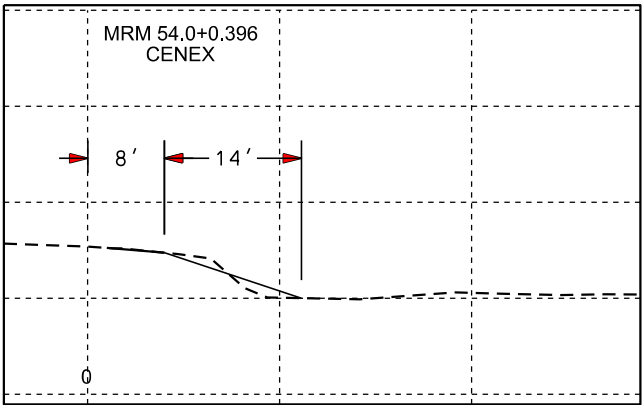
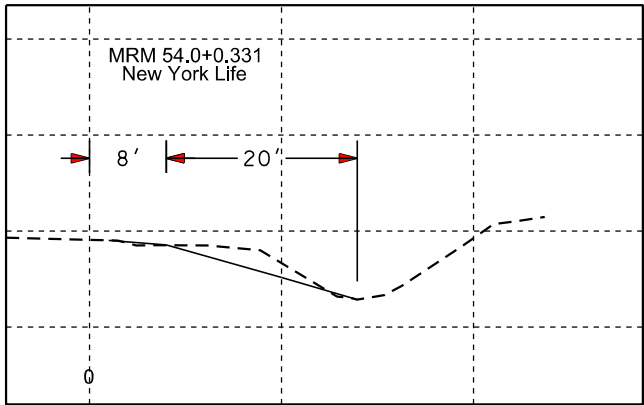
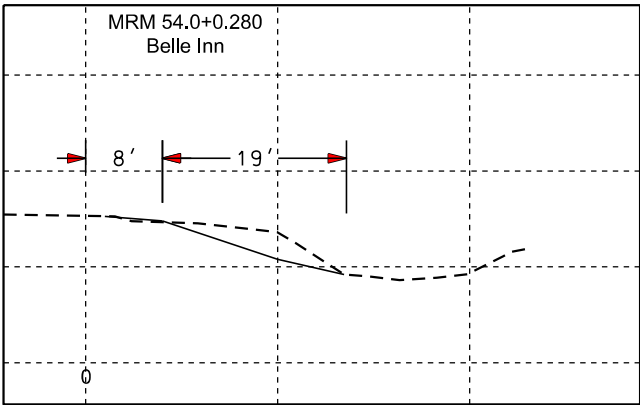
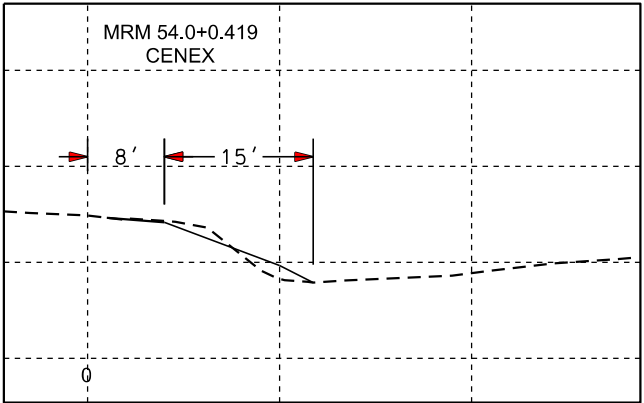
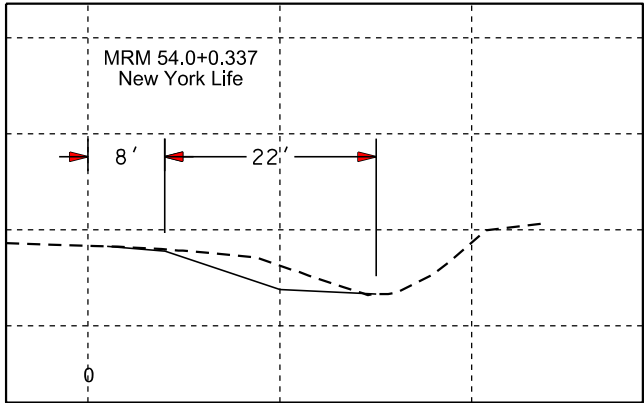
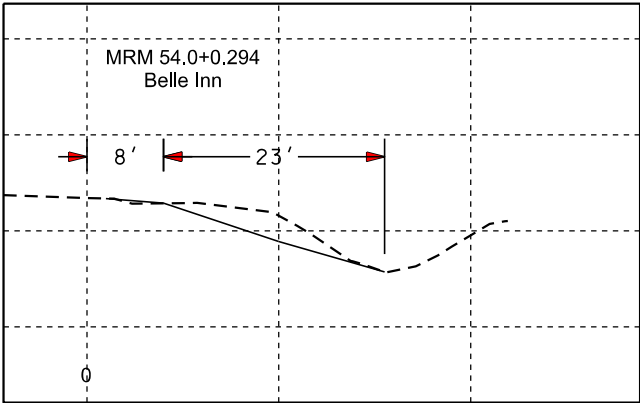
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- There are a few locations that will require fill and a 4:1 inslope construction. See cross sections for location and width.
- Warp 4:1 Slope as directed by the Engineer to avoid luminaires, manholes and drainage structures.

