

Section C: Traffic Control Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0028(43)355	C1	C8

INDEX OF SHEETS	
C1	General Layout with Index
C2 - C3	Estimate with General Notes
C4	Fixed Location Signs
C5	Typical Details
C6- C8	Standard Plates

BEGIN P 0028(43)355
Sta. 11+11.77
MRM 355.02+0.006

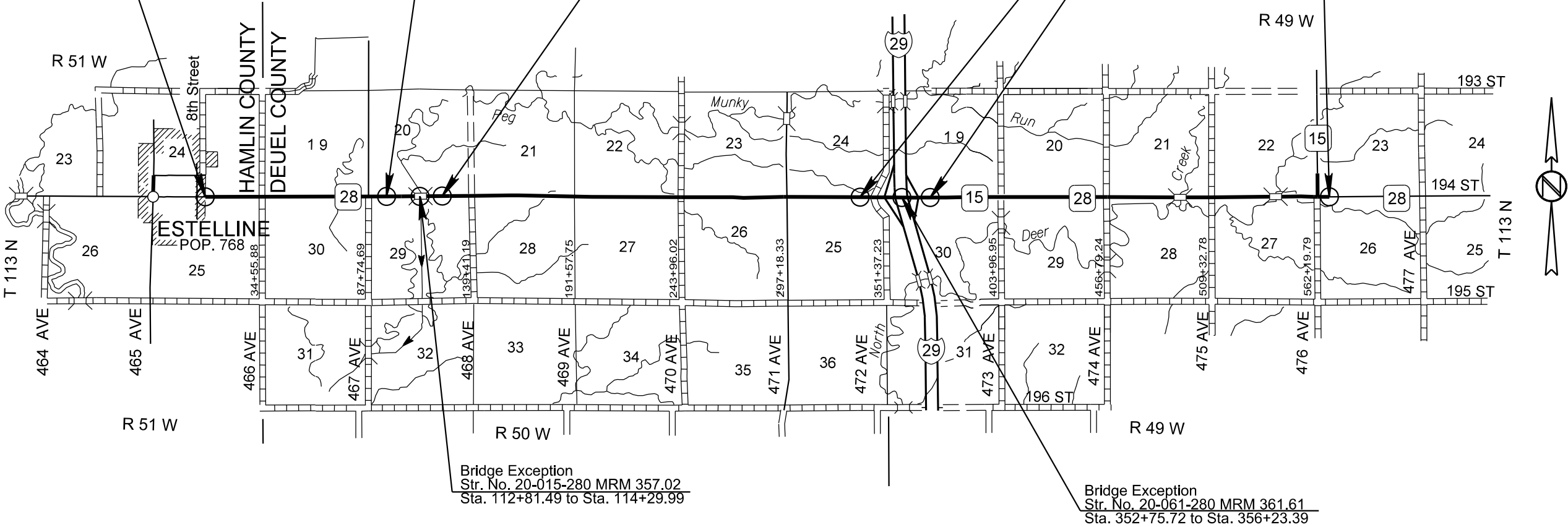
End Surfacing
Begin Resurfacing
Sta. 100+05.99

End Resurfacing
Begin Surfacing
Sta. 127+71.25

End Surfacing
Begin Resurfacing
Sta. 335+09.95

End Resurfacing
Begin Surfacing
Sta. 369+89.09

END P 0028(43)355
Sta. 568+41.79
MRM 365.36+0.118



SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	1,000.0	Hour
634E0020	Pilot Car	300.0	Hour
634E0110	Traffic Control Signs	848.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	55.4	Mile

SEQUENCE OF OPERATIONS

1. Install fixed location signing prior to start of work.
2. Complete asphalt paving operations.
3. Complete rumble strip installation and flush seal.
4. Complete pavement markings.
5. Complete all remaining project items.

Contractor requests to deviate from the sequence of operations will 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 will be submitted for review a minimum of one week prior to potential implementation.

