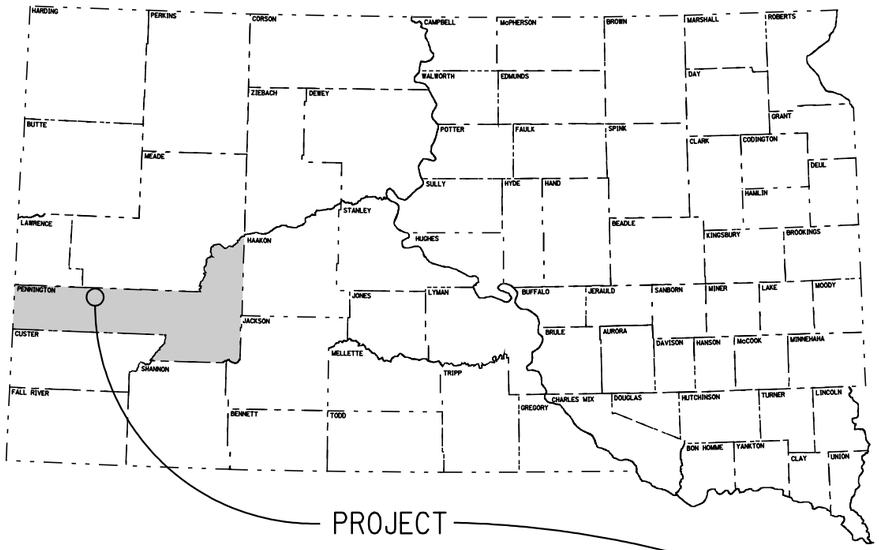
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-452 090W-452	1	15

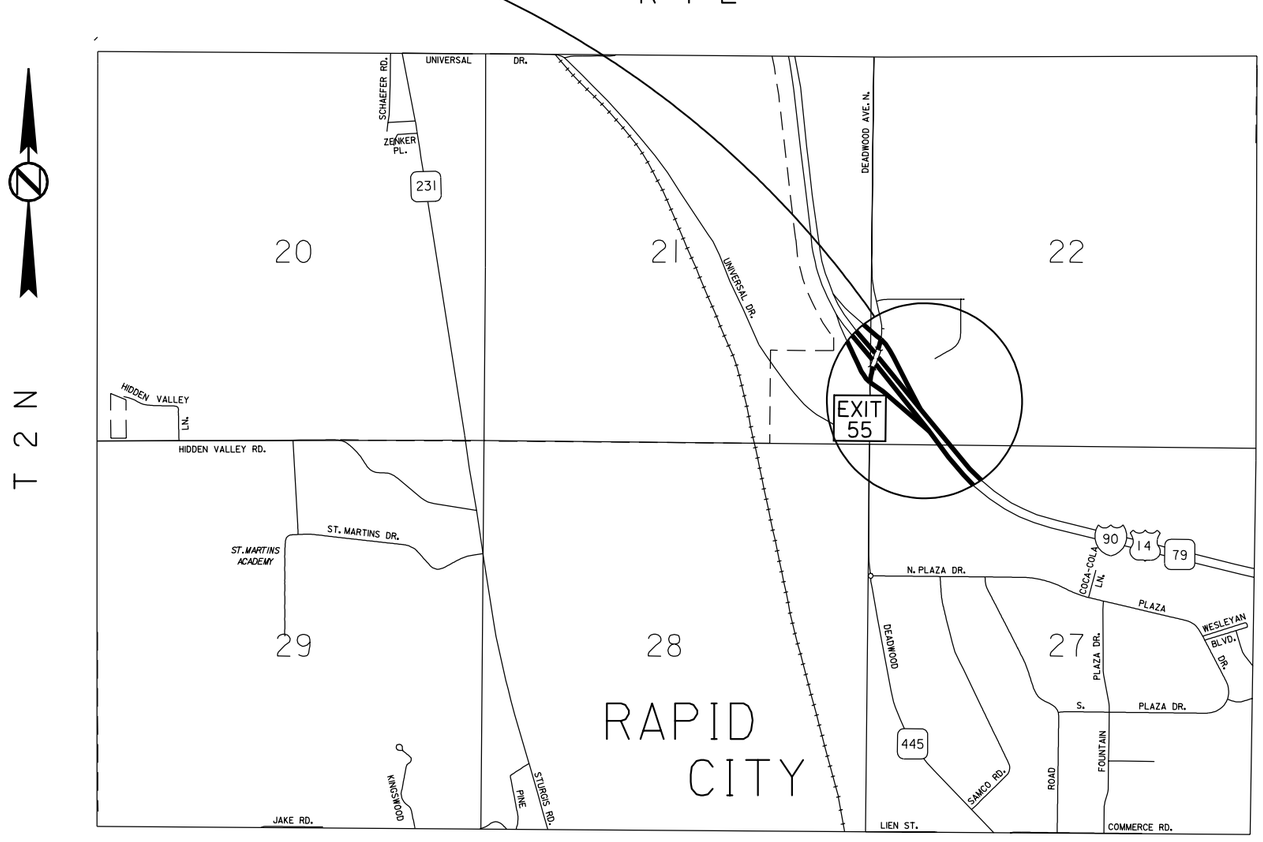
Plotting Date: 24-JAN-2012

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECTS NO. 090E–452 & 090W–452 INTERSTATE 90 PENNINGTON COUNTY

EROSION REPAIR
PCN 12fc & 12g8





INDEX OF SHEETS

DESIGN DESIGNATION

ADT (2010)	15415
ADT (2030)	18066
DHV	1860.8
D	50%
T DHV	4.9
T ADT	10.7%
V	70 mph

STORM WATER PERMIT

No Storm Water Permit rRequired

ESTIMATE OF QUANTITIES

i2fc - Eastbound

Bid Item Number	Item	Quantity	Unit
120E0010	Unclassified Excavation	30	CuYd
634E0010	Flagging	20	Hour
634E0100	Traffic Control	153	Unit
700E0310	Class C Riprap	80.0	Ton
734E0010	Erosion Control	Lump Sum	LS
734E0154	12" Diameter Erosion Control Wattle	40	Ft
831E0110	Type B Drainage Fabric	85	SqYd

I2g8 - Westbound

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E5451	Salvage Riprap	30.0	Ton
110E7800	Remove Chain Link Fence for Reset	40	Ft
120E0010	Unclassified Excavation	35	CuYd
621E0520	Reset Chain Link Fence	40	Ft
634E0010	Flagging	5	Hour
634E0100	Traffic Control	151	Unit
700E0310	Class C Riprap	75.0	Ton
720E1015	Bank and Channel Protection Gabion	7.0	CuYd
734E0010	Erosion Control	Lump Sum	LS
734E0104	Type 4 Erosion Control Blanket	52	SqYd
734E0154	12" Diameter Erosion Control Wattle	60	Ft
734E0510	Shaping for Erosion Control Blanket	29	Ft
831E0110	Type B Drainage Fabric	137	SqYd

SPECIFICATIONS

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

WORK DESCRIPTION

Work on this project will consist of the following:

1. Fill in erosion and shape slopes.
2. Place gabions.
3. Place riprap and fabric.
4. Place erosion control fabric.

UTILITIES

Other than noted below, 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.

A power line is located within the riprap placement area on the westbound side of the Interstate. Care shall be taken to not damage this power line during construction. Any damage caused to this power line by the Contractor shall be repaired by the Contractor at no cost to the State.

SEQUENCE OF OPERATIONS - GENERAL

1. 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.

SEQUENCE OF OPERATIONS

1. Set up traffic control.
2. Remove fence for reset on westbound side.
3. Place drainage fabric, riprap, gabion baskets, wattles, and erosion control fabric on westbound side.
4. Reset fence on westbound side
5. Place drainage fabric, riprap, and wattles on eastbound side.
6. Remove traffic control.

