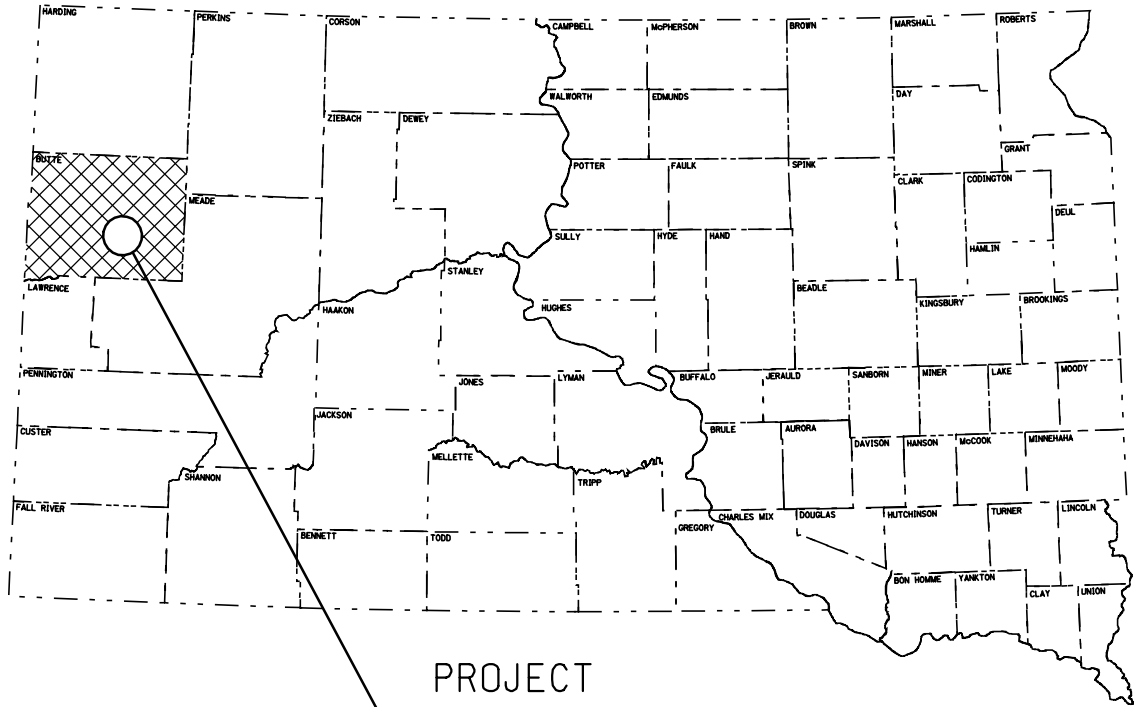


PLOT SCALE - 78.538061:1.000000

PLOTTED FROM - TRBEINT13



US Highway 212
MRM 39.6, 42.7 & 47.4

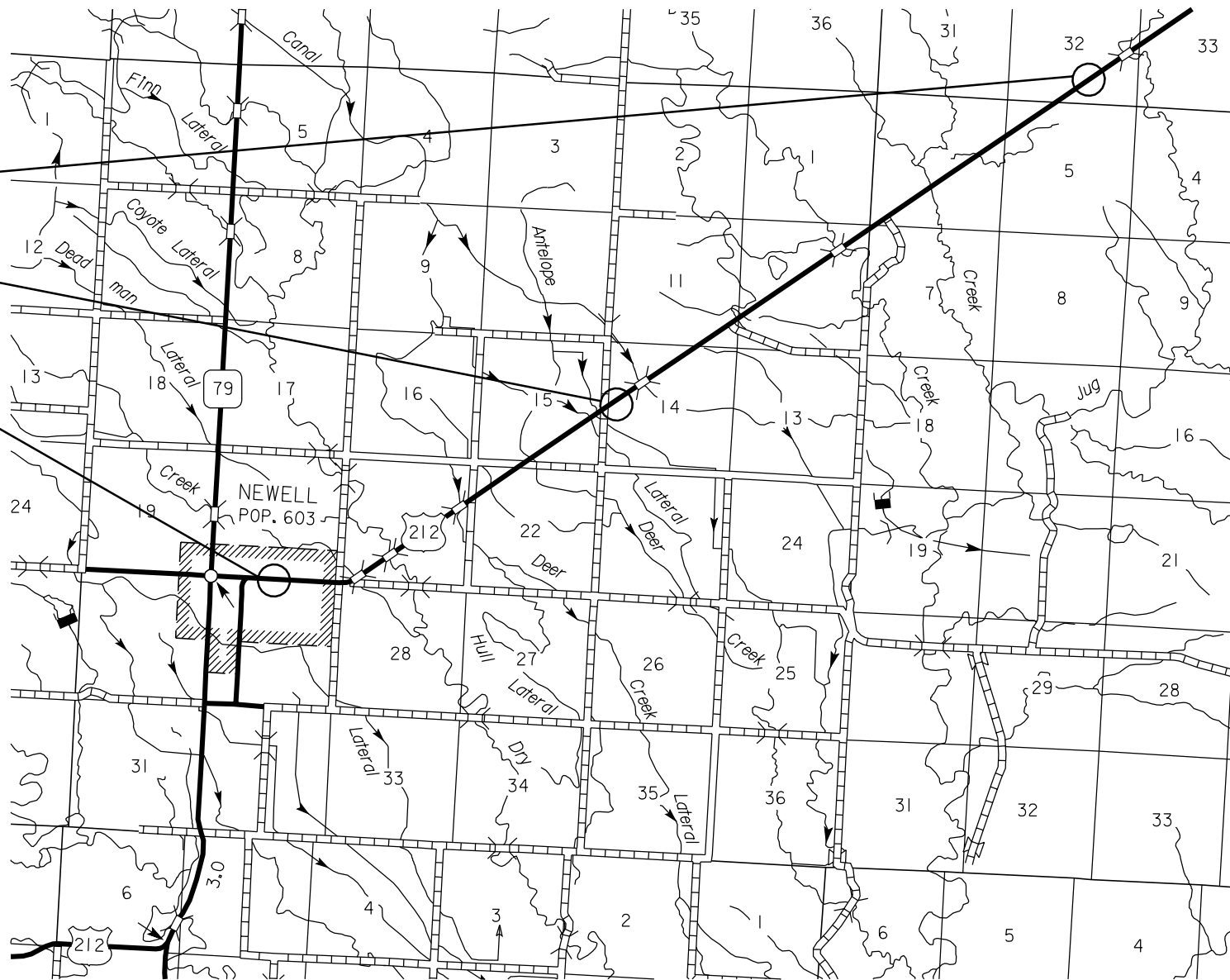
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT 212-471
US HIGHWAY 212
BUTTE COUNTY
Cross Pipe Repair & Replacement
PCN 12FF

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-471	1	10

Plotting Date: 12-MAR-2012

INDEX OF SHEETS

Sheet	1:	Title Sheet and Layout Map
Sheet	2 - 4:	Estimate of Quantities and Notes
Sheet	5:	Fixed Sign Locations
Sheet	6 - 10:	Standard Plates



DESIGN DESIGNATION

ADT (2009)	575
ADT (2029)	720
DHV	110
D	50%
T DHV	5.8%
T ADT	12.8%
V	65 MPH

PLOT NAME - 01

FILE - C:\2012 DESIGN\BUTE12FF\DESIGN\12FF - TITLE.DGN

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E0500	Remove Pipe Culvert	32	Ft
110E0510	Remove Pipe End Section	3	Each
110E1010	Remove Asphalt Concrete Pavement	67.0	SqYd
110E7500	Remove Pipe for Reset	72	Ft
110E7510	Remove Pipe End Section for Reset	5	Each
260E1010	Base Course	29.0	Ton
320E1200	Asphalt Concrete Composite	21.0	Ton
450E0122	18" RCP Class 2, Furnish	6	Ft
450E0130	18" RCP, Install	6	Ft
450E0162	30" RCP Class 2, Furnish	20	Ft
450E0170	30" RCP, Install	20	Ft
450E0182	36" RCP Class 2, Furnish	6	Ft
450E0190	36" RCP, Install	6	Ft
450E2008	18" RCP Flared End, Furnish	1	Each
450E2009	18" RCP Flared End, Install	1	Each
450E2024	30" RCP Flared End, Furnish	1	Each
450E2025	30" RCP Flared End, Install	1	Each
450E2028	36" RCP Flared End, Furnish	1	Each
450E2029	36" RCP Flared End, Install	1	Each
450E9000	Reset Pipe	72	Ft
450E9001	Reset Pipe End Section	5	Each
632E2510	Type 2 Object Marker Back to Back	6	Each
634E0010	Flagging	80	Hour
634E0100	Traffic Control	650	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
734E0602	Low Flow Silt Fence	120	Ft

SPECIFICATIONS

Standard Specifications for Roads & Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

WORK DESCRIPTION AND SEQUENCE OF OPERATIONS

The intent of the plan sequence of operations is to have the least amount of impact on the traveling public and adjacent landowners. 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 two week prior to potential implementation.

