

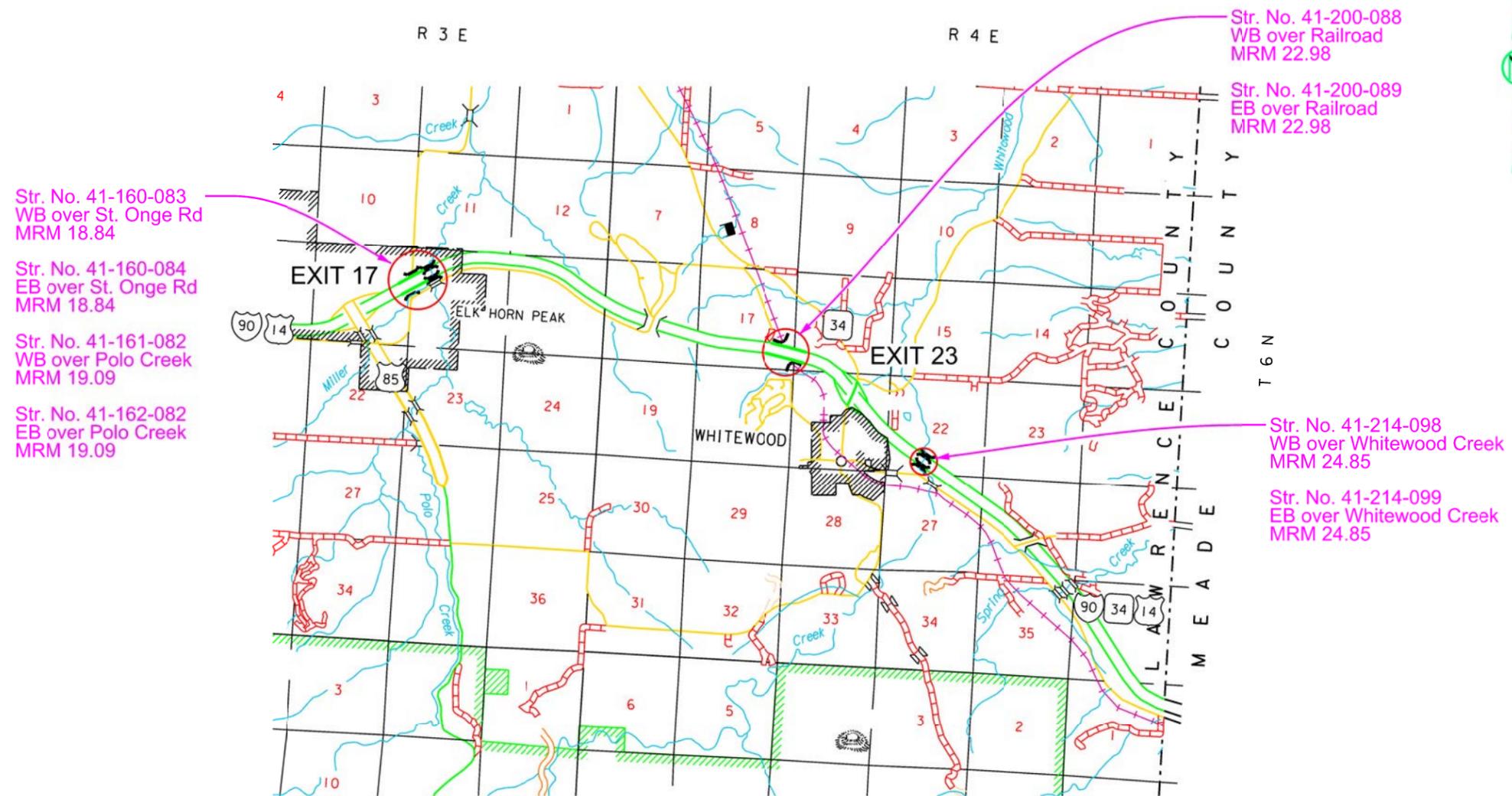
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(171)18	C1	C7

Plotting Date: 11/30/2015

# SECTION C: TRAFFIC CONTROL PLANS

## INDEX OF SHEETS

C1	General Layout with Index
C2-C3	Estimate With General Notes & Tables
C4-C5	Ramp Signing Details
C6-C7	Standard Plates



**SECTION C ESTIMATE OF QUANTITIES**

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(171)18	C2	C7

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	1,218	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	4	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
634E0640	Temporary Pavement Marking	2,608	Ft
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each
634E1255	Contractor Furnished Speed Monitoring Radar Trailer	4	Each