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

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

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

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

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

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

The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

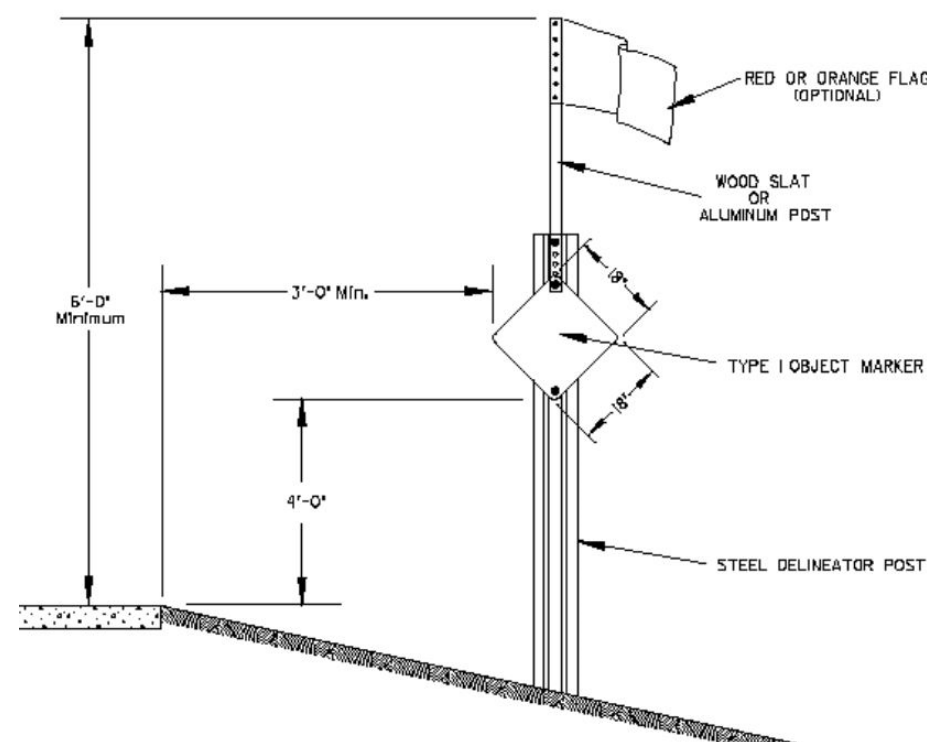
A mobile work operation will be allowed provided the rumble strip or rumble stripe grooving, flush sealing, and pavement marking can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

BUMP MARKERS

Orange bump markers will be placed adjacent to the bump location. The bump marker details are shown in the following drawing. The steel delineator post will be a 1.12 lb/ft flanged channel steel post for ground mounted installation. If the duration is less than 3 days, the Type 1 Object Marker can be installed on temporary supports.

BUMP (W8-1) signs with appropriate ADVISORY SPEED (W13-1P) plaques will be placed 500 feet in advance of the bump or as approved by the Engineer for adequate sight distance.

All costs for bump markers, bump signs, and advisory speed plaques will be incidental to the contract unit price per square foot for "Traffic Control Signs".



FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

Additional flagger warning signs and flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours. Also included in the Estimate of Quantities are WAIT FOLLOW PILOT CAR signs for use on low volume intersecting roads as determined by the Engineer. WAIT FOLLOW PILOT CAR signs will not block the view of the stop sign.



It is required that the flaggers and pilot car operators be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) will be installed on one side of the centerline rumble for the temporary pavement marking. No passing zones will be marked in accordance with Specifications. DO NOT PASS (R4-1) and PASS WITH CARE (R4-2) signs will also be used in addition to the temporary flexible vertical markers (tabs) placed per Specifications to mark no passing zones.

The total length of no passing zone on this project is estimated to be 2.1 miles.

It is estimated that 12 DO NOT PASS and 12 PASS WITH CARE signs will be required.

Temporary flexible vertical markers (tabs) will be used to mark dashed centerline, No Passing Zones, and applicable lane lines. Paint will not be allowed for temporary pavement marking on the asphalt concrete wear course or after application of the flush seal.

Temporary pavement marking paint will not be allowed on the final lift of asphalt surfacing. Temporary pavement marking paint will not be allowed on the chip seal, fog seal, or flush seal. Temporary flexible vertical markers (tabs) must be used on the final lift of asphalt surfacing. The Contractor may use tabs with covers, uncovering them for the chip seal, fog seal, or flush seal. As an alternative, the Contractor may install new tabs for the fog seal or flush seal.

PLOTTED FROM - TRVAINT14

TEMPORARY PAVEMENT MARKING (Continued)

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

Quantities of Temporary Pavement Markings consist of:

- One pass on the cold milled sections of pavement
- One pass on the first lift of asphalt concrete
- One pass on top of the final lift of asphalt concrete
- One pass after the centerline rumble stripes are installed, length as determined by the Engineer
- One pass prior to the flush seal, length as determined by the Engineer
- One pass after the flush seal

If the Engineer determines that an additional pass prior to the flush seal is not required, this application of the temporary pavement marking will be eliminated. If the flush seal is eliminated for the project, the application of the temporary pavement marking on top of the flush seal as well as the additional pass prior to the flush seal will be eliminated.