Work on this project will consist of the following:

- Set up traffic control for the three pipe repair locations on Hwy 212 at MRM 39.6, MRM 42.7, and MRM 47.4.
- Partial removal and repair of pipe and end sections at MRM 39.6.
- Partial removal and repair of pipe and end sections at MRM 47.4.
- Remove ½ roadway width of existing asphalt, base course, and RCP pipe. Install pipe, backfill and open the road before nightfall at MRM 42.7. Dirt or salvage gravel may be used for temporary surfacing.
- Remove remaining ½ roadway width of existing asphalt, base course, and RCP pipe. Install pipe, backfill and open the road before nightfall at MRM 42.7. Dirt or salvage gravel may be used for temporary surfacing.
- Install base course and asphalt paving at MRM 42.7.
- Perform erosion control items at each location.
- Remove traffic control signing.

UTILITIES

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.

HISTORICAL PRESERVATION OFFICE CLEARANCES

To obtain State Historical Preservation Office (SHPO) clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. In lieu of a cultural resources survey, the Contractor could request a records search from Jim Donohue, State Archaeological Research Center (SARC). Provide SARC 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 no artifacts have been found on the site. The Contractor shall arrange and pay for the cultural resource survey and/or records search.

If any earth disturbing activities occur within the current geographical or historic boundaries of any South Dakota reservation, the Contractor shall obtain Tribal Historical Preservation Office (THPO) clearance. If no THPO exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO or THPO responses, the Contractor should submit a records search or cultural resources survey report to the DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3268). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO/THPO approval. The Contractor is responsible for obtaining all required permits and clearances for staging areas, borrow sites, waste disposal sites, and all material processing sites. The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

WASTE DISPOSAL SITE

The Contractor will be required to furnish a site(s) for the disposal of construction/demolition debris generated by this project. This disposal shall include asphalt removed for repair work, the existing pipe items removed that are not reset, and any other debris generated by this project.

Construction/demolition debris may not be disposed of within the State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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 Engineer.

WASTE DISPOSAL SITE (CONTINUED)

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

- Construction/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/demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State 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 State ROW through the use of 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) shall be incidental to the various contract items.

OBJECT MARKERS

Type 2 Object Markers shall be installed at each pipe location as per the Standard Plate 632.10 following erosion control operations.

BASE COURSE

The aggregate for Base Course shall conform to the Standard Specifications and shall be placed in two separate 3" lifts for a total placement depth of 6".

All other requirements of the Standard Specifications for Base Course shall apply, except that Base Course for backfill shall be compacted to the satisfaction of the Engineer.

Plus or minus 4% moisture will be required at the time of compaction unless otherwise directed by the Engineer. Costs for water for compaction shall be incidental to the contract unit price per ton for Base Course material.

ASPHALT CONCRETE COMPOSITE

Mineral aggregate for the Asphalt Concrete Composite shall conform to the requirements of the Standard Specifications for Class E, Type 1.

All other requirements in the Standard Specifications for Asphalt Concrete Composite shall apply.

The asphalt binder used in the mixture shall be PG 64-22, PG 64-28 or PG 64-34 Asphalt Binder. The Contractor shall provide a Job-Mix Formula to the Engineer with supporting mix design data for approval prior to placement on the project.

The asphalt removal necessary for the pipe replacement at MRM 42.7 shall be saw cut at each end to a true line with a vertical face. No separate payment will be made for sawing.

The Asphalt Concrete Composite shall be placed in three separate 2” lifts for a total placement depth of 6”. There shall be sufficient cooling time between lifts as approved by the Engineer.

The paving of asphalt concrete composite shall be coordinated with placement of the base course material such that both materials are placed on the same day to eliminate overnight drop offs.

RCP PIPE WORK

The pipe repair on this project is necessary to correct joints and flared ends that have separated, pipe that has settled, and RCP pipe and flared ends that have eroded and require replacement.

The existing pipe shall be removed and reset or replaced as determined by the engineer during construction. Some of the existing ends have settled and will require placement of additional bedding to obtain proper grade for resetting or replacement. The pipe shall be installed in a straight grade to drain properly. The compaction of pipe grade and the pipe installation density shall be to the satisfaction of the engineer.

Needed borrow material for pipe bedding grade can be obtained from the State right of way near the work activity. Therefore, all topsoil removal and replacement, unclassified excavation and any borrow necessary to set pipe at proper grade will be incidental to other pay items and separate payments will not be made.

The Contractor shall inspect each pipe work location prior to preparing their bid to determine the extent of excavation necessary for installation of pipe.

Water may be needed for compaction purposes and any costs for water shall be incidental to other contract items.

All existing pipe reset items at each location shall be cleaned of debris and obstructions prior to being reset. Cleaning shall be incidental to the corresponding reset pipe items.

TABLE OF PIPE WORK

Location	Type		Rem Pipe End Sect	Rem Pipe End Sect for Reset	Rem Pipe Culv	Rem Pipe for Reset	18" RCP	30" RCP	36" RCP	18" RCP Flrd End	30" RCP Flrd End	36" RCP Flrd End	Reset Pipe	Reset Pipe End Sect
			(Each)	(Each)	(Ft)	(Ft)	(Ft)	(Ft)	(Ft)	(Each)	(Each)	(Each)	(Ft)	(Each)
MRM 39.6	36" RCP	Lt	1	1		26						1	26	1
	Twin	Rt		2	6				6					2
MRM 42.7	30" RCP	Lt	1		12	20		12			1		20	
		Rt		1	8	20		8					20	1
MRM 47.4	18" RCP	Lt	1		6	6	6			1			6	
		Rt		1										1
Totals			3	5	32	72	6	20	6	1	1	1	72	5

TIE BOLTS FOR REINFORCED CONCRETE PIPE

All new/reset pipe culvert sections and ends shall be tied prior to placement of backfill, regardless of size. The tie bolts shall conform to Standard Plate 450.18.

In addition, tie bolts shall be installed at the inlet and outlet ends between the first two sections of in place pipe culvert and between the in place pipe culvert and the new/reset pipe culvert.

The tie bolts placed at MRM 42.7 will be similar to a new installation and will be placed as per Standard Plate 450.18. Therefore, upon completion of construction there will be 14 pipe sections at MRM 39.6, 4 pipe sections at MRM 42.7, and 5 pipe sections at MRM 47.4 that will be tied.

Installing tie bolts on in place sections of pipe culvert that are located under the paved roadway will not be required.

Field drilling will be required to install the tie bolts on reset culvert sections, on reset culvert ends and on in place culvert sections.

The cost to furnish and install tie bolts in accordance with these plans shall be incidental to various pipe bid items on the project.

LOW FLOW SILT FENCE

Low flow silt fence shall be placed at pipe ends as directed by the Engineer following details in the Standard Plates. The low flow silt fence fabric provided shall be from the approved products list.

EROSION CONTROL

The contract lump sum price for Erosion control includes material, equipment, and labor to seed and mulch the disturbed areas within the right of way resulting from the work required by this contract.

The areas to be seeded and mulched are comprised of all newly graded areas within the project limits as determined by the Engineer during Construction. Any areas disturbed by the contractor shall be repaired.

The area to be seeded and mulched is estimated at 0.143 acres. The erosion control plans quantity will be the basis for payment, separate measurement and payment will not be made.

Application of fertilizer will not be required on this project.

Mulch consisting of grass hay or straw shall be blown on at the rate of two tons per acre and punched in. Mulch shall be substantially free of noxious weed seeds and objectionable foreign matter. At the Contractors option, Fiber Mulch may be applied in lieu of hay or straw mulch following Contract Specifications.

All permanent seed shall be planted in the topsoil at a depth of ¼” to ½”.

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.

Type F Permanent Seed Mixture shall consist of the following:

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

TRAFFIC CONTROL

Traffic control shall be in accordance with MUTCD Standards, Standard Specifications and these plans.

Work activities shall only be during daylight hours. Daylight hours are considered to be ½ hour before sunrise until ½ hour after sunset.

Road Work Ahead and End Road Work signs shall be installed on fixed supports at the beginning and end of the project as directed by the Engineer.