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.

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.

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/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".
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.

UNCLASSIFIED EXCAVATION

Unclassified Excavation is provided for the preparation of the embankment prior to placing riprap.

Excess material not required shall be handled as waste.

The Contractor shall add water as needed to meet the moisture content and density requirements as directed by the Engineer.

No field measurement of Unclassified Excavation will be required and plans quantity shall be the basis of payment.

GENERAL MAINTENANCE OF TRAFFIC

1. The Contractor shall at all times, keep the portion of the project being used by the traveling public in a condition that will adequately and safely accommodate traffic.

2. Storage of vehicles, materials, and equipment shall be not closer than 30' from the edge of the driving lane. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking 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.

3. When access to the project can be made via a City street or ramp the Contractor will not be allowed to access the project from the interstate.

4. Ramp closures shall only be allowed fro 9:00 AM to 3:00 PM.

5. The Contractor shall coordinate his operations such that during non-working hours the roadway shall be open to normal flow of traffic.

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

TRAFFIC CONTROL

1. Removing, relocating, covering, salvaging and resetting of permanent traffic control devices, including delineation, shall be the responsibility of the Contractor. The cost of this work shall be incidental to the various contract bid 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.

2. Traffic control shall be in accordance with the MUTCD 2009 Edition, the Standard Specifications and the layouts contained in these plans.

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

4. Non-applicable signing will be covered or removed and reset during periods of in-activity. All costs to do this work shall be incidental to Traffic Control, Miscellaneous.

TRAFFIC CONTROL (CONTINUED)

5. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed supports, unless approved by the Engineer.

6. All Contractors' vehicles or equipment entering or leaving a closed work area shall display a flashing amber light visible in all directions at a minimum distance of ¼ mile.

7. The Contractor or designated traffic control subcontractor shall make night (after dark) inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the related contract items.

8. The Contractor shall be required to have a person available 24 hour/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.

INVENTORY OF TRAFFIC CONTROL DEVICES

I2fc

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	1	17	17
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	1	34	34
W21-5	48" x 48"	SHOULDER WORK	1	34	34
				TOTAL UNITS	153

i2g8

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	1	17	17
W5-4	48" x 48"	RAMP NARROWS	1	34	34
W13-1	24" x 24"	ADVISORY SPEED PLATE	1	16	16
W13-4	24" x 24"	ON RAMP	1	16	16
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	1	34	34
W20-7a	48" x 48"	FLAGGER	1	34	34
				TOTAL UNITS	151

CHAIN LINK FENCE

Approximately 40 feet of chain link fence and five fence posts will have to be removed and reset to accommodate the riprap installation on the westbound side of the Interstate.

The chain link fence shall be reset with posts at each edge of the riprap and one post in the center of the riprap channel.

The post in the center of the channel shall be replaced with a post 2' taller than the in-place post. This post shall be incidental to the contract unit price per foot for Remove Chain Link Fence for Reset and the contract unit price per foot for Reset Chain Link Fence.

All costs including any additional hardware, additional fence, materials and labor related to removing and resetting the chain link fence shall be incidental to the contract unit price per foot for Remove Chain Link Fence for Reset and the contract unit price per foot for Reset Chain Link Fence

CLASS C RIPRAP

Existing riprap material shall be salvaged and incorporated into the Class C Riprap. All costs for salvaging and reusing the existing riprap including the removal of old fabric shall be incidental to the contract unit price per ton for Salvage Riprap. It is estimated that there are 30 tons of salvageable riprap present.

Type B Drainage Fabric shall be placed underneath the Class C Riprap. The fabric shall conform to Section 831 of the Standard Specifications.

For the westbound off-ramp location it is estimated that 75 tons of Class C Riprap, 30 tons of salvaged riprap, and 111 SqYd of Type B Drainage Fabric will be required to build to the limits shown in these plans.

For the eastbound on-ramp location it is estimated that 80 tons of Class C Riprap and 85 SqYd of Type B Drainage Fabric will be required to build to the limits shown in these plans.

A factor of 1.4 Tons/CuYd was used to convert CuYds of Class C Riprap to Tons.

BANK AND CHANNEL PROTECTION GABIONS

Bank and channel gabions shall be placed in the ditch bottom as shown on the plans sheet for the westbound off –ramp.

Two Size E and two Size F Bank and Channel Protection Gabions will be required.

Type B Drainage Fabric shall be placed under and around the edges of the Bank and Channel Protection Gabions. Bank and Channel Protection Gabion installation will require approximately 26 SqYd of Type B Drainage Fabric

All costs for installation of gabions shall be incidental to the contract unit price per CuYd for Bank and Channel Protection Gabion

TYPE 4 EROSION CONTROL BLANKET

Type 4 Erosion Control Blanket shall be installed 16 feet wide at the location noted on the plans and at locations determined by the Engineer during construction.

The Type 4 Erosion Control Blanket provided shall be from the approved product list. The approved product list for erosion control blanket may be viewed at the following internet site:

http://apps.sd.gov/Applications/HC54ApprovedProducts/main.asp

The Contractor shall install Type 4 Erosion Control Blanket according to the manufacturer's installation instructions.

EROSION CONTROL

The locations to be seeded, fertilized and mulched are comprised of the area under the Type 4 Erosion Control Blanket and any areas damaged during construction.

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/1000 SqFt)
Western Wheatgrass	Flintlock, Rodan, Rosana	1.3
Green Needlegrass	Lodorm	0.8
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	0.6
Blue Grama	Bad River, Willis	0.4
Oats or Spring Wheat: April through July; Winter Wheat: August through November		1.9
	Total:	5.0

A commercial fertilizer with a minimum guaranteed analysis of 13-13-13, 18-46-0, 11-52-0, or an approved alternate fertilizer sold for use as a lawn starter fertilizer shall be applied to all areas designated for permanent seeding. The application rate of fertilizer shall be 3 pounds per 1000 SqFt.

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

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

Fiber mulch shall be applied at the rate of 2000 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 additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract lump sum price for Erosion Control.

EROSION CONTROL (CONTINUED)

The fiber mulch used on this project shall be one from the list below:

Product	Manufacturer
Mat-Fiber Plus	Mat, Inc. Floodwood, MN Phone: 1-888-477-3028 www.matinc.biz
Conwed Hydro Mulch 2000	Profile Products LLC Buffalo Grove, IL Phone: 1-800-366-1180 www.conwedfibers.com
EcoFibre Plus Tackifier	Profile Products LLC Buffalo Grove, IL Phone: 1-800-366-1180 www.profile-eco.com
Terra Wood with Tacking Agent 3	Profile Products LLC Buffalo Grove, IL Phone: 1-800-726-6371 www.terra-mulch.com
Bindex Wood WT	American Excelsior Co. Arlington, TX Phone: 1-800-777-7645 www.curlex.com
Second Nature Wood Fiber Mulch Plus	Central Fiber LLC Canton, OH Phone: 1-888-452-2630 www.centralfiber.com

Approximately 2000 SqFt will require permanent seeding. All costs associated with permanent seeding, fertilizing, and fiber mulching shall be incidental to the contract lump sum for price for Erosion Control.

It is the Contractor's responsibility to verify estimated acreage. No adjustment in quantity will be allowed unless additional work is ordered by the Engineer.

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations determined by the Engineer during construction. Refer to Std. Plate 734.06 for details.

The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

A quantity of 100 feet of 12" Diameter Erosion Control Wattles has been placed in the Estimate of Quantities for temporary erosion and sediment control in highway ditch channels, backslopes, and inslopes.