**TRAFFIC CONTROL – GENERAL NOTES**

1. Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.
2. Unless otherwise stated in these plans, no work will be allowed during hours of darkness.
3. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage of 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.
4. Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.
5. Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 48 hours.
6. Construction signing mounted on portable supports shall not be used for a duration of more than 3 days, unless approved by the Engineer. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location, ground mounted, breakaway supports. All regulatory signs shall have minimum mounting height of five feet, even when mounted on portable supports.
7. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.
8. All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

9. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.
10. All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.
11. All construction operations shall be conducted in the general direction of traffic movement.
12. If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used, as determined by the Engineer.
13. Temporary Flexible Vertical Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
14. Drums are required in all lane closure tapers, and temporary gore areas of interchange ramps.
15. Interstate 90 and ramp traffic shall not be stopped at any time.
16. The minimum height to the bottom of the Exit Gore sign shall be 7'.
17. When using Standard Plate 634.63, the speed limit through the 3 mile maximum work zone shall be 65 MPH in non-active areas and 45 MPH through active work spaces.
18. A 16' width restriction will be put in place for work on this project. A 14' width restriction during working hours will be allowed provided flaggers are used and traffic control is adjusted to allow a 14' wide load to pass. Payment for moving traffic control to allow for a 14' wide load shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
19. The quantity of Type C Advance Warning Arrow Boards and Traffic Control Signs will be paid for per each work site.

**SEQUENCE OF OPERATIONS**

The Contractor shall provide a Sequence of Operations, at least one week in advance of the preconstruction meeting, to the Engineer for approval. The following requirements/restrictions shall apply:

- Structure No.'s 41-160-084 and 41-162-082 will be considered a work site
- Structure No.'s 41-200-089 and 41-214-099 will be considered a work site
- Structure No.'s 41-214-098 and 41-200-088 will be considered a work site
- Structure No.'s 41-161-082 and 41-160-083 will be considered a work site
- Standard Plate 634.63 and Ramp Entrance And Exit Details shall be used for traffic control

**TEMPORARY PAVEMENT MARKING**

Temporary Pavement Marking shall be used for edge lines and skips when edge lines and skips are removed, until permanent markings are in place, and as directed by the Engineer.

The Contractor shall be responsible for maintaining visible and reflective pavement markings throughout the project. Any pavement marking covered or damaged shall be replaced prior to the end of the day.

All costs for furnishing, applying, and maintaining the temporary pavement marking shall be included in the contract unit price per foot per 4" line or equivalent for Temporary Pavement Marking.

Str. No.'s 41-160-084 & 41-162-082 – 558'  
 Str. No.'s 41-200-089 & 41-214-099 – 746'  
 Str. No.'s 41-214-098 & 41-200-088 – 746'  
 Str. No.'s 41-161-082 & 41-160-083 – 558'

Total = 2,608'

**PRESS RELEASE ANNOUNCEMENTS**

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

**CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN**

The Contractor Furnished Portable Changeable Message Signs on this project are to be used to inform the travelling public 1 week prior to work startup.

**CONTRACTOR FURNISHED SPEED MONITORING RADAR TRAILER**

The Contractor shall provide 4 speed trailers to monitor traffic speeds on designated routes at locations specified in the field by the Engineer.

The radar speed feedback sign assembly shall include a speed limit sign mounted in conjunction with the radar speed feedback display. The speed display shall not flash either the vehicle speeds exceeding the speed limit or any other messages.

All costs associated with furnishing, maintaining, transporting, relocating if necessary, and removing the speed trailers from locations specified by the Engineer shall be included in the contract unit price per each for Contractor Furnished Speed Monitoring Radar Trailer.

**TRUCK OR TRAILER MOUNTED CRASH ATTENUATOR**

A Truck or Trailer Mounted Crash Attenuator shall be utilized at the beginning of the work areas. The attenuators shall be used when workers are present and shall be removed from the roadway at the end of each working day. A Type 3 Barricade shall be placed in front of the work area in the absence of the Truck or Trailer Mounted Crash Attenuator (when workers are not present). The crash attenuator shall meet or exceed NCHRP 350 Test Level 3 criteria or current MASH requirements.

The Attenuator(s) will remain the property of the Contractor at the end of the project. Depending on how the Contractor chooses to complete the work locations, multiple attenuators may be required. There are The cost for the Truck or trailer Mounted Crash Attenuator(s) shall be incidental to the contract lump sum price for Traffic Control Miscellaneous.