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall be on fixed location, breakaway supports.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

All vehicles entering and exiting closed lanes of traffic shall display a flashing amber light visible from all directions at a minimum distance of ¼ mile.

All portable traffic control, materials and equipment shall be moved to a minimum distance of 30 feet from the edge of the traveled lanes during nights, weekends, and other non-working hours.

The quantity of traffic control units paid shall be for the greatest number of signs in place at any one time, regardless of the number of set-ups required.

Traffic shall be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment shall be repaired at no expense to the State.

The work activities at MRM 42.7 shall be scheduled to complete ½ of the roadway width pipe removal, installation, and backfill by nightfall. Base course and asphalt placement shall also be scheduled to complete ½ of the roadway width temporary surfacing removal, placement of base course and asphalt surface completion by nightfall. Two way traffic will be restored to a safe condition prior to nightfall for all activities.

The existing dirt or salvageable material used for temporary surfacing and the removal of such material shall be incidental to other contract items.

Indiscriminate driving of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

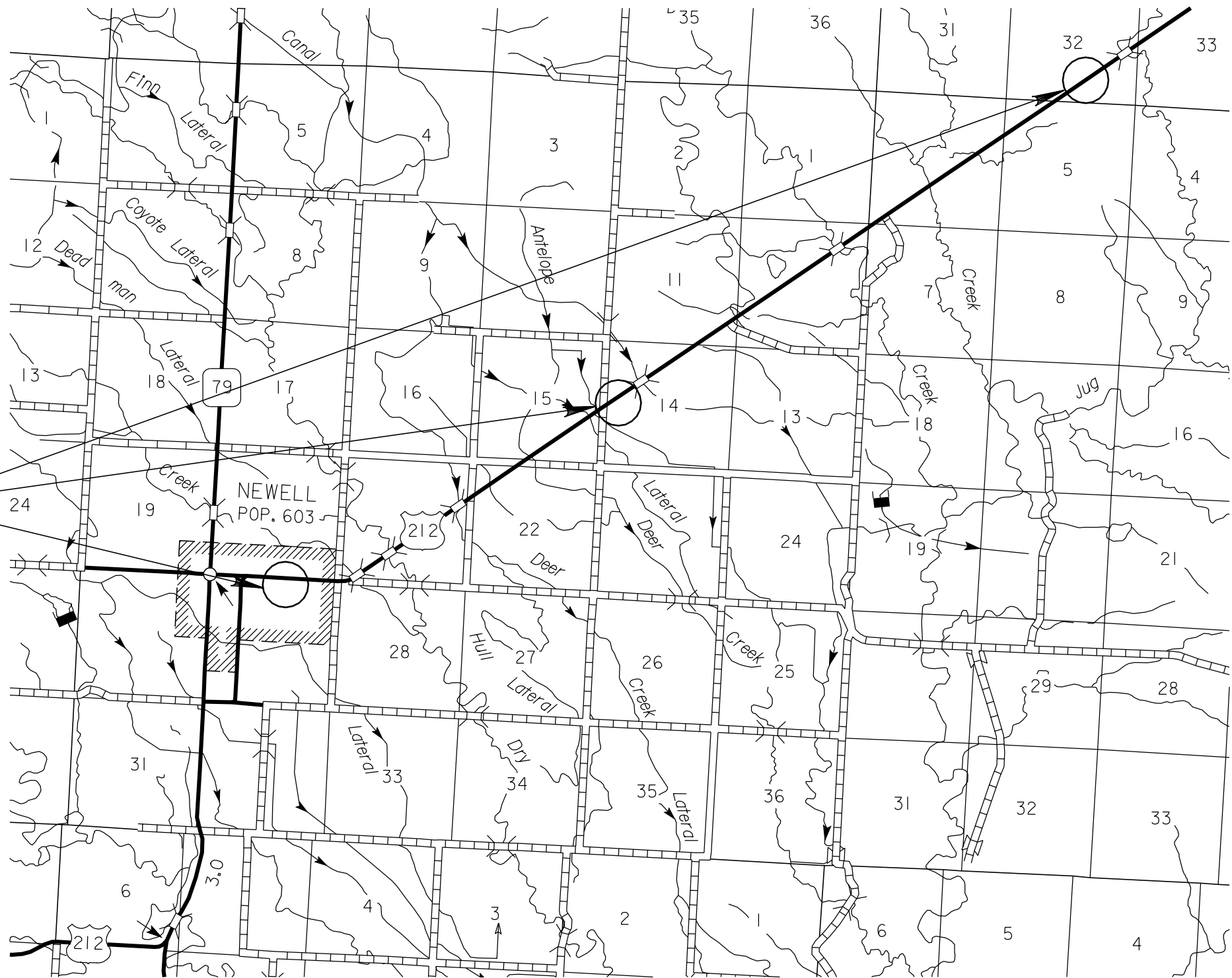
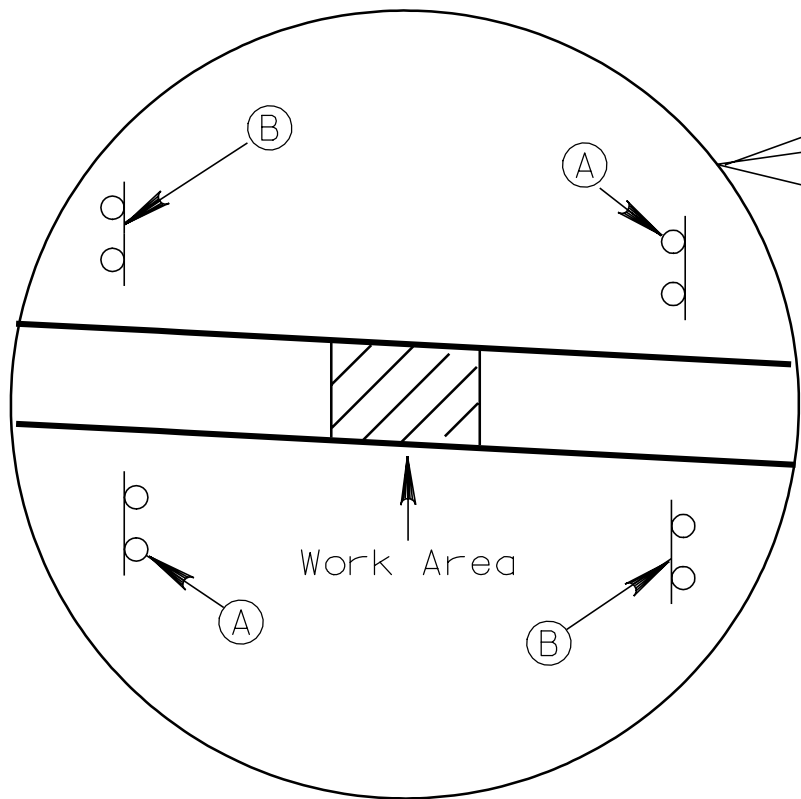
INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2A	36" x 18"	END ROAD WORK	6	17	102
W8-1	36" x 36"	BUMP	2	27	54
W8-7	36" x 36"	LOOSE GRAVEL	2	27	54
W13-1	24" x 24"	ADVISORY SPEED PLATE	2	16	32
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	6	34	204
W20-4	48" x 48"	ONE LANE ROAD ##### FT. OR AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
W21-5	48" x 48"	SHOULDER WORK	2	34	68
TOTAL UNITS					650

FIXED LOCATION SIGNS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-471	5	10

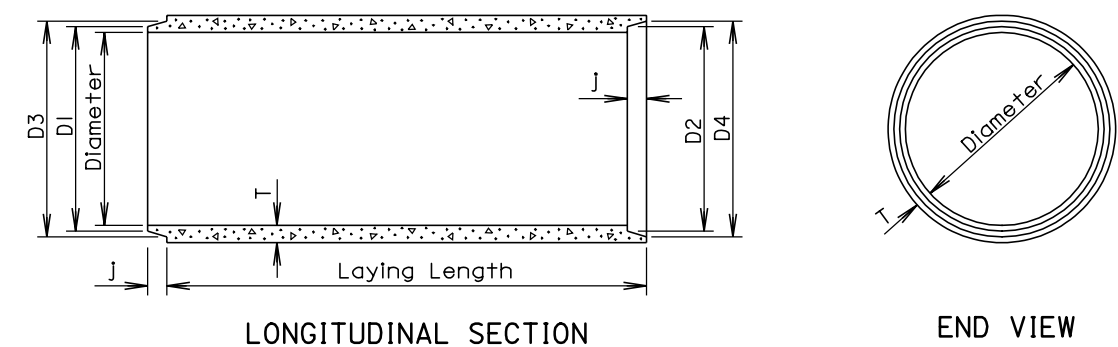
Plotting Date: 12-MAR-2012



Plotting Date: 12-MAR-2012

TOLERANCES IN DIMENSIONS

Diameter: ±1.5% for 24" Dia. or less and ±1% or 3/8" whichever is more for 27" Dia. or greater.
Diameters at Joints: ±3/16" for 30" Dia. or less and ±1/4" for 36" or greater.
Length of joint (J): ±1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".