No adjustment in the contract unit price for “Temporary Pavement Marking” will be made because of a variation in quantities.

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

Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.

TRAFFIC CONTROL FOR ASPHALT CONCRETE RESURFACING

The Contractor will need to install LOOSE GRAVEL (W8-7) signs with advisory speed plaques (W13--1P) in areas where loose sand is present during the flush seal operations. LOOSE GRAVEL signs have been included in these plans for this.

TRAFFIC CONTROL FOR COLD MILLING OPERATIONS

The Contractor will need to install GROOVED PAVEMENT (W8-15) signs with Motorcycle plaques (W8-15P) in advance of areas where grooved pavement is present during the cold milling operation. GROOVED PAVEMENT and Motorcycle signs have been included in these plans for this.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project P-PH 0028(36)365 – PCN# 04HM was awarded to another Contractor (Bowes Construction) for grading, structures and interim surfacing on SD Hwy 28 in the same beginning and ending stations as shown for the project in these plans. This project should be near completion if not completed before surfacing begins.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractor on PCN# 04HM. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer and at no additional cost to the contract.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-1	BUMP	8	48" x 48"	16.0	128.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	8	48" x 48"	16.0	128.0
W8-11	UNEVEN LANES	4	48" x 48"	16.0	64.0
W8-15	GROOVED PAVEMENT	4	48" x 48"	16.0	64.0
W8-15P	MOTORCYCLE (plaque)	4	24" x 18"	3.0	12.0
W13-1P	ADVISORY SPEED (plaque)	8	30" x 30"	6.3	50.4
W20-1	ROAD WORK AHEAD	8	48" x 48"	16.0	128.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	6	48" x 48"	16.0	96.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
G20-1	ROAD WORK NEXT <u>11</u> MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT <u>7</u> MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT <u>4</u> MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		848.2			

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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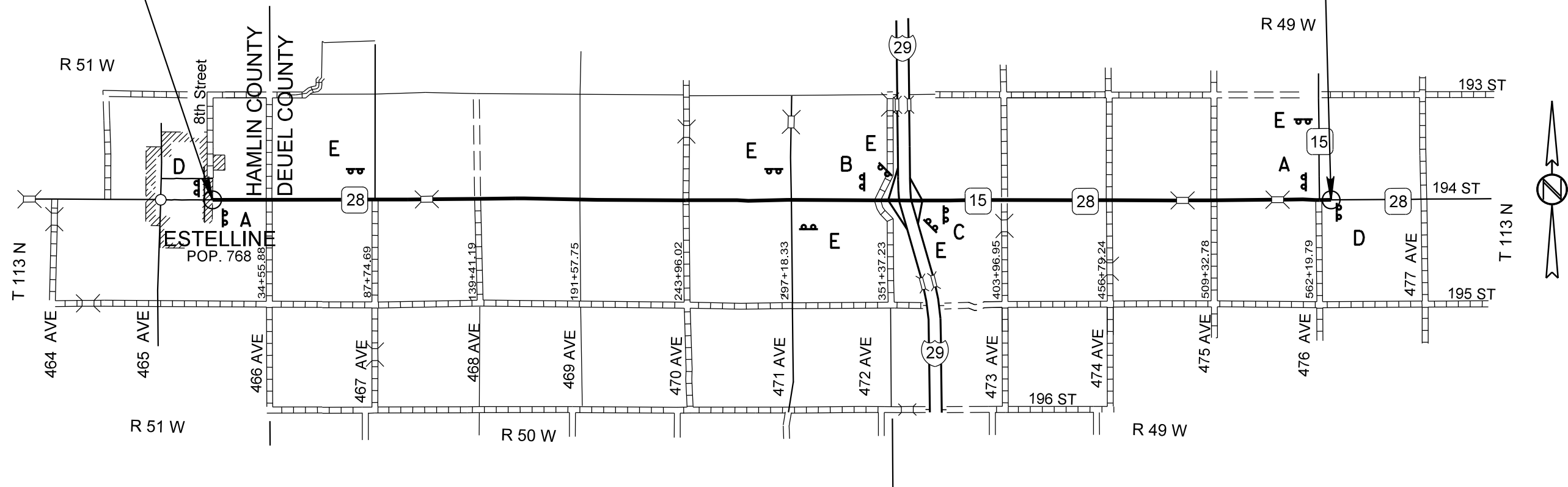
Revised BRO 9-15-25