**ITEMIZED LISTS FOR TRAFFIC CONTROL DEVICES**

**Str. No.'s 41-160-084 & 41-162-082 - I-90 eastbound over St. Onge Road & Polo Creek**

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT ___	6	36" x 48"	12	72
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6	6
W3-5	SPEED REDUCTION AHEAD (___ MPH)	3	48" x 48"	16	48
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16	32
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	1	48" x 48"	16	16
G20-2	END ROAD WORK	1	48" x 24"	8	8
<b>EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT</b>					<b>246</b>

**TYPE 3 BARRICADES**

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

**ARROW BOARDS**

ITEM DESCRIPTION	QUANTITY
Type C Arrow Board	1 Each

**Str. No.'s 41-200-089 & 41-214-099 – I-90 eastbound over railroad & Whitewood Creek**

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	60" x 60"	25	25
R2-1	SPEED LIMIT ___	7	36" x 48"	12	84
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6	6
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16	16
W3-5	SPEED REDUCTION AHEAD (___ MPH)	3	48" x 48"	16	48
W4-1	MERGE (symbol)	2	48" x 48"	16	32
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16	32
W20-1	ROAD WORK AHEAD	3	48" x 48"	16	48
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	1	48" x 48"	16	16
G20-2	END ROAD WORK	2	48" x 24"	8	16
SPECIAL	EXIT WITH ARROW	1	36" x 32"	8	8
<b>EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT</b>					<b>363</b>

**TYPE 3 BARRICADES**

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

**ARROW BOARDS**

ITEM DESCRIPTION	QUANTITY
Type C Arrow Board	1 Each

**Str. No.'s 41-214-098 & 41-200-088 – I-90 westbound over Whitewood Creek & railroad**

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	60" x 60"	25	25
R2-1	SPEED LIMIT ___	7	36" x 48"	12	84
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6	6
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16	16
W3-5	SPEED REDUCTION AHEAD (___ MPH)	3	48" x 48"	16	48
W4-1	MERGE (symbol)	2	48" x 48"	16	32
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16	32
W20-1	ROAD WORK AHEAD	3	48" x 48"	16	48
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	1	48" x 48"	16	16
G20-2	END ROAD WORK	2	48" x 24"	8	16
SPECIAL	EXIT WITH ARROW	1	36" x 32"	8	8
<b>EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT</b>					<b>363</b>

**TYPE 3 BARRICADES**

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

**ARROW BOARDS**

ITEM DESCRIPTION	QUANTITY
Type C Arrow Board	1 Each

**Str. No.'s 41-161-082 & 41-161-082 – I-90 westbound over Polo Creek & St. Onge Road**

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT ___	6	36" x 48"	12	72
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6	6
W3-5	SPEED REDUCTION AHEAD (___ MPH)	3	48" x 48"	16	48
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16	32
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	1	48" x 48"	16	16
G20-2	END ROAD WORK	1	48" x 24"	8	8
<b>EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT</b>					<b>246</b>

