STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	016A-492, 016A-492, 087-492 & 087-492	1	11

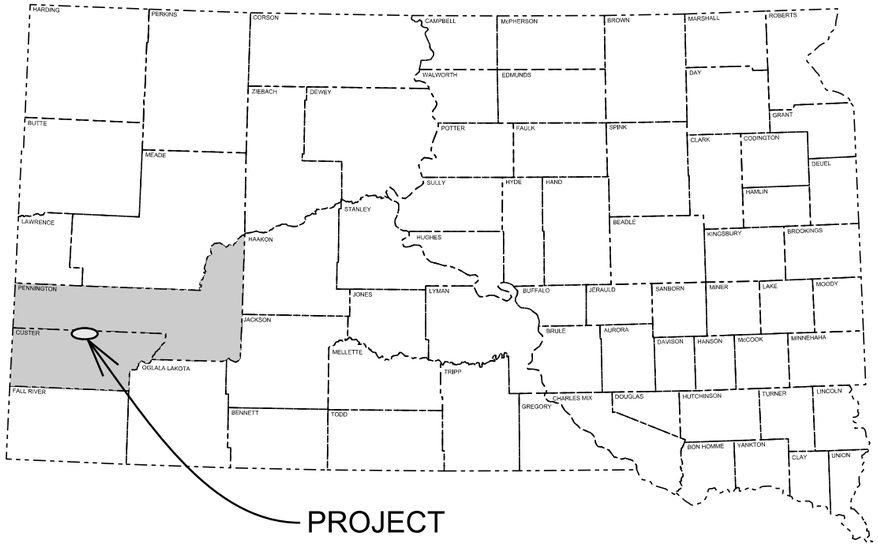
Plotting Date: 05/03/2016

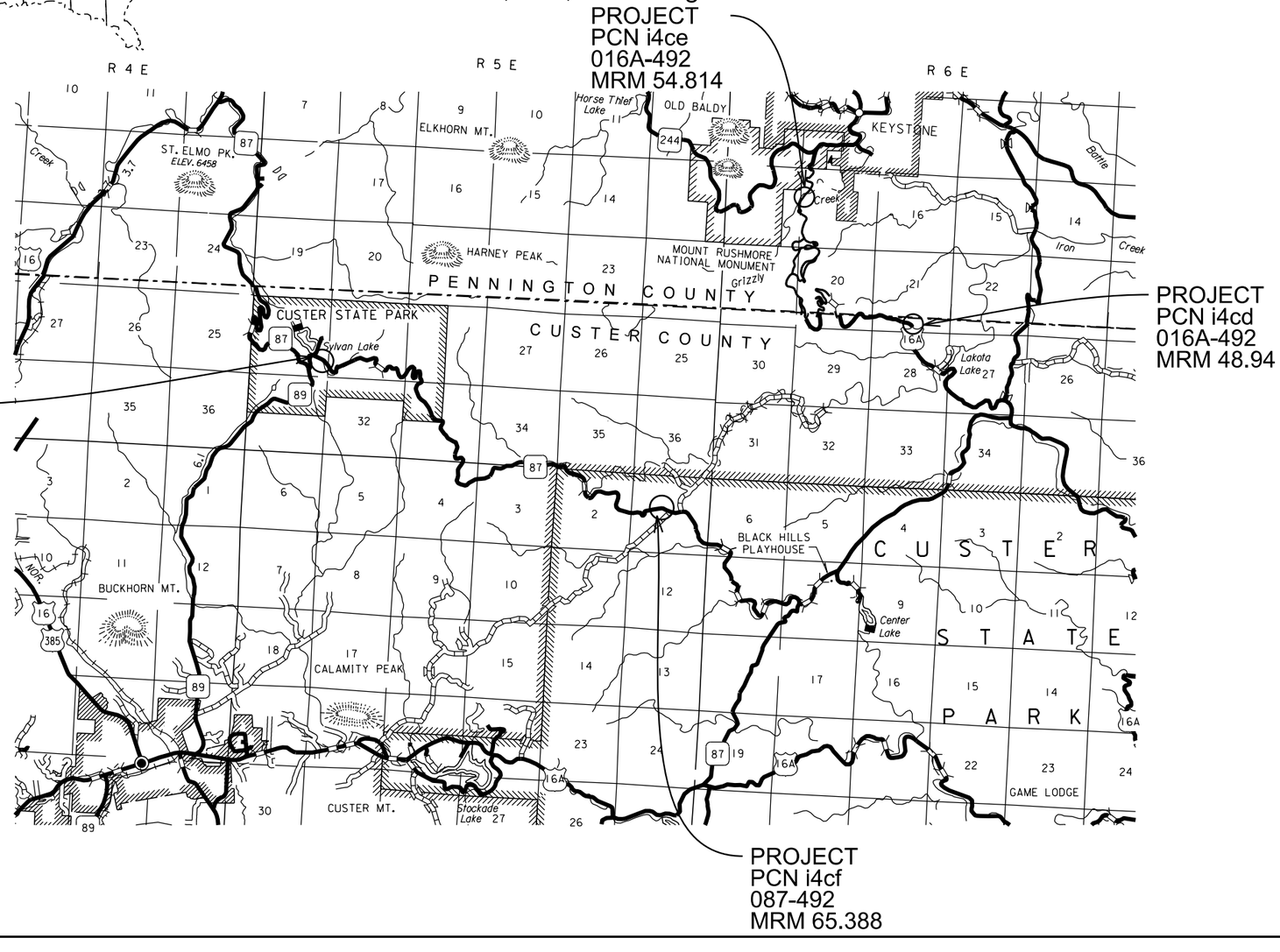
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECTS 016A-492, 016a-492, 087-492, & 087-492
US HIGHWAY 16A & SD HIGHWAY 87
PENNINGTON & CUSTER COUNTIES