The erosion control wattle provided shall be from the list shown below:

Product	Manufacturer
Curlex Sediment Log	American Excelsior Company Arlington, TX Phone: 1-800-777-7645 www.amerexcel.com
Aspen Excelsior Logs	Western Excelsior Corporation Mancos, CO Phone: 1-800-833-8573 www.westernexcelsior.com
Amber Waves Straw Wattles	Limpert Environmental Litchfield, MN Phone: 1-320-693-2565 www.limpertenvironmental.com
Bio Logs	Flaxtech, LLC Rock Lake, ND Phone: 1-866-444-3529
Winters Wattles	Winters Excelsior Company Birmingham, AL Phone: 1-800-248-7237 www.wintersexcelsior.com
Patriot Wood Fiber Logs and Patriot Straw Wattles	Patriot Environmental Products, Inc. Mesa, AZ Phone: 1-480-345-7293 www.digitaldesigncore.com/patriot/WattleSpecs.pdf

PLOT SCALE - 12.500000:1.000000

I-90 EXIT 55 WESTBOUND OFF-RAMP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-452 090W-452	5	15

Plotting Date: 24-JAN-2012

PLOTTED FROM - TRRC12608

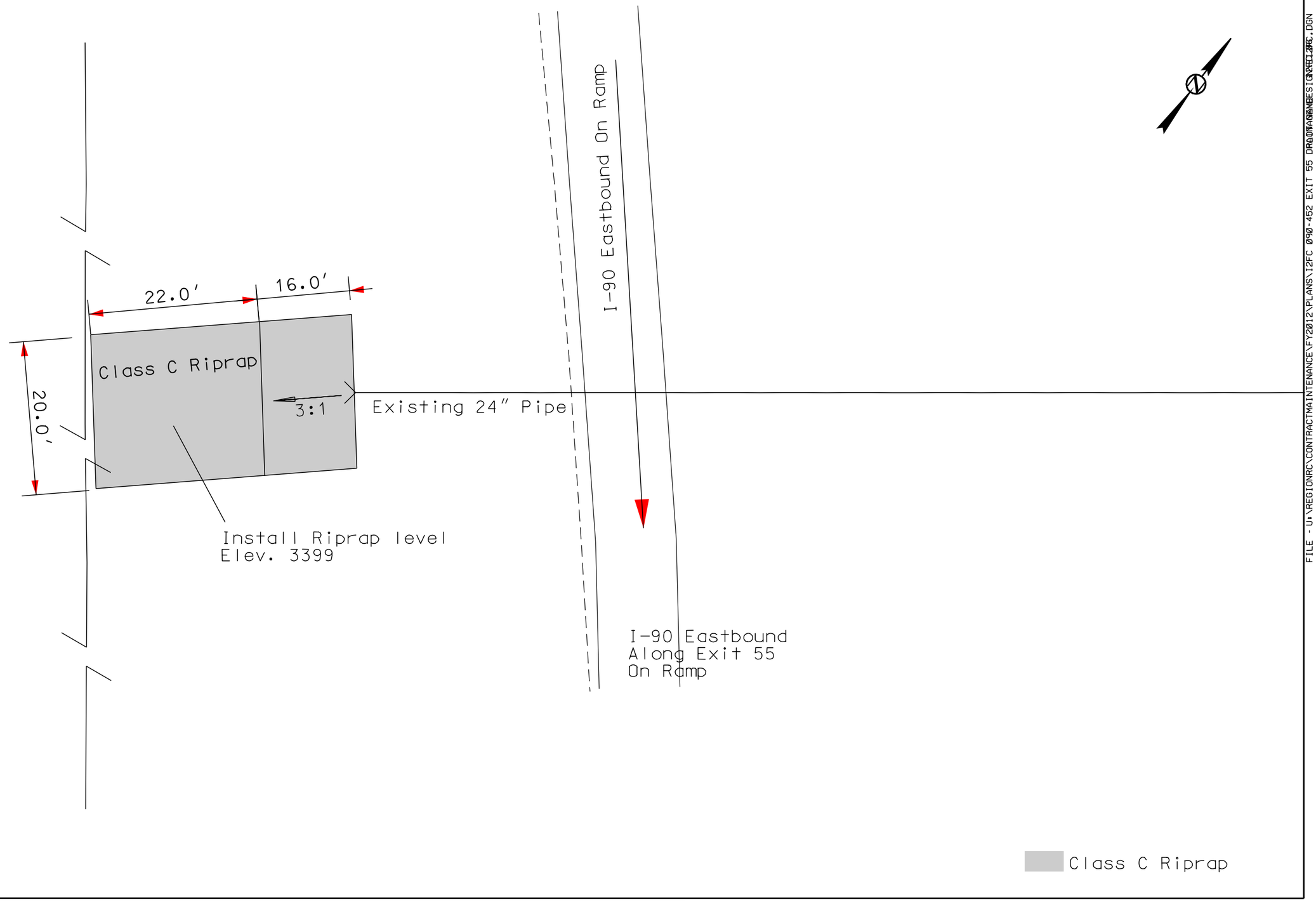
FILE - U:\REGIONRC\CONTRACTMAINTENANCE\FY2012\PLANS\12FC 090-452 EXIT 55 DRAINAGE.DGN

PLOT SCALE - 12.500000:1.000000

I-90 EXIT 55 EASTBOUND ON-RAMP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-452 090W-452	6	15