Plot Scale - 1:20

Plotted From - trc12808

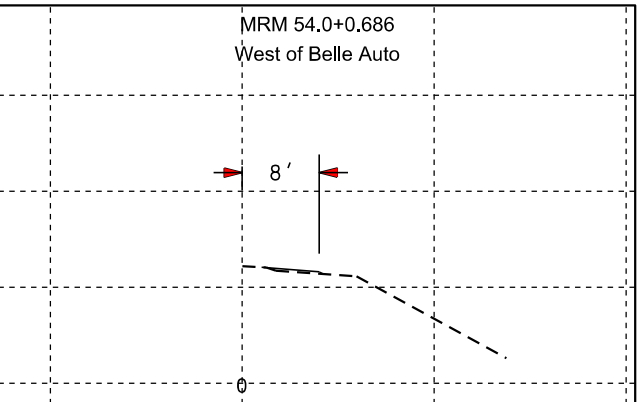
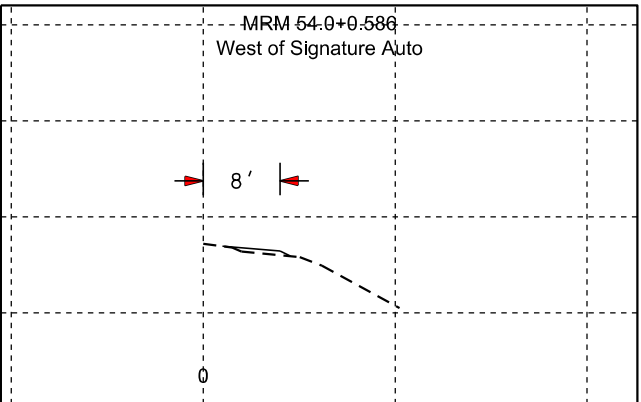
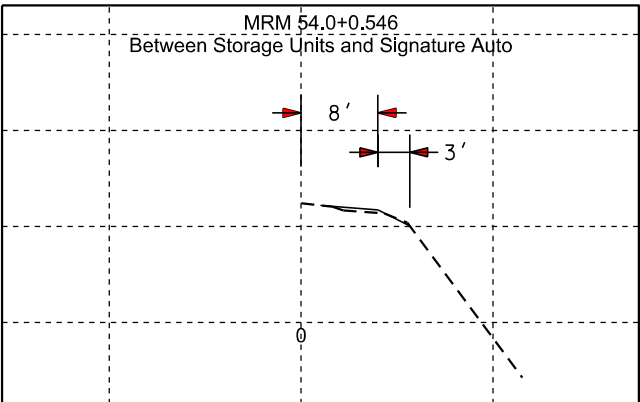
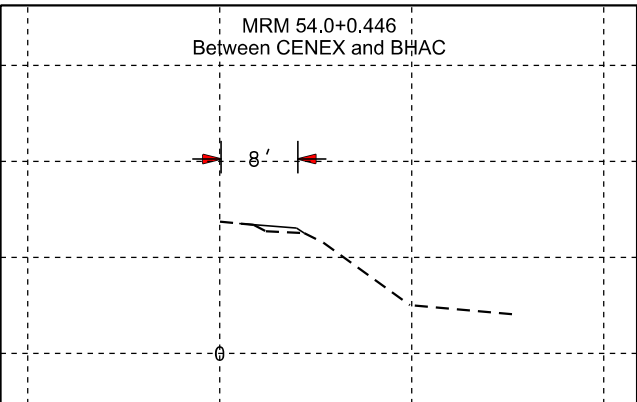
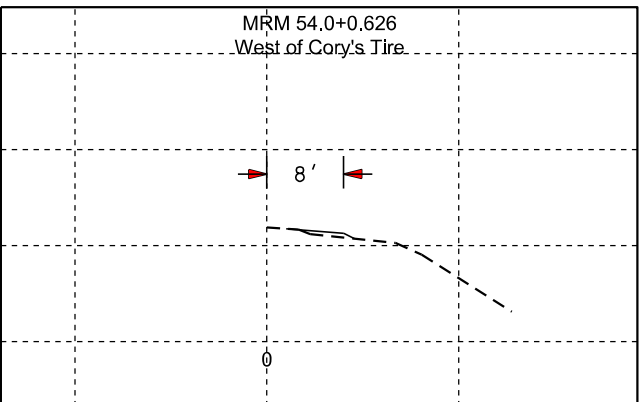
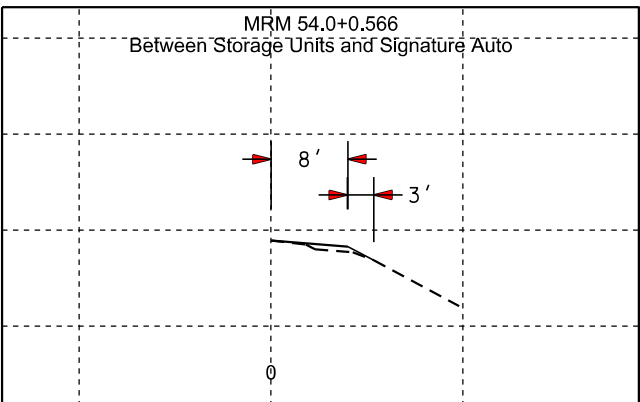
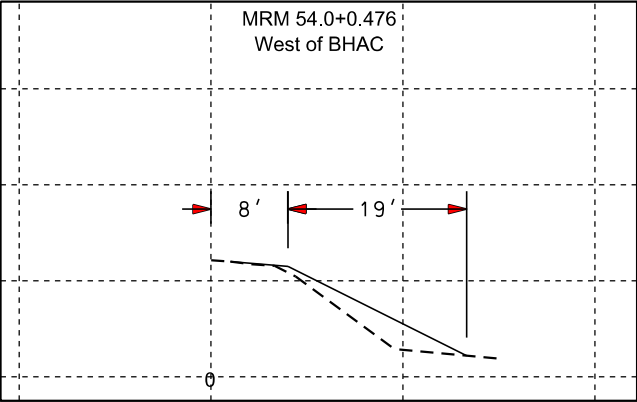
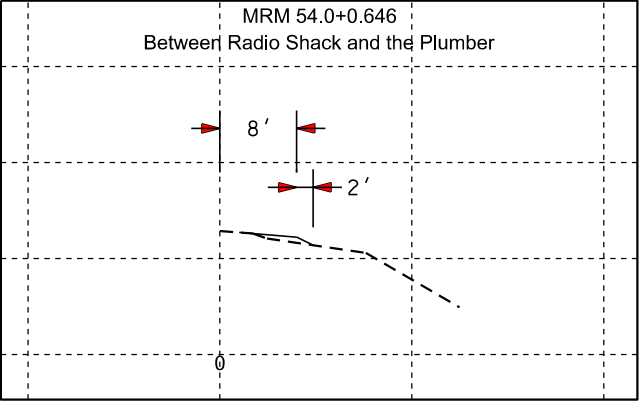
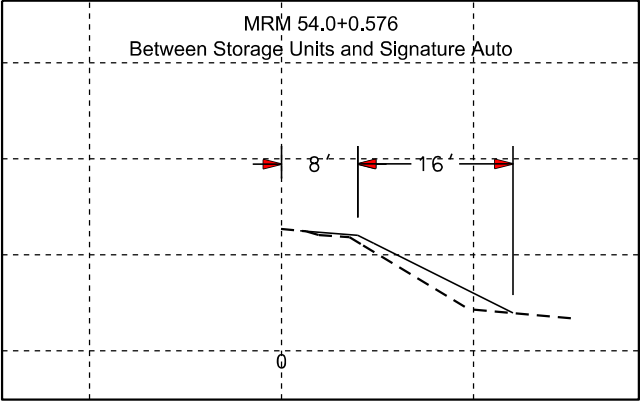
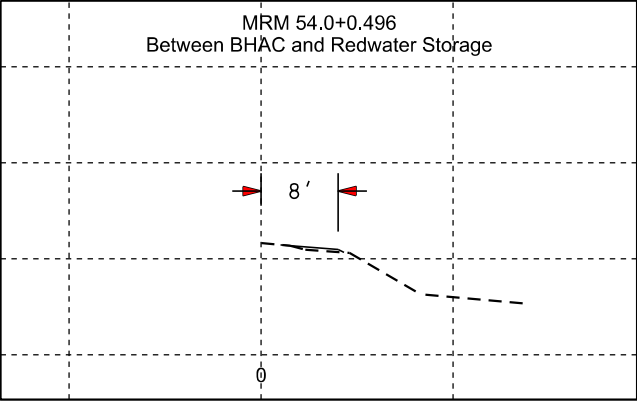
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	10	22