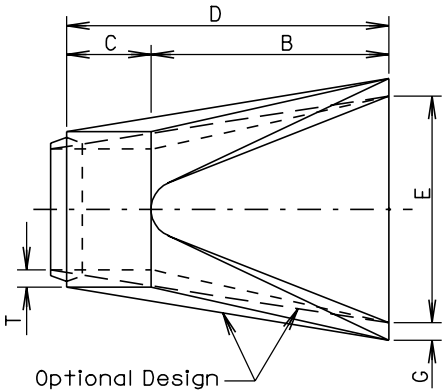
GENERAL NOTES:

Construction of R.C.P. shall conform to the requirements of Section 990 of the Standard Specifications for Roads and Bridges.

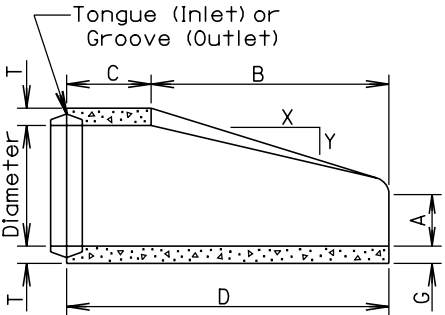
Not more than 2 four foot sections shall be permitted near the ends of any culvert. Four foot lengths shall be used only to secure the required length of culvert.

Diam. (In.)	Approx. Wt. /Ft. (lb.)	T (In.)	J (In.)	D1 (In.)	D2 (In.)	D3 (In.)	D4 (In.)
12	92	2	1 3/4	13 1/4	13 5/8	13 7/8	14 1/4
15	127	2 1/4	2	16 1/2	16 7/8	17 1/4	17 5/8
18	168	2 1/2	2 1/4	19 5/8	20	20 3/8	20 3/4
21	214	2 3/4	2 1/2	22 7/8	23 1/4	23 3/4	24 1/8
24	265	3	2 3/4	26	26 3/8	27	27 3/8
27	322	3 1/4	3	29 1/4	29 5/8	30 1/4	30 5/8
30	384	3 1/2	3 1/4	32 3/8	32 3/4	33 1/2	33 7/8
36	524	4	3 3/4	38 3/4	39 1/4	40	40 1/2
42	685	4 1/2	4	45 1/8	45 5/8	46 1/2	47
48	867	5	4 1/2	51 1/2	52	53	53 1/2
54	1070	5 1/2	4 1/2	57 7/8	58 3/8	59 3/8	59 7/8
60	1296	6	5	64 1/4	64 3/4	66	66 1/2
66	1542	6 1/2	5 1/2	70 5/8	71 1/8	72 1/2	73
72	1810	7	6	77	77 1/2	79	79 1/2
78	2098	7 1/2	6 1/2	83 3/8	83 7/8	85 5/8	86 1/8
84	2410	8	7	89 3/4	90 1/4	92 1/8	92 5/8
90	2740	8 1/2	7	95 3/4	96 1/4	98 1/8	98 5/8
96	2950	9	7	102 1/8	102 5/8	104 1/2	105
102	3075	9 1/2	7 1/2	109	109 1/2	111 1/2	112
108	3870	10	7 1/2	115 1/2	116	118	118 1/2

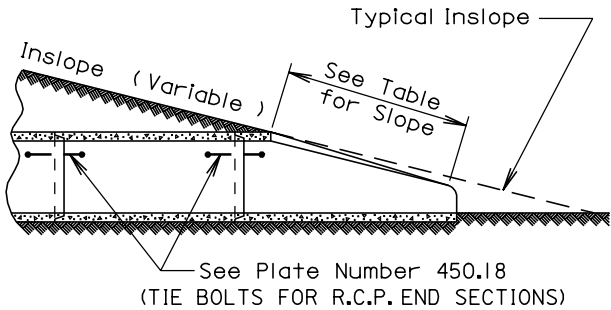
March 31, 2000



TOP VIEW



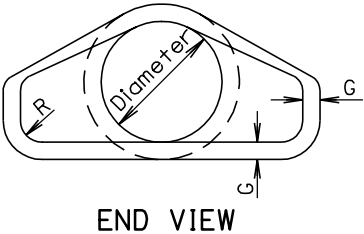
LONGITUDINAL SECTION



SLOPE DETAIL

GENERAL NOTES:

Lengths of concrete pipe shown on Plan Sheets are between flared Ends only.
Construction of R.C.P. Flared End shall conform to the requirements of Section 990 of the Standard Specifications for Roads and Bridges.



END VIEW

Dia. (in.)	Approx. Wt. of Section (lbs.)	Approx. Slope (X to Y)	T (In.)	A (In.)	B (In.)	C (In.)	D (In.)	E (In.)	G (In.)	R (In.)
12	530	2.4: 1	2	4	24	48 7/8	72 1/8	24	2	1 1/2
15	740	2.4: 1	2 1/4	6	27	46	73	30	2 1/4	1 1/2
18	990	2.3: 1	2 1/2	9	27	46	73	36	2 1/2	1 1/2
21	1280	2.4: 1	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	1 1/2
24	1520	2.5: 1	3	9 1/2	43 1/2	30	73 1/2	48	3	1 1/2
27	1930	2.5: 1	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	1 1/2
30	2190	2.5: 1	3 1/2	12	54	19 3/4	73 3/4	60	3 1/2	1 1/2
36	4100	2.5: 1	4	15	63	34 3/4	97 3/4	72	4	1 1/2
42	5380	2.5: 1	4 1/2	21	63	35	98	78	4 1/2	1 1/2
48	6550	2.5: 1	5	24	72	26	98	84	5	1 1/2
54	8240	2: 1	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	1 1/2
60	8730	1.9: 1	6	35	60	39	99	96	5	1 1/2
66	10710	1.7: 1	6 1/2	30	72	27	99	102	5 1/2	1 1/2
72	12520	1.8: 1	7	36	78	21	99	108	6	1 1/2
78	14770	1.8: 1	7 1/2	36	90	21	111	114	6 1/2	1 1/2
84	18160	1.6: 1	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2
90	20900	1.5: 1	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	6

March 31, 2000

Plotting Date: 12-MAR-2012

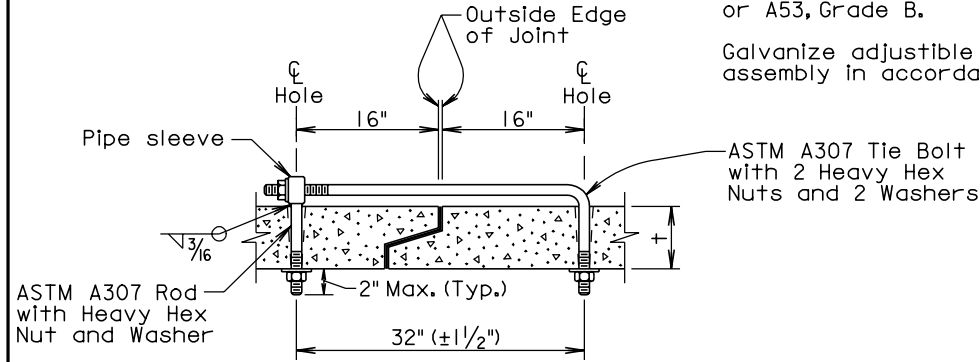
Wall "t" (in.)	Rod Dia. (in.)	Pipe Sleeve Dia. (nominal)
≤ 3 1/4	5/8	3/4
3 1/2-6 1/2	3/4	1
≥ 7	1	1 1/4

GENERAL NOTES:

Tie bolts shall conform to ASTM A307, Grade C. Nuts shall be heavy hex conforming to ASTM A563. Washers shall conform to ASTM F436.

Pipe Sleeve shall conform to ASTM A500 or A53, Grade B.

Galvanize adjustable eye bolt tie assembly in accordance with ASTM A153.