**TYPE 3 BARRICADES**

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

**ARROW BOARDS**

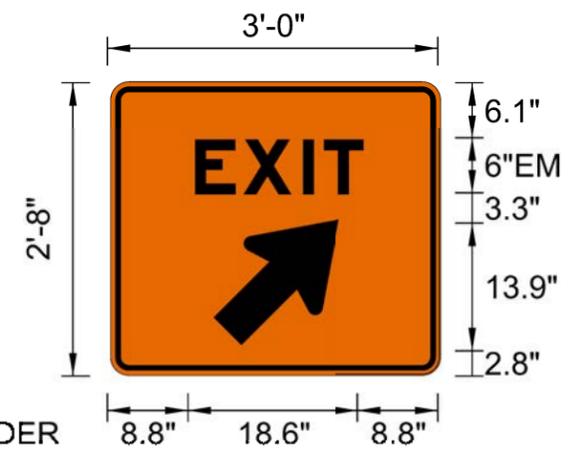
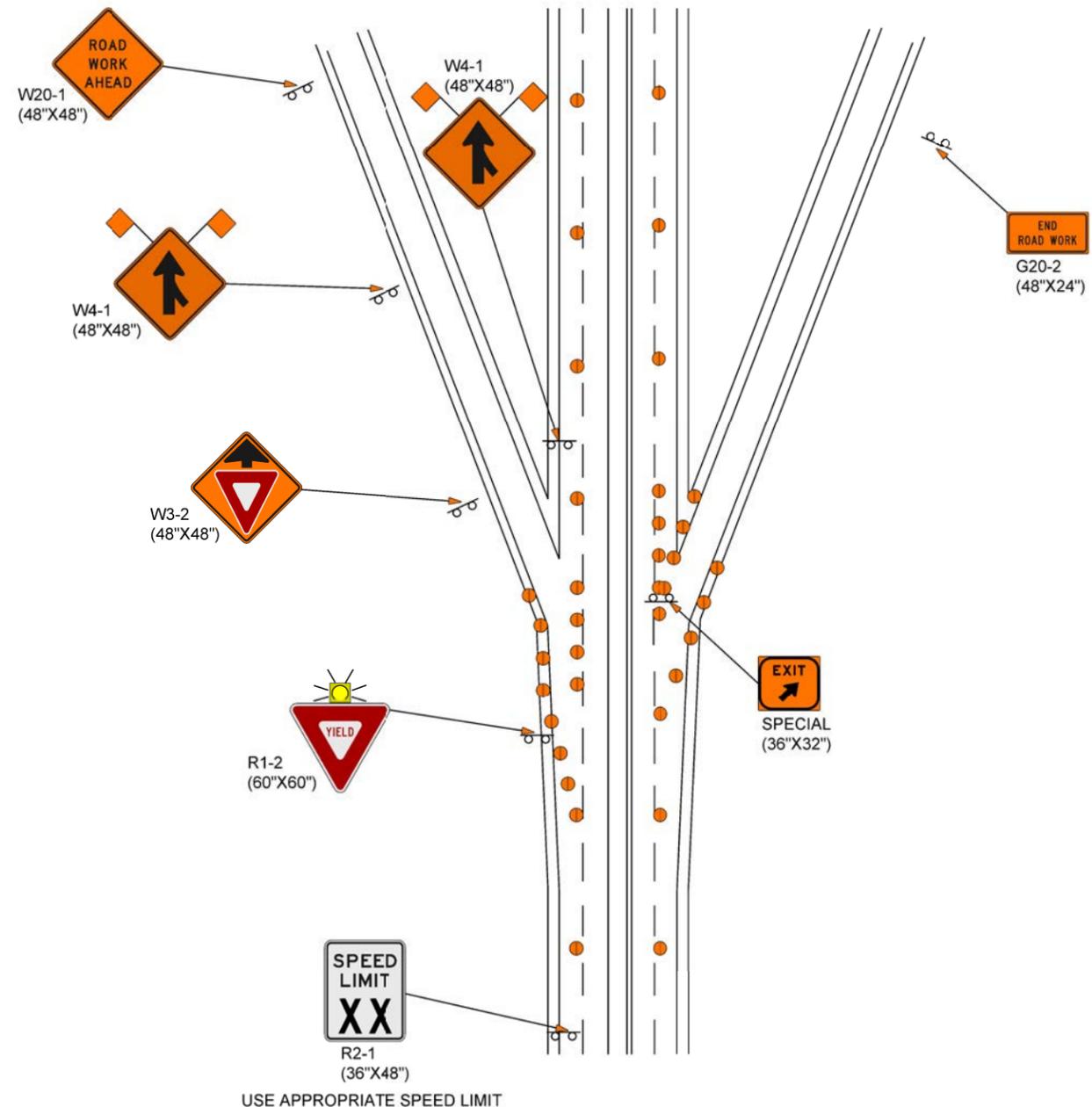
ITEM DESCRIPTION	QUANTITY
Type C Arrow Board	1 Each

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(171)18	C4	C7

Plotting Date: 11/30/2015

# TRAFFIC CONTROL

## RAMP ENTRANCE AND EXIT SIGNING DETAILS #1



BORDER  
R=1.5"  
TH=0.63"  
IN=0.47"