Plotting Date: 02/26/2020



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	11	22

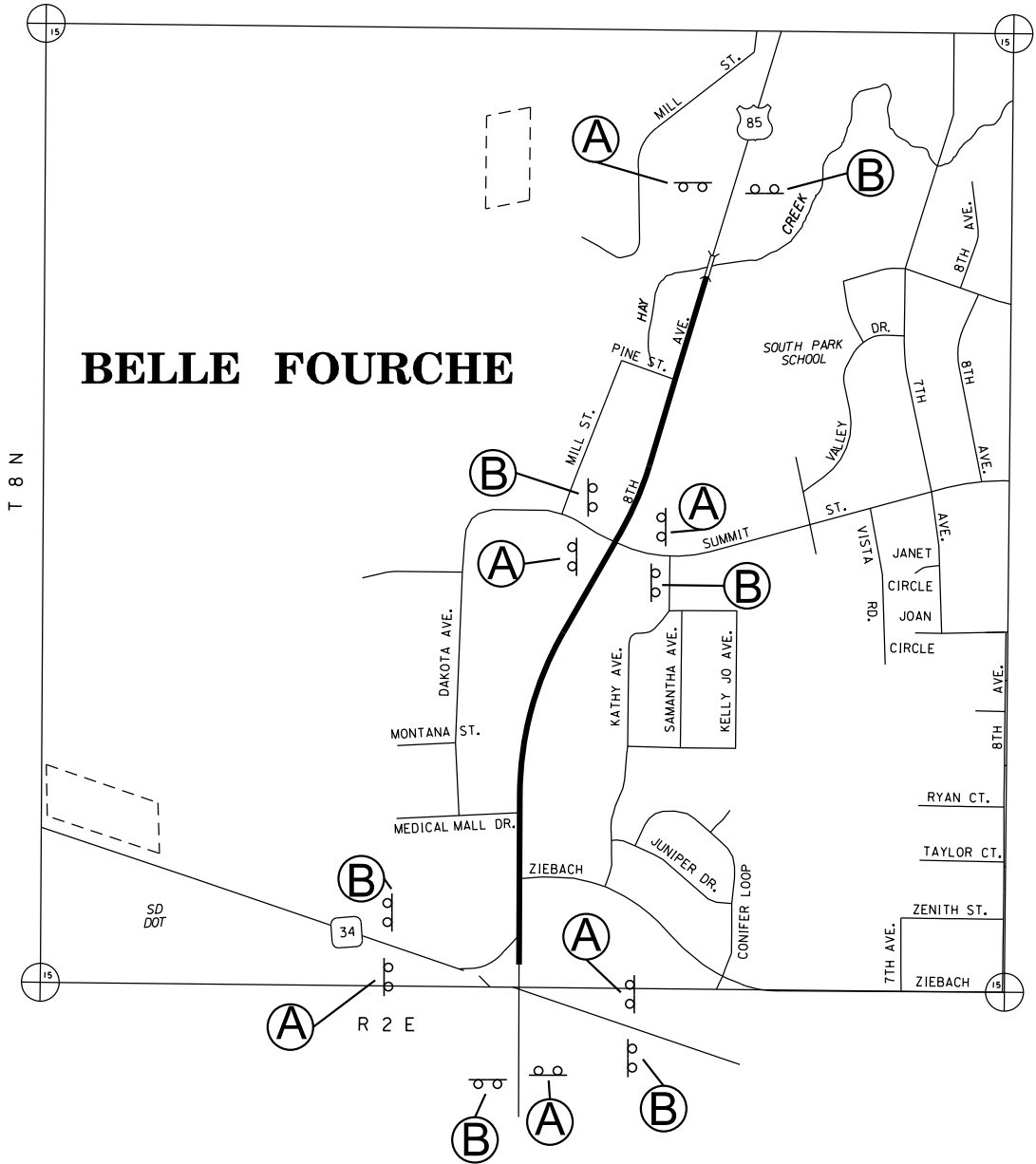
Plotting Date: 02/26/2020



FIXED LOCATION SIGNS

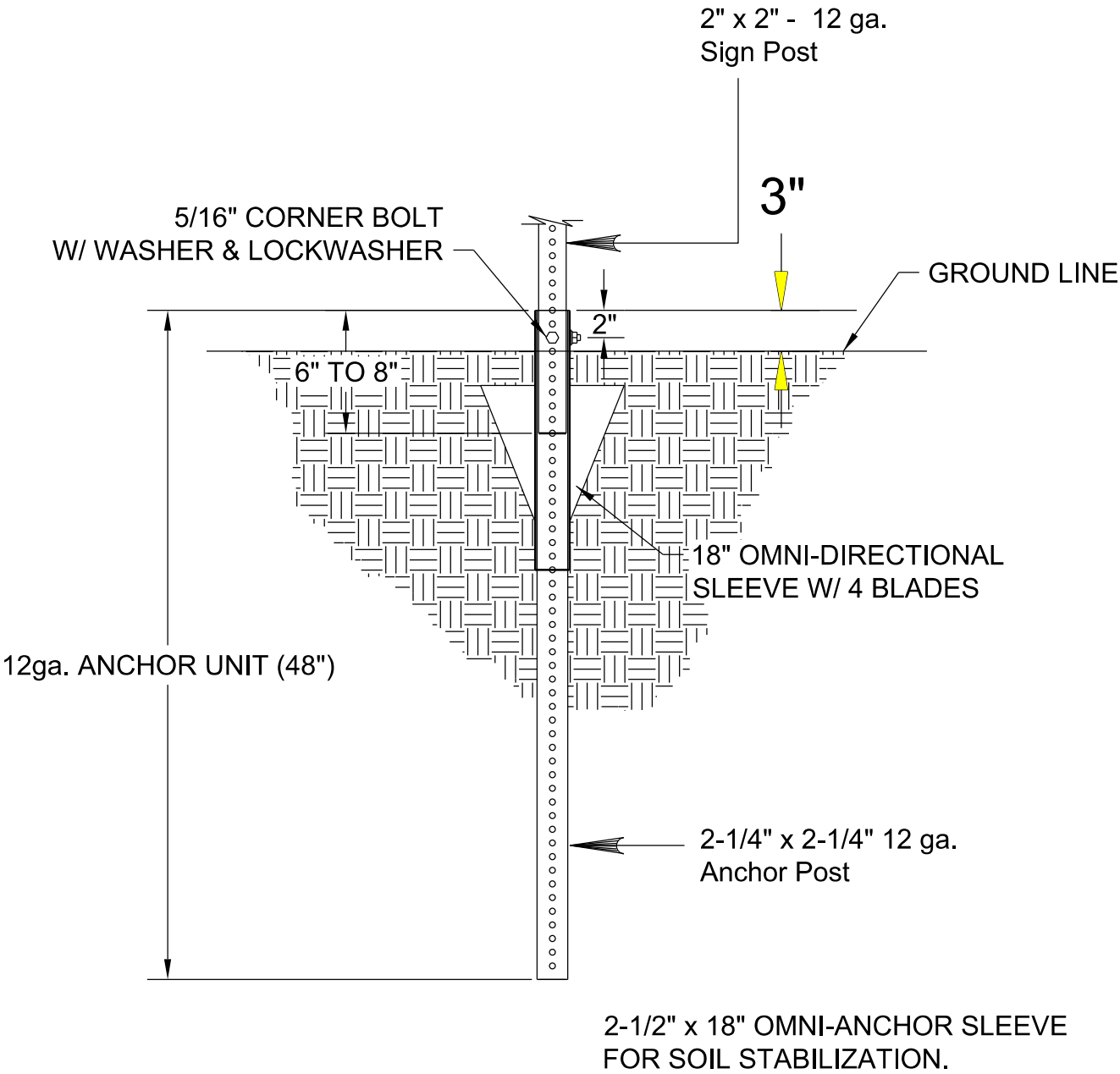
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	12	22

Plotting Date: 02/26/2020

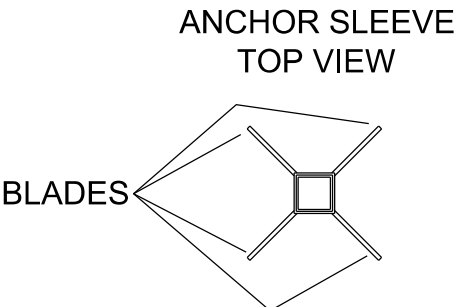


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	13	22
Plotting Date: 02/26/2020			

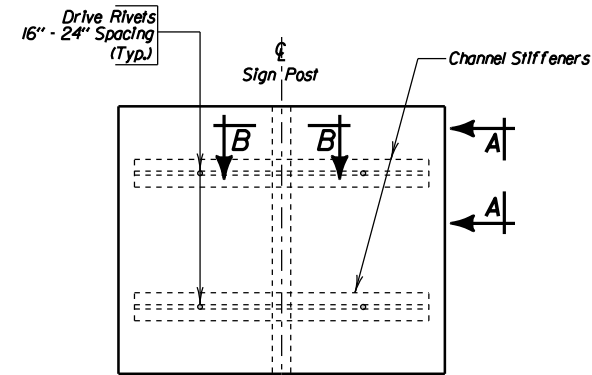
SQUARE TUBE 4 BLADE ANCHOR DETAIL



2-1/2" x 18" 12 ga. Omni-Sleeve



ONE POST BREAKAWAY SIGN SUPPORTS

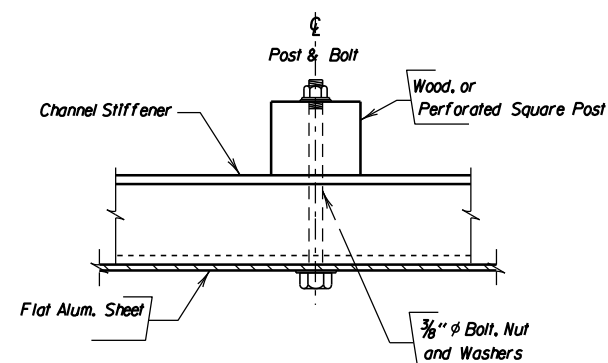
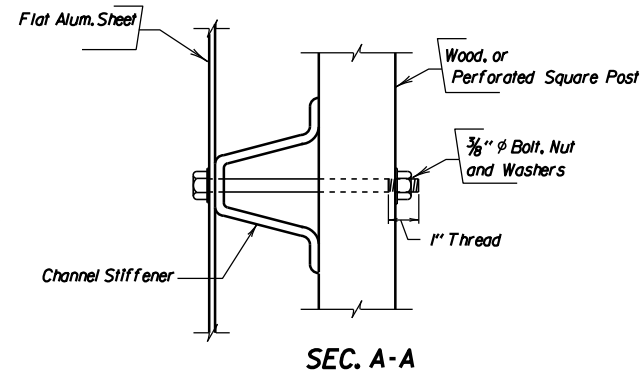
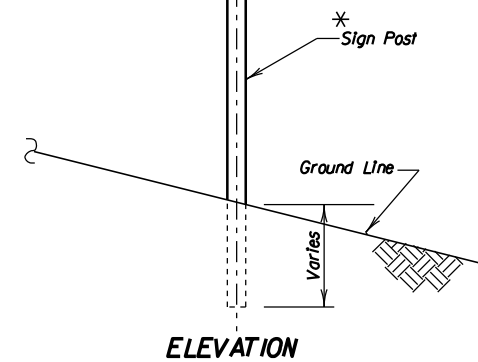


Ø A plastic washer, as recommended by the sheeting manufacturer, shall be installed between the sign face and the metal washer shown.