ROAD CLOSURE GATES
PCN i4cd, i4ce, i4cf & i4cg





INDEX OF SHEETS

SD Hwy 87
DESIGN DESIGNATION

ADT (2015)	585
ADT (2035)	712
DHV	112
D	51 %
T DHV	3.3 %
T ADT	7.3 %
V	35 MPH

US Hwy 16A
DESIGN DESIGNATION

ADT (2015)	382
ADT (2035)	501
DHV	79
D	51 %
T DHV	1.7 %
T ADT	3.7 %
V	25 MPH

STORM WATER PERMIT

None Required

Plot Scale - 1:200

Plotted From - trrc11610

File - ...\Forest Service Gates\title.dgn

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	016A-492, 016A-492, 087-492 & 087-492	2	11

ESTIMATE OF QUANTITIES – i4cd

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	106.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
900E0050	Forest Service Road Closure Gate	1	Each

ESTIMATE OF QUANTITIES – i4cg

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	106.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
900E0050	Forest Service Road Closure Gate	1	Each

ESTIMATE OF QUANTITIES – i4ce

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	106.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
900E0050	Forest Service Road Closure Gate	1	Each

ESTIMATE OF QUANTITIES – i4cf

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	106.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
900E0050	Forest Service Road Closure Gate	1	Each

SPECIFICATIONS

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

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. The environmental commitments associated with this project are as follows:

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 pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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 shall 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) shall 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) shall 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 Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of 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) shall 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 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 review of cultural resources impacts. 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 shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT R: FIRE PREVENTION IN THE BLACK HILLS AREA

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

Action Taken/Required:

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

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.

INCIDENTAL WORK

The Contractor shall remove existing road closure gates, posts and footings prior to installation of new road closure gates, as listed in the Table. Existing gates consist of metal tubular gates with concrete footings. All costs involved in this removal shall be incidental to the contract lump sum price for "Incidental Work".

ROAD CLOSURE GATE LOCATIONS

Hwy	MRM	Location
US 16A	48.94	2.36 miles north of Jct N. Playhouse Road
US 16A	54.814	0.946 mile south of Jct SD 244
SD 87	65.388	3.2 miles west of Jct Playhouse Road
SD 87	73.20	0.2 mile east of Jct SD 89 at Sylvan Lake

ROAD CLOSURE GATE

The Contractor shall furnish and install road closure gate including open/close locking posts, hinge post, concrete footings, gate, Road Closed sign, back fill around footings, and miscellaneous material required to construct this road closure gate shall all be incidental to the contract unit price per each for "Road Closure Gate".

SHEETING REQUIREMENTS

All legend and border utilizing the color black shall be vinyl or screen printed black, non-reflectorized material. All other legend and border shall be of same type of sheeting as the background of the same sign. The ROAD CLOSED signs shall be Type IV as per ASTM D4956-04.

