

STATE OF SOUTH DAKOTA
 DEPARTMENT OF TRANSPORTATION
 PLANS FOR PROPOSED

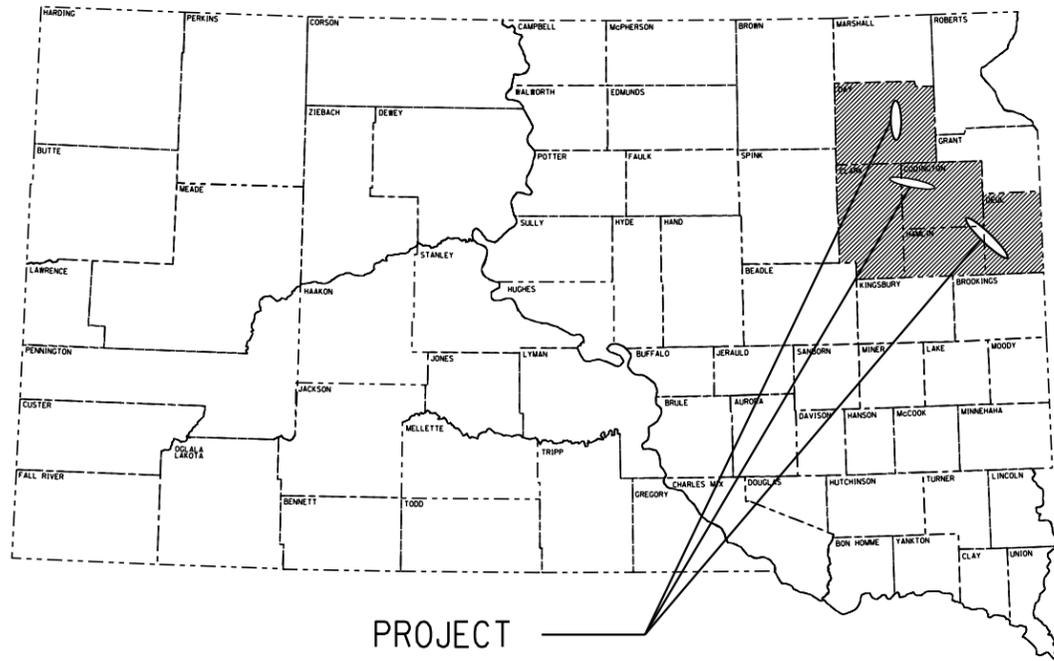
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)	1	23
Plotting Date: 12/22/2015			

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PROJECT IM-P 0010(125)
SD HIGHWAYS 20 & 25
INTERSTATE 29
Clark, Codington, Day,
Deuel & Hamlin Counties
 ASPHALT SURFACE TREATMENT (SAND SEAL)

PCN 053A



PROJECT

SEGMENT 1
 SD 20 - MRM 372.75 TO MRM 383.73
 Clark & Codington County
 Length 10.970 Miles



BEGIN PROJECT
 STATION 0+00
 MRM 372.75 + 0.000
 MILEAGE: 320.573

END PROJECT
 STATION 579+21.60
 MRM 383.73 + 0.000
 MILEAGE: 331.543

DESIGN DESIGNATION

ADT (2014)	1220
ADT (2034)	1596
DHV	178.8
D	53%
T DHV	6.5%
T ADT	14.3%

STORM WATER PERMIT
 None Required

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PLOT SCALE - 1:11973

PLOTTED FROM - IRBRINT12

PLOT NAME - 1

FILE - ... \2016 CHIP SEAL\053A_TITLE.DGN

SEGMENT 2
 I 29 N - MRM 151.31 + 0.371 TO MRM 179.00 + 0.341
 Codington, Deuel & Hamlin County
 Length 27.640 Miles

SEGMENT 3
 I 29 S - MRM 151.22 + 0.470 TO MRM 165.00 + 0.299
 Deuel & Hamlin County
 Length 13.605 Miles

Asphalt Surface Treatment of Shoulders & Exit 157, 164 Ramps

BEGIN SEGMENT 2
 STA. 0+00
 I29 N MRM 151.31 + 0.371
 MILEAGE 151.483

END SEGMENT 2
 STA. 1459+39.20
 I29 N MRM 179.00 + 0.341
 MILEAGE 179.123

EXIT 164 RAMPS
 NB On Ramp = 1430'
 NB Off Ramp = 885'
 SB On Ramp = 1405'
 SB Off Ramp = 890'

EXIT 157 RAMPS
 NB On Ramp = 1235'
 NB Off Ramp = 985'
 SB On Ramp = 1370'
 SB Off Ramp = 1008'

BEGIN SEGMENT 3
 STA. 0+00
 I29 S MRM 151.22 + 0.470
 MILEAGE 151.484

END SEGMENT 3
 STA. 718+34.40
 I29 S MRM 165.00 + 0.299
 MILEAGE 165.089

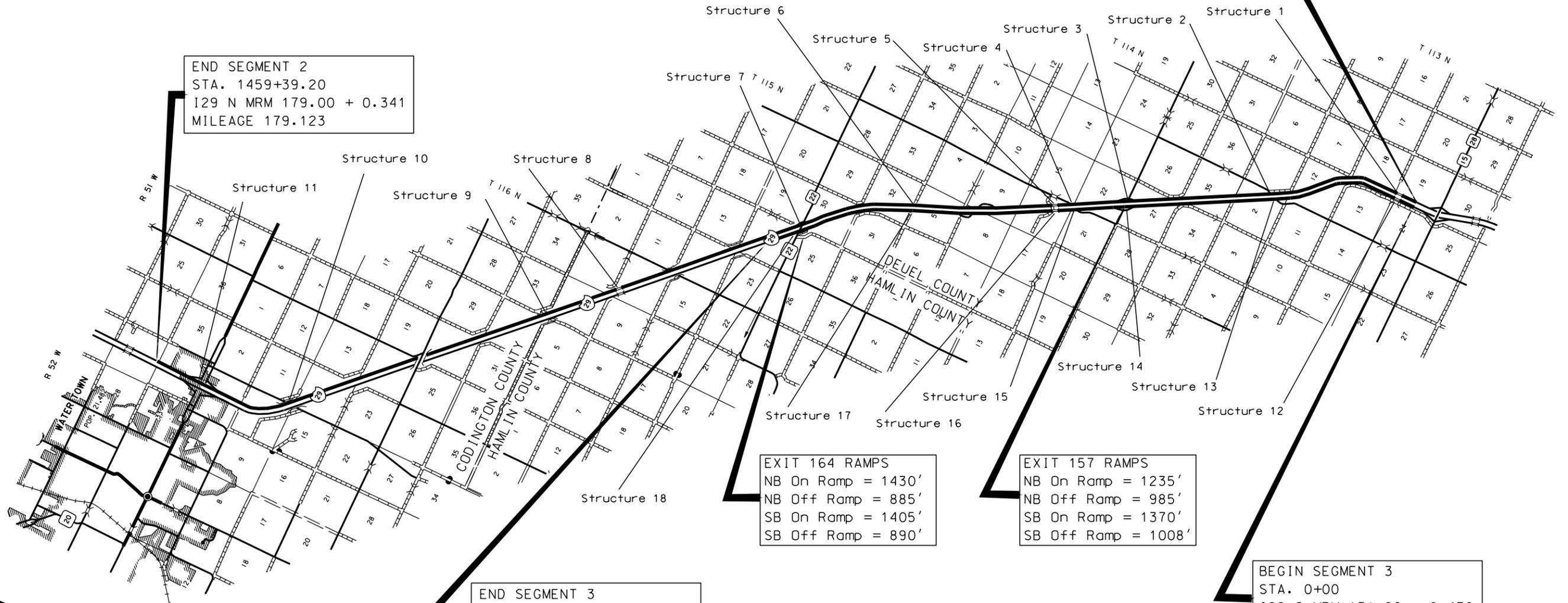
**SEGMENT 2 - I29 NB
 DESIGN DESIGNATION**

ADT (2014)	3399
ADT (2034)	4210
DHV	530.5
D	51%
T DHV	10.3%
T ADT	22.7%

**SEGMENT 3 - I29 SB
 DESIGN DESIGNATION**

ADT (2014)	3452
ADT (2034)	4286
DHV	540.0
D	51%
T DHV	10.3%
T ADT	22.7%

NOTE:
 All ramp stationing is in
 the direction of travel.



STRUCTURE INFORMATION SEGMENT 2 & 3

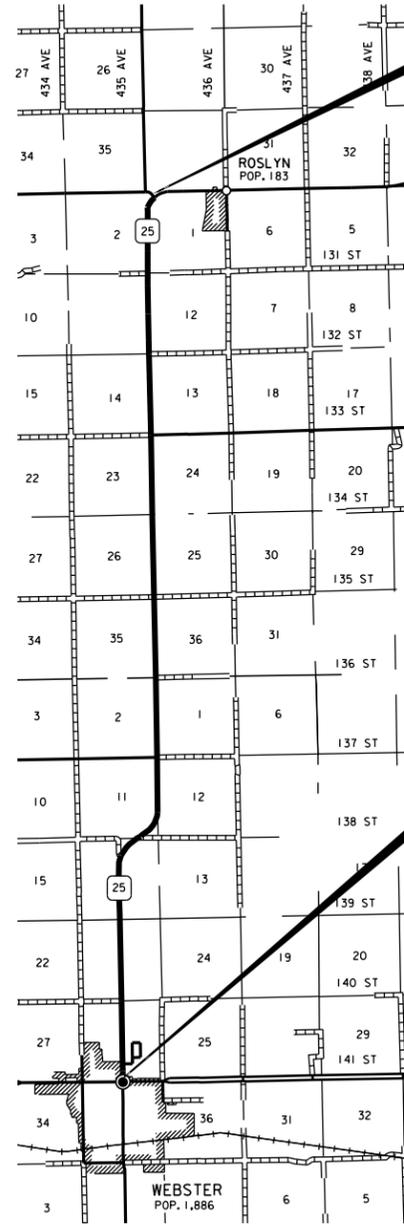
I29 N	Structure No.	Type	Length	MRM
Structure 1	20-061-271	Prestressed Concrete Girder	137.5' = 0.026 Miles	151.85
Structure 2	20-050-248	Steel Girder	157.21' = 0.030 Miles	154.50
Structure 3	20-035-220	Continuous Concrete	135.83' = 0.026 Miles	157.63
Structure 4	20-030-211	Steel Girder	186.7' = 0.035 Miles	158.74
Structure 5	20-028-207	Steel Girder	233.0' = 0.044 Miles	159.16
Structure 6	20-015-180	Continuous Concrete	138.73' = 0.026 Miles	162.10
Structure 7	29-300-040	Steel Girder	260.67' = 0.049 Miles	164.58
Structure 8	29-272-012	Prestressed Concrete Girder	183.0' = 0.035 Miles	168.59
Structure 9	29-261-000	Steel Girder	182.21' = 0.035 Miles	170.23
Structure 10	15-220-199	Steel Girder	174.67' = 0.033 Miles	175.93
Structure 11	15-215-180	Steel Girder	308.0' = 0.058 Miles	177.96

I29 S	Structure No.	Type	Length	MRM
Structure 12	20-060-271	Prestressed Concrete Girder	137.5' = 0.026 Miles	151.85
Structure 13	20-049-248	Steel Girder	157.21' = 0.030 Miles	154.50
Structure 14	20-034-220	Continuous Concrete	135.83' = 0.026 Miles	157.63
Structure 15	20-029-211	Steel Girder	170.71' = 0.032 Miles	158.74
Structure 16	20-027-207	Steel Girder	233.0' = 0.044 Miles	159.21
Structure 17	20-014-180	Continuous Concrete	138.73' = 0.026 Miles	162.15
Structure 18	29-299-040	Steel Girder	260.67' = 0.049 Miles	164.65

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)	4	23

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SEGMENT 4
SD 25 - MRM 182.17 + 0.037 TO MRM 193.00 + 0.034
Day County
Length 10.796 Miles



END SEGMENT 4
 STA. 570+02.88
 MRM 193.00 + 0.034
 MILEAGE 147.006

BEGIN SEGMENT 4
 STA. 0+00
 MRM 182.17 + 0.037
 MILEAGE 136.210

DESIGN DESIGNATION

ADT (2014)	1050
ADT (2034)	1428
DHV	155.7
D	51%
T DHV	5.6%
T ADT	12.4%

PLOT SCALE - 1:11973

PLOTTED FROM - IRBRINT12

PLOT NAME - 1

FILE - ... \2016 CHIP SEALS\053A_TITLE.DGN

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	216.9	Ton
330E3000	Sand for Fog Seal	40.0	Ton
360E0042	CRS-2P Asphalt for Surface Treatment	1,113.2	Ton
360E1010	Type 1A Cover Aggregate	2,302.0	Ton
360E1010	Type 1A Cover Aggregate	2,294.0	Ton
360E1010	Type 1A Cover Aggregate	1,202.0	Ton
360E1010	Type 1A Cover Aggregate	2,235.0	Ton
633E1300	Pavement Marking Paint, White	1,020	Gal
633E1305	Pavement Marking Paint, Yellow	1,322	Gal
634E0010	Flagging	600.0	Hour
634E0020	Pilot Car	130.0	Hour
634E0110	Traffic Control Signs	2,364	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0280	Type 3 Barricade, 8' Single Sided	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0630	Temporary Pavement Marking	126.0	Mile

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT IM-P 0010(125)	SHEET NO. 6	TOTAL SHEETS 23
Plotting Date: 11/30/2015			

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PLOTTED FROM - IRBRINT12

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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 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 B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

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 State 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 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.