Plotting Date: 24-JAN-2012



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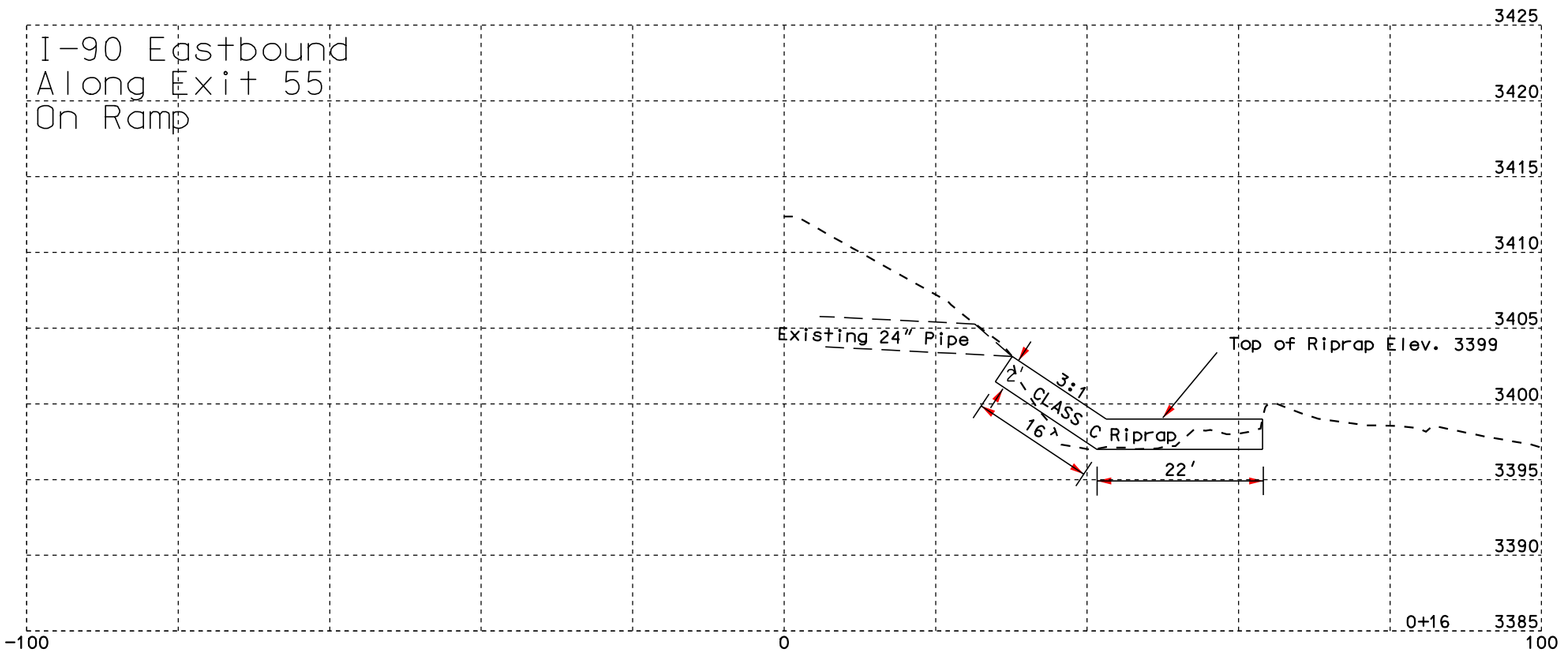
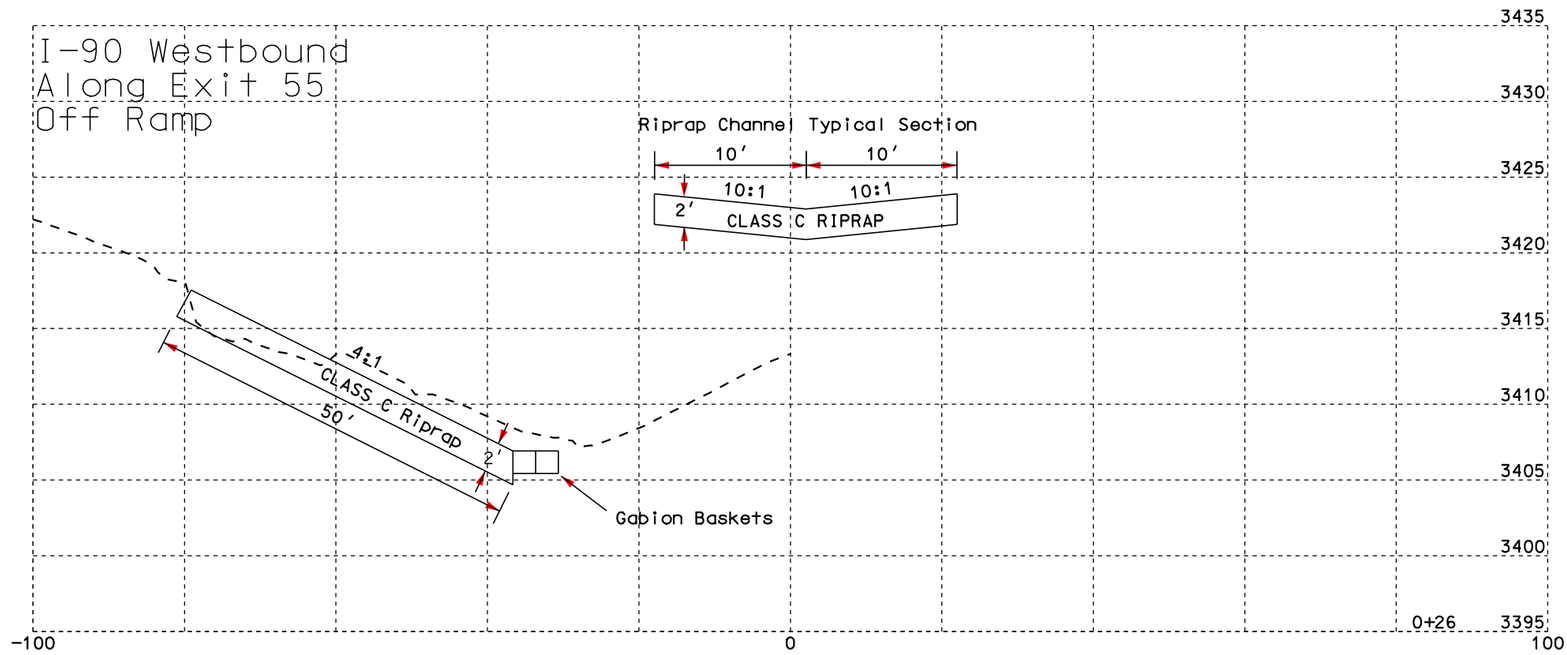
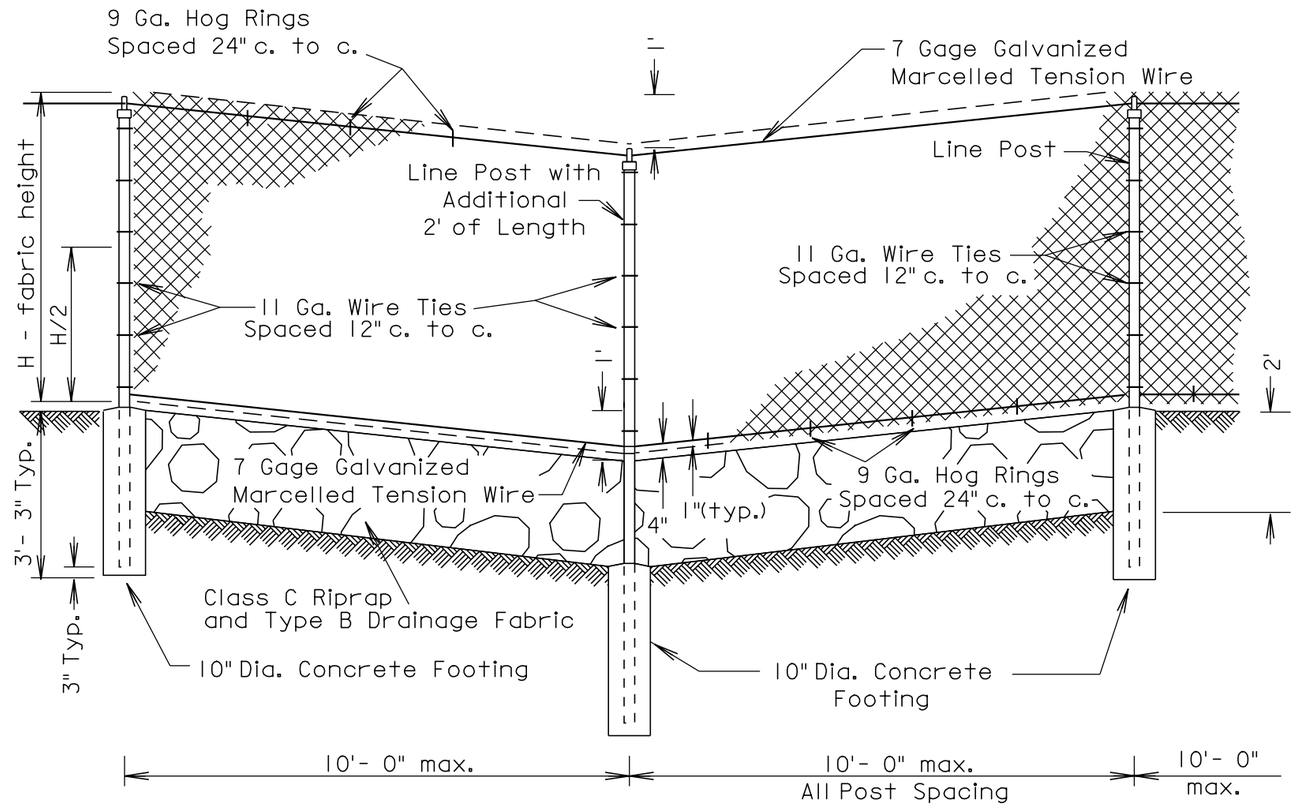