All flat aluminum signs shall be 0.100" sheet aluminum.

The side trim moldings shall be painted with a color that matches the color of the sign background sheeting. The color coat shall be preceded by a zinc chromatic primer. Paints shall be approved by the Engineer prior to use.

Adhesive copy applied directly to sheeted extruded aluminum sign panel background may be substituted for removable copy, if approved by the Engineer. Direct applied adhesive copy located on panel seams shall be neatly cut at the seams and securely adhered to the panels.

REMOVE AND REPLACE TOPSOIL

Topsoil shall also be salvaged and stockpiled prior to constructing the following: Road Closure Gate(s). Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil shall be spread evenly over the disturbed areas.

The estimated total amount of topsoil to be removed and replaced is 12.0 CuYd.

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

EROSION CONTROL

The estimated area requiring erosion control is 972 square feet total for all locations. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, inoculum, fertilizer, and fiber mulching shall 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.

Hand seeding devices approved by the Engineer will be allowed. All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

EROSION CONTROL (CONT.)

Mycorrhizal Inoculum

Mycorrhizal inoculum shall 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 shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

Glomus intraradices	25%
Glomus aggregatu	25%
Glomus mosseae	25%
Glomus etunicatum	25%

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre.

The mycorrhizal inoculum shall 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

FERTILIZING

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (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 shall 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 shall 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 shall 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 shall be applied at a rate of 34 pounds per 1,000 square feet in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer shall 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

EROSION CONTROL (CONT.)

Permanent Seeding

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

Type E Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SQFT)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana	2.5
Green Needlegrass	Lodorm	1.5
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	1
Blue Grama	Bad River, Willis	1
Canada Wildrye	Mandan	1
Wildflowers		
Dotted Gayfeather (*Liatris punctata*)		0.5
Black-eyed Susan (*Rudbeckia hirta*)		0.5
Blue Flax (*Linum lewisii*)		0.5
Pale Purple Coneflower (*Echinacea angustifolia*)		0.5
Total:		9

Fiber Mulching

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

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

The Contractor shall 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 fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price lump sum price for “Erosion Control”.

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

http://sddot.com/business/certification/products/Default.aspx

TRAFFIC CONTROL – GENERAL NOTES

1. 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.

2. Unless otherwise stated in these plans, no work will be allowed during hours of darkness.

3. 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.

4. All non-applicable existing signing and temporary traffic control devices shall be covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 48 hours. The cost of removing or covering non-applicable signs and temporary traffic control devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

5. Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. 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.

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

7. 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.