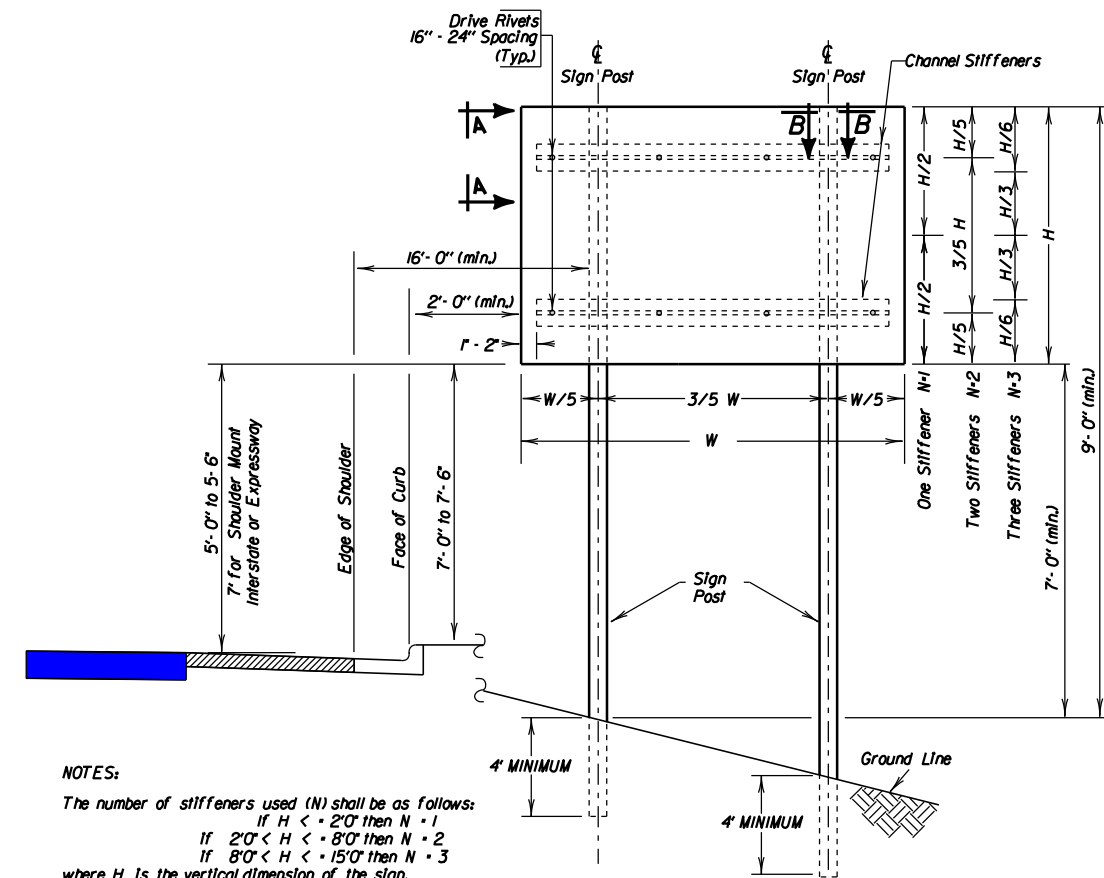
Height and lateral distance as recommended by latest edition
of **MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES**.

*Single post installation shown. (See applicable Details or Standard Plates shown in these plans for multiple post spacing requirements.)

(Typical Sign and Stiffener Details)



TWO POST BREAKAWAY SIGN SUPPORTS



NOTES:

The number of stiffeners used (N) shall be as follows:

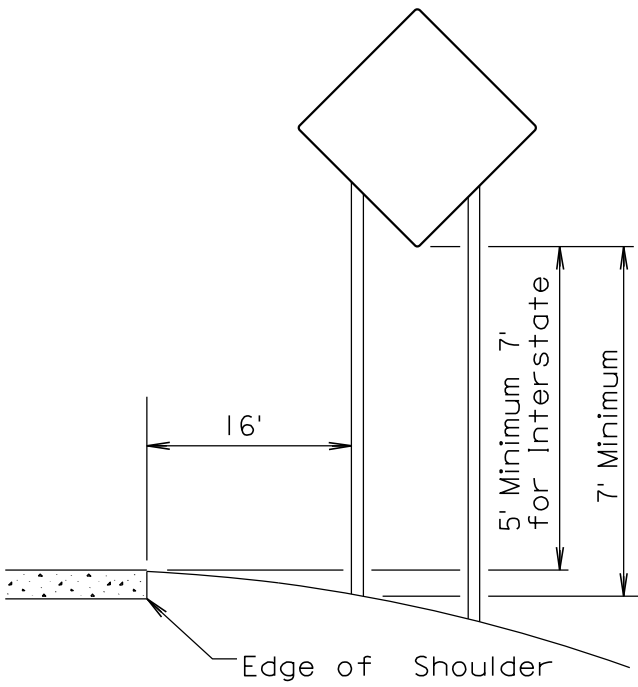
If $H < 2'0"$ then $N = 1$
If $2'0" < H < 8'0"$ then $N = 2$
If $8'0" < H < 15'0"$ then $N = 3$

where H is the vertical dimension of the sign.

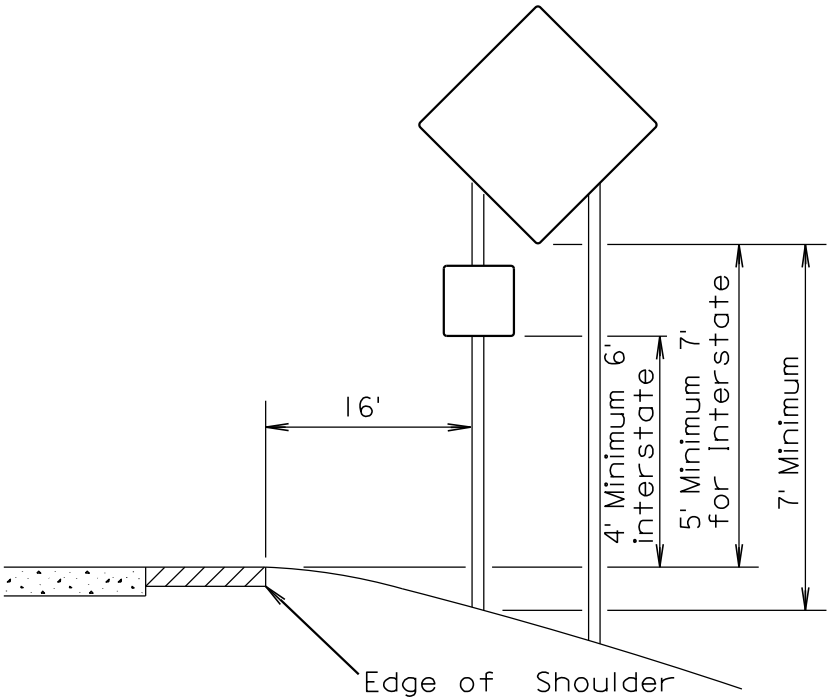
A minimum of two bolts shall be required to fasten the sign to each post.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	15	22
Plotting Date: 02/26/2020			

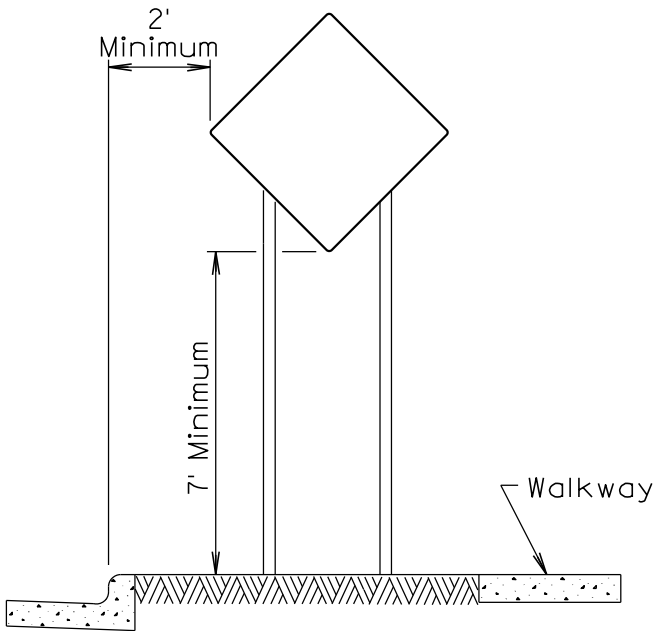
SIGN SUPPORTS
(Lateral Offsets & Mounting Heights)