Plotting Date: 24-JAN-2012

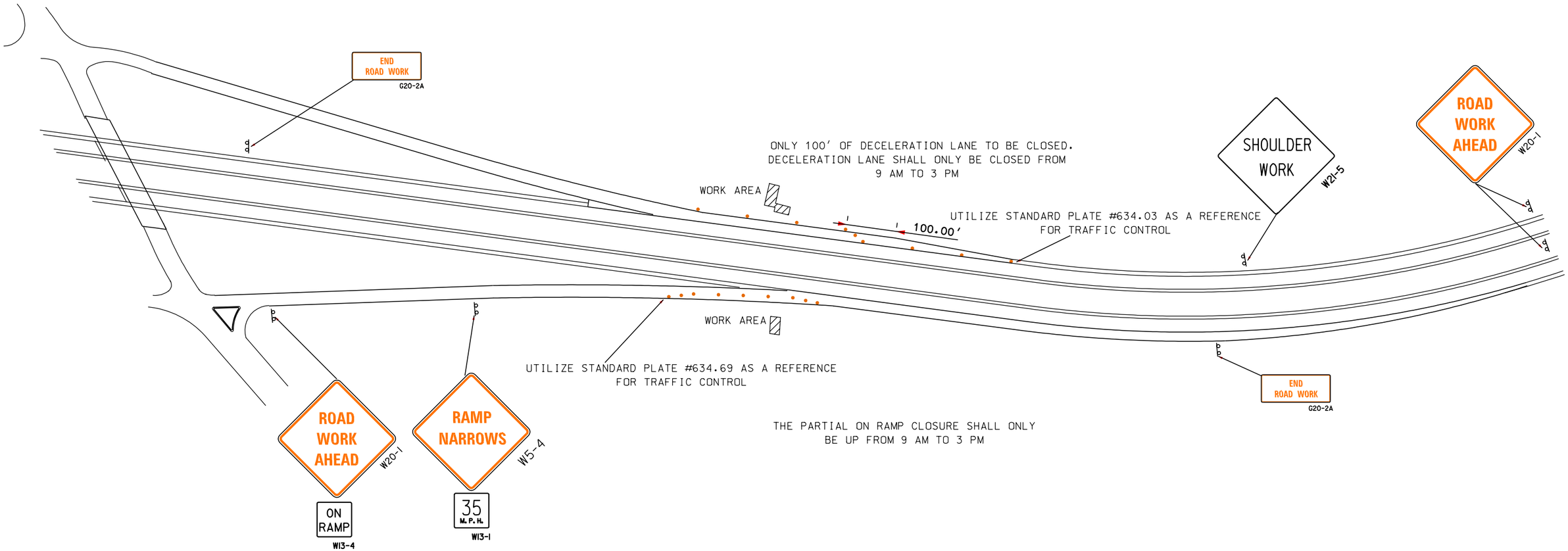
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	090E-452 090W-452	7	15

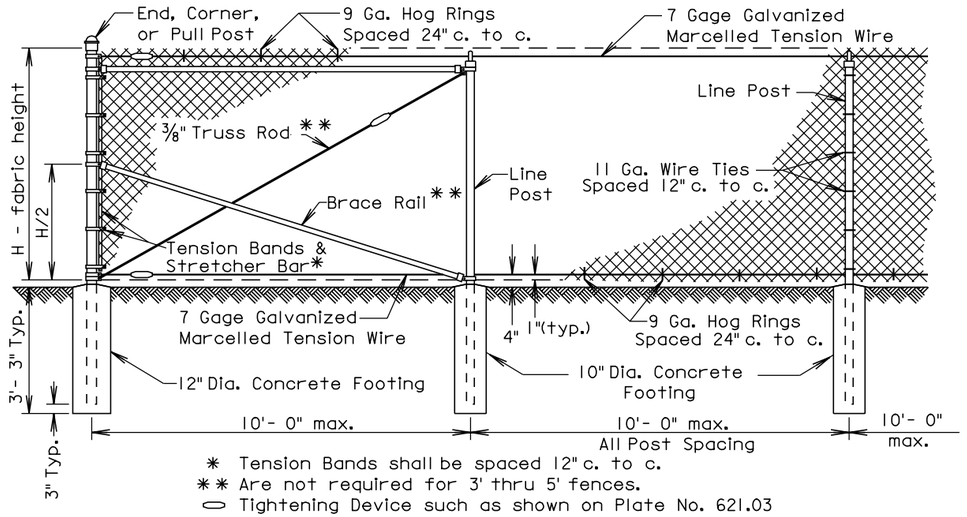
DETAIL FOR CHAIN LINK FENCE ACROSS RIPRAP CHANNEL



TRAFFIC CONTROL

EXIT 55





* Tension Bands shall be spaced 12" c. to c.
** Are not required for 3' thru 5' fences.
⬭ Tightening Device such as shown on Plate No. 621.03

Component	End, Corner & Pull Post		Line Post			Top & Brace Rail	
Type of Fabrication	Round Pipe Nominal	Roll Formed Steel	Round Pipe Nominal	"C" Section	H-Beam Steel	Round Pipe Nominal	Roll Formed Steel
Size	3.00" O. D.	3.5" x 3.5"	2.50" O. D.	1.875"x1.625"	2.25"x1.70"	1.625" O. D.	1.625"x1.25"
Weight (lb. / ft.)	5.79 or 4.64	5.14	3.65 or 3.12	2.34	3.43	2.27 or 1.84	1.35

GENERAL NOTES:

Specific details of manufacture of component parts of the complete fence construction shall be subject to the approval of the Engineer. Commercially available items produced specifically for the use intended shall be used wherever possible in the construction of the fence.

"H" (Height of Fabric) shall be as shown on the Plans. Fabric is available in the the following heights; 36", 42", 48", 60", 72", 84", 96", 108", 120", & 144". Fabric heights 60 inches and under shall be knuckled at both selvages. Fabric heights 72 inches and over shall be knuckled at one selvage and twisted at the other selvage.

Chain Link Fabric shall be 2" mesh, No. 9 gage galvanized wire securely fastened to Tension Wire, Line Post, Rails, Braces and Stretcher Bars spaced as shown hereon.

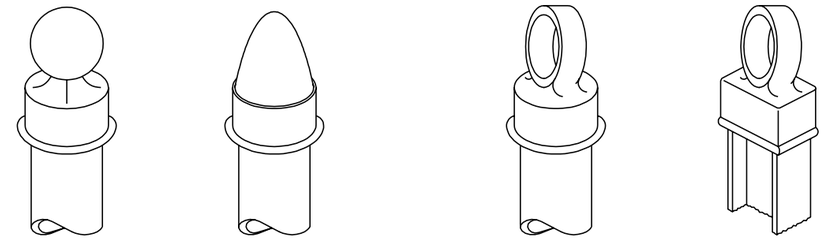
Fence may be constructed with either Round Pipe, "C" Section, "H" Beam, or roll Formed Steel components as shown in the table above. Line post may be Round Pipe, "C" Section, or "H" Beam. The Corner Post and Rails shall be either Round Pipe or Roll Formed Steel. The type of components used shall have prior approval by the Engineer before construction.

All post shall have a means to securely hold the top tension wire in postion and allow for the removal and replacement of a post without damaging the top tension wire.