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 proposed 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 historic or 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.

TABLE OF QUANTITIES

(For Information Only)

BID ITEM	DESCRIPTION	SEGMENT 1	SEGMENT 2	SEGMENT 3	SEGMENT 4	TOTAL QUANTITY	UNITS
		SD 20	I29 N	I29 S	SD 25		
		MRM 372.75 to 383.73	MRM 151.31 + 0.371 to 179.00 + 0.341	MRM 151.22 + 0.470 to 165.00 + 0.299	MRM 182.17 + 0.037 to 193.00 + 0.034		
009E0010	MOBILIZATION	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LS
330E0300	SS-1H OR CSS-1H ASPHALT FOR FOG SEAL	62.3	61.7	32.4	60.5	216.9	TON
330E3000	SAND FOR FOG SEAL	10	10	10	10	40	TON
360E0042	CRS-2P ASPHALT FOR SURFACE TREATMENT	319.2	317.7	166.5	309.8	1113.2	TON
360E1010	TYPE 1A COVER AGGREGATE	2302	-	-	-	2302	TON
360E1010	TYPE 1A COVER AGGREGATE	-	2294	-	-	2294	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	1202	-	1202	TON
360E1010	TYPE 1A COVER AGGREGATE	-	-	-	2235	2235	TON
633E1300	PAVEMENT MARKING PAINT, WHITE	494	20	20	486	1020	GAL
633E1305	PAVEMENT MARKING PAINT, YELLOW	133	642	326	221	1322	GAL
634E0010	FLAGGING	260	40	40	260	600	HOURL
634E0020	PILOT CAR	65	-	-	65	130	HOURL
634E0100	TRAFFIC CONTROL	420	876	692	376	2364	SQFT
634E0120	TRAFFIC CONTROL, MISCELLANEOUS	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LS
634E0280	TYPE 3 BARRICADE, 8' SINGLE SIDED	-	1	1	-	2	EACH
634E0420	TYPE C ADVANCE WARNING ARROW PANEL	-	1	1	-	2	EACH
634E0630	TEMPORARY PAVEMENT MARKING	22.0	55.2	27.2	21.6	126.0	MILE

PLOT SCALE - 1:798.66

PLOTTED FROM - IRBRINT12

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RATE OF MATERIALS

The Estimate of Quantities is based on the following quantities of materials per mile.

ASPHALT SURFACE TREATMENT:

SEGMENT	ROUTE	STATION	to	STATION
1	SD 20	0+00		579+21.50
4	SD 25	0+00		570+02.88

CRS-2P Asphalt for Surface Treatment at the rate of 28.7 tons applied 32 feet wide.
(Rate = 0.36 Gal./S.Y.).

Type 1A Cover Aggregate at the rate of 207 tons applied 32 feet wide.
(Rate= 22 Lbs./S.Y.).

CSS-1H or SS-1H for Fog Seal at the rate of 5.6 tons applied 32 feet wide.
(Rate = 0.07 Gal./S.Y.).

SEGMENT	ROUTE	STATION	to	STATION
2	I29 NB	0+00		1459+39.20
3	I29 SB	0+00		718+34.40

Median Shoulders

CRS-2P Asphalt for Surface Treatment at the rate of 3.6 tons applied 4 feet wide.
(Rate = 0.36 Gal./S.Y.).

Type 1A Cover Aggregate at the rate of 26 tons applied 4 feet wide.
(Rate= 22 Lbs./S.Y.).

CSS-1H or SS-1H for Fog Seal at the rate of 0.7 tons applied 4 feet wide.
(Rate = 0.07 Gal./S.Y.).

Outside Shoulders

CRS-2P Asphalt for Surface Treatment at the rate of 7.2 tons applied 8 feet wide.
(Rate = 0.36 Gal./S.Y.).

Type 1A Cover Aggregate at the rate of 52 tons applied 8 feet wide.
(Rate= 22 Lbs./S.Y.).

CSS-1H or SS-1H for Fog Seal at the rate of 1.4 tons applied 8 feet wide.
(Rate = 0.07 Gal./S.Y.).

SEGMENT	ROUTE	STATION	to	STATION
2	Exit 157 I29 N Off-Ramp	0+00		9+85
2	Exit 157 I29 N On-Ramp	0+00		12+35
2	Exit 164 I29 N Off-Ramp	0+00		8+85
2	Exit 164 I29 N On-Ramp	0+00		14+30
3	Exit 157 I29 S Off-Ramp	0+00		10+08
3	Exit 157 I29 S On-Ramp	0+00		13+70
3	Exit 164 I29 S Off-Ramp	0+00		8+90
3	Exit 164 I29 S On-Ramp	0+00		14+05

CRS-2P Asphalt for Surface Treatment at the rate of 19.8 tons applied 22 feet wide.
(Rate = 0.36Gal./S.Y.).

Type 1A Cover Aggregate at the rate of 142 tons applied 22 feet wide.
(Rate= 22 Lbs./S.Y.).

CSS-1H or SS-1H for Fog Seal at the rate of 3.8 tons applied 22 feet wide.
(Rate = 0.07 Gal./S.Y.).

TABLE OF ADDITIONAL QUANTITIES:

SEGMENT	ROUTE	LOCATION	CRS-2P	COVER AGG.	CSS-1H or SS-1H
1	SD 20	Weigh Station (2850 S.Y.)	4.4	31	0.9
2	Exit 157 I29 N Off- Ramp	Sta. 9+85 Rt. & Lt. Radii (312 S.Y.)	0.5	3	0.1
2	Exit 157 I29 N On-Ramp	Sta. 0+00 Rt. & Lt. Radii (442 S.Y.)	0.7	5	0.1
2	Exit 164 I29 N Off-Ramp	Sta. 8+85 Rt. & Lt. Radii (461 S.Y.)	0.7	5	0.1
2	Exit 164 I29 N On- Ramp	Sta. 0+00 Rt. & Lt. Radii (224 S.Y.)	0.3	3	0.1
3	Exit 157 I29 S Off- Ramp	Sta. 10+08 Rt. & Lt. Radii (321 S.Y.)	0.5	4	0.1
3	Exit 157 I29 S On-Ramp	Sta. 0+00 Rt. & Lt. Radii (422 S.Y.)	0.7	5	0.1
3	Exit 164 I29 S Off- Ramp	Sta. 8+90 Rt. & Lt. Radii (246 S.Y.)	0.4	3	0.1
3	Exit 164 I29 S On-Ramp	Sta. 0+00 Rt. & Lt. Radii (302 S.Y.)	0.5	3	0.1
TOTAL :			8.7	62	1.7

Application rate of CRS-2P, Cover Aggregate and CSS-1H or SS-1H shall be as indicated in the Rates of Materials for the appropriate segment, or as directed by the Engineer in the field.

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COORDINATION OF WORK

A separate contract for Project P 0020(122)383 PCN 037U Codington County will be awarded to another Contractor for mill and asphalt overlay on SD 20 from Florence to Watertown.

A separate contract for Project IM 0295(38)125 PCN 035C Brookings and Deuel Counties will be awarded to another Contractor for Bridge Painting and Structure Repairs on I29.

A separate contract for Project IM 0294(66)164 PCN 034T Codington and Hamlin Counties will be awarded to another Contractor for Epoxy Chip Seals on I29 Structures.

The Contractor shall schedule his work so as not to interfere with or hinder the progress of the work performed by other contractors on the above projects.

SEQUENCE OF OPERATIONS

The below sequence is per project:

1. Install fixed location "ground mounted" traffic control devices.
2. Install and remove temporary traffic control devices as needed for each type of work.
3. Place temporary pavement marking not more than 24 hours prior to chip seal.
4. Apply chip seal.

The brooming operation shall be immediately in front of the asphalt distributor.

The Contractor shall begin sealing operations at the farthest point from the stockpile site and work towards the stockpile site to eliminate unnecessary driving and turning on the fresh seal.

The application of the asphalt and aggregate shall cease at least one hour prior to sunset each day.

5. Broom chip sealed areas each morning following chip seal application.
6. Apply fog seal.
7. Pick up cover aggregate in curb & gutter areas and other areas as stated in the plans and directed by the Engineer.
8. Complete the pavement marking. Immediately prior to application of the permanent pavement marking, the areas to be painted shall be broomed or blown off with high pressure compressed air. (If a high pressure air device is used to clean the pavement surface, it shall be capable of sustaining continuous high pressure for the duration of the pavement marking process.)

9. Remove temporary pavement markers within the seven day time period specified elsewhere in the plans.

10. Remove traffic control devices.

SEQUENCE OF OPERATIONS FOR I29 N & I29 S

In addition to the previous sequence of operations, the following sequence of operations will be followed for I29 N and I29 S ramps unless an alternate plan is submitted by the Contractor a minimum of 5 days in advance of operations and approved by the Engineer.

1. Work activities shall be conducted so as to maintain a single lane of one-way traffic on ramps with a width of: 8' (1/2 driving width) + 3' shoulder = 11' minimum. Ramp traffic shall be controlled by flaggers, as shown in the details.
2. Any ramp sealing started during the day shall be completed in the same day.

TRAFFIC CONTROL

Work activities during non-daylight hours are subject to prior approval.

"ROAD WORK NEXT ___ MILES", "LOOSE GRAVEL", and "END ROAD WORK" signs are the only signs that need to be mounted on Fixed Location Breakaway Sign Supports. "ROAD WORK AHEAD", "FLAGGER", "ONE LANE ROAD AHEAD" and any other signs may be mounted on portable supports. Portable supports may be used for a duration of up to 3 days at any one location. 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. The signs mounted on portable supports shall be moved as necessary to keep current with the work activities. All regulatory speed limit signs shall have a minimum mounting height of five feet above the pavement in rural locations, even if on portable supports.

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

The Contractor shall furnish, install and maintain "LOOSE GRAVEL" signs with "40 MPH" advisory speed plates signs upon start of surface treatment operations at each end of the project. In addition, "LOOSE GRAVEL" signs with "40 MPH" advisory speed plates shall be installed at 3 mile intervals throughout each project and at other location(s) determined in the field by the Engineer. The aforementioned signs shall be removed after the final brooming has been completed.

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

Until initial brooming, additional flagger(s) and FLAGGER symbol sign(s) shall be provided to alert the traveling public entering completed portions of the project to the potential of airborne chips.

The flagger(s) shall provide each motorist with a printed notice on the Contractor's letterhead similar to the one shown. Cost of the notice shall be incidental to other contract bid items.

"CONTRACTOR'S LETTERHEAD"

THIS HIGHWAY IS BEING RESURFACED WITH A CHIP SEAL COAT.