8. Temporary Flexible Vertical Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

TABLE OF TRAFFIC CONTROL DEVICES – i4cd

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			106

TABLE OF TRAFFIC CONTROL DEVICES – i4ce

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			106

TABLE OF TRAFFIC CONTROL DEVICES – i4cf

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			106

TABLE OF TRAFFIC CONTROL DEVICES – i4cg

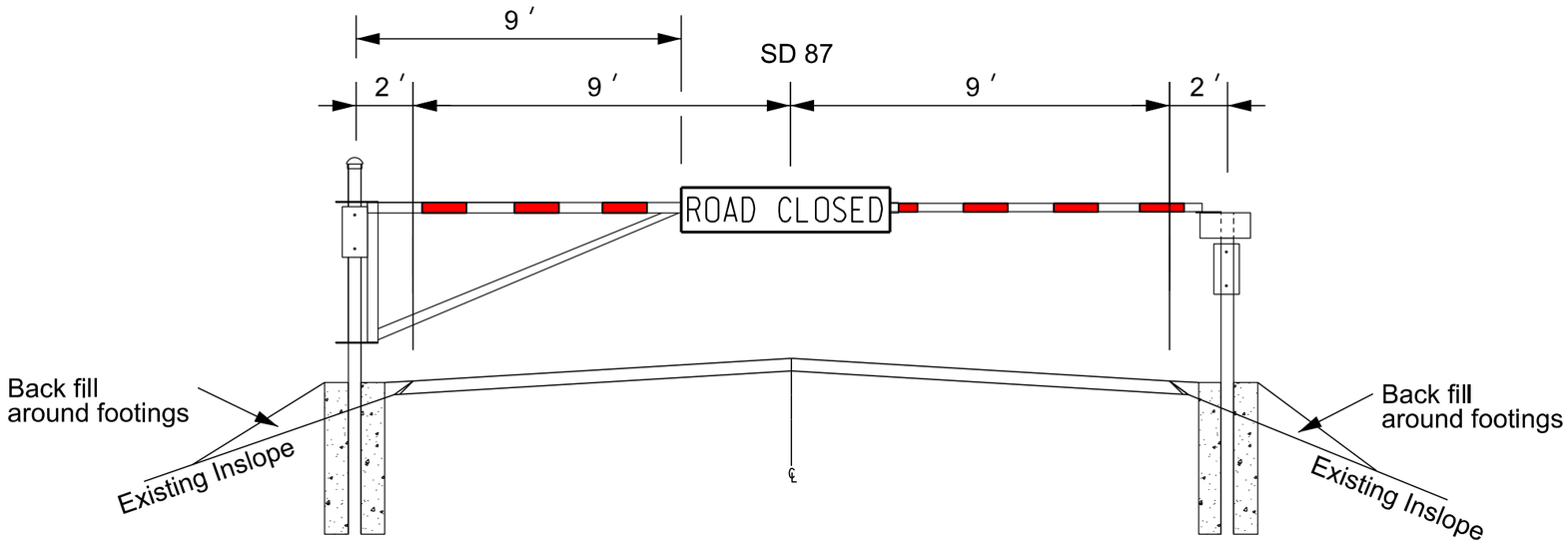
ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

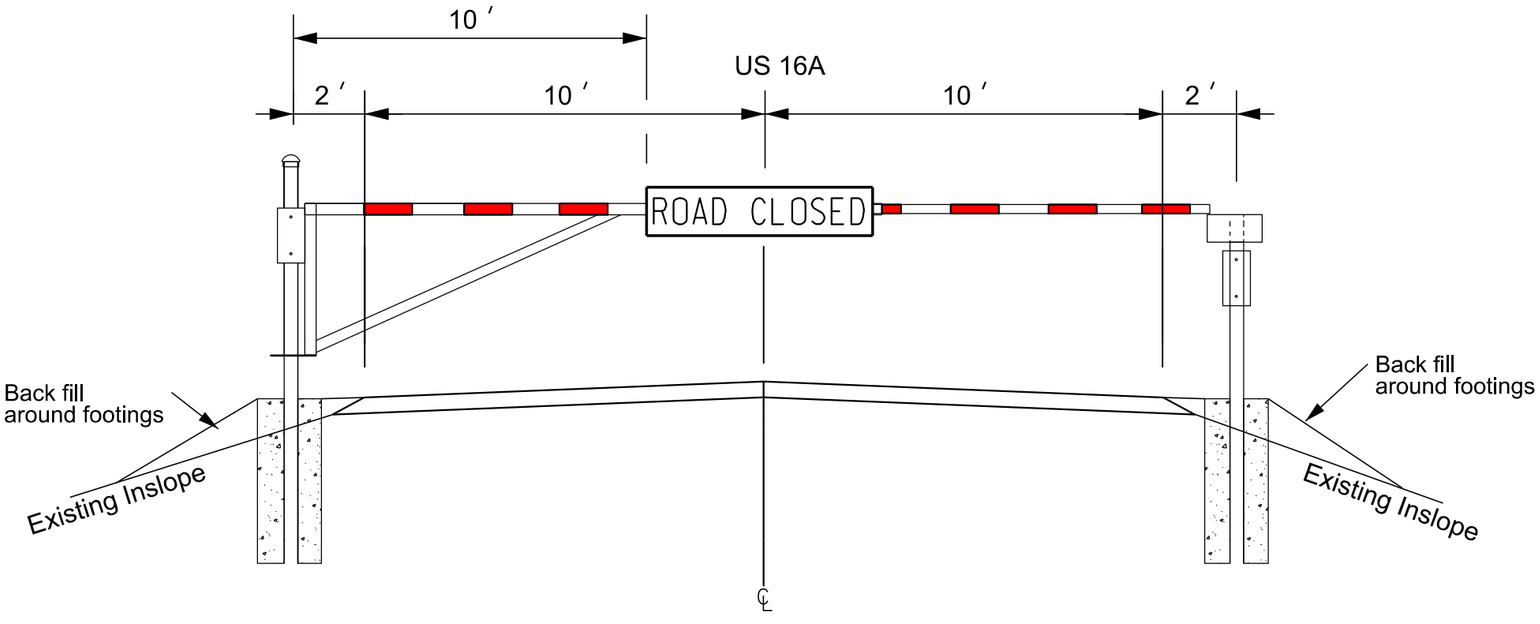
		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			106