ADJUSTABLE EYE BOLT TIE

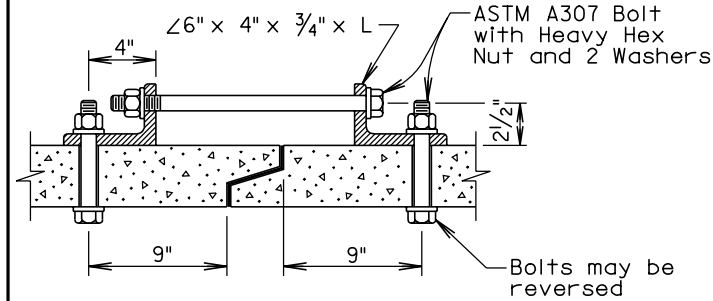
Pipe Dia. (in.)	"L" (in.)	Bolt Dia. (in.)
≤ 48	4	3/4
> 48	6	1

GENERAL NOTES:

Angles shall conform to ASTM A36.

Bolts shall conform to ASTM A307. Nuts shall be heavy hex conforming to ASTM A563. Washers shall conform to ASTM F436.

Galvanize angles, bolts, nuts, and washers in accordance with ASTM A153.



ANGLE AND BOLT TIE

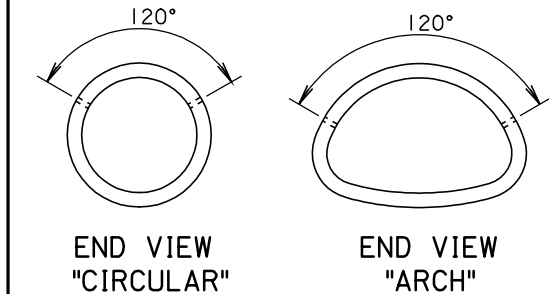
GENERAL NOTES:

In lieu of tie bolts detailed above, tecktonius fasteners or other type tie bolt connections may be installed if approved by the Engineer.

The first three sections (both inlet and outlet) of R.C.P. and R.C.P. Arch up to and including the 78" diameter or equivalent pipe shall be tied with tie bolts. Pipe sizes larger than 78" diameter or equivalent diameter shall have all sections tied. Each end section is considered as one section.

There will be no separate measurement or payment for tie bolts. The cost of the tie bolts shall be incidental to the contract unit price per foot for the corresponding bid item for R.C.P. or R.C.P. Arch.

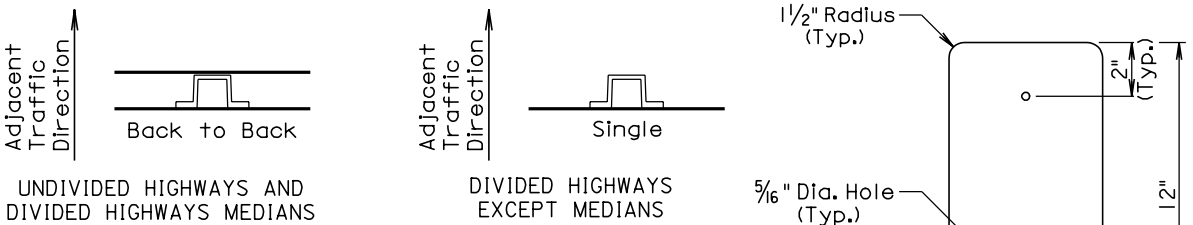
September 14, 2011



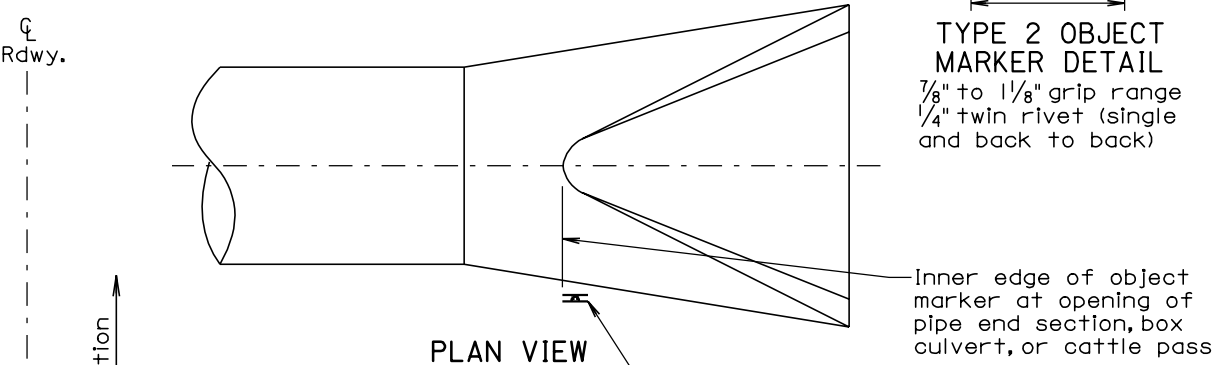
END VIEW
"CIRCULAR"

END VIEW
"ARCH"

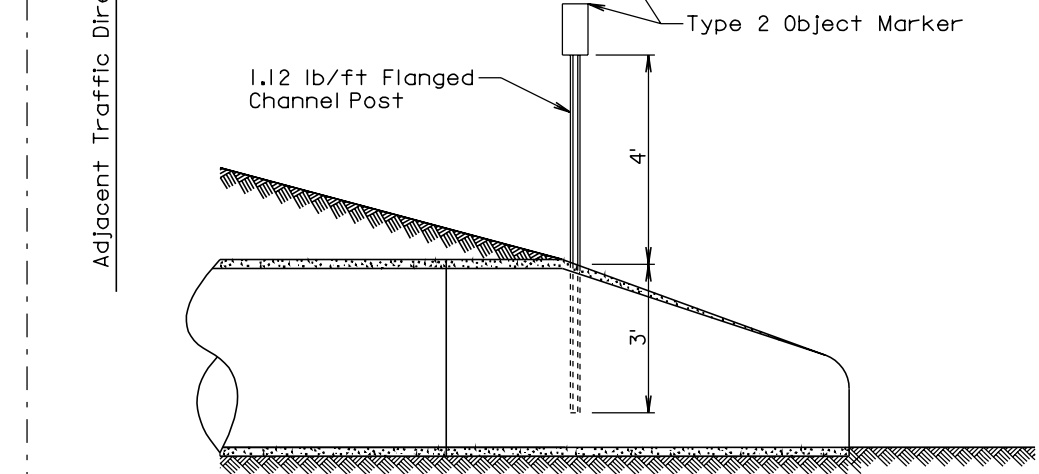
Published Date: 1st Qtr. 2012	S D D O T	TIE BOLTS FOR R.C.P. END SECTIONS	PLATE NUMBER 450.18
			Sheet 1 of 1



TYPE 2 OBJECT MARKER DETAILS
AND POST ORIENTATION



PLAN VIEW



ELEVATION

GENERAL NOTES:

The type 2 object markers shall conform to Standard Specifications Section 982.2 I.