THIS TYPE OF CONSTRUCTION HAS THE POTENTIAL OF CAUSING VEHICLE DAMAGE SUCH AS CHIPPED WINDSHIELDS AND BROKEN HEADLIGHTS DUE TO ROCKS BEING THROWN BY HIGH SPEED ONCOMING OR PASSING TRAFFIC.

YOU MAY WISH TO CONSIDER TAKING AN ALTERNATE ROUTE. IF YOU PROCEED, KEEP TO THE RIGHT AND DRIVE 40 MPH OR LESS. ANOTHER FLAGGER AND A PILOT CAR WILL BE ESCORTING YOU AROUND THE SEAL COAT APPLICATION AREA.

THANK YOU.

HAUL ROAD

The Contractor shall be responsible for any haul roads used to transport material to the project site. The State will not participate in the cost of restoration of any haul roads used by the Contractor.

SHOULDER WORK

Prior to construction, Department of Transportation Maintenance Forces will spray the shoulders to kill existing vegetation. It will be the Contractor's responsibility to notify the State a minimum of thirty days prior to starting work on the shoulders of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied.

Vegetation and accumulated material on or adjacent to the existing roadway shall be removed by the Contractor to the satisfaction of the Engineer prior to asphalt surface treatment.

Shoulder work shall be incidental to other contract items. Separate measurement and payment will not be made.

BRIDGES, APPROACH SLABS AND CONCRETE

Asphalt Surface Treatment shall not be placed on any of the bridges, approach slabs or any other type of concrete on these segments.

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MANHOLE COVERS AND WATER VALVE BOXES

Manhole covers, water valve boxes, etc, located within the limits of this project shall not receive an application of asphalt surface treatment. A blocking median such as roofing paper shall be placed over the manhole cover and valve boxes to prevent an application of Asphalt on the top of the manhole covers and valve boxes.

ESTIMATED QUANTITIES

The quantities of asphalt for surface treatment and cover aggregate are based off the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined in the field during construction based upon the surface condition, aggregate type, aggregate gradation and flakiness index. The contract unit prices for the Asphalt Surface Treatment contract items shall be nonnegotiable regardless of changes in contract quantities.

TYPE 1A COVER AGGREGATE

Failure on the #200 sieve will shut down operations until the engineer determines if changes or corrections are required.

EXISTING PAVEMENT CONDITIONS & TRAFFIC VOLUMES

The existing pavement conditions have been checked for each project and factored into the rates of materials. Segment 1 (SD 20) and Segment 4 (SD 25) are slightly pocked, porous, and oxidized. Segment 2 (I29 N) and Segment 3 (I29 S) are badly pocked, porous, and oxidized. Actual rates will be adjusted in the field during construction by the Engineer.

The descriptions used were from the McLeod procedure for seal coat design.

The traffic volumes are shown on the title sheets.

ASPHALT FOR SURFACE TREATMENT

The asphalt for surface treatment that is delivered for use on this contract shall be used in the order it is received. Storage of asphalt for surface treatment shall only be allowed at the end of the work day. The material that is placed in storage shall be the first material used the following day.

FOG SEAL

The fog seal shall be begin within 7 calendar days following the completion of the chip seal on each segment. Prior to the application of the fog seal the Contractor will be required to broom the chip seal. A CSS-1h or SS-1h emulsion shall be used for the fog seal application. A water-to-emulsion ratio of 1:1 should be used for the binder application.

The Contractor shall avoid placing the Fog Seal over any newly placed Cold Applied Permanent Pavement Markings. The Contractor shall be responsible for removing any CSS-1h or SS-1h that is on the markings. All costs associated with cleaning the pavement markings shall be incidental to the contract unit price per ton for CSS-1h or SS-1h.

Blotting Sand for Fog Seal shall conform to the Specifications Section 879.1 B except for the following requirements:

Passing a 3/8 Inch Sieve	100%
Passing a No. 4 Sieve	85-100%
Passing a No. 8 Sieve	60-95%
Passing a No. 40 Sieve	5-45%
Passing a No. 200 Sieve	0-10.0%

The Plasticity Index shall not exceed three (3).

The shale content or other particles of low specific gravity (less than 1.95) passing the No. 4 sieve shall not exceed 4.5%

Prior to hauling, Blotting Sand shall be screened to minimize segregation, eliminate oversize and effectively breakup or discard material bonded into chunks.

The Contractor shall maintain traffic control on the fog sealing area until the fog seal is cured enough to prevent pickup on vehicles. Sand shall be applied at intersections or other locations as directed by the Engineer.

Broomed off material in curb and gutter sections shall be picked up by Contractor with pickup broom, as per Specifications Section 360.3 B.1.a.

ASPHALT SURFACE TREATMENT AND FOG SEAL ON I29 N & I29 S MEDIAN & WIDE SHOULDER

The Contractor shall take care not to get asphalt on the existing epoxy pavement marking. The distributors used during the asphalt surface treatment and the fog seal shall be equipped with guards to prevent the emulsified asphalt from coming in contact with the existing pavement marking. The existing pavement marking on the concrete is approximately two inches from the asphalt shoulder on the median side.

The Contractor shall use guides (wheels, cameras, etc.) installed on the distributors to follow the alignment of the concrete during sealing operations. The tracking of asphalt materials onto existing markings will not be acceptable.

Any damage to the existing epoxy pavement marking on the wide shoulders shall be replaced with waterborne paint by the Contractor at his own expense with no additional costs to the State. Median shoulders will be remarked on I29 N and I29 S with waterborne paint, quantities for these median shoulder edgelines have been included in the estimate of quantities.

PROJECT BROOMING

All material shall be broomed off of bridges and curb & gutter areas adjacent to the bridges. No material shall be broomed under the guardrail, including the 3 cable guardrail or into the drop inlets. This material from the curb & gutter areas of the bridges, the guardrail areas of the bridges and the drop inlets shall be disposed of in a manner satisfactory to the Engineer.

No material shall be broomed into the ditches or on the boulevards in residential and commercial areas where the adjacent landowner conducts the

mowing of the right-of-way. This material shall be disposed of in a manner satisfactory to the Engineer.

Material that is broomed onto the roadway inslopes shall not be left in piles or windrows. The material shall be evenly distributed at a height that will not hinder mowing operations or cause dispersion of the material into the traveled roadway when passed over with a mower.

TEMPORARY PAVEMENT MARKINGS

Temporary flexible vertical markers (tabs) with double covers shall be used to mark dashed centerline, No Passing Zones and applicable lane lines. Paint will not be allowed for Temporary Pavement Marking.

The temporary flexible vertical markers (tabs) shall have secure double covers. The Contractor will be required to remove the covers manually after completion of the sand seal and again after completion of the fog seal. Any markers that are non-reflective will be cleaned. Cleaning of temporary flexible vertical markers (tabs) will be incidental to the contract unit price per mile for Temporary Pavement Marking. Petroleum products shall not be used to clean markers. The tab covers are considered construction debris and shall be disposed of properly by the Contractor.

The Contractor shall remove and dispose of the temporary flexible vertical markers (tabs) after Permanent Pavement Marking is applied. Method of removal shall be nondestructive to the road surface and shall result in the marker being separated from the adhesive (the adhesive shall remain on the road surface and the marker is discarded) or the marker shall be cut in such a manner that no more than 1/4" of the vertical portion of the marker remains on the road surface. Removal shall be accomplished within 7 days of completion of the Permanent Pavement Marking.

Cost for furnishing, applying, uncovering, cleaning, removing and disposing of the temporary flexible vertical markers (tabs) shall be included in the contract unit price per mile for Temporary Pavement Marking.

The total length of no passing zone on this project is estimated to be as follows:
Segment 1 (SD 20): 3.7 miles
Segment 4 (SD 25): 9.4 miles

The Contractor is allowed to use DO NOT PASS and PASS WITH CARE signs for a period of 2 weeks to mark no passing zones on roads with an average daily traffic of 2500 vehicles or less, should the Contractor elect to use these signs. It is estimated that the following signs will be required to mark the no passing zones:

Location	DO NOT PASS	PASS WITH CARE
Segment 1 (SD 20)	22	22
Segment 4 (SD 25)	38	37

Cost for furnishing, installing and removing the DO NOT PASS and PASS WITH CARE signs shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

PLOT SCALE - 1:798.66

PLOTTED FROM - IRBRINT12

PLOT NAME - 1

FILE - ... \2016 CHIP SEAL\053A_TITLE.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)	11	23
Plotting Date: 11/30/2015			

TEMPORARY PAVEMENT MARKINGS, CONTINUED

Flagger Symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights, shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of temporary flexible vertical markers (tabs). The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a Workers symbol sign (W21-1), or a BE PREPARED TO STOP (W3-4) warning sign shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

Cost for traffic control to install and remove the temporary flexible vertical markers (tabs) shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

Quantities of Temporary Pavement Markings consist of:
 One pass on top of the Seal Coat.
 One pass on top of the Fog Seal.

Segment 2 (I29 N) and Segment 3 (I29 S) require tab placement on median edgeline only.

PERMANENT PAVEMENT MARKINGS

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones. All materials shall be applied as per manufacturer's recommendations.

The Contractor shall be required to repaint all existing pavement marking including centerline, edge line, lane lines, gore areas, stop bars, etc. The Contractor will be required to inventory and mark, with appropriate colored tabs, the extent and location of the existing word messages, turn arrows, stop bars, railroad crossings, pedestrian crossings, gore areas, etc. before the markings are obliterated. The Engineer shall be provided a copy of the pavement marking inventory. Additional quantities are included in the estimate of quantities to paint the additional pavement marking. The cost of the tabs shall be incidental to the contract unit prices for the various items.

Permanent pavement markings shall be furnished and applied by the Contractor in accordance with Section 633 of the Specifications and the details in these plans. Application rate of the paint shall be 20 mils wet.

The application of Permanent Pavement Marking Paint may begin 7 calendar days following completion of Fog Sealing and shall be completed within 21 calendar days following completion of final surfacing when temporary flexible vertical markers (tabs) are used to mark No Passing Zones.

The application of Permanent Pavement Marking Paint may begin 7 calendar days following completion of Fog Sealing and shall be completed within 14 calendar days following completion of final surfacing when DO NOT PASS and PASS WITH CARE signs are used to mark No Passing Zones.

For each working day the application of permanent pavement marking paint remains uncompleted after the previously stated time requirements, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day.

This provision applies up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with section 8.8, until the Permanent Pavement Marking is completed, even though the project may be open to traffic.