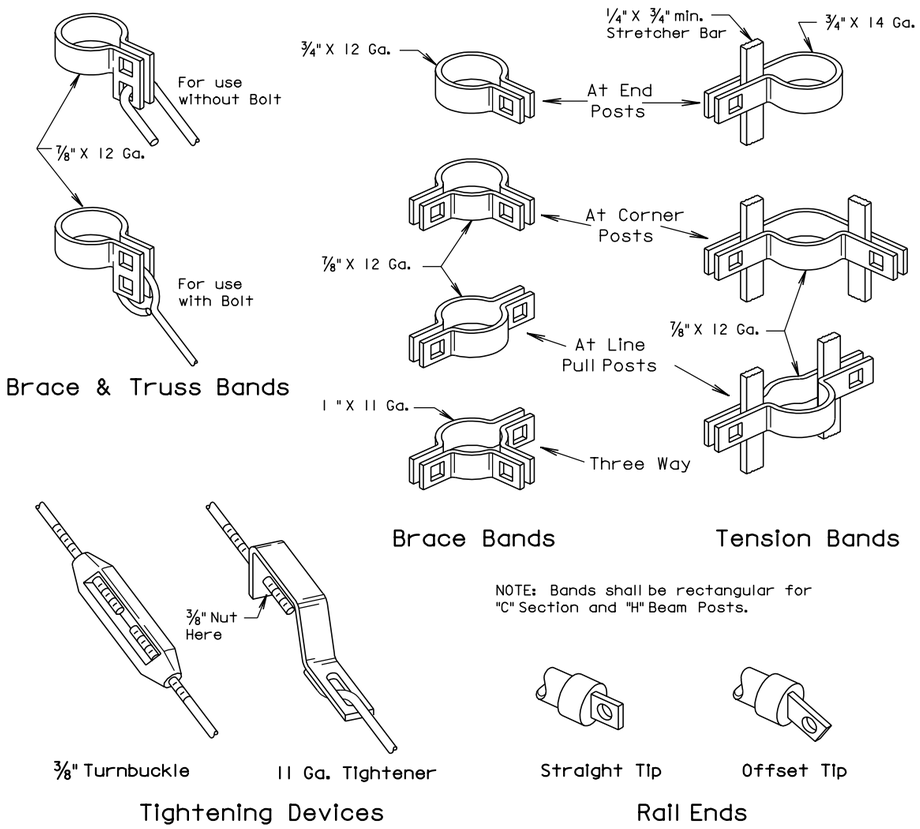
Where fence must cross small bodies of water (such as drainage areas or ponds) that could freeze during the winter, use 11 gage Hog Rings. Provide only two ties per Tension Wire and Top Rail between line posts.

March 31, 2000

Published Date: 1st Qtr. 2012	SDDOT	CHAIN LINK FENCE WITH TENSION WIRED TOP	PLATE NUMBER 621.02
			Sheet 1 of 1



Typical Post Tops
(Shown for example only)



March 31, 2000

Published Date: 1st Qtr. 2012	SDDOT	HARDWARE FOR CHAIN LINK FENCE	PLATE NUMBER 621.03
			Sheet 1 of 1

The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

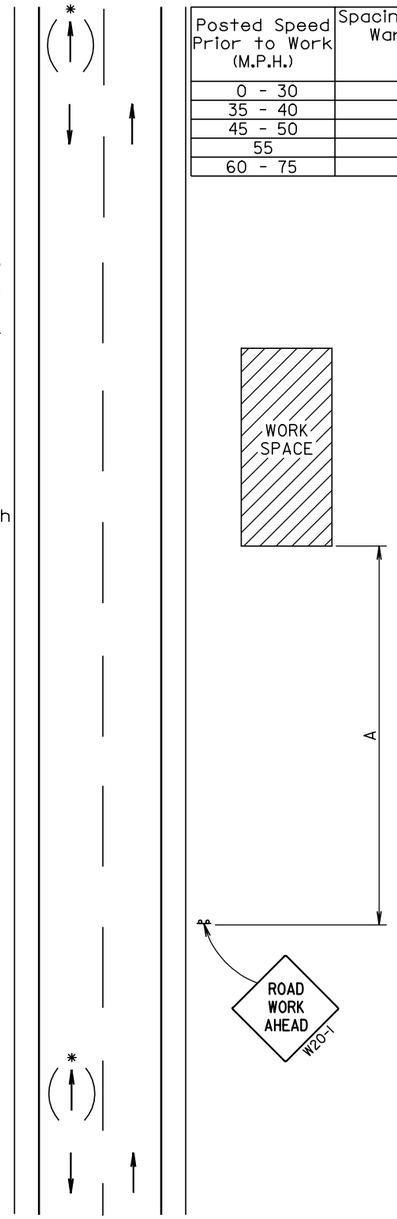
The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000



July 1, 2005

Published Date: 1st Qtr. 2012

SDDOT

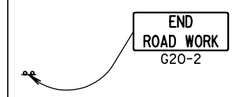
GUIDES FOR TRAFFIC CONTROL DEVICES
WORK BEYOND THE SHOULDER

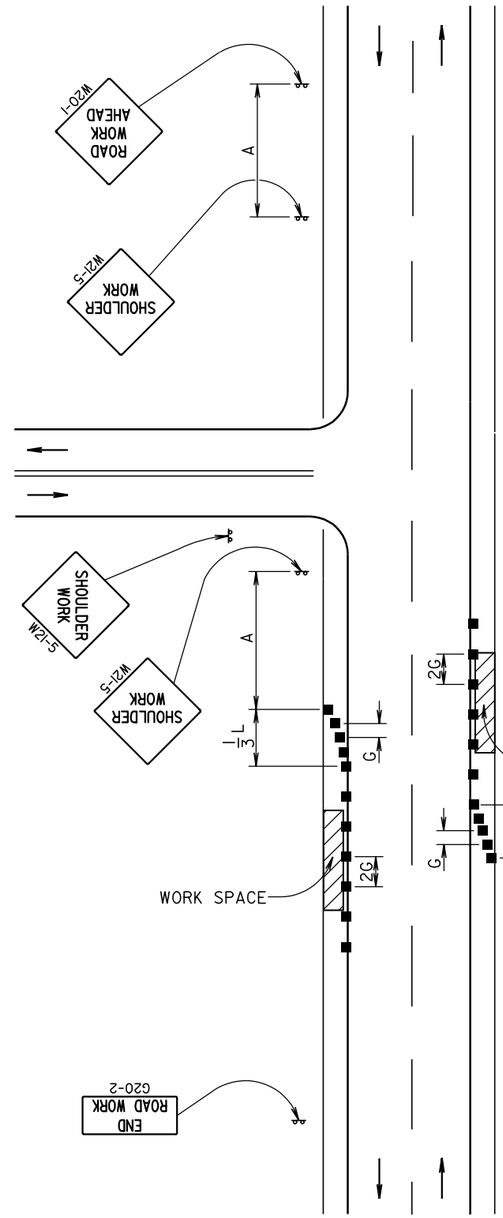
PLATE NUMBER 634.01

Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	100 - 200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device





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

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

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

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

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

February 14, 2011

Published Date: 1st Qtr. 2012

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
WORK ON SHOULDERS

PLATE NUMBER 634.03

Sheet 1 of 1

Username - trrcl2608

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B)	L
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B)	
70 - 75	1000 1600	1125