Panel Style: construction\_guide.ssi  
M.U.T.C.D.: 2009 Edition

 -- THE WARNING LIGHT SHALL BE A SHIELDED TYPE B. IN ACCORDANCE WITH THE MUTCD

Plot Scale - 1:40

Plotted From - trcs11640

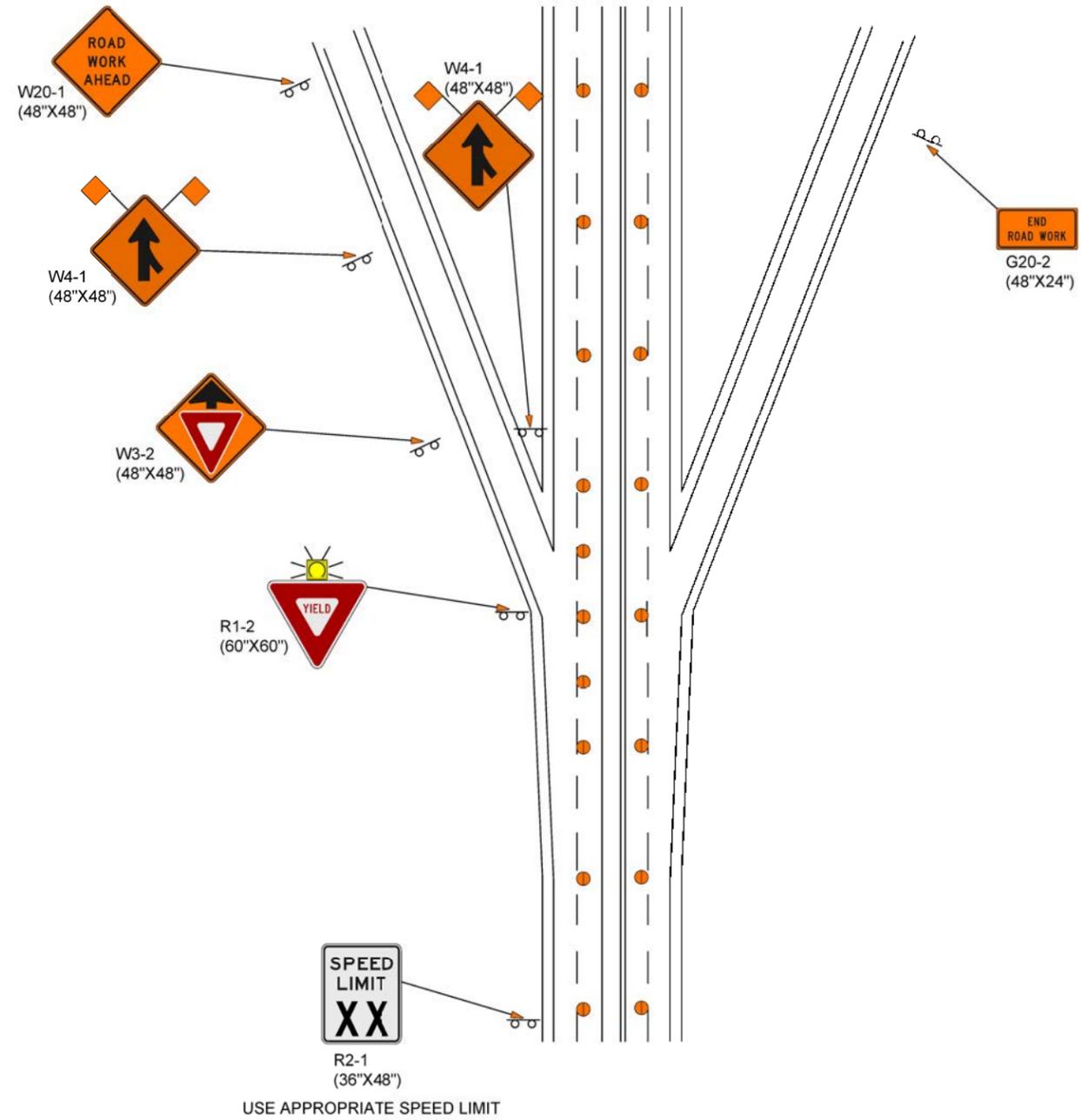
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(171)18	C5	C7