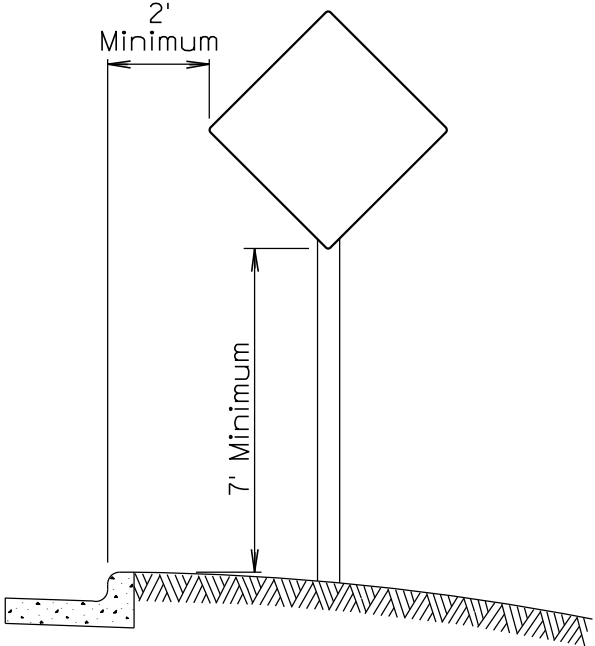
RURAL DISTRICT



RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT



URBAN DISTRICT

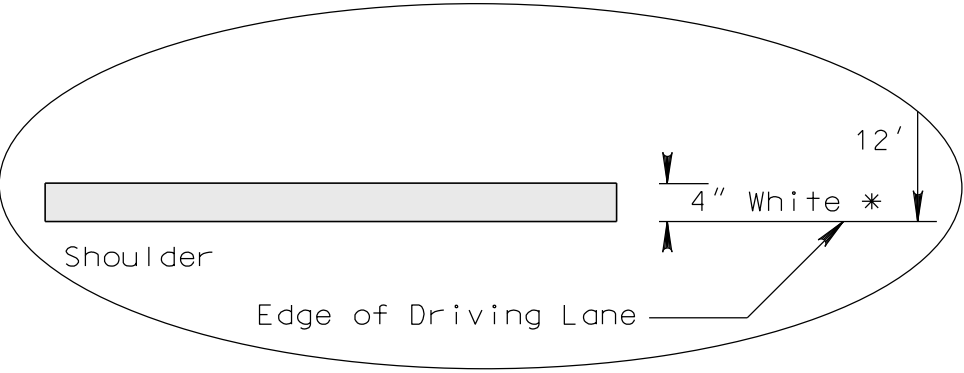
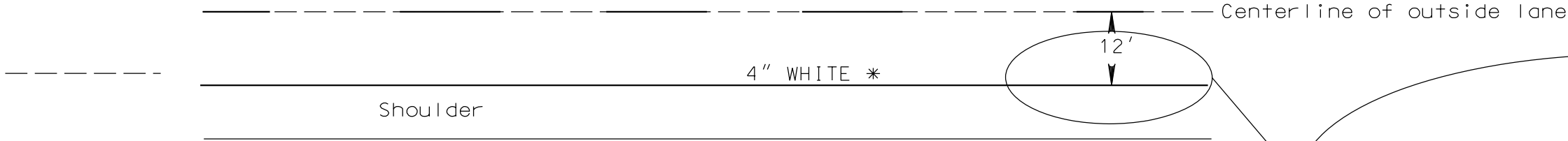
TYPICAL PAVEMENT MARKING LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	16	22