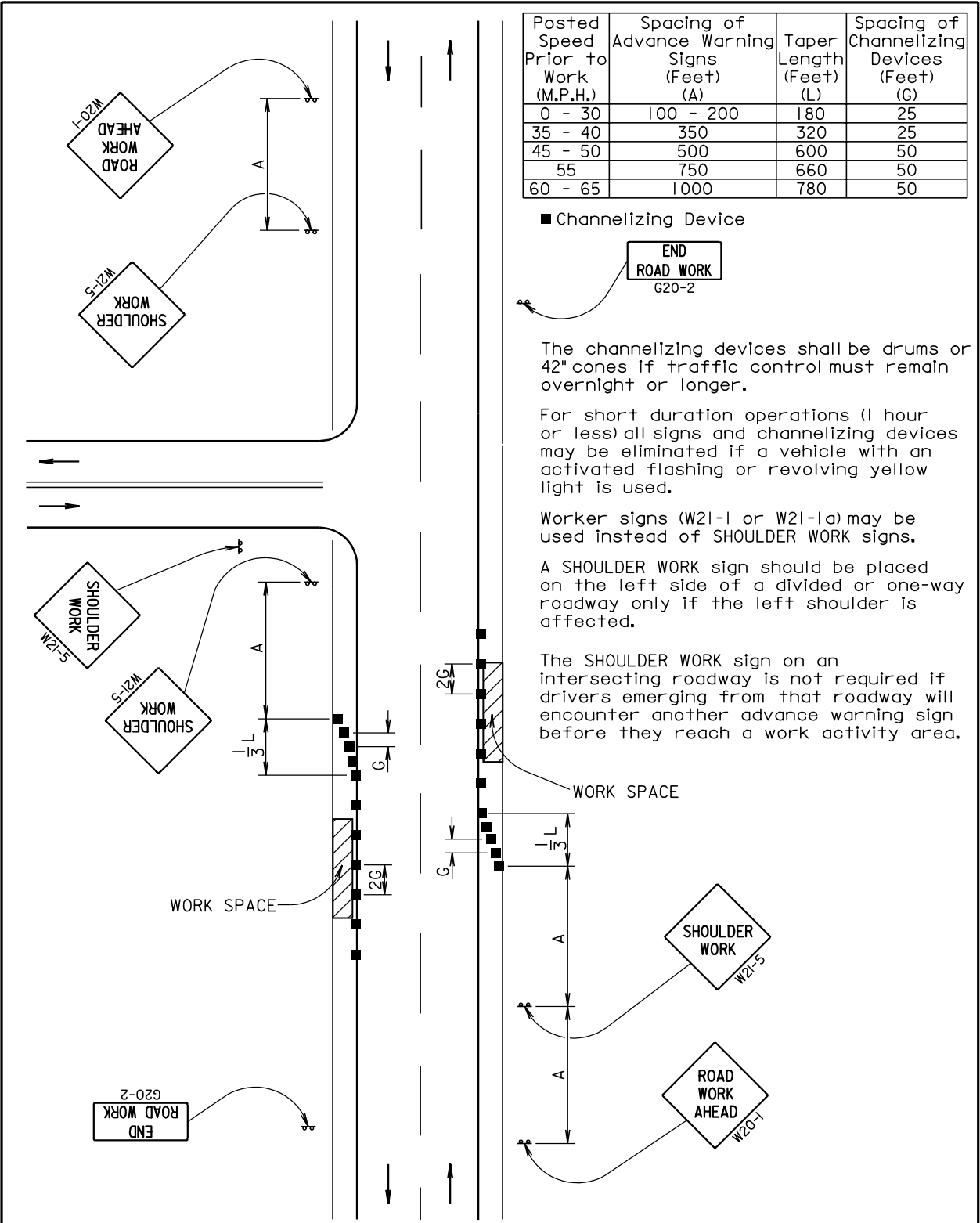
The 1.12 lb/ft flanged channel post shall conform to Standard Specifications Section 982.2 I. 6.

Payment for the type 2 object markers shall be in conformance with Standard Specification Section 632.5 C.

June 26, 2006

Published Date: 1st Qtr. 2012	S D D O T	TYPE 2 OBJECT MARKER INSTALLATION AT PIPE CULVERTS, BOX CULVERTS, AND CATTLE PASSES	PLATE NUMBER 632.10
			Sheet 1 of 1