PLOT SCALE - 1:799.66

PLOTTED FROM - IRBRINT12

PLOT NAME - 1

FILE - ... \2016 CHIP SEAL\053A_TITLE.DGN

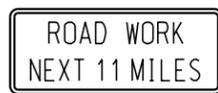
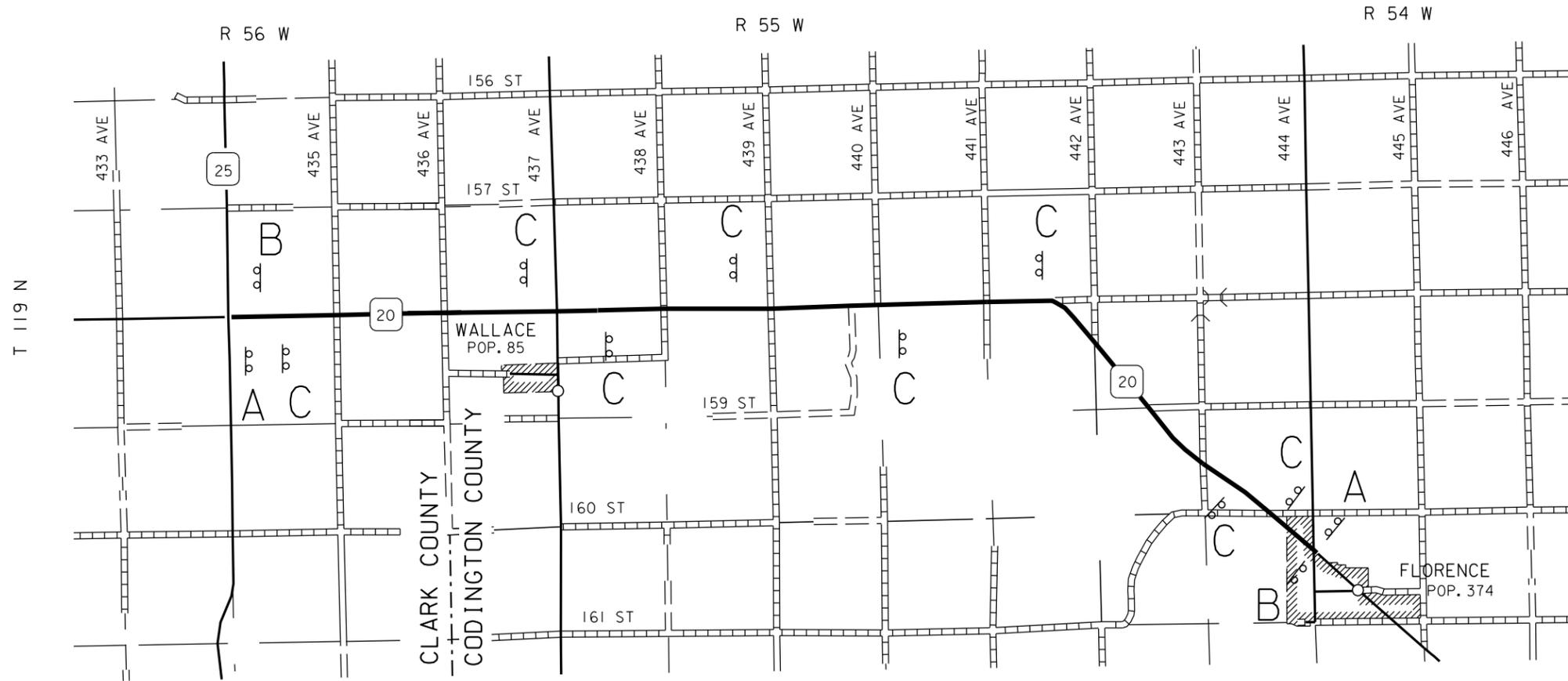
PLOT SCALE - 1:6979.15

PLOTTED FROM - IRBRINT12

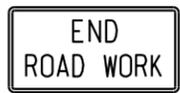
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)	12	23
Plotting Date: 12/22/2015			

Fixed Location Ground Mounted Breakaway Support Signs

SEGMENT 1
SD 20 - MRM 372.75 TO MRM 383.73
Codington County
Length 10.970 Miles



A



B



C



W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

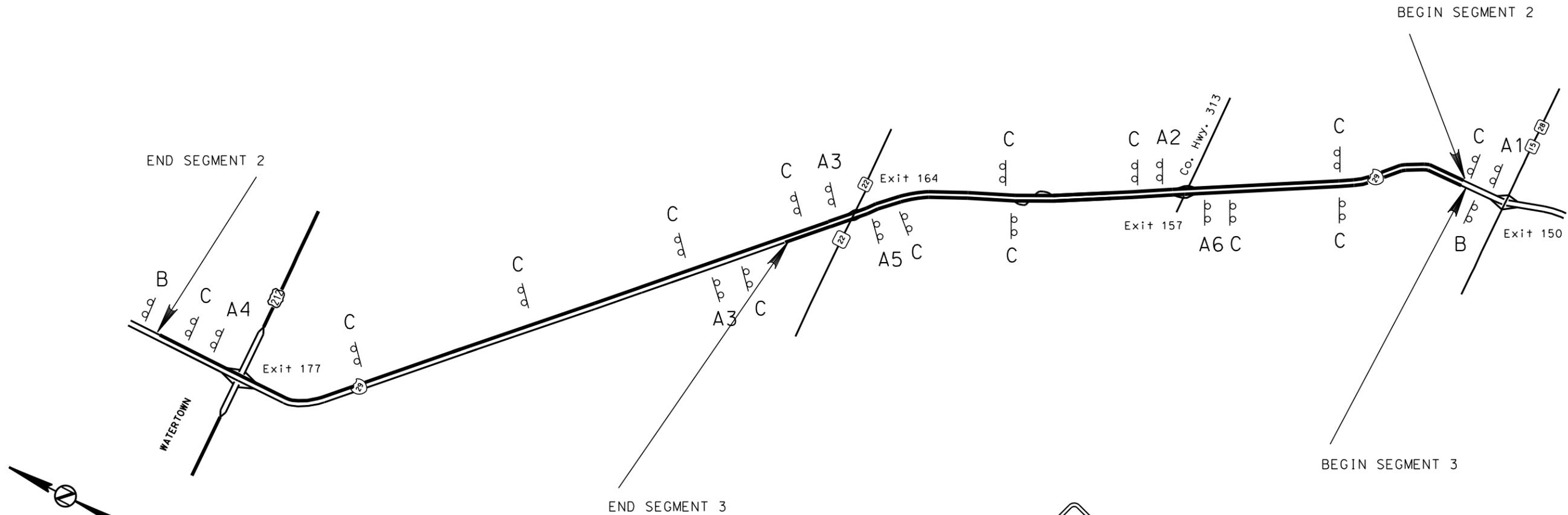
PLOT NAME - 1
FILE - ... \053A_TRAFFICCONTROL.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)		
Plotting Date: 12/22/2015		13	23

Fixed Location Ground Mounted Breakaway Support Signs

SEGMENT 2
129 N - MRM 151.31 + 0.037 TO MRM 179.00 + 0.034
Codington, Deuel & Hamlin County
Length 27.640 Miles

SEGMENT 3
129 S - MRM 151.22 + 0.470 TO MRM 165.00 + 0.299
Deuel & Hamlin County
Length 13.605 Miles



ROAD WORK
NEXT 28 MILES

A1

ROAD WORK
NEXT 21 MILES

A2

ROAD WORK
NEXT 14 MILES

A3

ROAD WORK
NEXT 1 MILES

A4

ROAD WORK
NEXT 13 MILES

A5

ROAD WORK
NEXT 6 MILES

A6

END
ROAD WORK

B



ON
SHOULDER

C

NOTES:

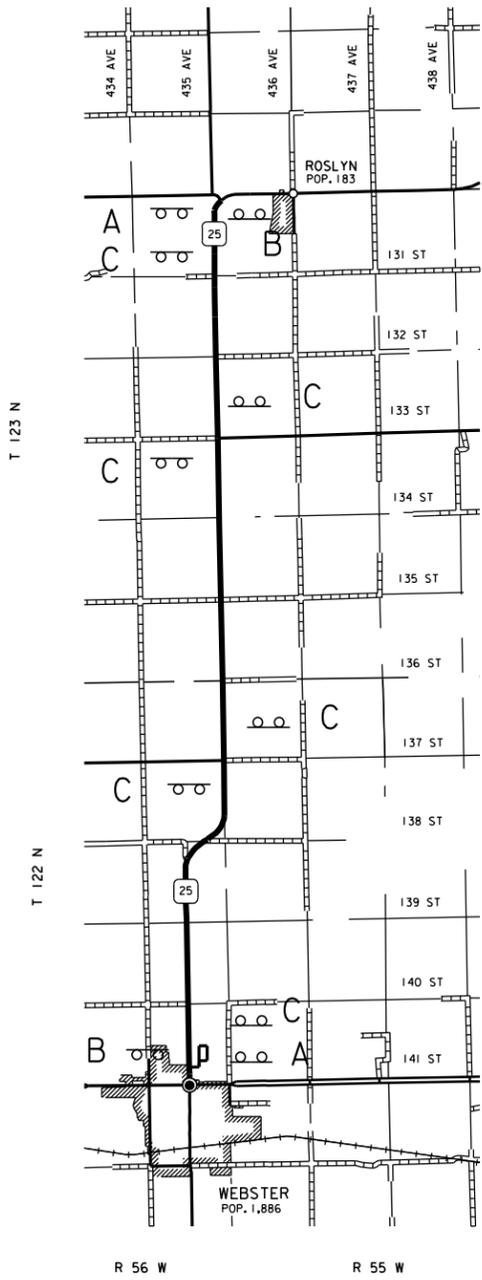
Loose Gravel Signs shall be left and right mounted on divided highways.

Spacing of Loose Gravel Signs shall be 3 miles.

Fixed Location Ground Mounted Breakaway Support Signs

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)	14	23
Plotting Date: 12/22/2015			

SEGMENT 4
 SD 25 - MRM 182.17 + 0.037 TO MRM 193.00 + 0.034
 Day County
 Length 10.796 Miles



ROAD WORK
NEXT 11 MILES

A

END
ROAD WORK

B

LOOSE
GRAVEL

40
MPH

C

ROAD
WORK
AHEAD

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

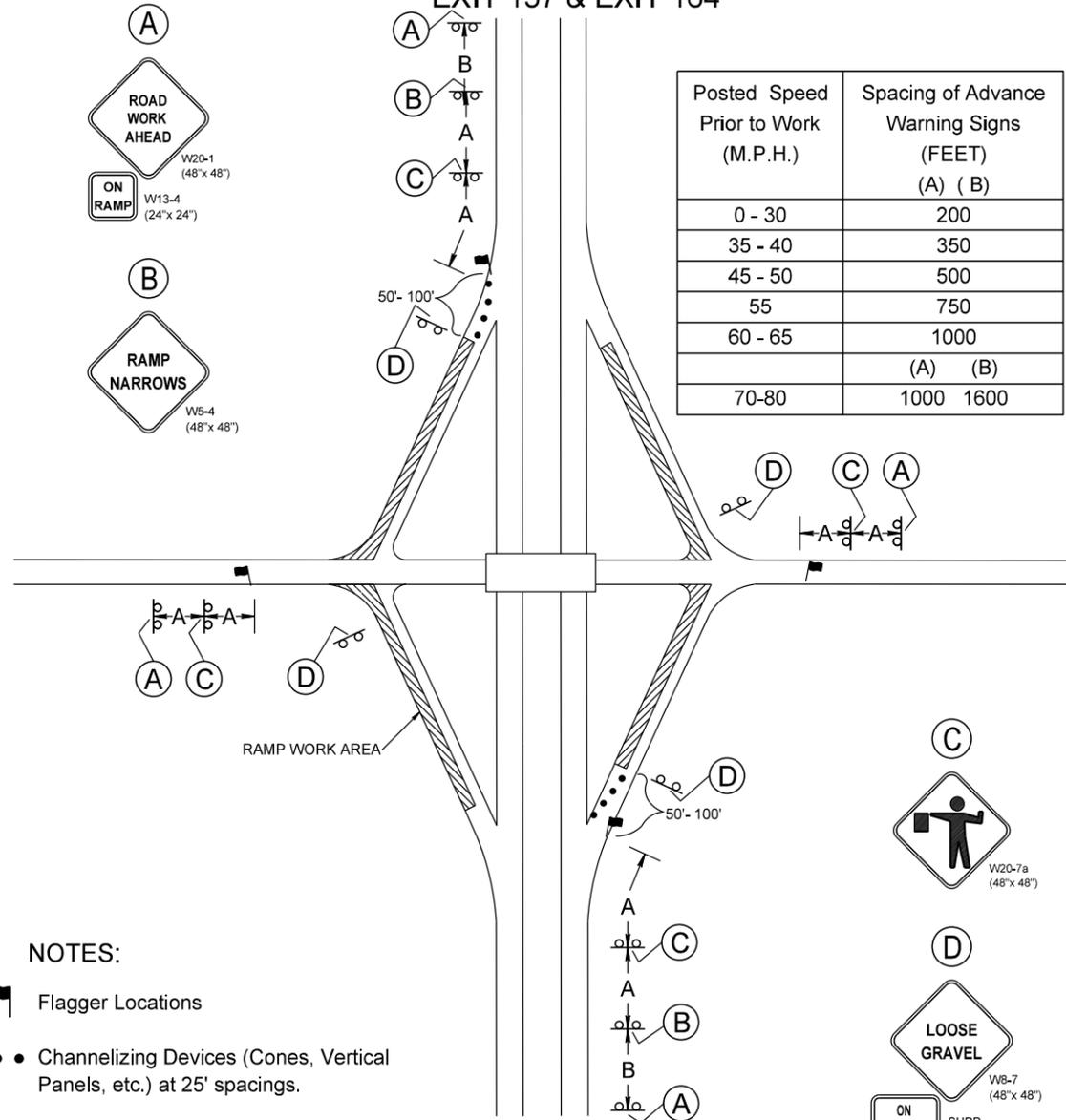
PLOT SCALE - 1:11971.2

PLOTTED FROM - TRBRINT12

PLOT NAME - 1

FILE - ... \053A_TRAFFICCONTROL.DGN

TRAFFIC CONTROL ENTRANCE RAMP AND EXIT RAMP DETAILS I29 NB & I29 SB CODINGTON, DEUEL & HAMLIN COUNTIES EXIT 157 & EXIT 164