Plotting Date: 02/26/2020

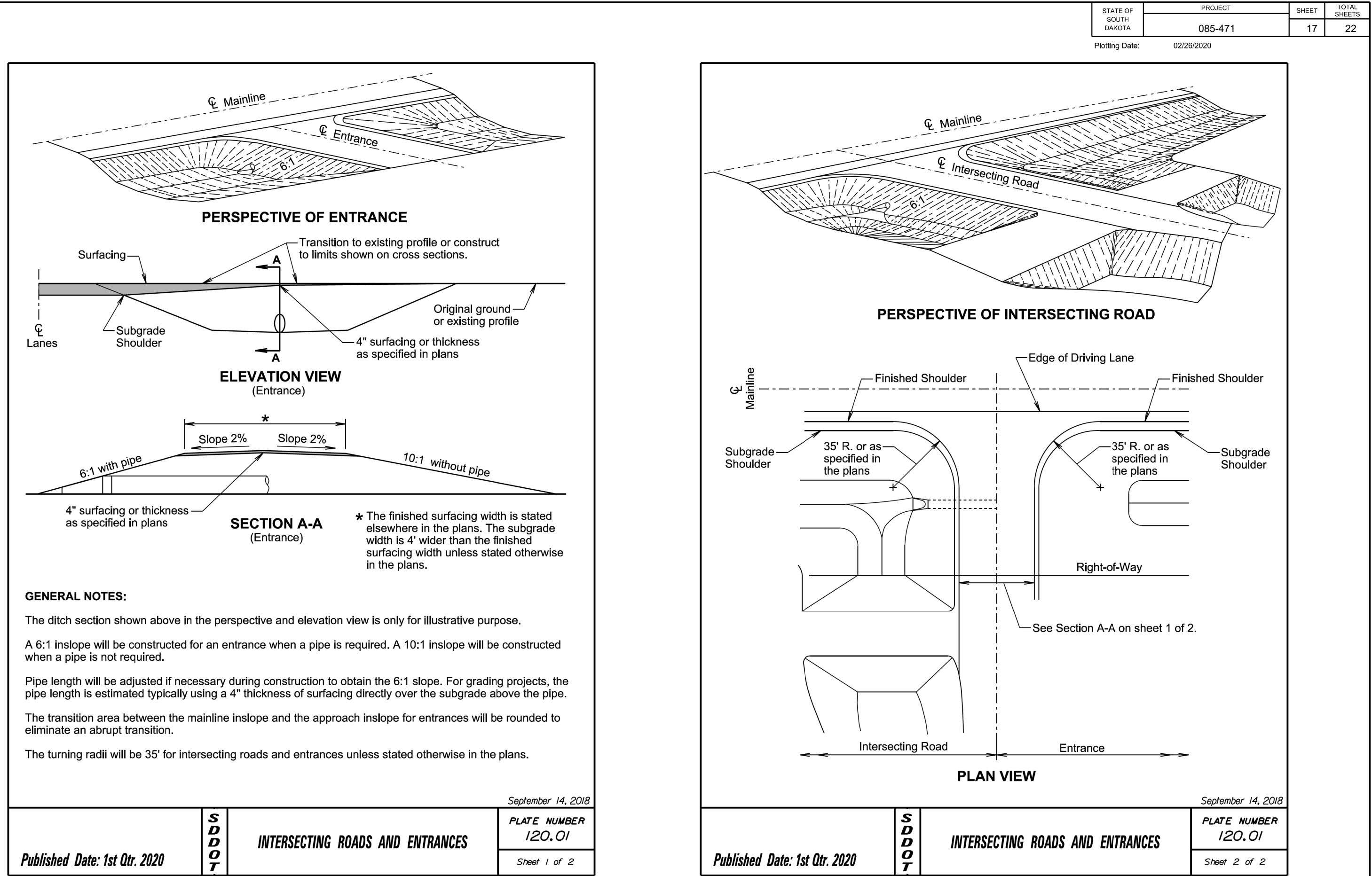
Plot Scale - 1:20

Plotted From - trc12808

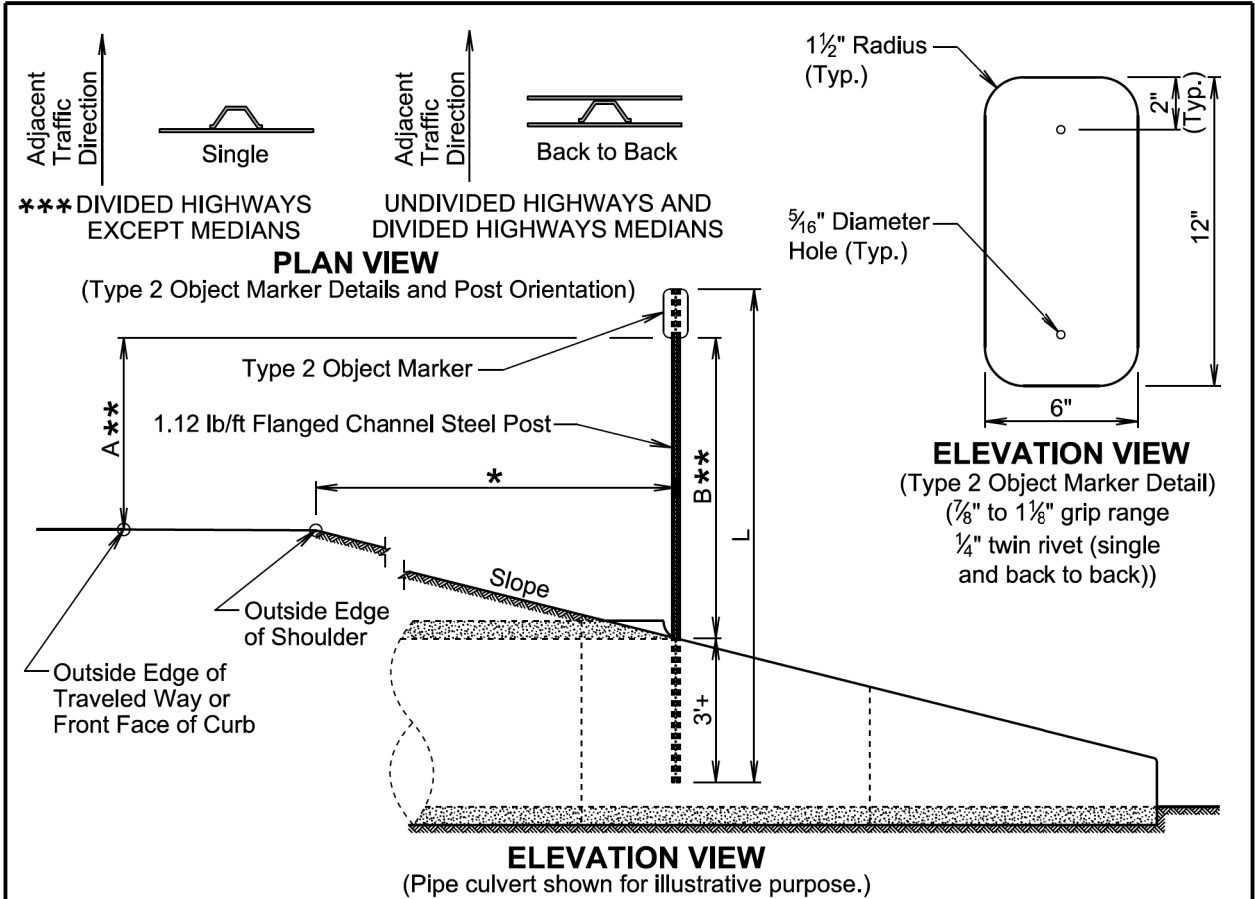


1:200
Plot Scale -

trc12608
- Plotted From -



File - ...Std Pls120-1.dgn



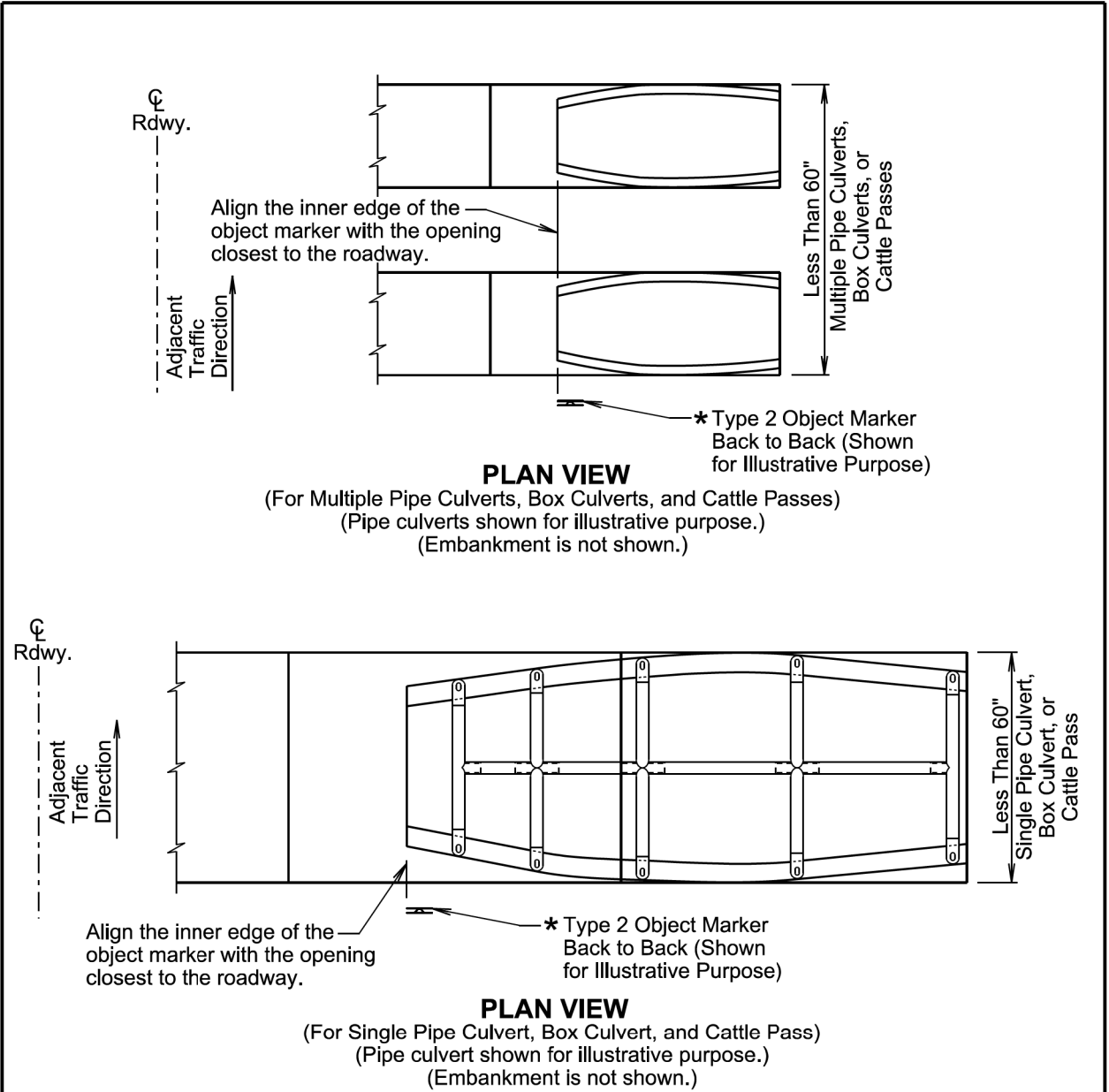
TYPE 2 OBJECT MARKER POST LENGTHS									
OFFSET (*)	1'	2'	3'	4'	5'	6'	7'	8'	Greater Than 8'
SLOPE	POST LENGTH (L)								
	3:1	8'-6"	8'-9"	9'-3"	9'-6"	9'-9"	10'-3"	10'-6"	10'-9"
	4:1	8'-6"	8'-9"	9'-0"	9'-3"	9'-9"	9'-9"	10'-0"	10'-3"
	5:1	8'-3"	8'-6"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	9'-9"
	6:1	8'-3"	8'-6"	8'-9"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"

GENERAL NOTES:

- *** The type 2 object marker may be installed back to back when specified in the plans.
Post Length L was calculated based on a shoulder width of 6 feet at a crossslope of 4 percent and L was rounded up to the nearest 3 inches.
- ** Dimension A is 4 feet when the Offset * is 8 feet and less. Dimension B is 4 feet when Offset * is greater than 8 feet.
The type 2 object marker and the 1.12 lb/ft flanged channel steel post will be in conformance with Specifications Section 982.2 J.
Payment for the type 2 object marker will be in conformance with Specification Section 632.5 B.

December 23, 2019

Published Date: 1st Qtr. 2020	S D D O T	TYPE 2 OBJECT MARKER (DIRECT DRIVE)	PLATE NUMBER 632.01
			Sheet 1 of 1