Plotting Date: 11/30/2015

# TRAFFIC CONTROL

## RAMP ENTRANCE AND EXIT SIGNING DETAILS #2



 -- THE WARNING LIGHT SHALL BE A SHIELDED TYPE B, IN ACCORDANCE WITH THE MUTCD

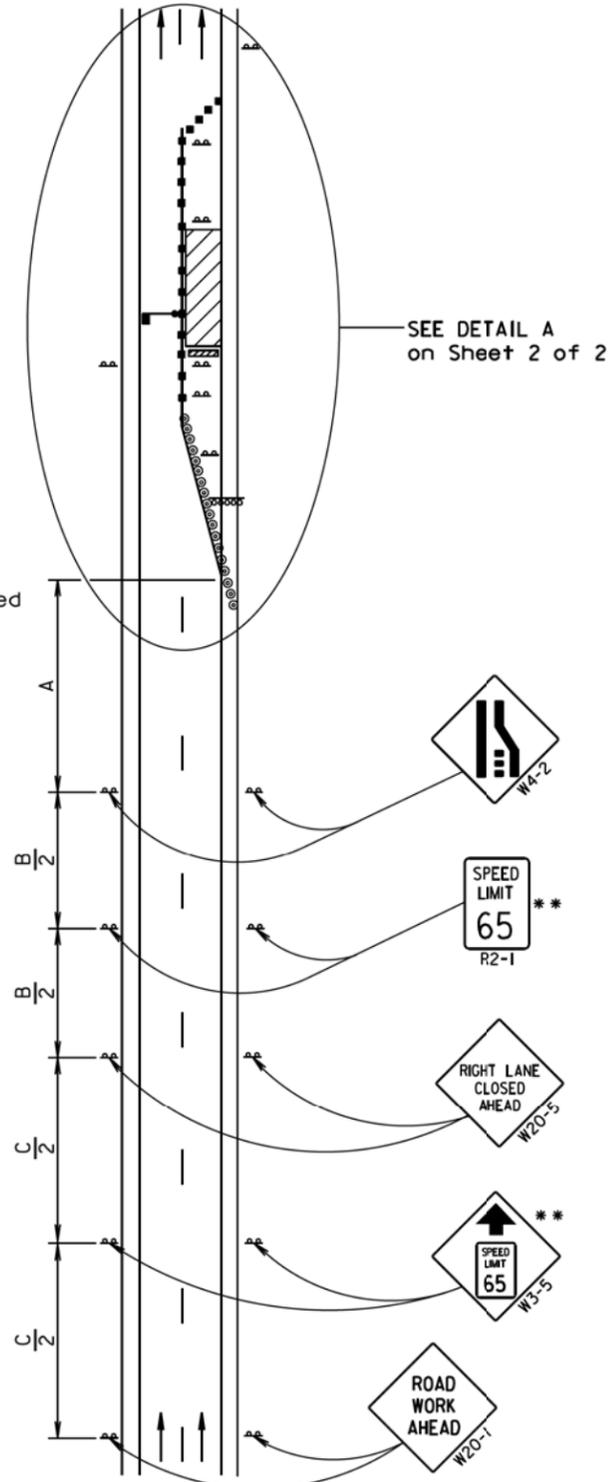
Plot Scale - 1:200

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

<b>S D D O T</b>	<b>WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS</b>	PLATE NUMBER <b>634.63</b>
	Published Date: 4th Qtr. 2015	Sheet 1 of 2

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

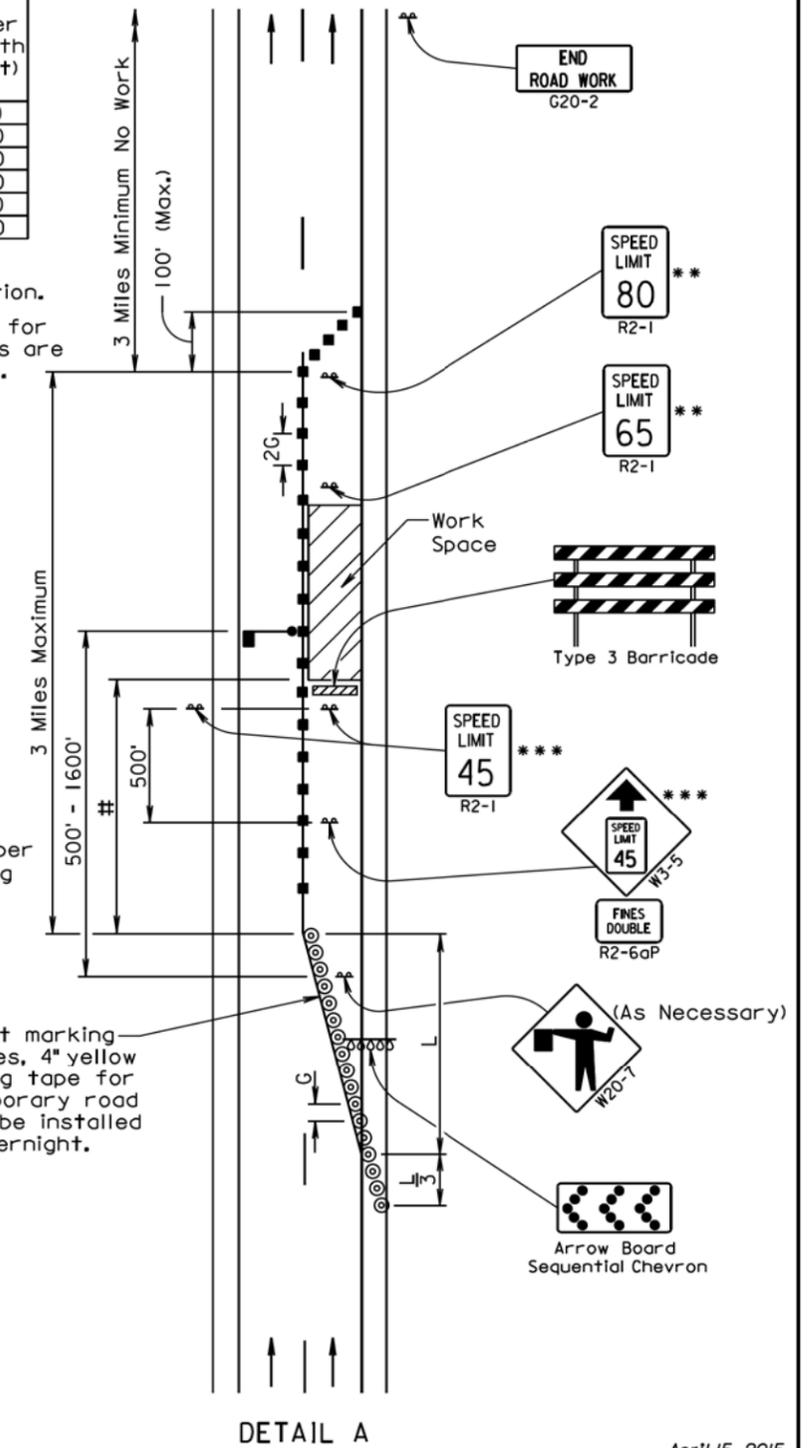
# The Work Space shall be a minimum of 500' from the end of the taper.