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	016A-492, 016A-492, 087-492 & 087-492	7	11

Plotting Date: 05/03/2016

TYPICAL GATE LAYOUT





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Plotted From - trrc11610

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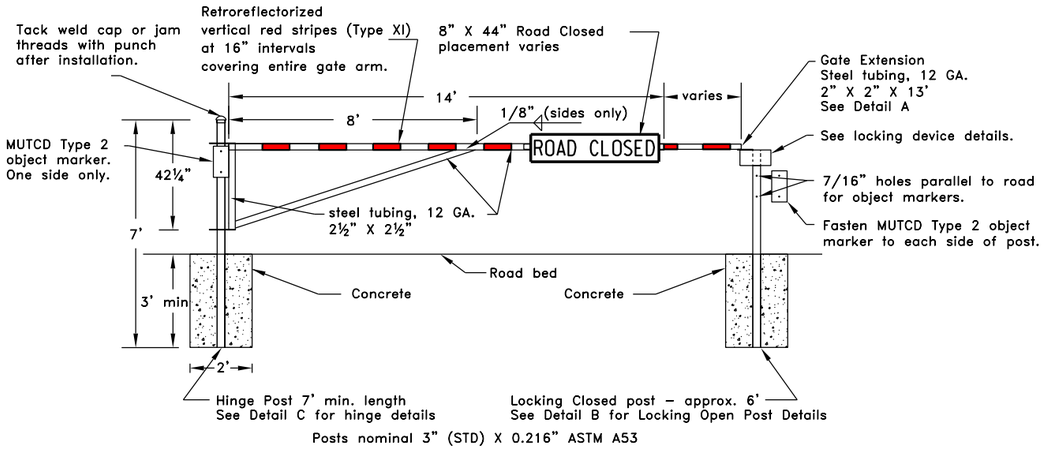
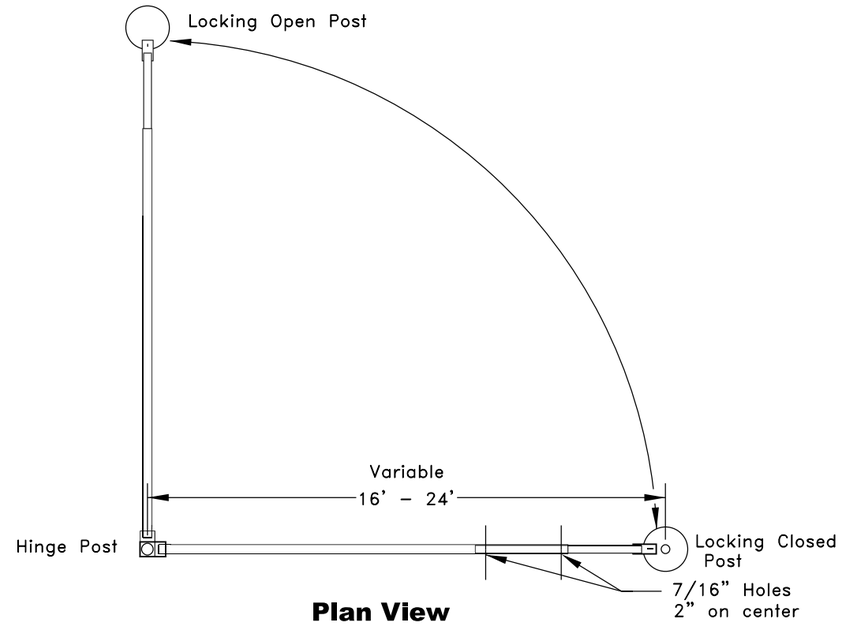
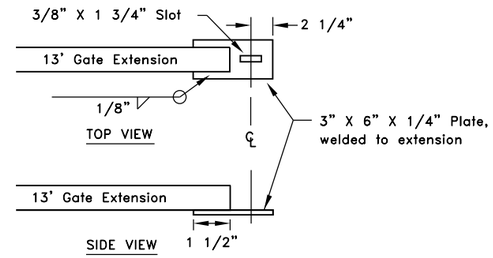