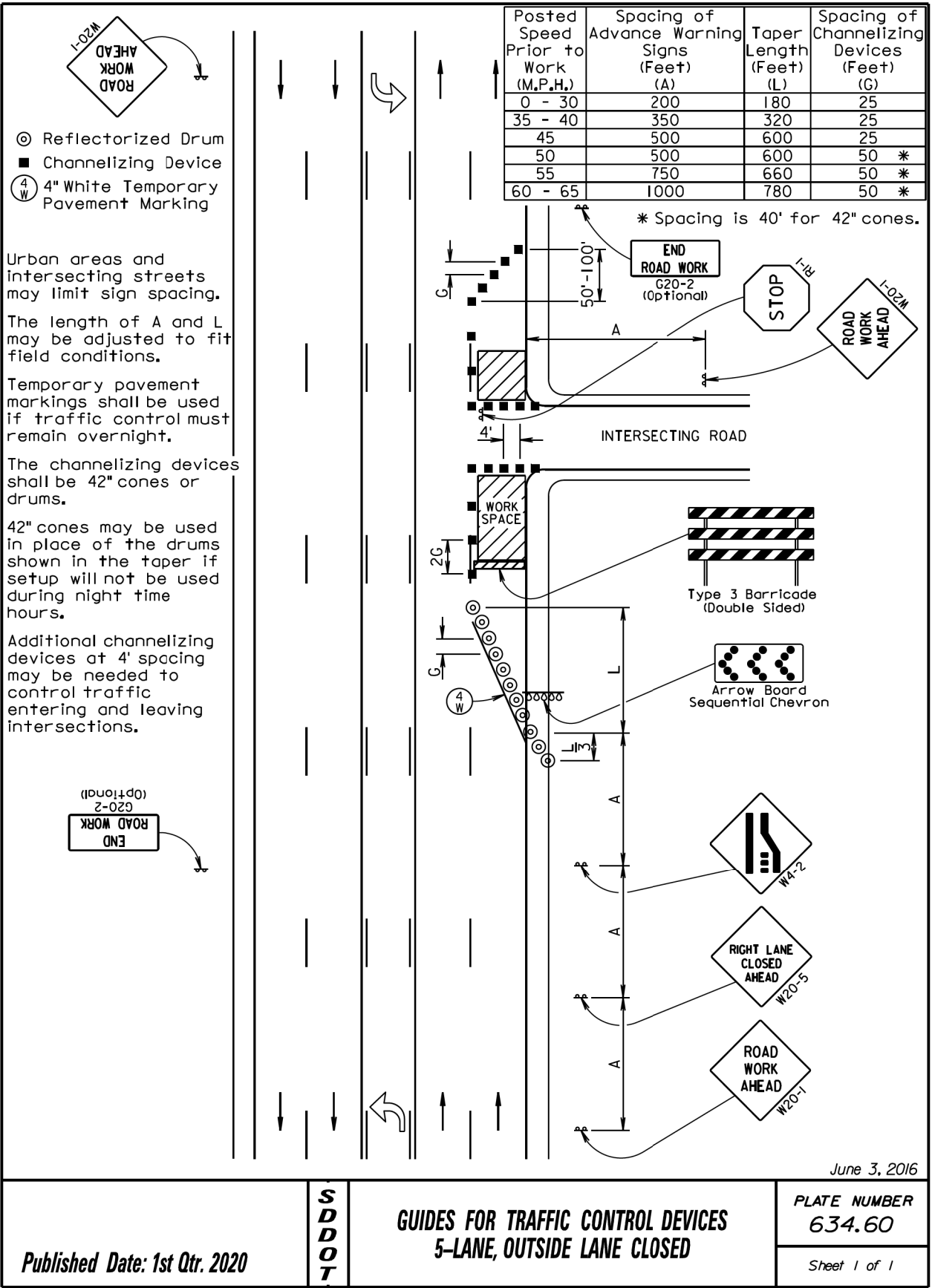
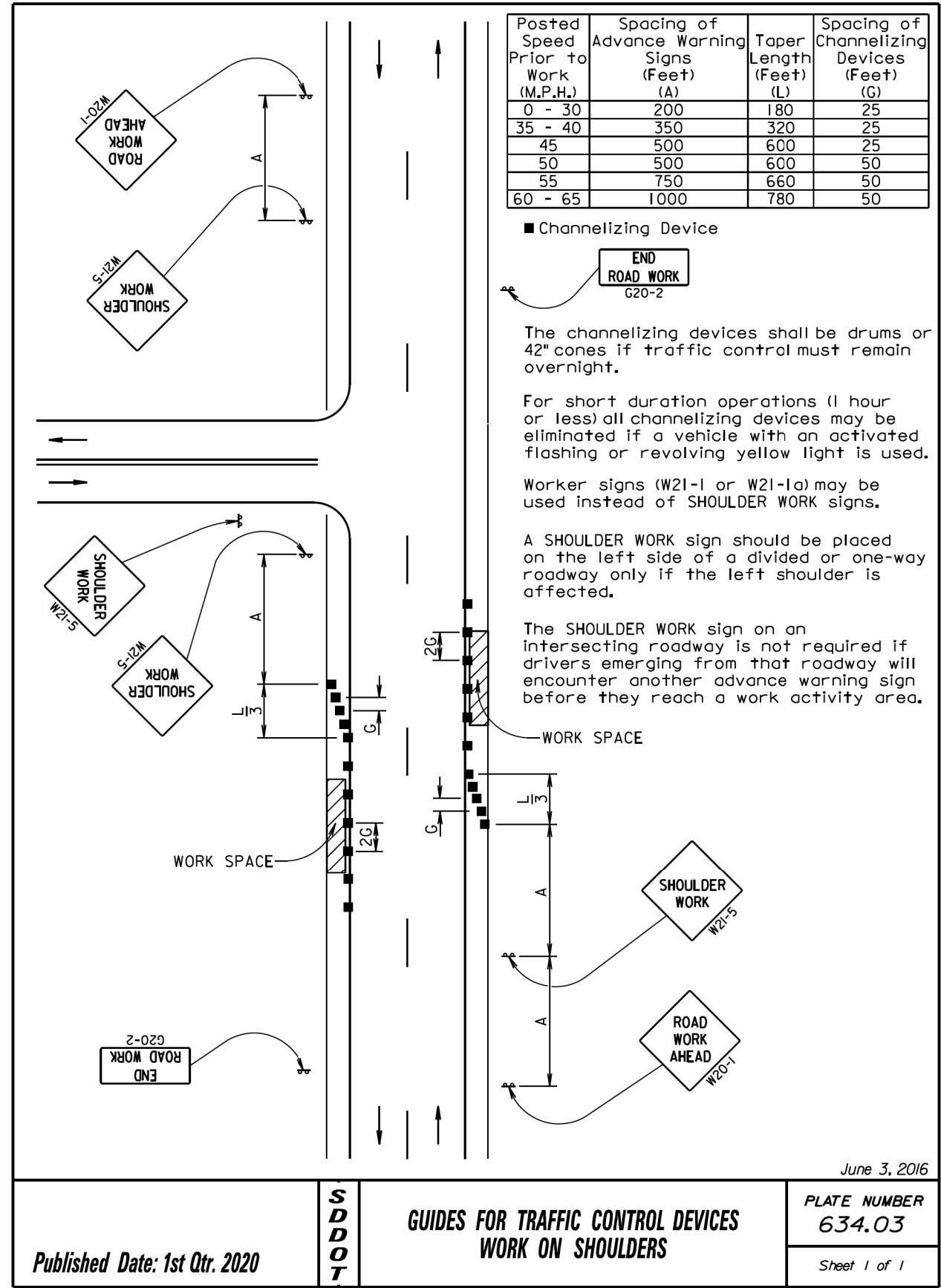


GENERAL NOTES:

- This standard plate will be used in conjunction with standard plate 632.01.
- * The type 2 object markers will be installed at the locations shown above. The type 2 object markers, single faced or back to back, will be as specified in the plans.

December 23, 2019

Published Date: 1st Qtr. 2020	S D D O T	TYPE 2 OBJECT MARKER AT PIPE CULVERTS, BOX CULVERTS, AND CATTLE PASSES (Less than 60" Overall Width)	PLATE NUMBER 632.03
			Sheet 1 of 1