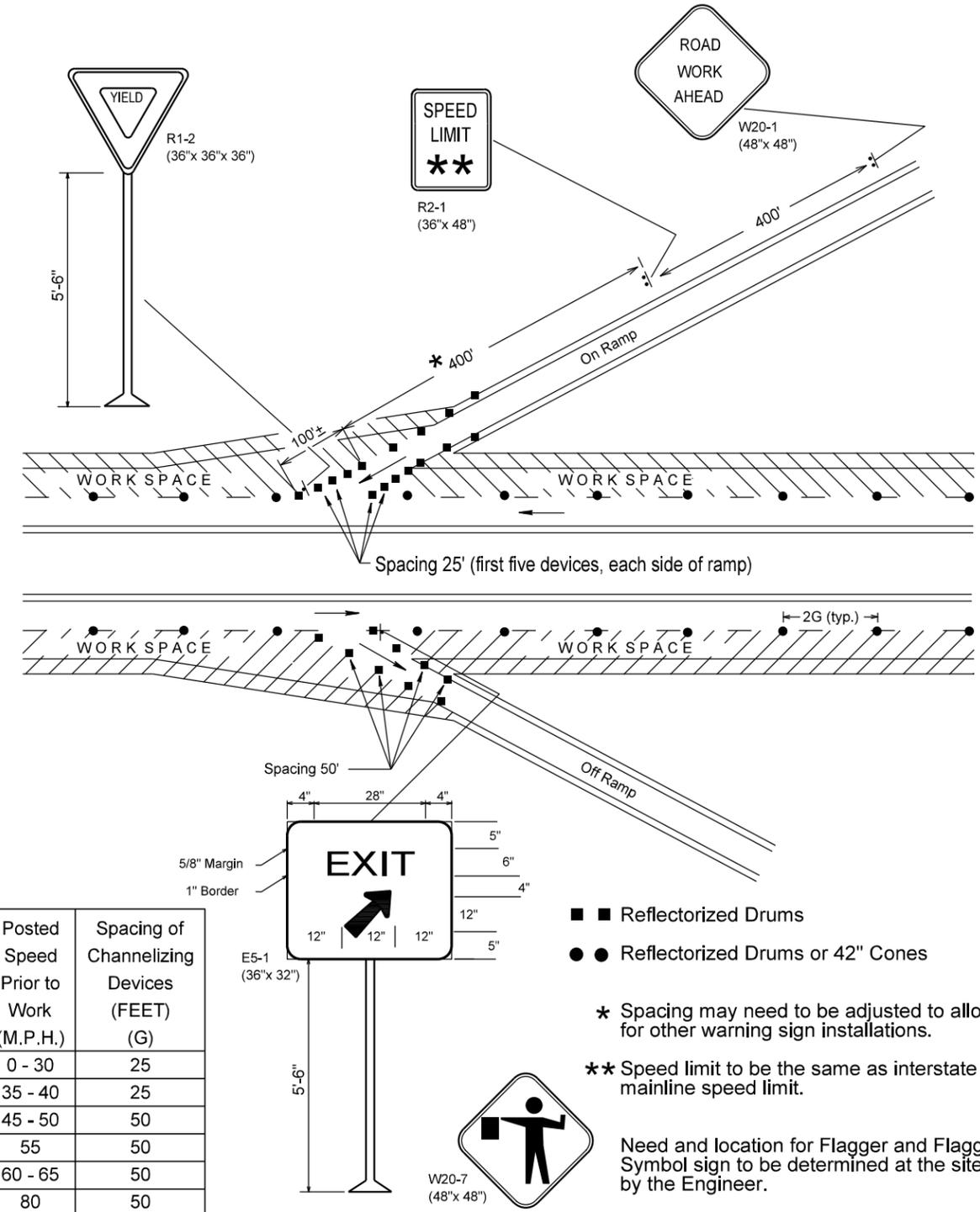
NOTES:

- Flagger Locations
- Channelizing Devices (Cones, Vertical Panels, etc.) at 25' spacings.

All signs for this project may be portable and may be removed as soon as final brooming has been completed.

Construction signs shall not obscure existing signs and must be installed a minimum of 100' from an existing sign.

TRAFFIC CONTROL ENTRANCE RAMP AND EXIT RAMP DETAILS I29 NB & I29 SB CODINGTON, DEUEL & HAMLIN COUNTIES



- ■ Reflectorized Drums
- ● Reflectorized Drums or 42" Cones
- * Spacing may need to be adjusted to allow for other warning sign installations.
- ** Speed limit to be the same as interstate mainline speed limit.

Need and location for Flagger and Flagger Symbol sign to be determined at the site by the Engineer.

ITEMIZED LIST FOR TRAFFIC CONTROL SEGMENT 1 SD 20

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-7	LOOSE GRAVEL	8	48" x 48"	16	128
W13-1P	ADVISORY SPEED (plaque)	8	30" x 30"	6	48
W20-1	ROAD WORK AHEAD	4	48" x 48"	16	64
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16	64
W20-7	FLAGGER (symbol)	4	48" x 48"	16	64
G20-1	ROAD WORK NEXT 11 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					420

ITEMIZED LIST FOR TRAFFIC CONTROL SEGMENT 2 I29 N

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	3	36" x 36"	4	12
R2-1	SPEED LIMIT 65	2	36" x 48"	12	24
R2-1	SPEED LIMIT 45	1	36" x 48"	12	12
R2-1	SPEED LIMIT 80	1	36" x 48"	12	12
R2-1	SPEED LIMIT **	3	36" x 48"	12	36
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6	6
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16	32
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16	16
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16	32
W5-4	RAMP NARROWS	1	48" x 48"	16	16
W8-7	LOOSE GRAVEL	18	48" x 48"	16	288
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W13-4P	ON RAMP (plaque)	2	36" x 36"	9	18
W20-1	ROAD WORK AHEAD	7	48" x 48"	16	112
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
SUPP	ON SHOULDER	18	36" x 24"	6	108
E5-1	EXIT GORE	3	36" x 32"	8	24
G20-1	ROAD WORK NEXT 28 MILES	1	48" x 24"	8	8
G20-1	ROAD WORK NEXT 21 MILES	1	48" x 24"	8	8
G20-1	ROAD WORK NEXT 14 MILES	1	48" x 24"	8	8
G20-1	ROAD WORK NEXT 1 MILES	1	48" x 24"	8	8
G20-2	END ROAD WORK	1	48" x 24"	8	8
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT					876

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Single Sided	1 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Arrow Board	1 Each

ITEMIZED LIST FOR TRAFFIC CONTROL SEGMENT 3 I29 S

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	3	36" x 36"	4	12
R2-1	SPEED LIMIT 65	2	36" x 48"	12	24
R2-1	SPEED LIMIT 45	1	36" x 48"	12	12
R2-1	SPEED LIMIT 80	1	36" x 48"	12	12
R2-1	SPEED LIMIT **	3	36" x 48"	12	36
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6	6
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16	32
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16	16
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16	32
W5-4	RAMP NARROWS	1	48" x 48"	16	16
W8-7	LOOSE GRAVEL	10	48" x 48"	16	160
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W13-4P	ON RAMP (plaque)	2	36" x 36"	9	18
W20-1	ROAD WORK AHEAD	7	48" x 48"	16	112
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
SUPP	ON SHOULDER	10	36" x 24"	6	60
E5-1	EXIT GORE	3	36" x 32"	8	24
G20-1	ROAD WORK NEXT 14 MILES	1	48" x 24"	8	8
G20-1	ROAD WORK NEXT 13 MILES	1	48" x 24"	8	8
G20-1	ROAD WORK NEXT 6 MILES	1	48" x 24"	8	8
G20-2	END ROAD WORK	1	48" x 24"	8	8
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT					692

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Single Sided	1 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Arrow Board	1 Each

ITEMIZED LIST FOR TRAFFIC CONTROL SEGMENT 4 SD 25

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-7	LOOSE GRAVEL	6	48" x 48"	16	96
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6	36
W20-1	ROAD WORK AHEAD	4	48" x 48"	16	64
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16	64
W20-7	FLAGGER (symbol)	4	48" x 48"	16	64
G20-1	ROAD WORK NEXT 11 MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	2	36" x 18"	5	10
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					376

PLOT SCALE - 1:7989.66

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.

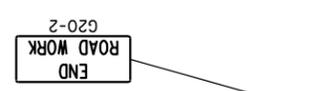
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

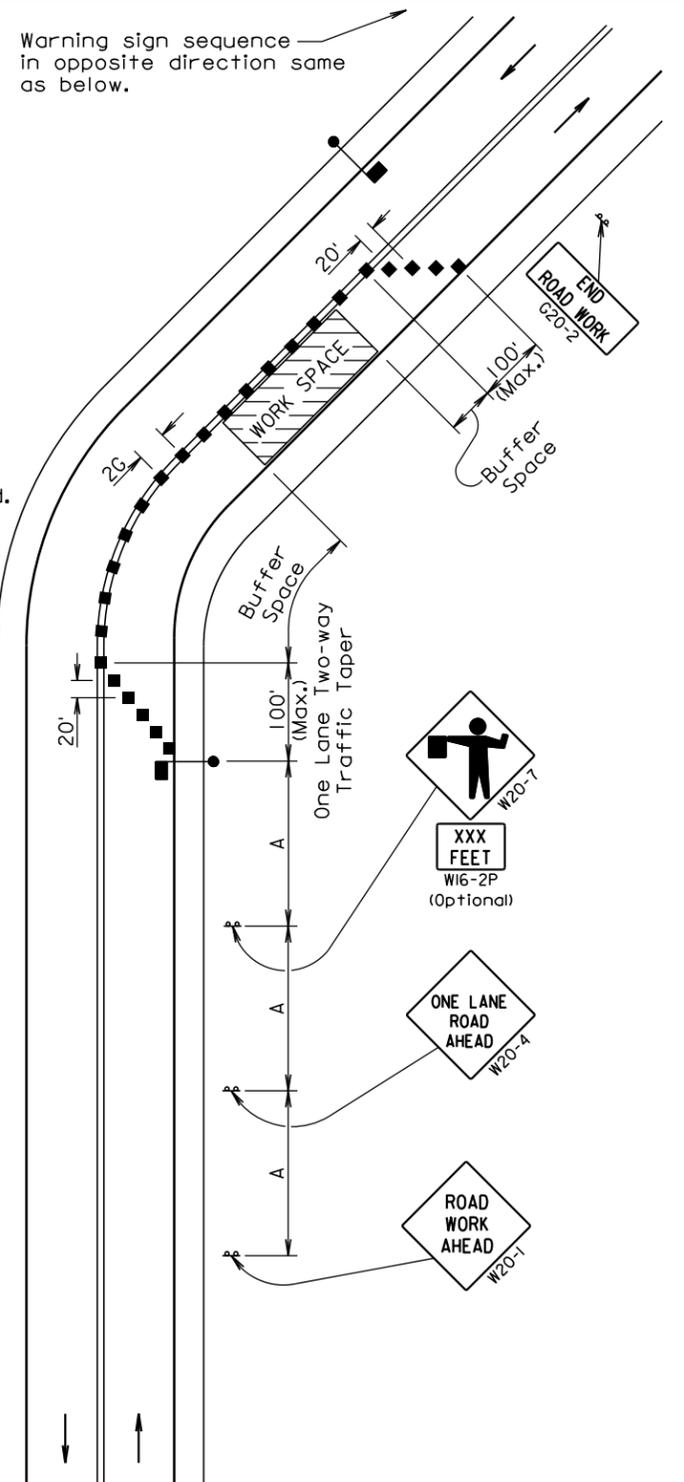
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	Published Date: 4th Qtr. 2015	Sheet 1 of 1