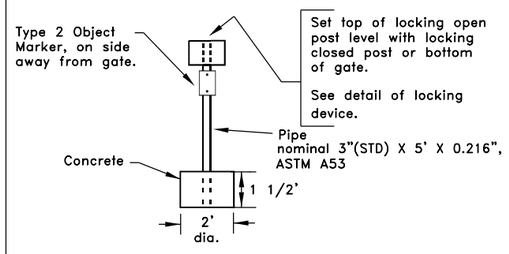
Elevation View
Gate Plan & Elevation Details



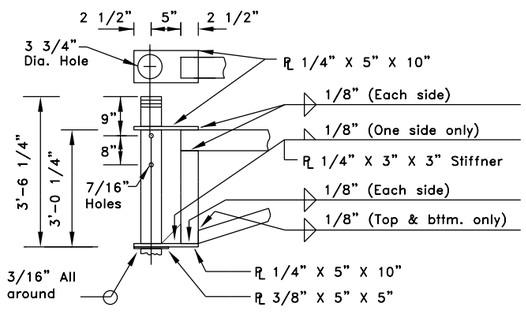
Plan View



Detail A

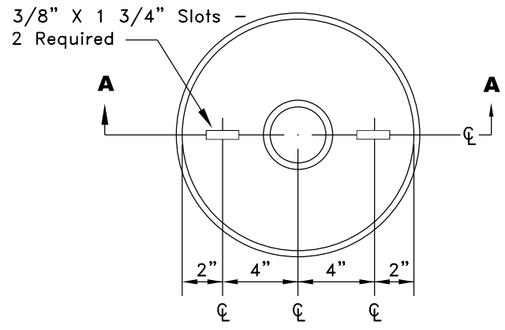


Detail B

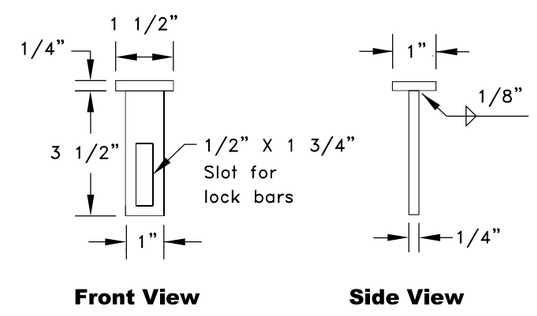


Detail C

1. All members of the gate assembly shall be fabricated from standard steel sections. Fabricated members shall receive one shop coat of aluminum paint after fabrication. Aluminum paint shall conform to AASHTO M 69 Type II.
2. All required hardware and attached signs are included in the pay item for the closure gate.
3. Concrete shall be in accordance with Class M concrete.
4. Attach all signs with 3/8" vandal–proof bolts.
5. All signs and markers shall meet current MUTCD standards and specifications for installation and reflectivity.

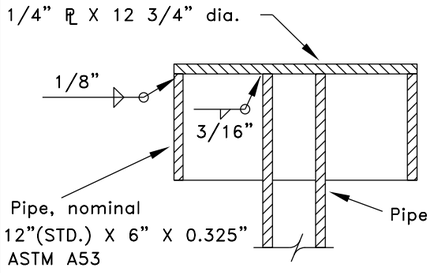


Locking Open/Closed Post



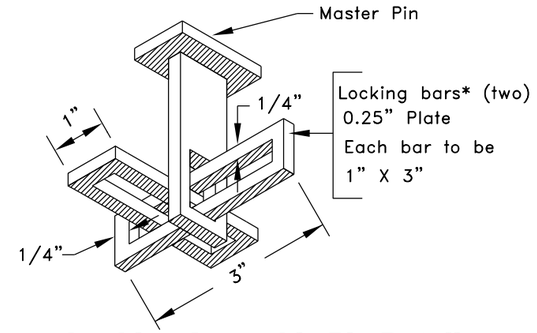
Front View **Side View**

Master Locking Pin



Section A-A

Locking Open/Closed Post



Locking Assembly Pin Details

ROAD CLOSURE GATE

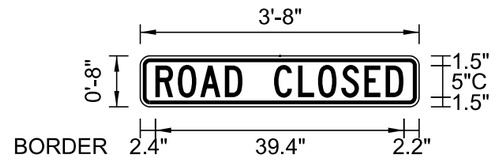
LOCKING POST & LOCKING DEVICE FOR ROAD CLOSURE GATE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	016A-492, 016A-492, 087-492 & 087-492	9	11