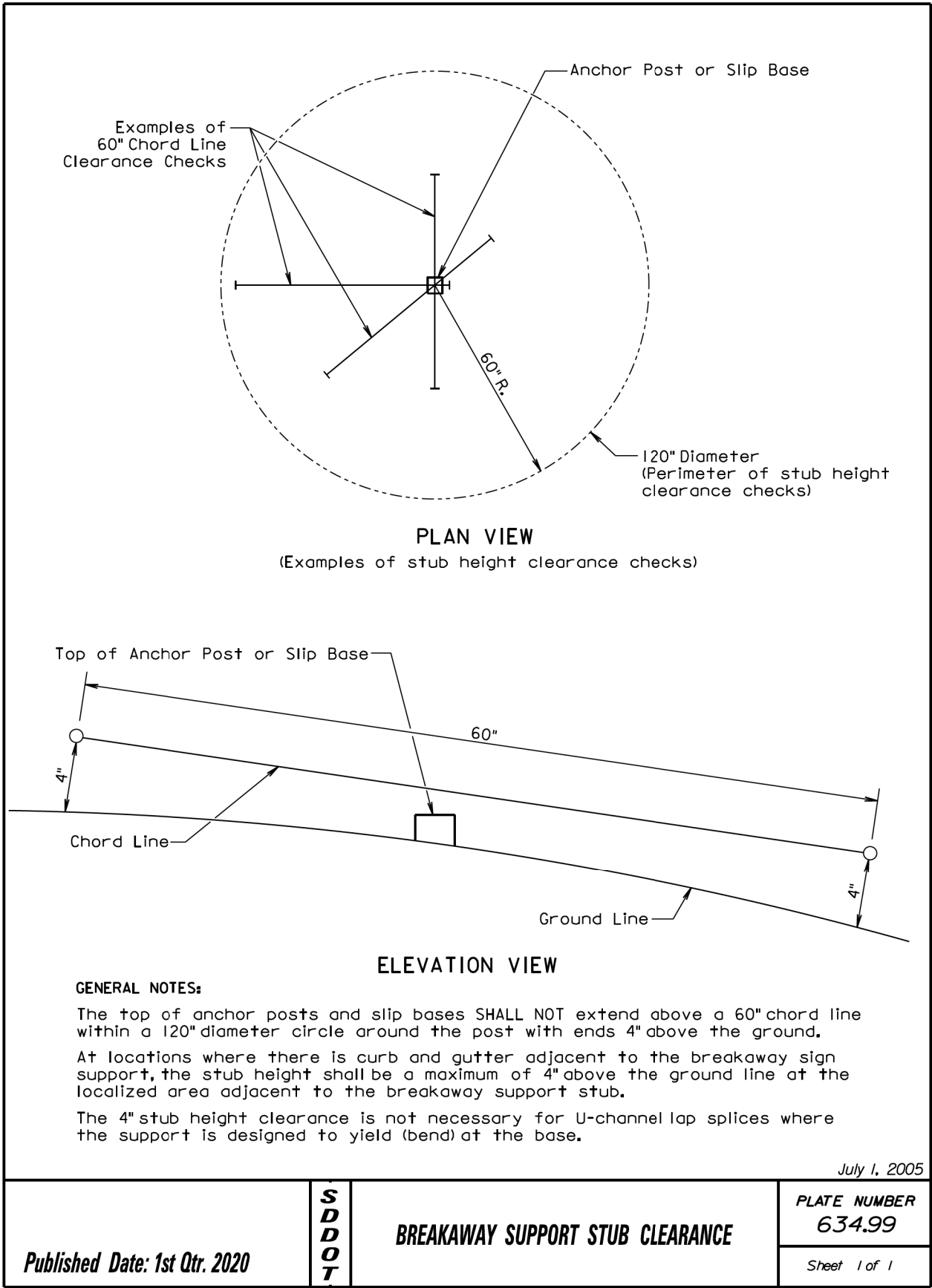
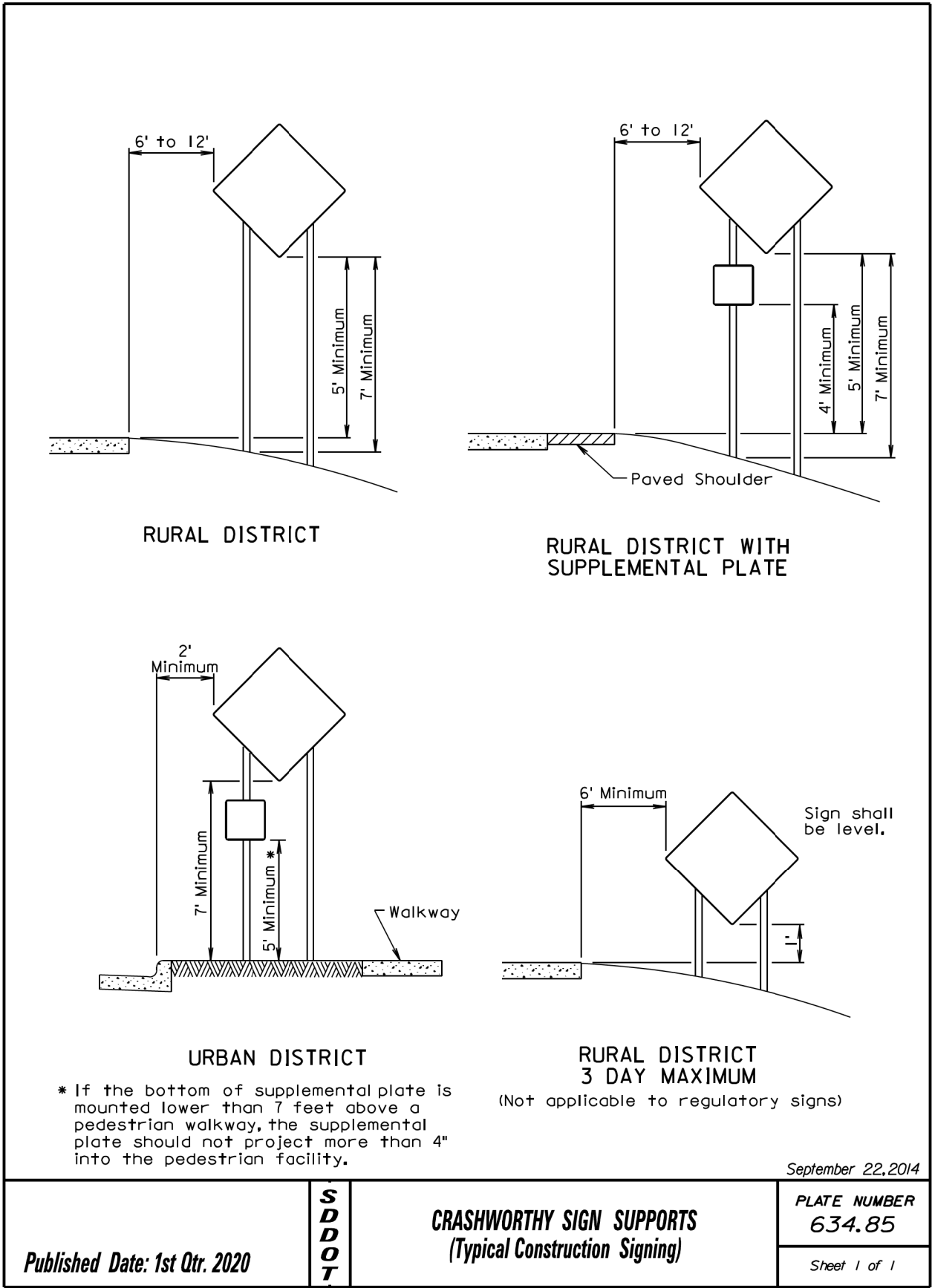


Plot Scale - 1:200

Plotted From - trc12808

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	21	22

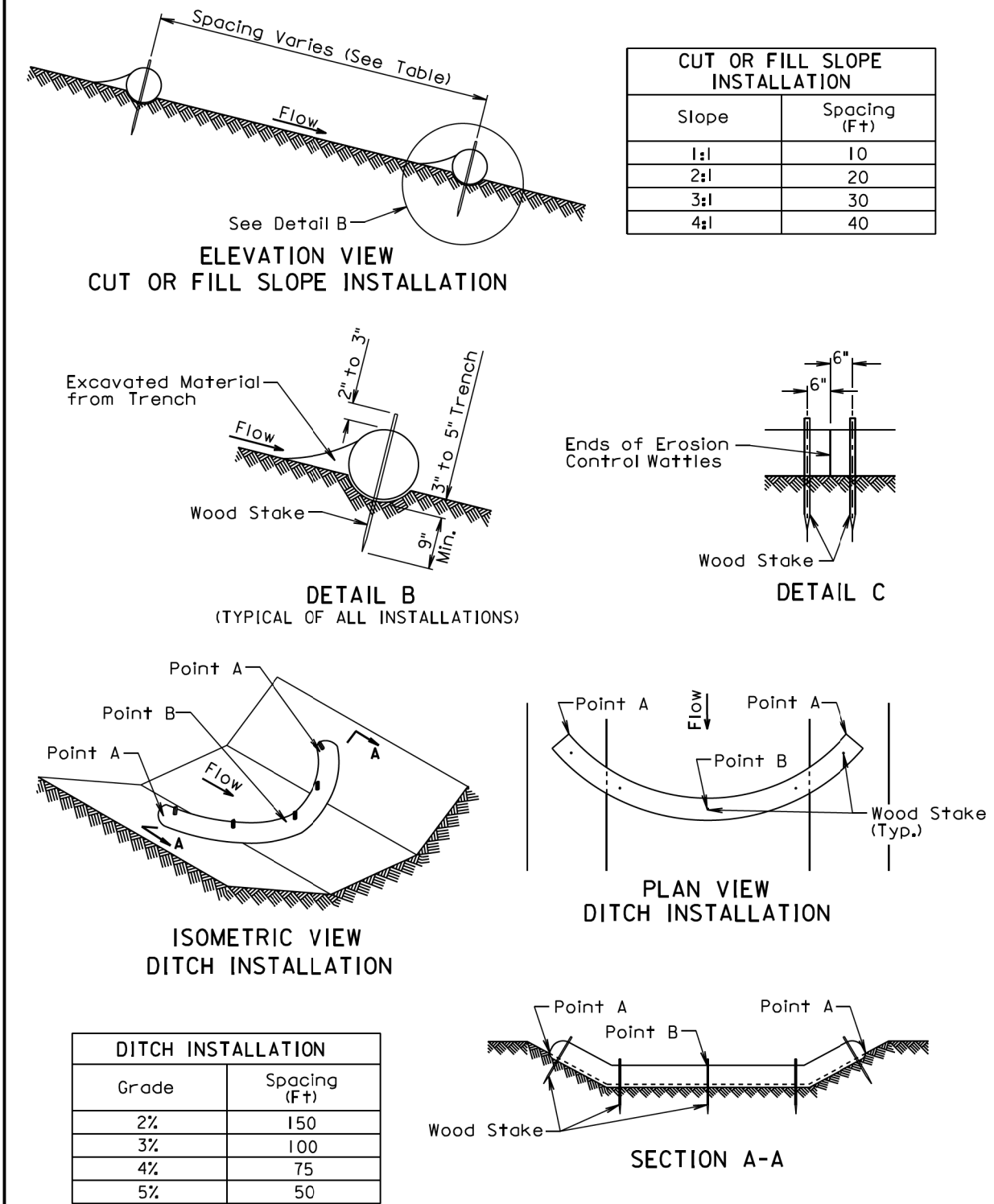
Plotting Date: 02/26/2020



File - ...Std Pls1634-2.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	22	22

Plotting Date: 02/26/2020



December 23, 2004

<i>Published Date: 1st Qtr. 2020</i>	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles shall 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 shall 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 shall 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 shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

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

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than 1/2". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall 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 shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

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

December 23, 2004

<i>Published Date: 1st Qtr. 2020</i>	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2