Plotting Date: 12-MAR-2012



February 14, 2011

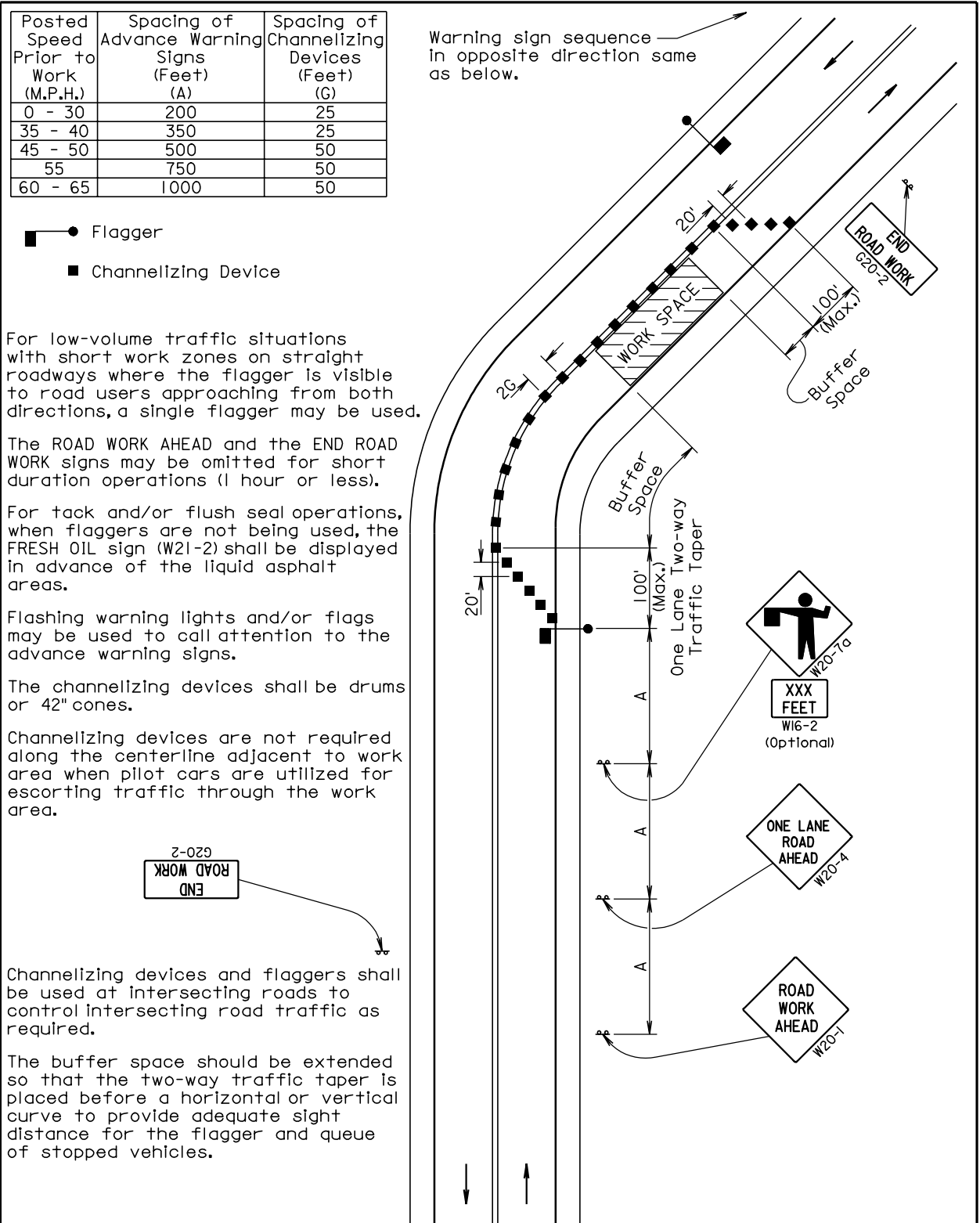
Published Date: 1st Qtr. 2012

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GUIDES FOR TRAFFIC CONTROL DEVICES
WORK ON SHOULDERS

PLATE NUMBER
634.03

Sheet 1 of 1



February 14, 2011

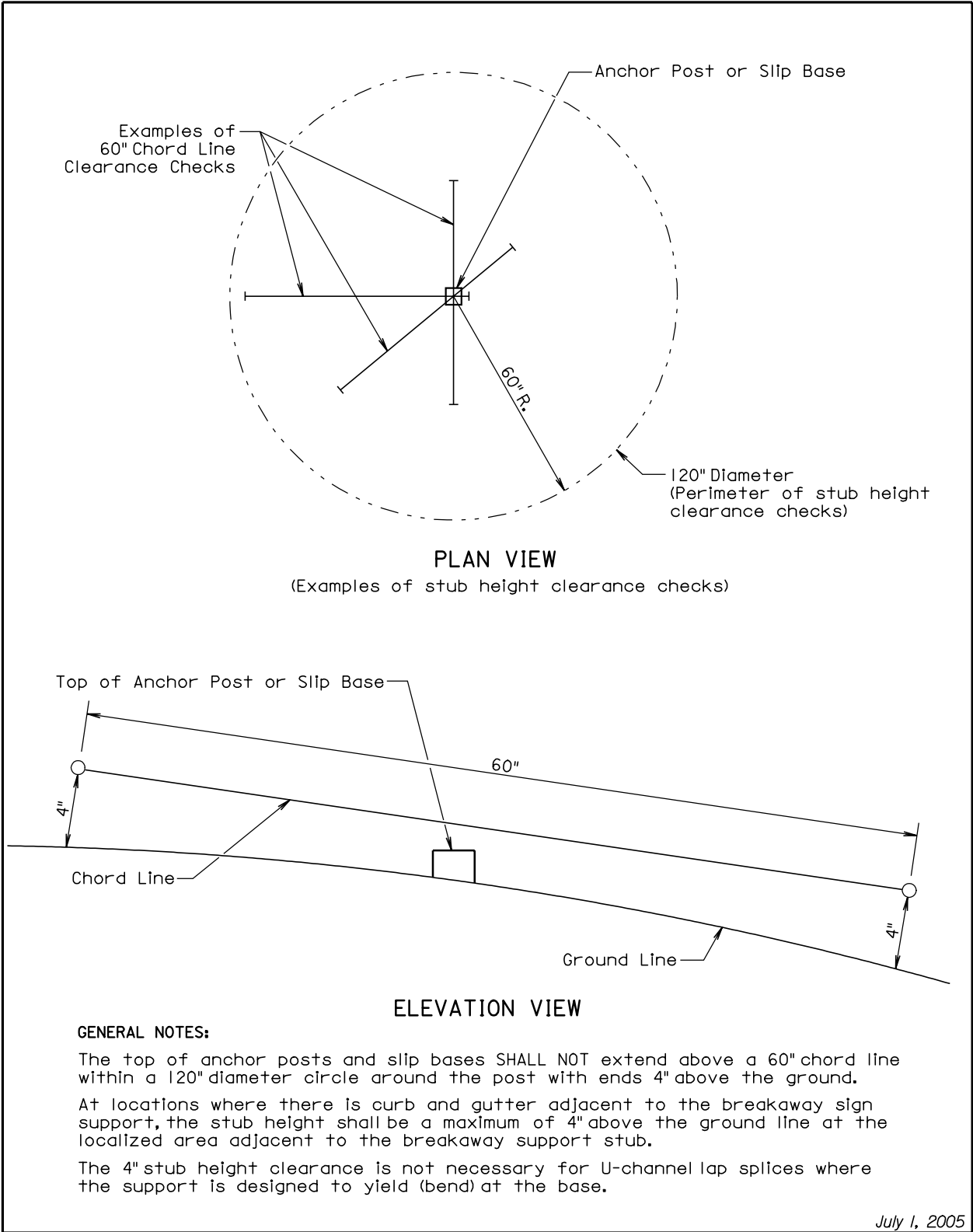
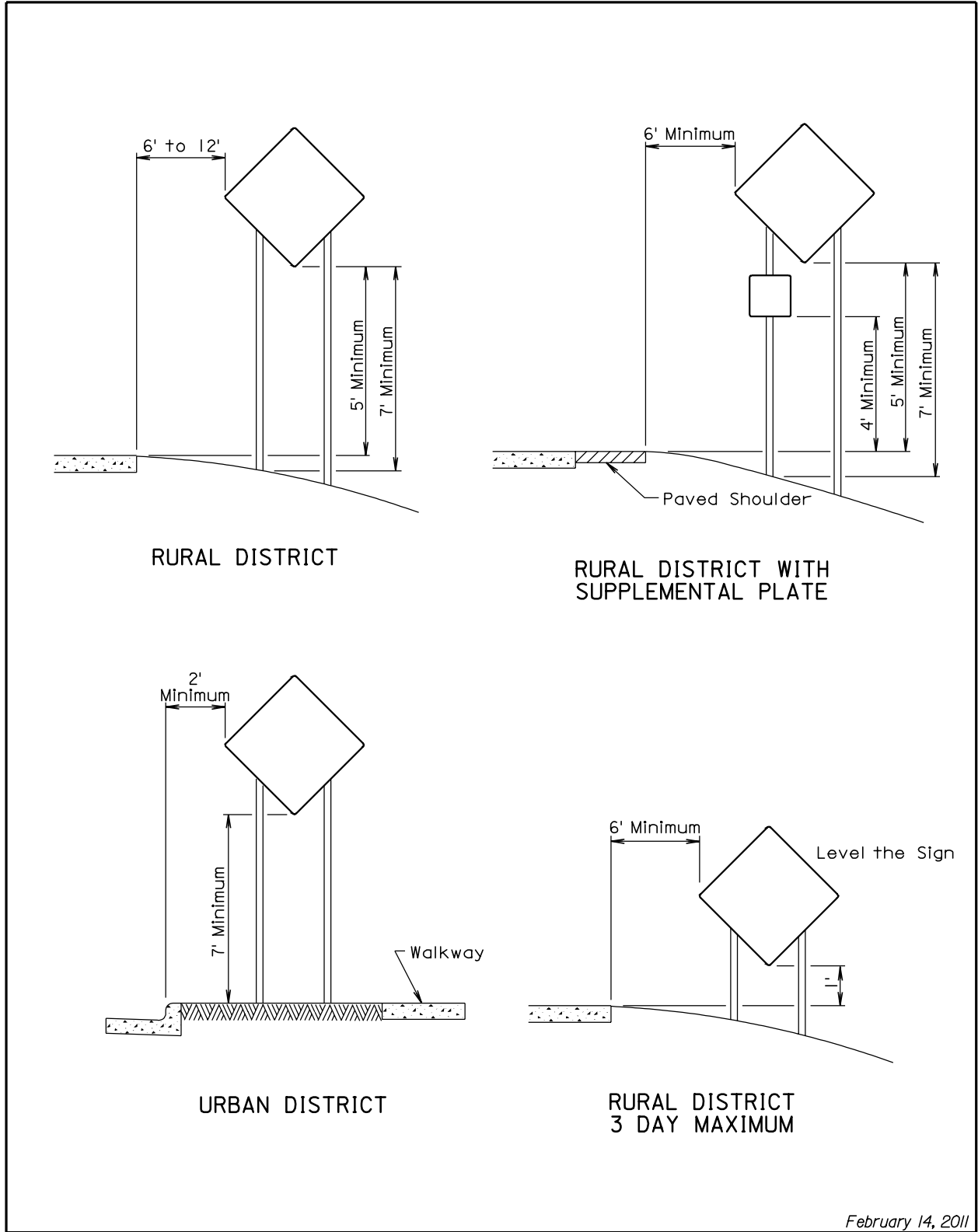
Published Date: 1st Qtr. 2012

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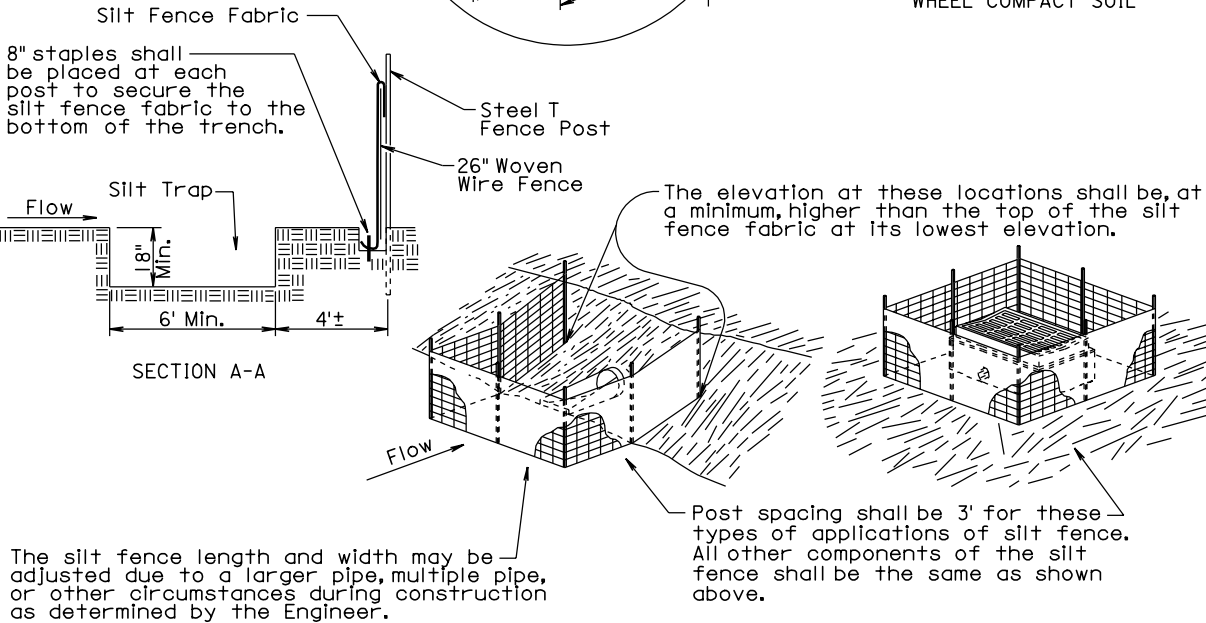
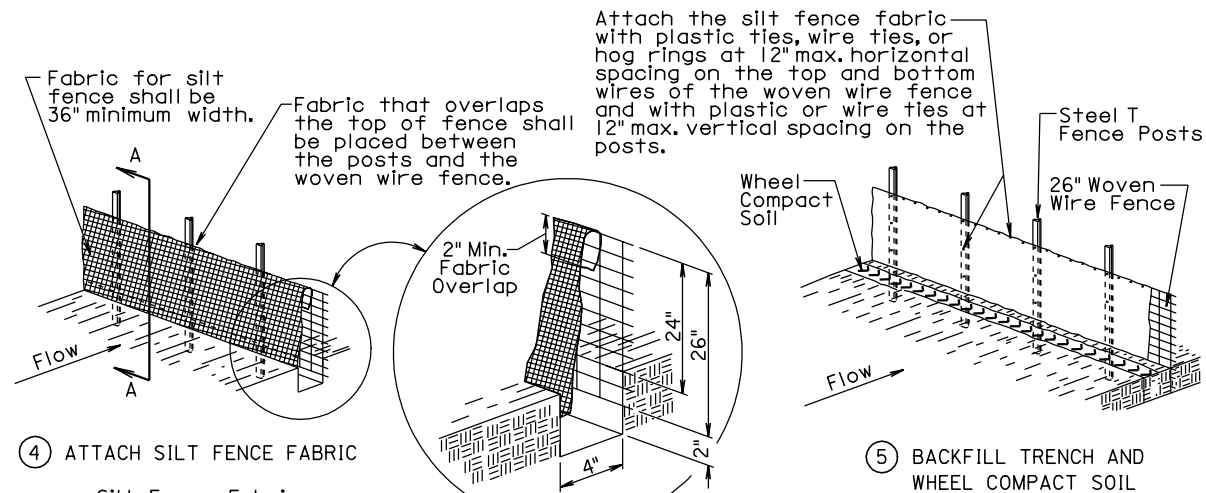
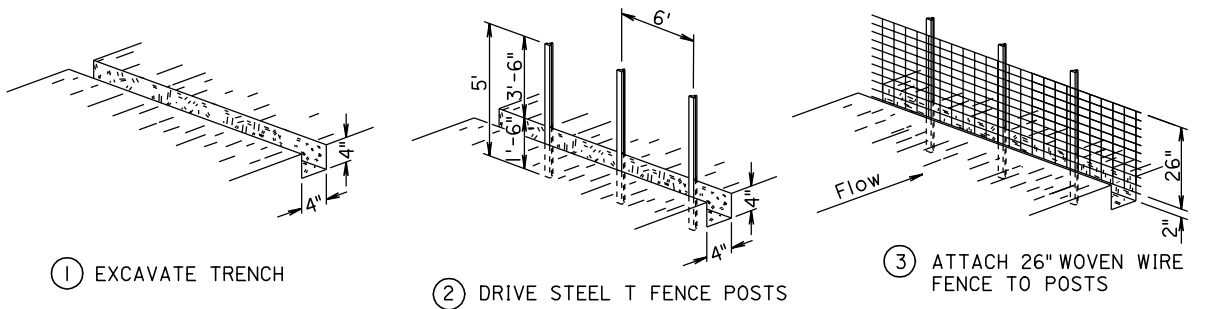
GUIDES FOR TRAFFIC CONTROL DEVICES
LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER
634.23