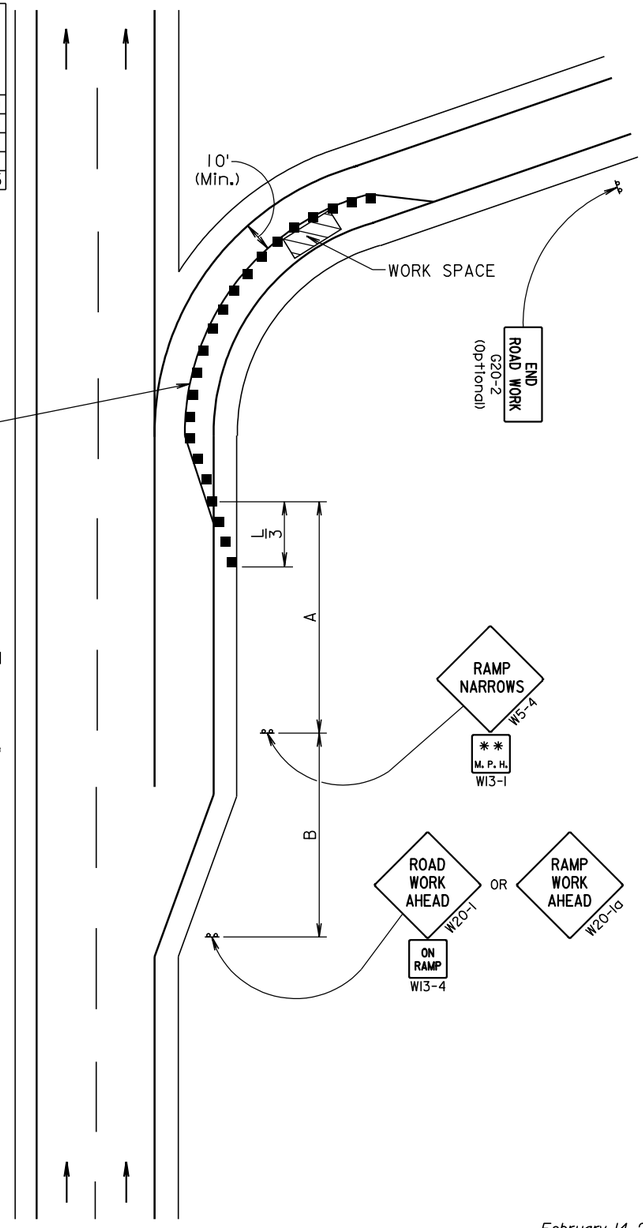
■ Channelizing Device

** Need and safe speed to be determined by the Highway Authority.

Four inch white temporary pavement marking shall be used if traffic control must remain overnight or longer.

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

Truck off-tracking should be considered when determining whether the 10 foot minimum lane width is adequate.



February 14, 2011

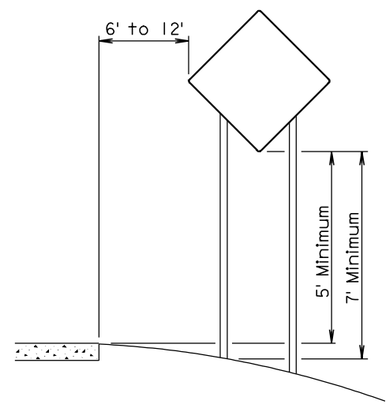
Published Date: 1st Qtr. 2012

SDDOT

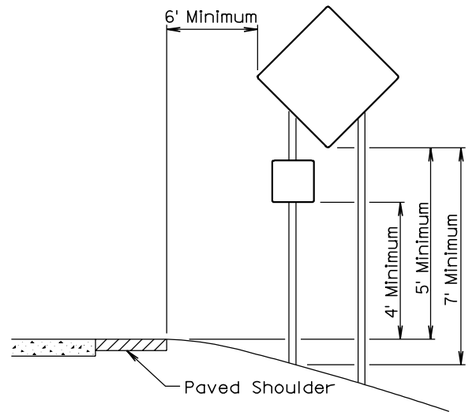
GUIDES FOR TRAFFIC CONTROL DEVICES
PARTIAL EXIT RAMP CLOSURE

PLATE NUMBER 634.69

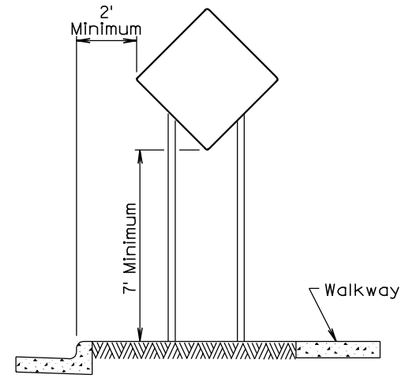
Sheet 1 of 1



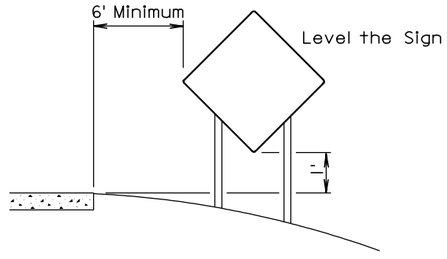
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT



RURAL DISTRICT
3 DAY MAXIMUM

February 14, 2011

Published Date: 1st Qtr. 2012

SDDOT

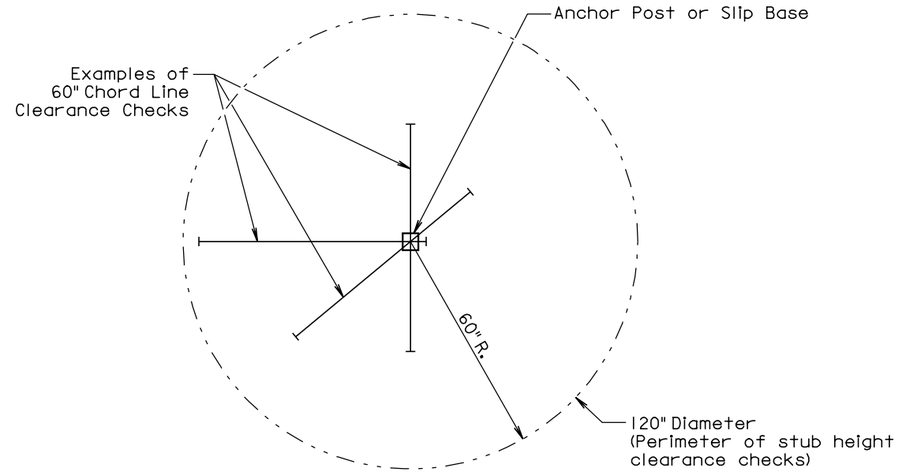
CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

PLATE NUMBER 634.85

Sheet 1 of 1

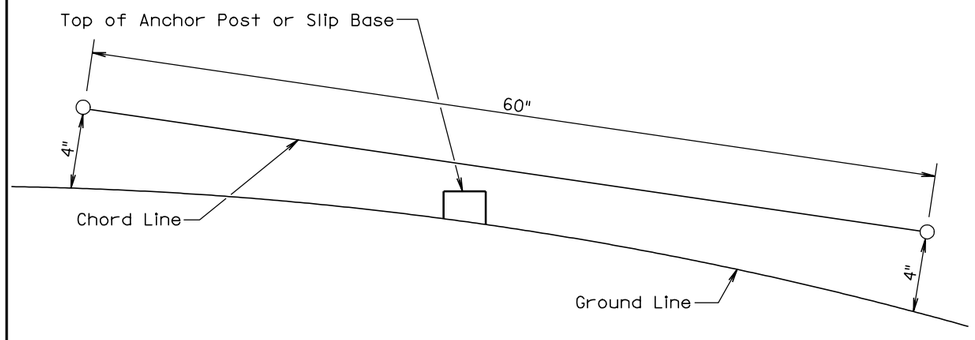
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-452 090W-452	13	15

Plotting Date: 24-JAN-2012



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.