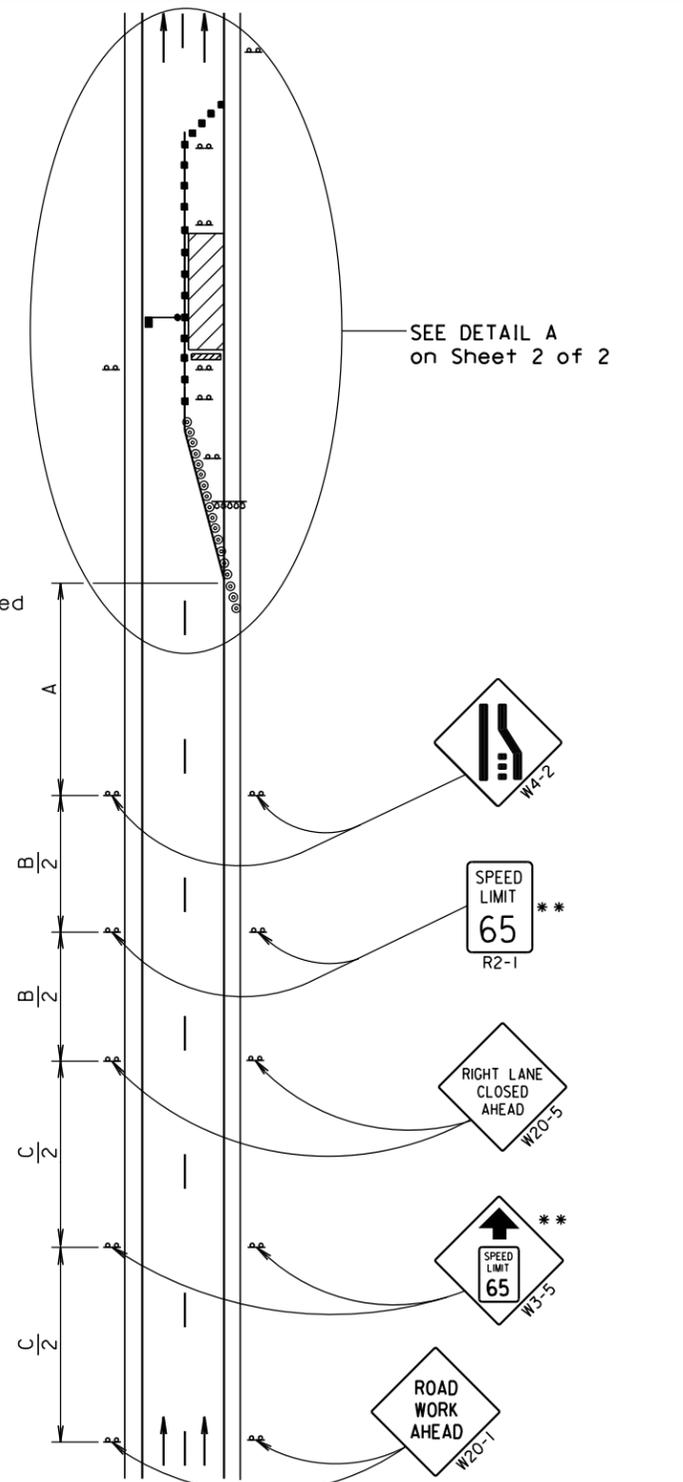
PLOTTED FROM - IRBRINT12

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)		
	(A)	(B)	(C)
0 - 30	200		
35 - 40	350		
45 - 50	500		
55	750		
60 - 65	1000		
		(A)	(B)
70 - 80	1000	1500	2640

- ** Speed appropriate for location.
- Reflectorized Drum
- Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



April 15, 2015

SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
	Published Date: 4th Qtr. 2015	Sheet 1 of 2

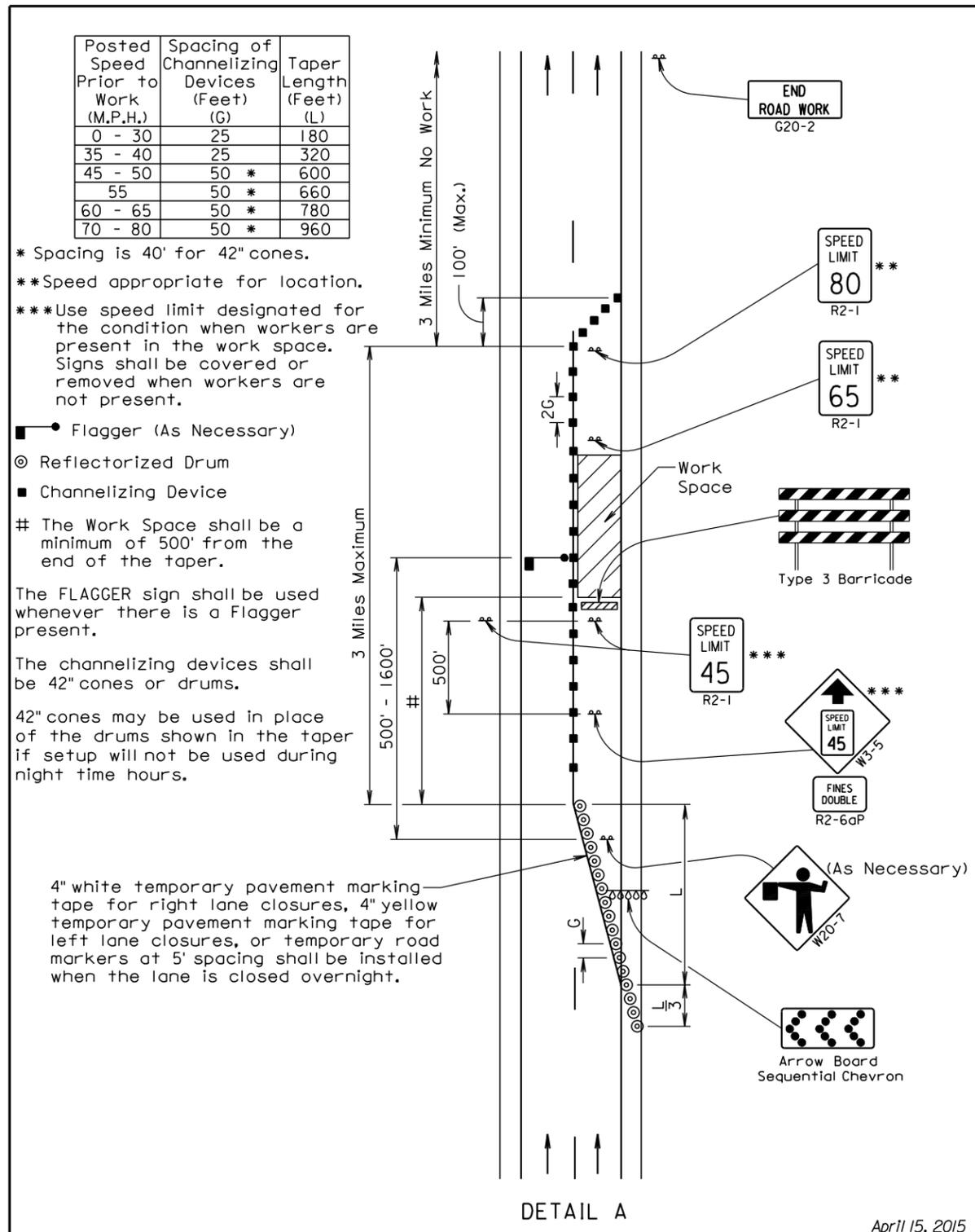
PLOT NAME - 1

FILE - ... \2016 CHIP SEAL\053A_TITLE.DGN

PLOT SCALE - 1:7989.66

PLOT NAME - 1

FILE - ... \2016 CHIP SEAL\053A_TITLE.DGN



Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 - 30	25	180
35 - 40	25	320
45 - 50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.
 ** Speed appropriate for location.
 *** Use speed limit designated for the condition when workers are present in the work space. Signs shall be covered or removed when workers are not present.

- Flagger (As Necessary)
- ⊙ Reflectorized Drum
- Channelizing Device
- # The Work Space shall be a minimum of 500' from the end of the taper.

The FLAGGER sign shall be used whenever there is a Flagger present.

The channelizing devices shall be 42" cones or drums.

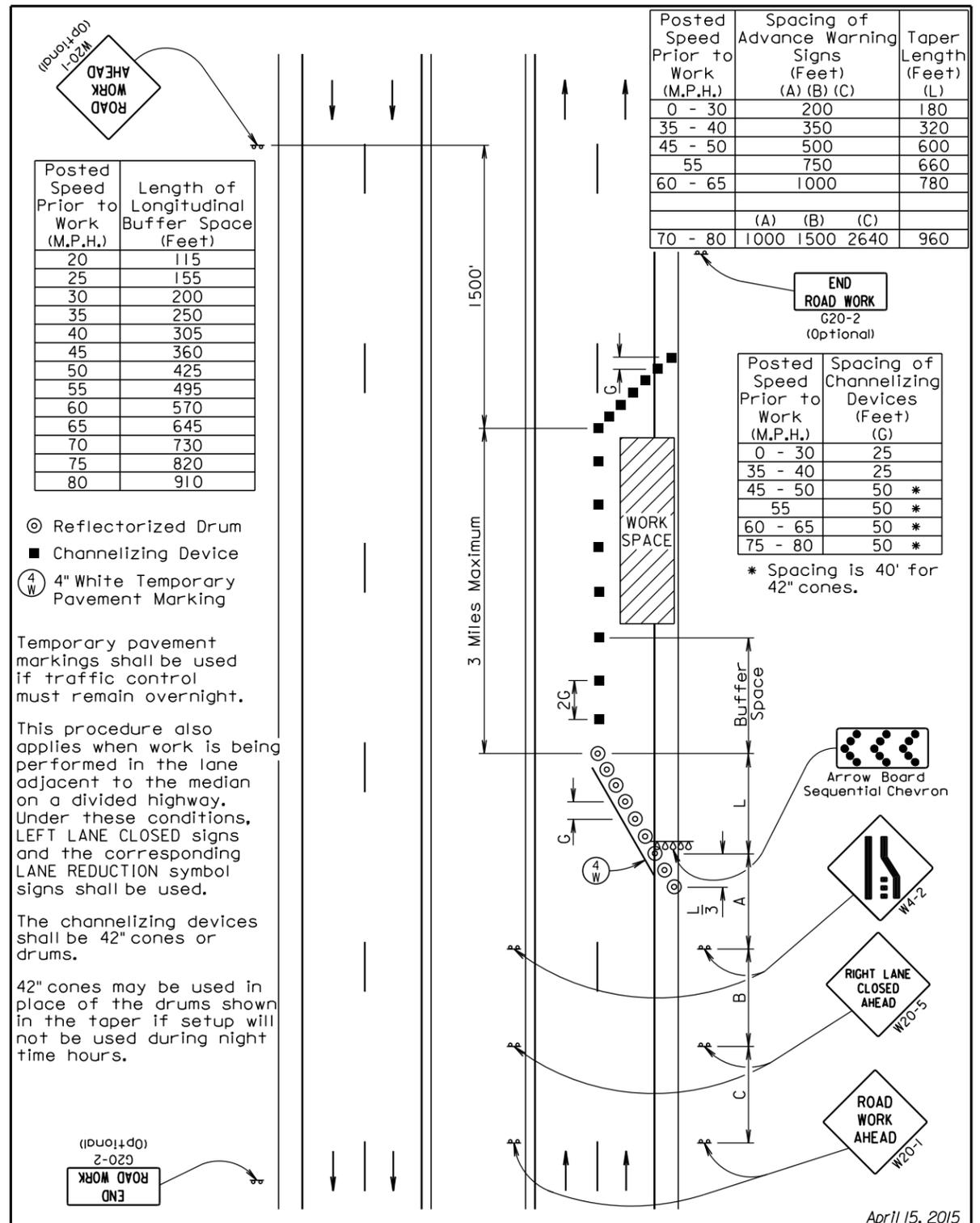
42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary road markers at 5' spacing shall be installed when the lane is closed overnight.