Sheet 1 of 1



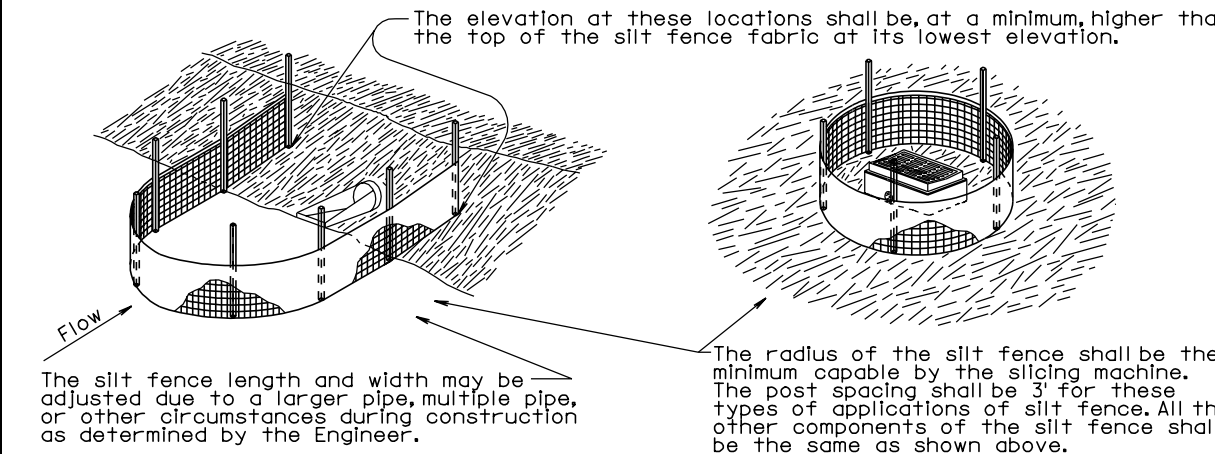
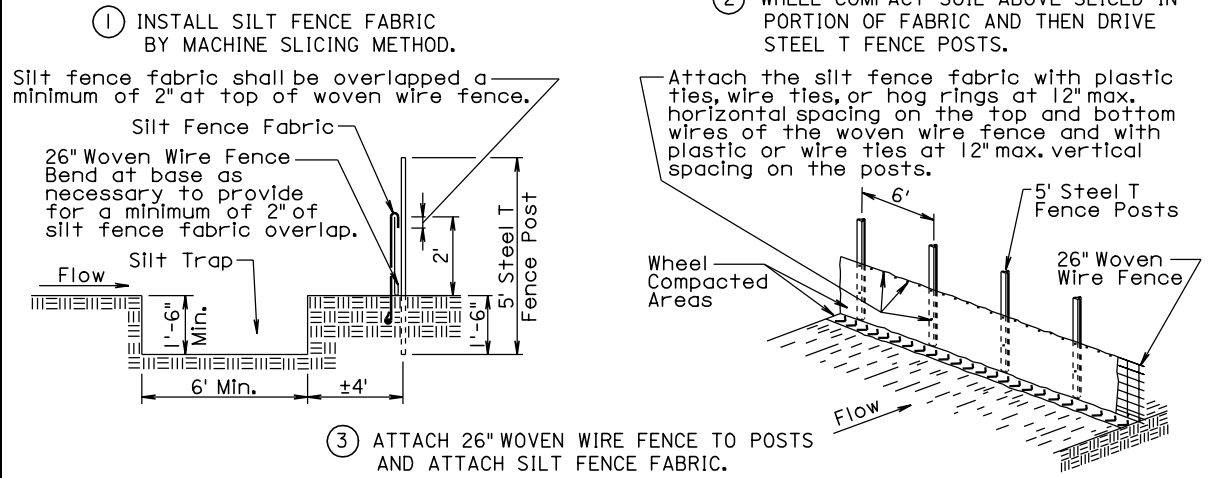
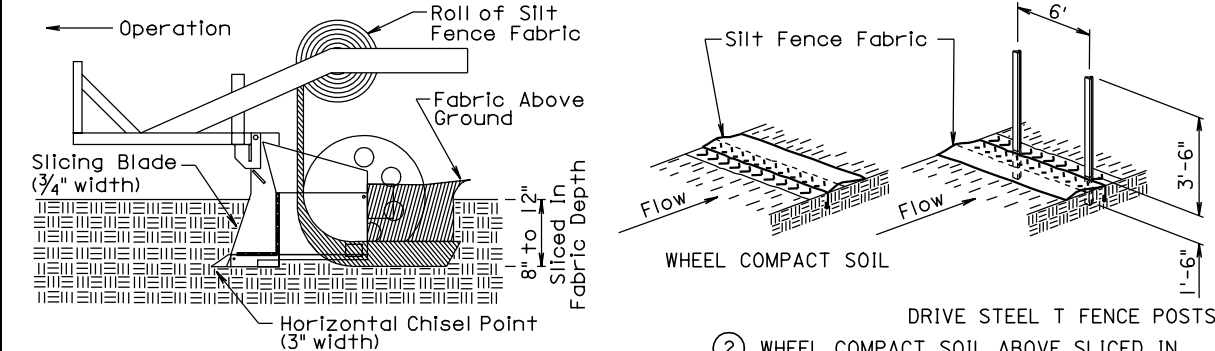
MANUAL LOW FLOW SILT FENCE INSTALLATION



December 23, 2003

Published Date: 1st Qtr. 2012	S D D O T	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 1 of 2

MACHINE SLICED LOW FLOW SILT FENCE INSTALLATION



GENERAL NOTES:

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

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

December 23, 2003

Published Date: 1st Qtr. 2012	S D D O T	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 2 of 2