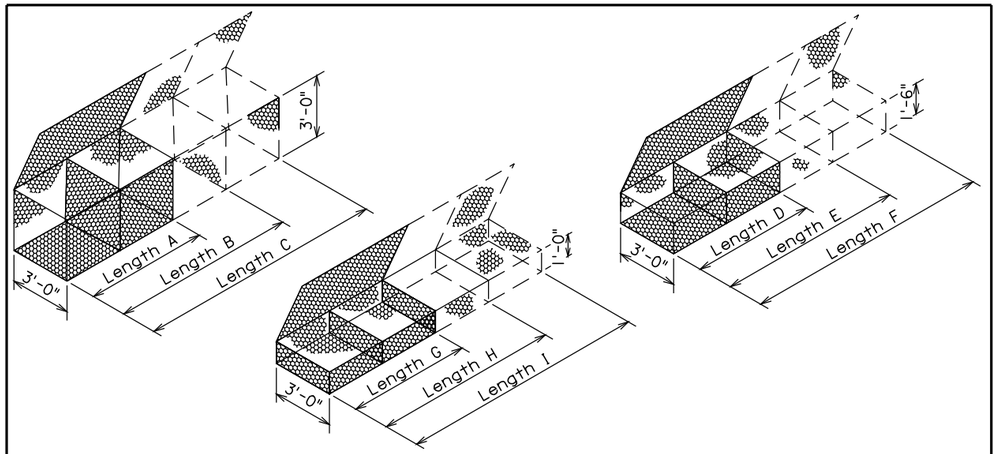
At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

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: 1st Qtr. 2012	SDDOT	**BREAKAWAY SUPPORT STUB CLEARANCE**	*PLATE NUMBER* 634.99 *Sheet 1 of 1*

Username - trrcl2608



GABION DETAILS

STANDARD SIZES

SIZE	LENGTH	WIDTH	HEIGHT	NUMBER OF CELLS	CAPACITY, Cu. Yd.
A	6'-0"	3'-0"	3'-0"	2	2.0
B	9'-0"	3'-0"	3'-0"	3	3.0
C	12'-0"	3'-0"	3'-0"	4	4.0
D	6'-0"	3'-0"	1'-6"	2	1.0
E	9'-0"	3'-0"	1'-6"	3	1.5
F	12'-0"	3'-0"	1'-6"	4	2.0
G	6'-0"	3'-0"	1'-0"	2	0.7
H	9'-0"	3'-0"	1'-0"	3	1.0
I	12'-0"	3'-0"	1'-0"	4	1.3

Above Dimensions subject to mill tolerances.

GENERAL NOTES:

Lacing and internal connecting wire shall be 0.0866 inch diameter steel wire ASTM A641 Class 3 soft temper measured after galvanizing and for PVC coated gabions shall be 0.0866 inch diameter steel wire measured after galvanizing but before PVC coating.

The lacing procedure is as follows:

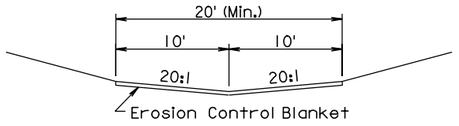
1. Cut a length of lacing wire approximately 1 ½ times the distance to be laced but not exceeding 5 feet.
2. Secure the wire terminal at the corner by looping and twisting.
3. Proceed lacing with alternating single and double loops at a spacing not to exceed 6 inches.
4. Securely fasten the other lacing wire terminal.

Wire lacing or interlocking type fasteners shall be used for gabion assembly and final construction of gabion structures. Interlocking fasteners for galvanized gabions shall be high tensile 0.120 inch diameter galvanized steel wire measured after galvanizing. The galvanizing shall conform to ASTM A641-92 Class 3 coating. Fasteners shall also be in accordance with ASTM A764, Class II, Type III.

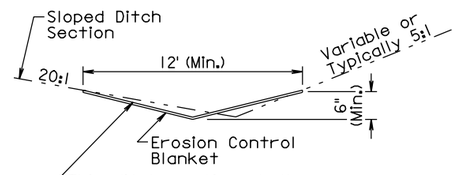
Interlocking fasteners for PVC coated gabions shall be high tensile 0.120 inch diameter stainless steel wire conforming to ASTM A313, Type 302, Class 1. The spacing of the interlocking fasteners during all phases of assembly and construction shall not exceed 6 inches. All fasteners shall be placed where the mesh weaves around the selvage wire at the vertical and horizontal joints.

June 26, 2001

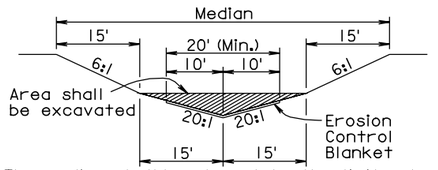
Published Date: 1st Qtr. 2012	SDDOT	BANK AND CHANNEL PROTECTION GABIONS	PLATE NUMBER 720.01
			Sheet 1 of 1



STANDARD DITCH SECTION

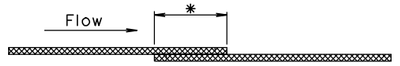


SLOPED DITCH SECTION



The median shall be shaped to the limits shown in this detail where the erosion control blanket will be placed.

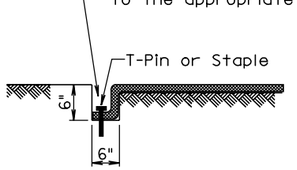
MEDIAN SECTION



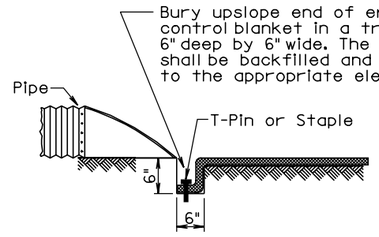
* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.

OVERLAP DETAIL



TRENCH DETAIL



PIPE END DETAIL

GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas shall be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket shall be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket shall be buried in a trench 6" wide by 6" deep. There shall be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

The erosion control blanket shall be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor shall fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

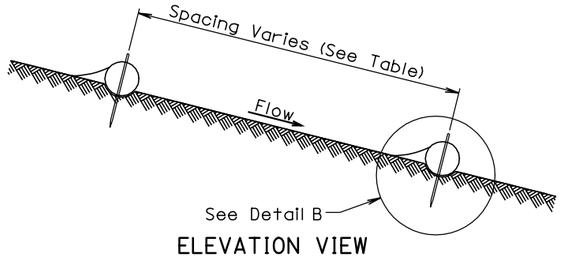
All ditch sections shall be shaped when installing the erosion control blanket. All costs for shaping the ditches shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

December 23, 2004

Published Date: 1st Qtr. 2012	SDDOT	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
			Sheet 1 of 1

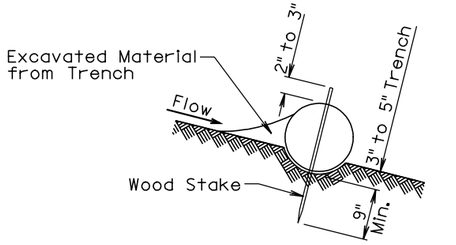
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-452 090W-452	15	15

Plotting Date: 24-JAN-2012

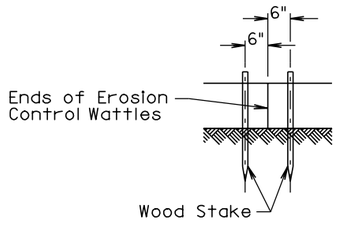


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

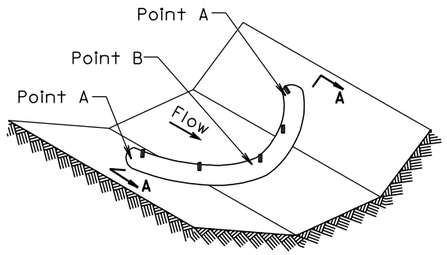
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



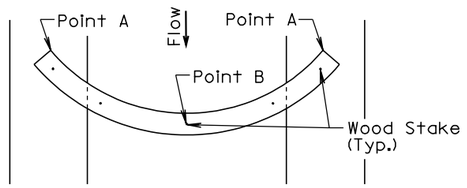
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

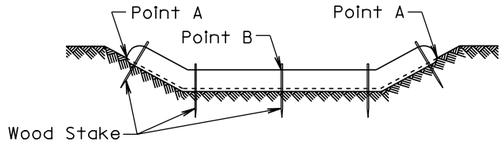


ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION

DITCH INSTALLATION	
Grade	Spacing (Ft)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

December 23, 2004

Published Date: 1st Qtr. 2012	SDDOT	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 ½". 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

Published Date: 1st Qtr. 2012	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

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