DETAIL A

April 15, 2015

S D D O T	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
	Published Date: 4th Qtr. 2015	Sheet 2 of 2



Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

- ⊙ Reflectorized Drum
- Channelizing Device
- Ⓞ 4" White Temporary Pavement Marking

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

This procedure also applies when work is being performed in the lane adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED signs and the corresponding LANE REDUCTION symbol signs shall be used.

The channelizing devices shall be 42" cones or drums.

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

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)			Taper Length (Feet) (L)
	(A)	(B)	(C)	
0 - 30	200			180
35 - 40	350			320
45 - 50	500			600
55	750			660
60 - 65	1000			780
		(A)	(B)	(C)
70 - 80	1000	1500	2640	960

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 40	25
45 - 50	50 *
55	50 *
60 - 65	50 *
75 - 80	50 *

* Spacing is 40' for 42" cones.

END ROAD WORK G20-2 (Optional)

April 15, 2015

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITHOUT BARRIER	PLATE NUMBER 634.64
	Published Date: 4th Qtr. 2015	Sheet 1 of 1

PLOTTED FROM - IRBRINT12

PLOT SCALE - 1:7989.66

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B)	L (Feet)
45 - 50	500	600
55	750	660
60 - 65	1000	780
70 - 80	1000 1500	1125

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 40	25
45 - 50	50 *
55	50 *
60 - 80	50 *

* Spacing is 40' for 42" cones.

■ Channelizing Device

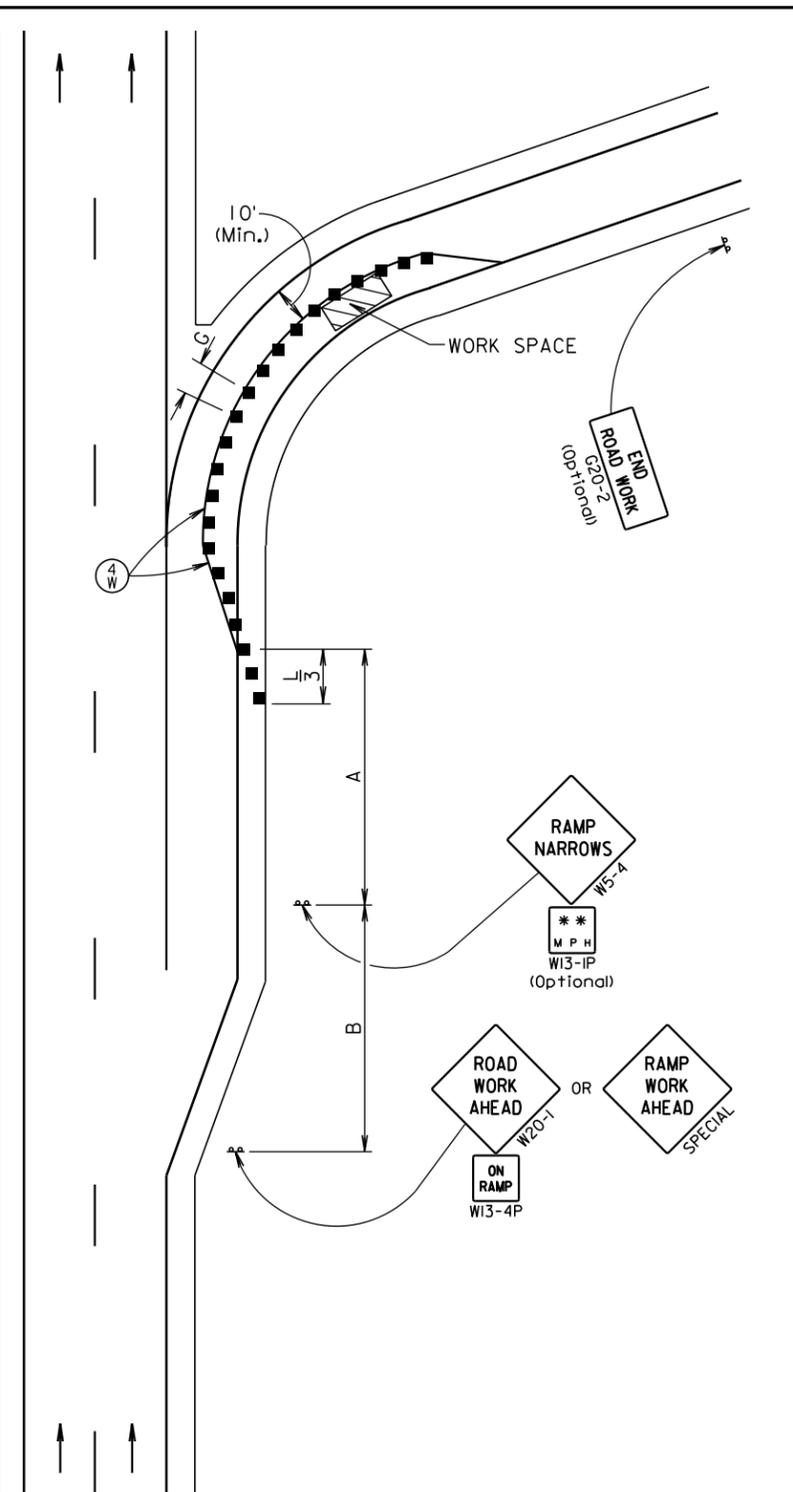
④ 4" White Temporary Pavement Marking

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

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

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

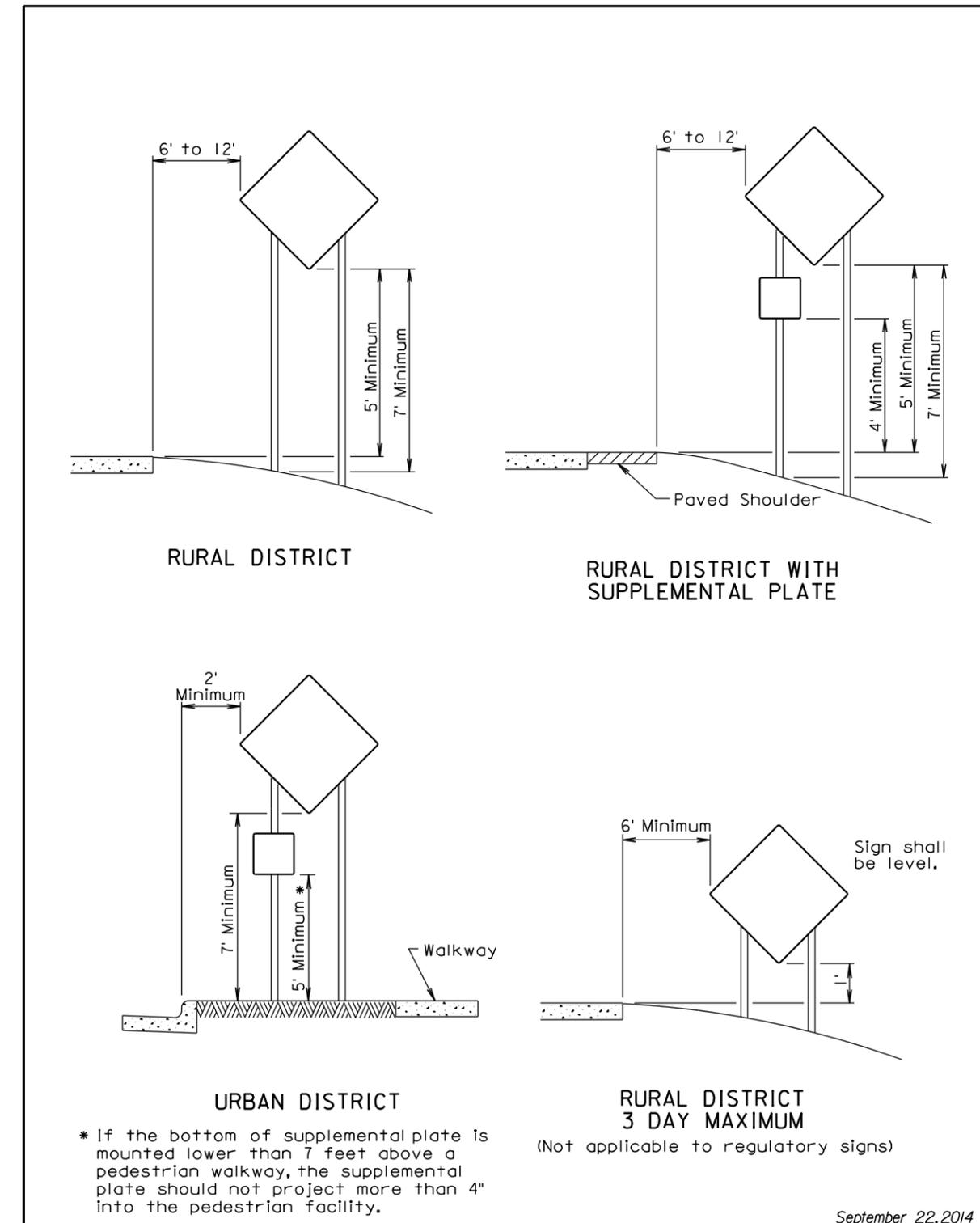
Truck off-tracking should be considered when determining whether the 10-foot minimum lane width is adequate.



April 15, 2015

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES PARTIAL EXIT RAMP CLOSURE	PLATE NUMBER 634.69
	Published Date: 4th Qtr. 2015	Sheet 1 of 1

PLOTTED FROM - IRBRINT12



* 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

S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
	Published Date: 4th Qtr. 2015	Sheet 1 of 1

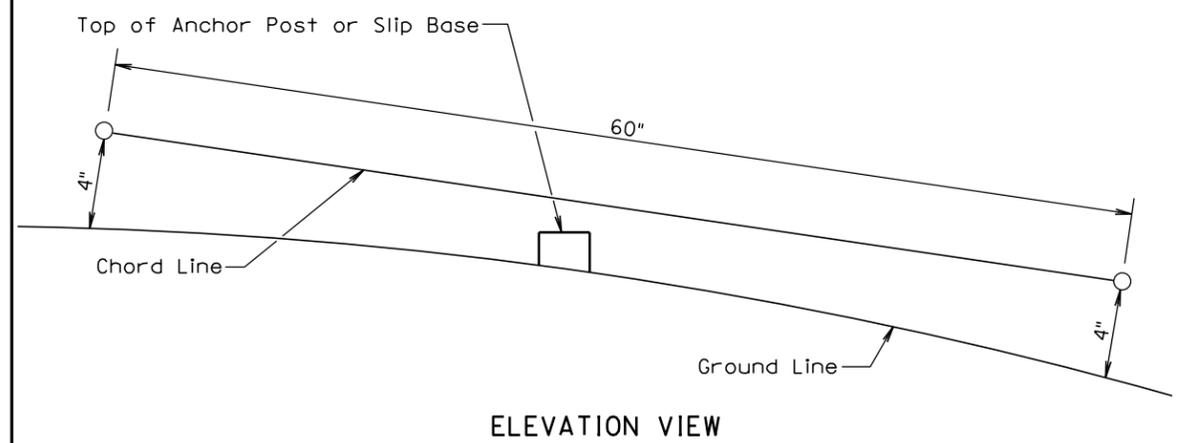
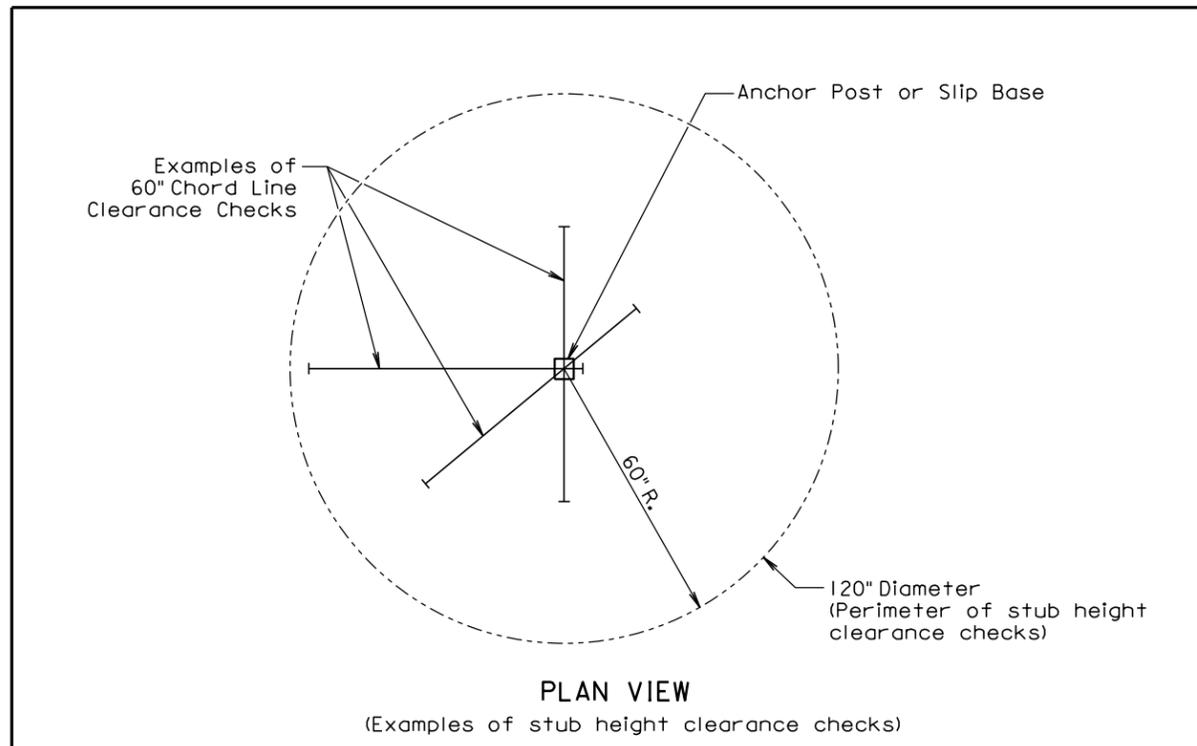
PLOT NAME - 1