Plotting Date: 05/03/2016

SIGN DETAIL

1:50



Panel Style: regulatory.ssi
M.U.T.C.D.: 2009 Edition

Panel Style: regulatory.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

SIGN NUMBER	1
WIDTH x HGHT.	3'–8" x 0'–8"
BORDER WIDTH	0.38"
CORNER RADIUS	1.5"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

LENGTH SERIES-SIZE

R	O	A	D		C	L	O	S	E	D						C 2000
2.5	6	9.6	13.5	16.3	21.3	25.1	28.2	31.9	35.6	39					39.4	5

Plot Scale - 1:4

Plotted From - trrc11610

File - ...\Road Closed.dgn

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

Flagger

■ Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

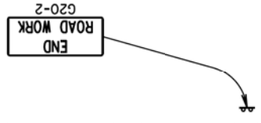
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

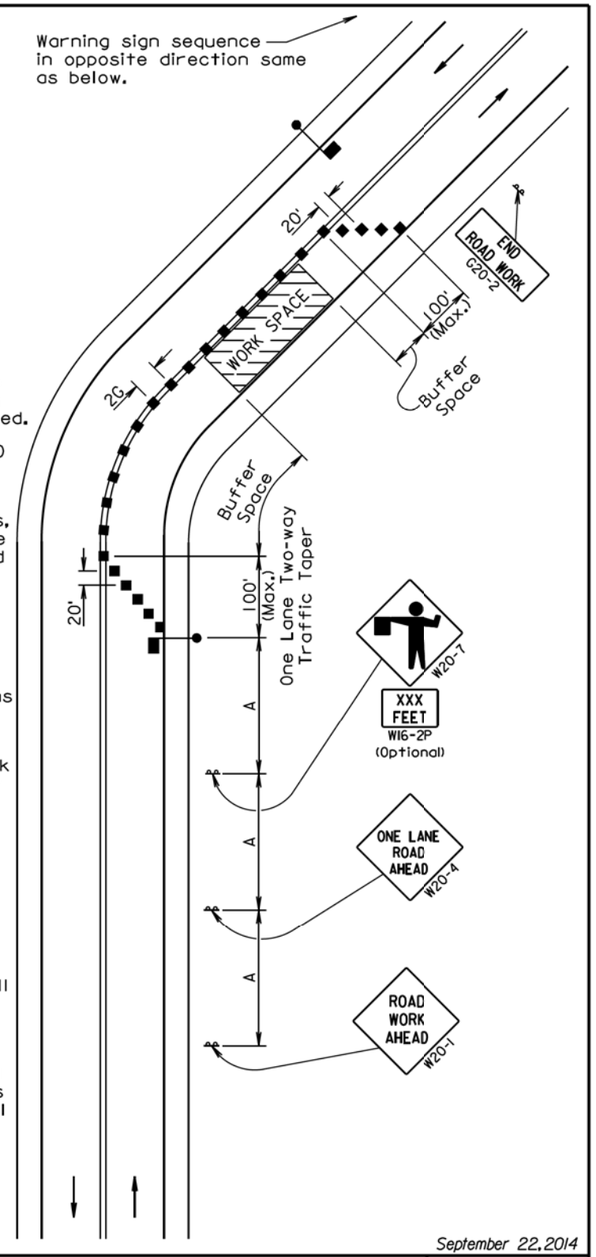
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

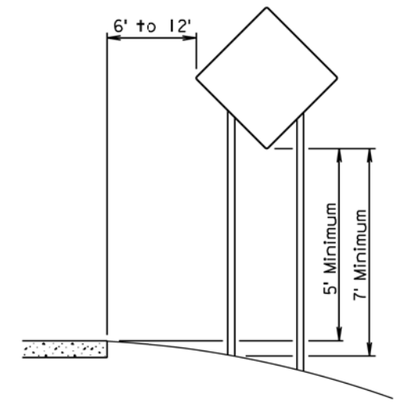
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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