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0028(43)355	C4	C8

FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

BEGIN PROJECT

END PROJECT



A
ROAD WORK
NEXT 11 MILES

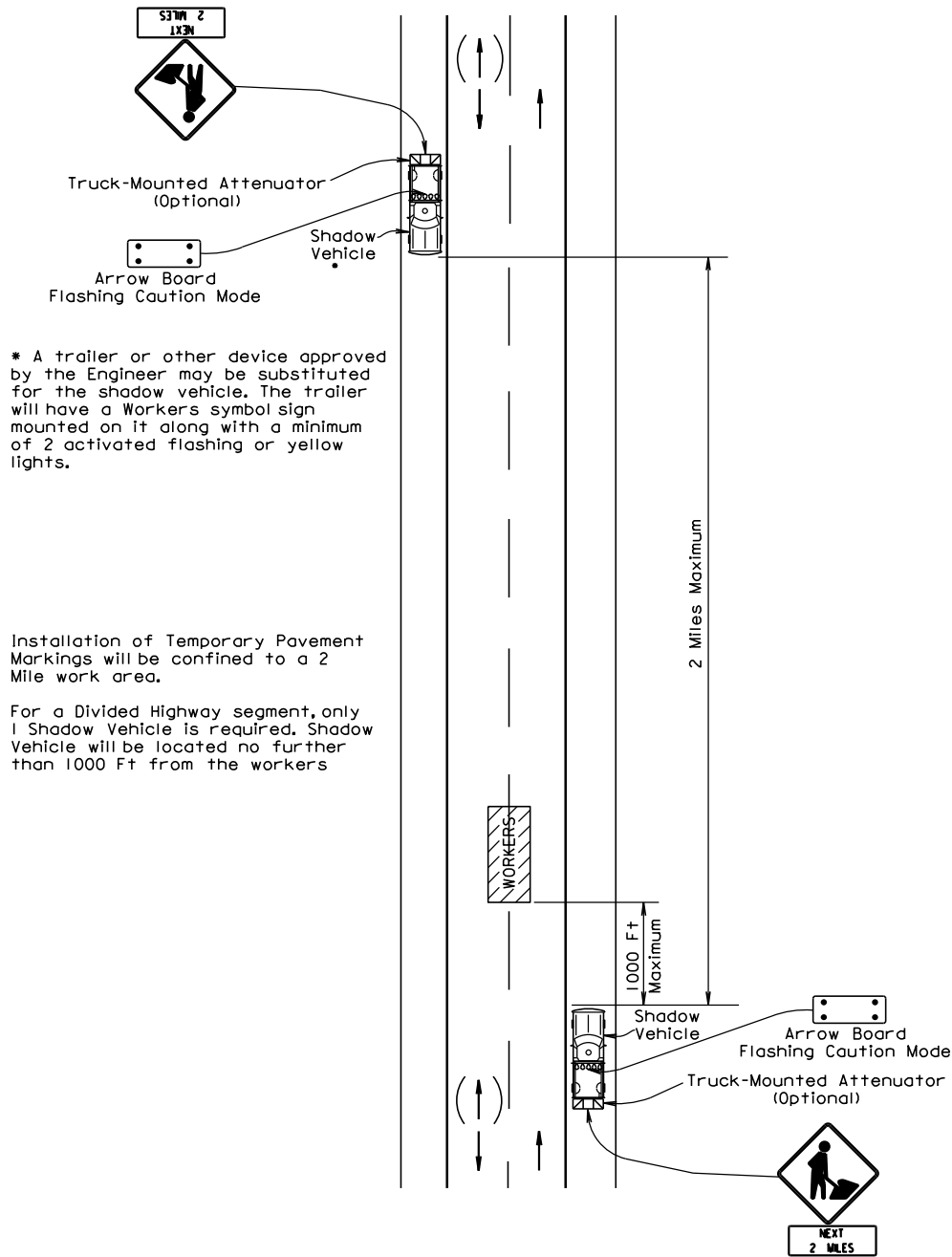
B
ROAD WORK
NEXT 7 MILES

C
ROAD WORK
NEXT 4 MILES

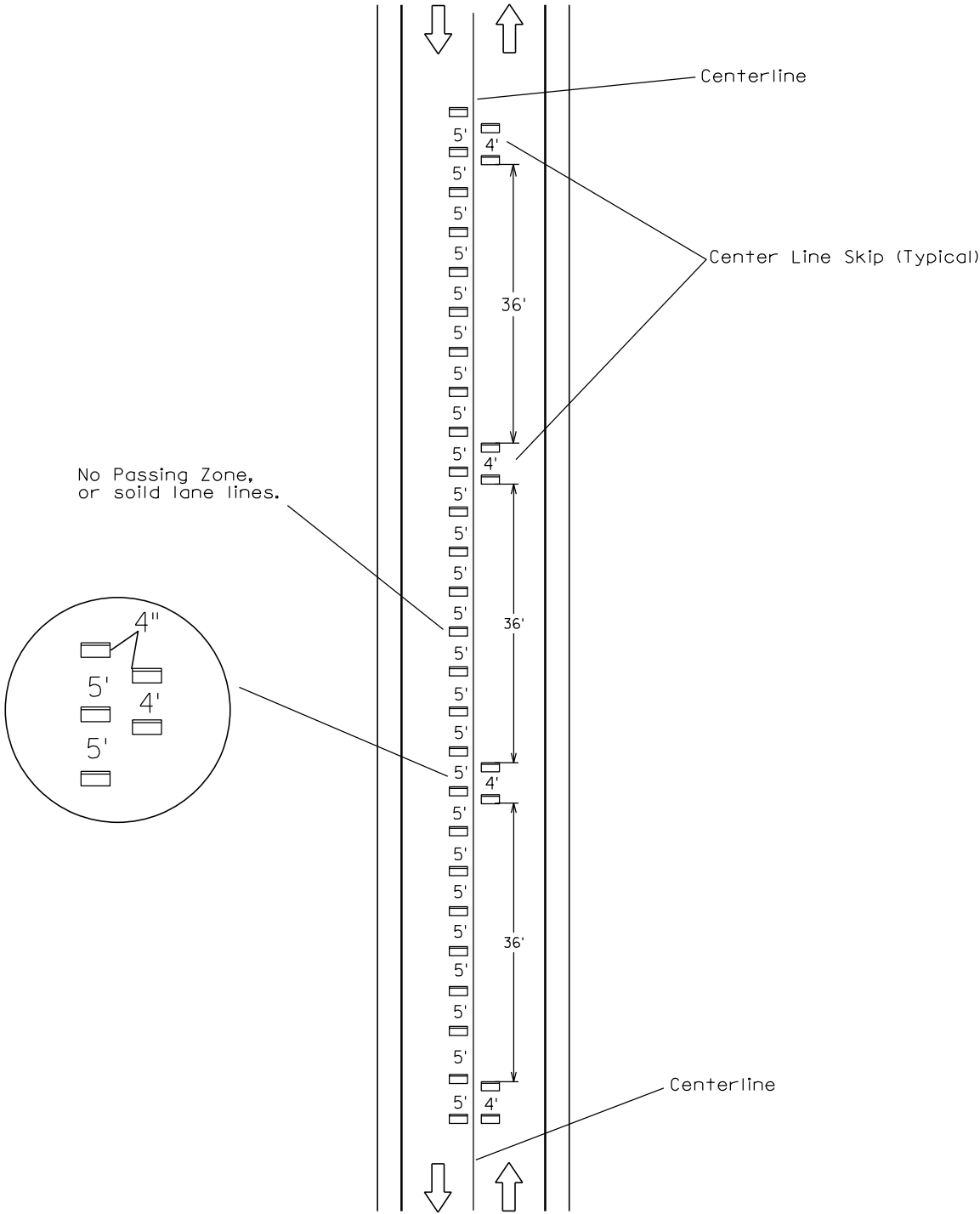
D
END
ROAD WORK

E
ROAD
WORK
AHEAD

GUIDES FOR TRAFFIC CONTROL DEVICES
APPLICATION OF TEMPORARY FLEXIBLE VERTICAL MARKERS