FILE - ... \2016 CHIP SEAL\053A_TITLE.DGN

PLOT SCALE - 1:7989.66

PLOT NAME - 1

FILE - ... \2016 CHIP SEALS\053A_TITLE.DGN



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.

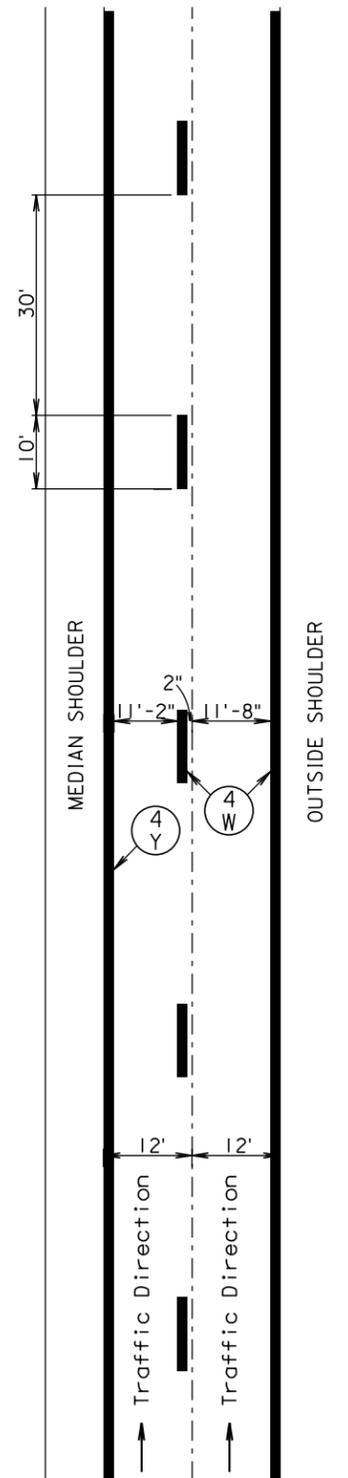
The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

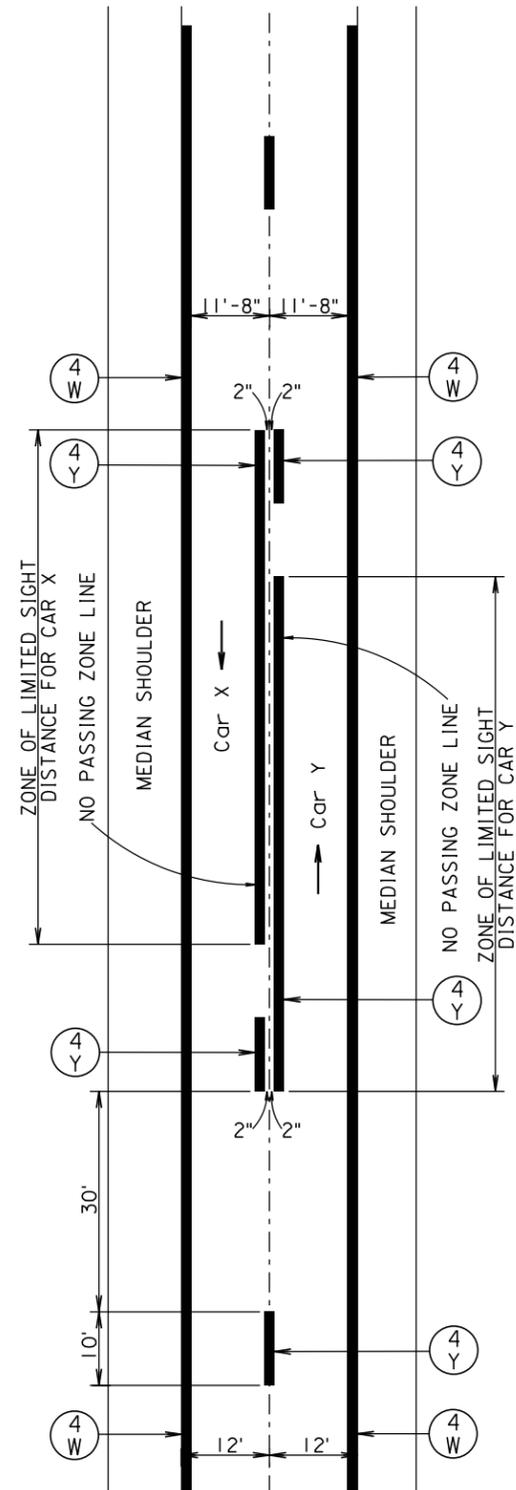
<i>Published Date: 4th Qtr. 2015</i>	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

FOUR LANE DIVIDED ROADWAY ONLY ONE DIRECTION SHOWN



TWO LANE UNDIVIDED ROADWAY



KEY	ITEM
(4 W)	4" White
(4 Y)	4" Yellow

1. The approximate paint application rates shall be as follows:

Undivided Roadway

Dashed Yellow Centerline
6.2 Gallons/Pass-Mile

Solid Yellow Centerline/White Edgeline
22.5 Gallons/Pass-Mile
(Solid Line)

Glass Beads = 8 Lbs./Gal.

Divided Roadway

White Centerline
6.2 Gallons/Pass-Mile

Yellow or White Edgeline
22.5 Gallons/Pass-Mile
(Solid Line)

Glass Beads = 8 Lbs./Gal.

Pavement marking paint application rates are based upon a minimum wet thickness of 20 mils.

- The typical pavement markings as shown on this sheet shall be applied throughout the entire length of the project.
- Traffic Control shall be incidental to the cost of application. The striping and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

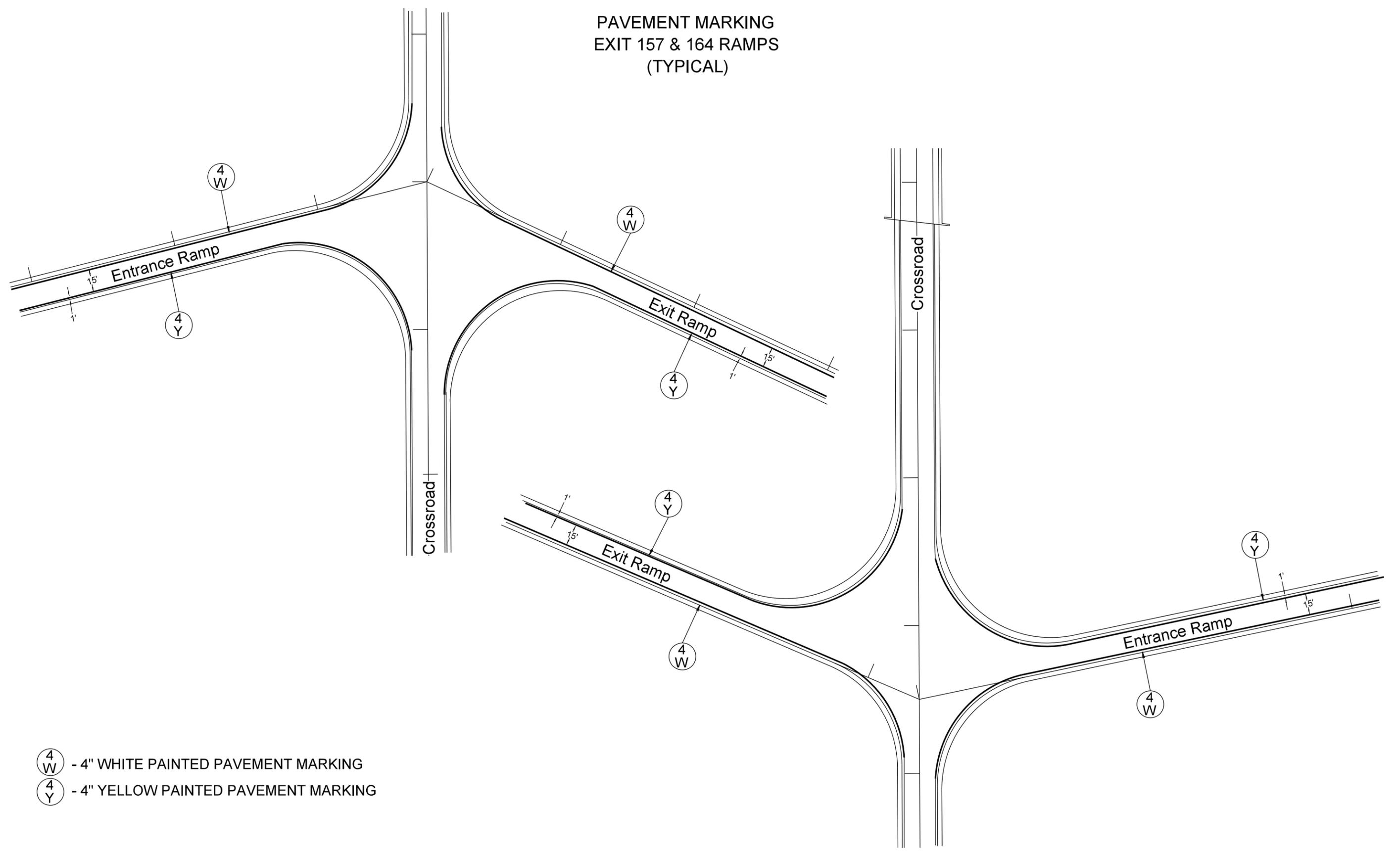
ESTIMATED QUANTITIES

ROUTE	PAVEMENT MARKING PAINT	
	WHITE	YELLOW
SEGMENT 1 SD 20	494	133
SEGMENT 2 I29 N	20	642
SEGMENT 3 I29 S	20	326
SEGMENT 4 SD 25	486	221
TOTALS:	1020 GALLONS	1322 GALLONS

NOTE: All pavement marking dimensions are based on 12' driving lanes.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-P 0010(125)	23	23
Plotting Date: 12/22/2015			

PAVEMENT MARKING
EXIT 157 & 164 RAMPS
(TYPICAL)



-  - 4" WHITE PAINTED PAVEMENT MARKING
-  - 4" YELLOW PAINTED PAVEMENT MARKING

PLOT SCALE - 1:16988.55

PLOTTED FROM - IRBRINT12

PLOT NAME - 1

FILE - ... \TOP OF RAMP MARK 045V.DGN