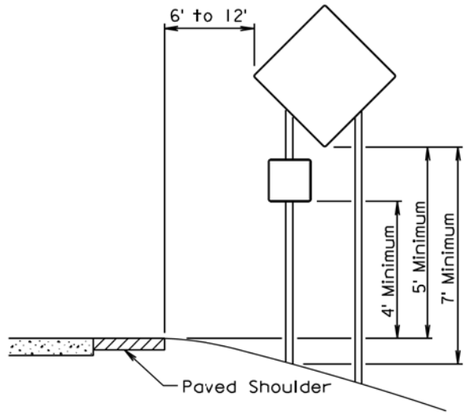


September 22, 2014

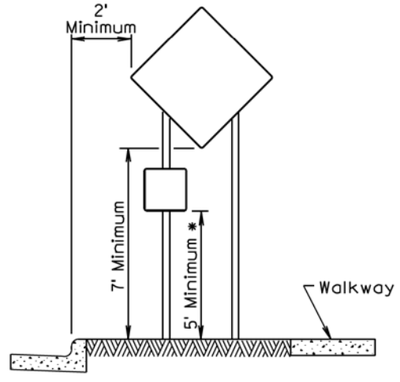
Published Date: 2nd Qtr. 2016	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



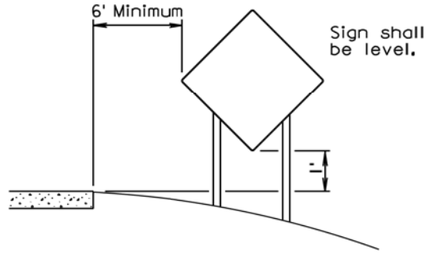
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

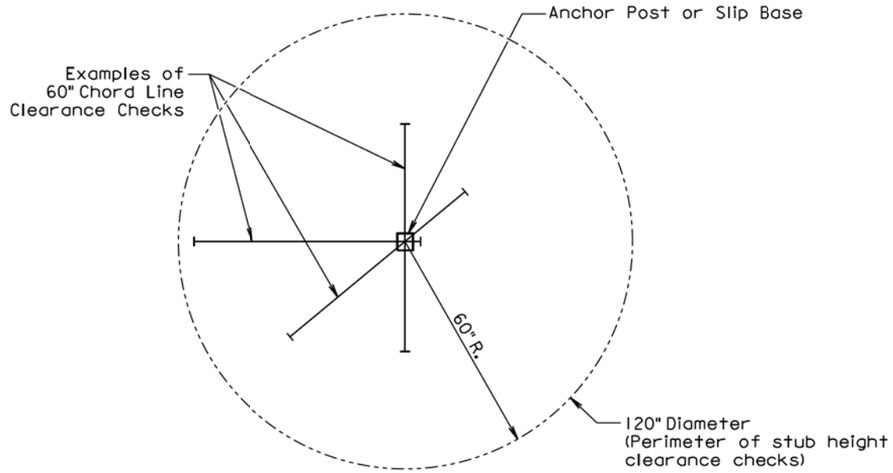


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

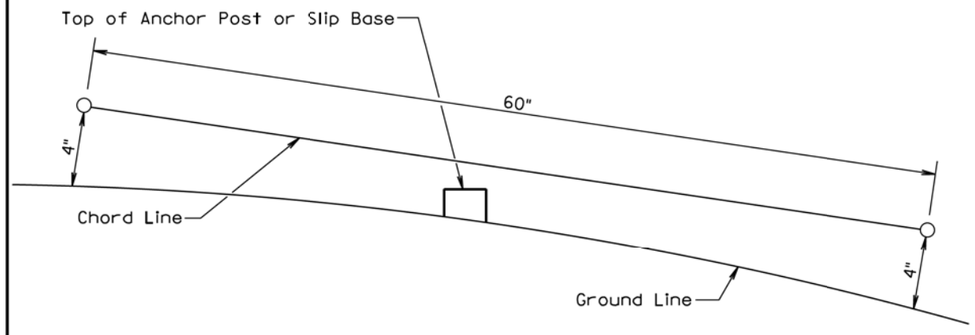
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

Published Date: 2nd Qtr. 2016	SDDOT	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 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. 2016	**SDDOT**	***BREAKAWAY SUPPORT STUB CLEARANCE***	*PLATE NUMBER* 634.99
			Sheet 1 of 1