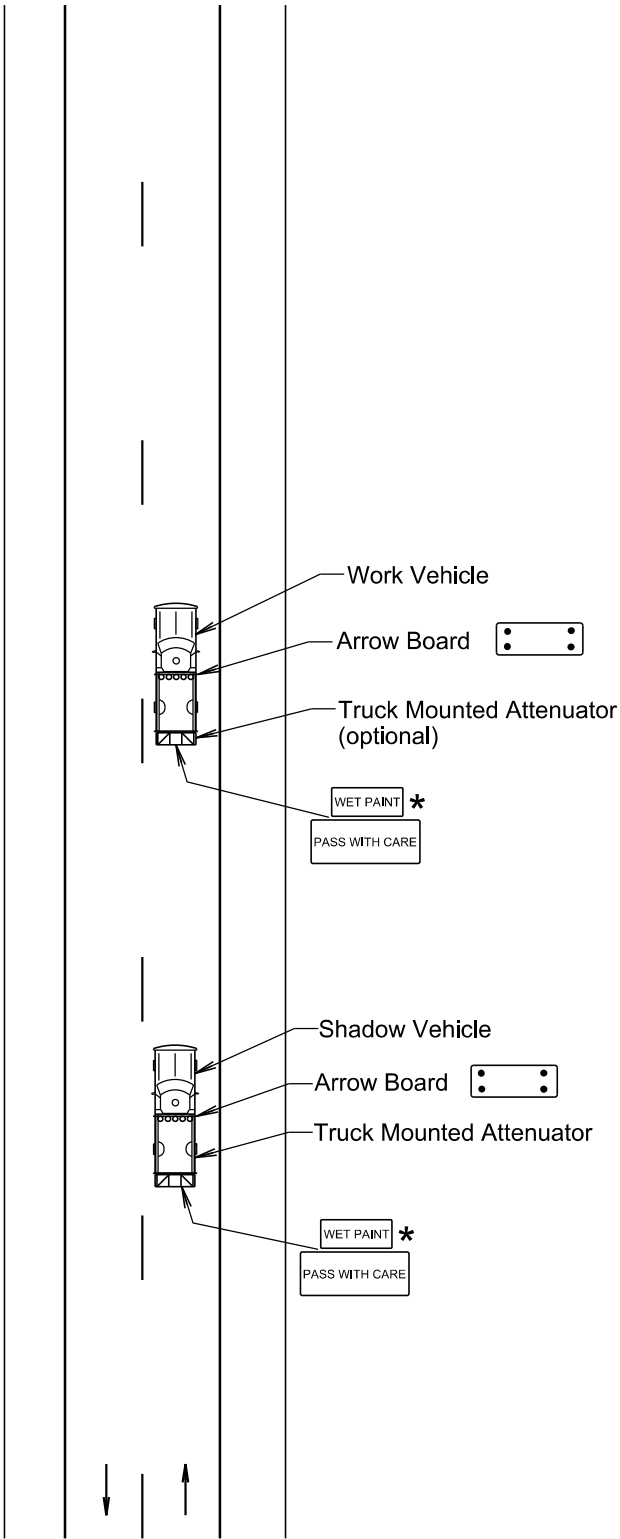
DETAILS FOR TRAFFIC CONTROL DEVICES
TEMPORARY ROAD MARKER INSTALLATION



PLOTTED FROM - TRWAINT14

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0028(43)355	C6	C8

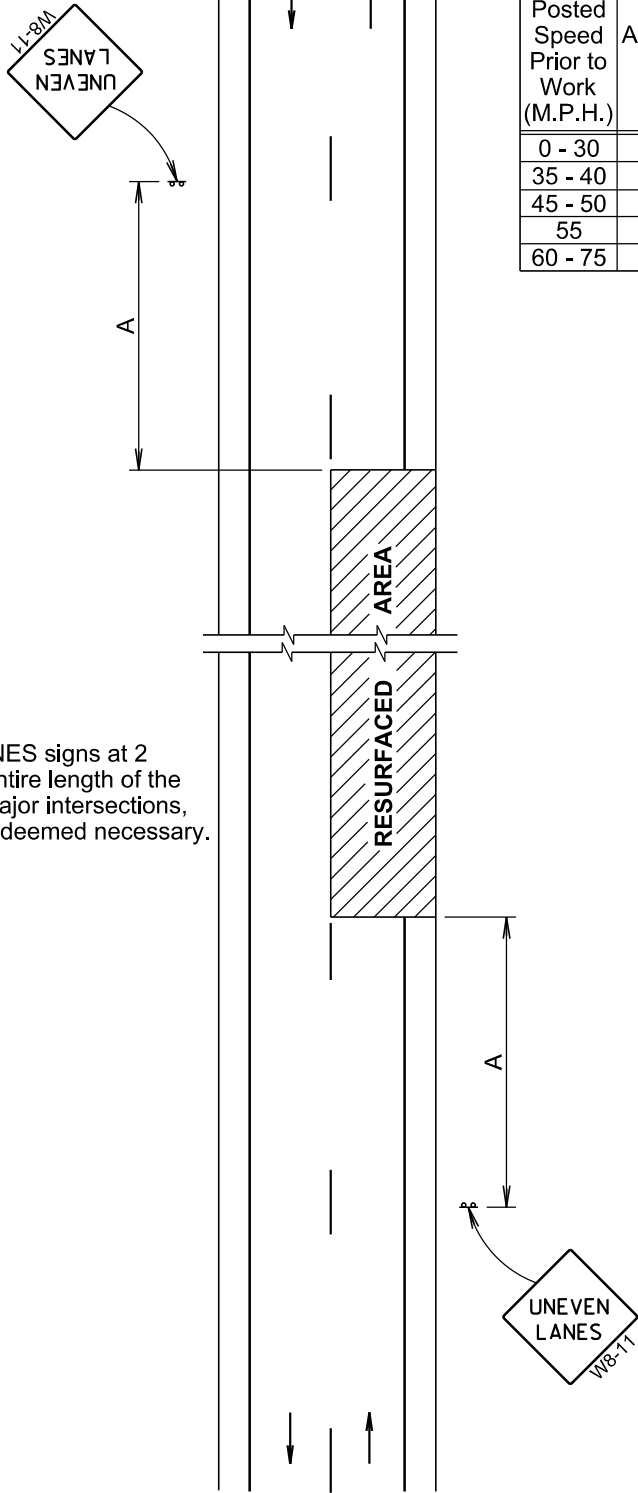
- ★ Messages on signs will vary depending on the operation being conducted.
- Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.
- Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.
- Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.
- When an arrow board is used, it will be used in the caution mode. Marching Diamonds are acceptable.
- Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".
- All costs associated with the traffic control for mobile operation including signs, arrow boards and equipment will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".