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.



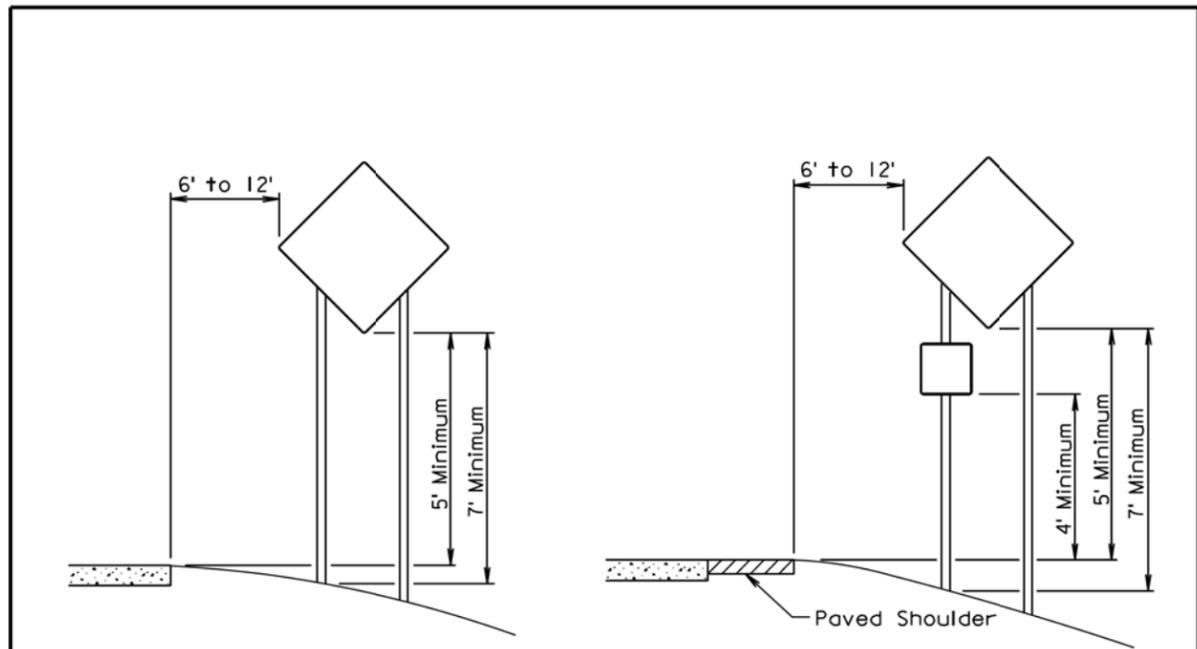
April 15, 2015

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

- Plotted From - trc11640

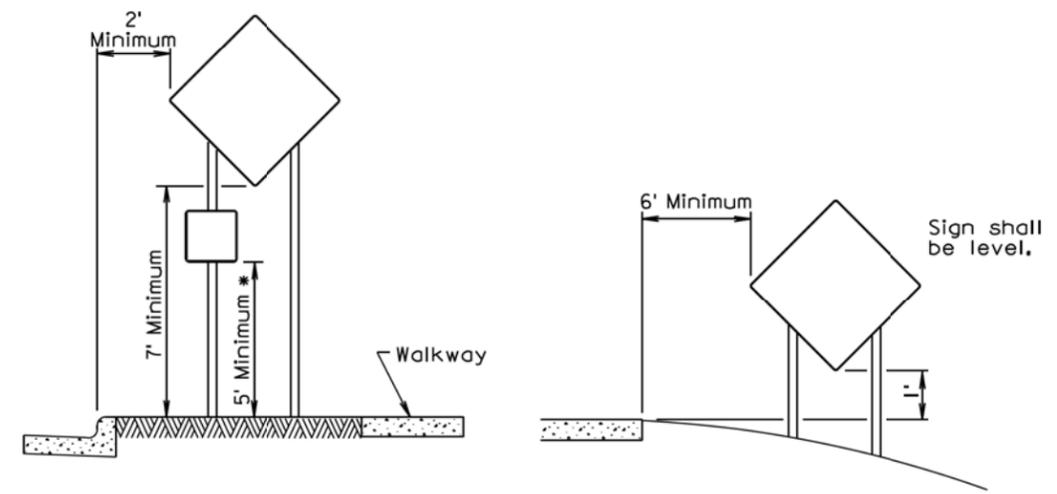
File - ...Standard Plates.dgn

Plot Scale - 1:200



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

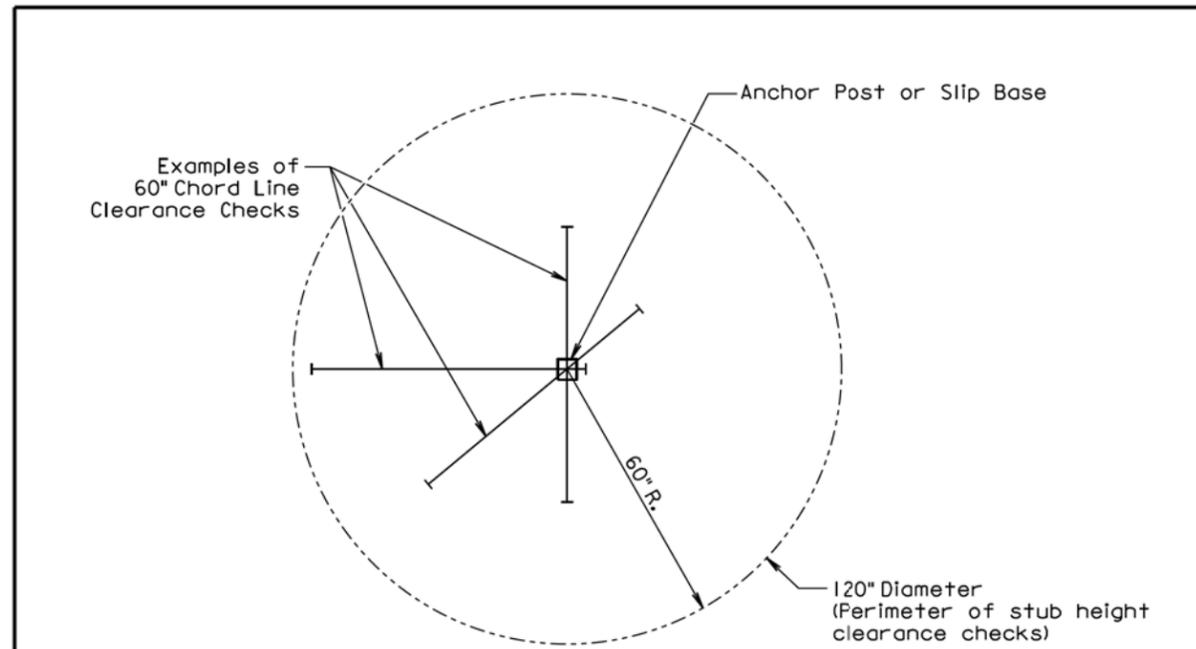
\* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

(Not applicable to regulatory signs)

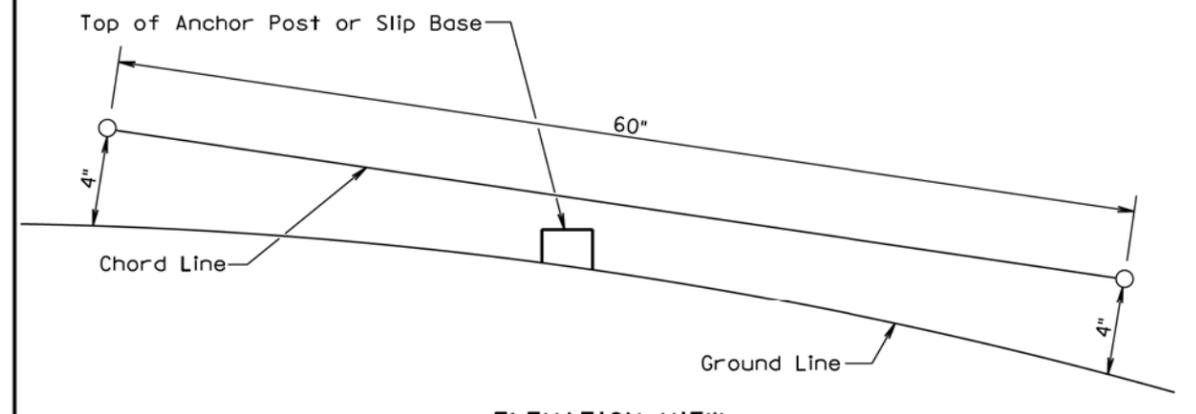
September 22, 2014

<b>S D D O T</b>	<b>CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)</b>	PLATE NUMBER <b>634.85</b>
		Sheet 1 of 1

Published Date: 4th Qtr. 2015



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

<b>S D D O T</b>	<b>BREAKAWAY SUPPORT STUB CLEARANCE</b>	PLATE NUMBER <b>634.99</b>
		Sheet 1 of 1

Published Date: 4th Qtr. 2015

- Plotted From - trc11640

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