January 22, 2021

Published Date: 2025	S D D O T	MOBILE OPERATIONS ON 2-LANE ROAD	PLATE NUMBER 634.06
			Sheet 1 of 1

Install additional UNEVEN LANES signs at 2 mile intervals throughout the entire length of the uneven area and at affected major intersections, edge of towns, and other sites deemed necessary.



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

January 22, 2021

Published Date: 2025	S D D O T	UNEVEN ROAD SURFACE	PLATE NUMBER 634.22
			Sheet 1 of 1

PLOTTED FROM - TRWAINT14

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	500	25
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) will 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 will 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.

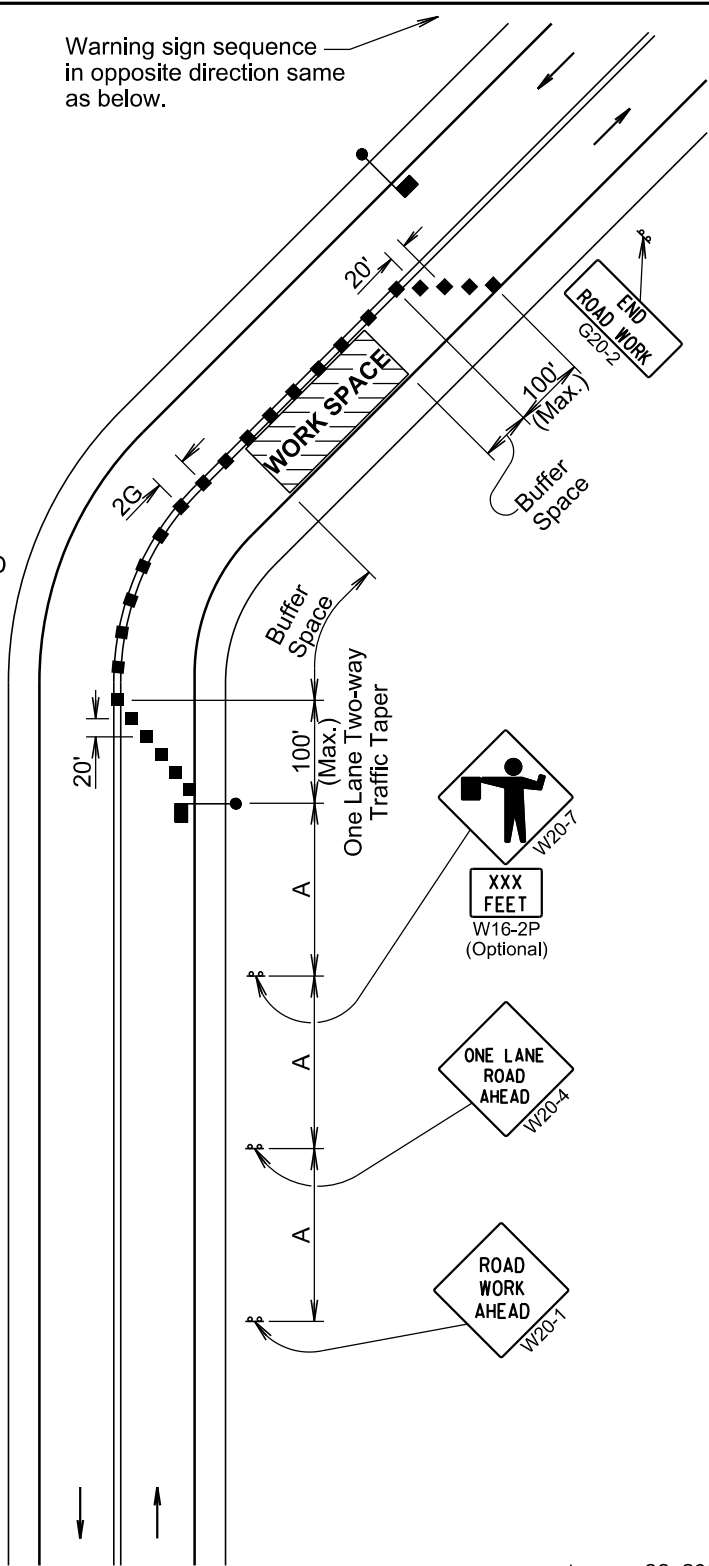
END ROAD WORK
G20-2

Channelizing devices and flaggers will 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.

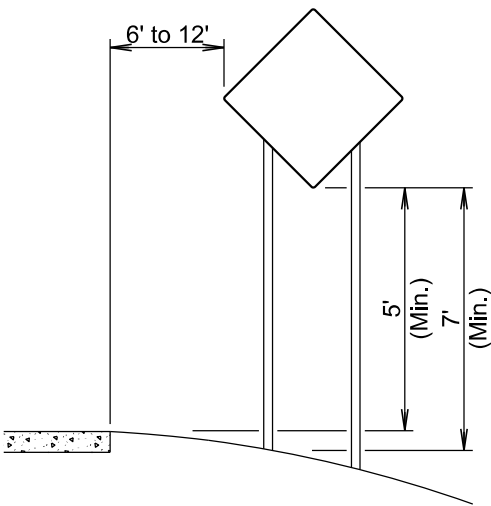
The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.

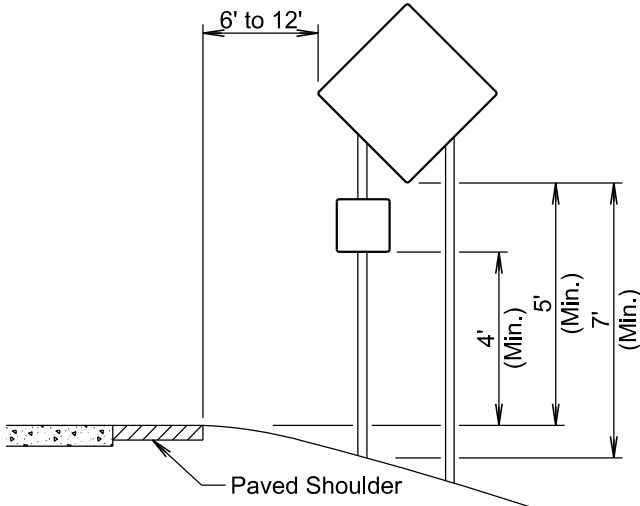


January 22, 2021

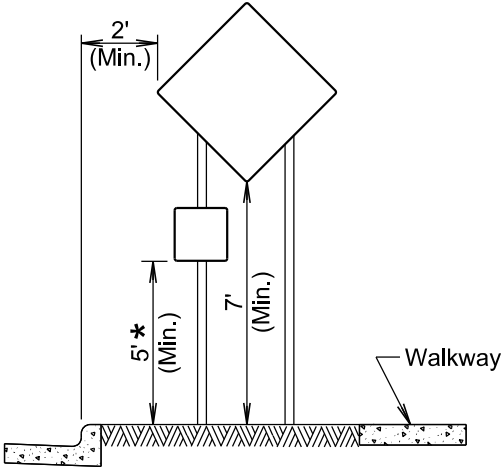
Published Date: 2025	S D D O T	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



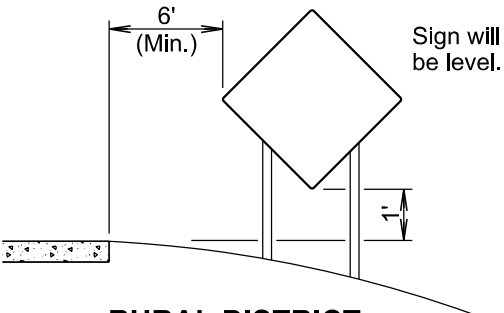
RURAL DISTRICT



RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT



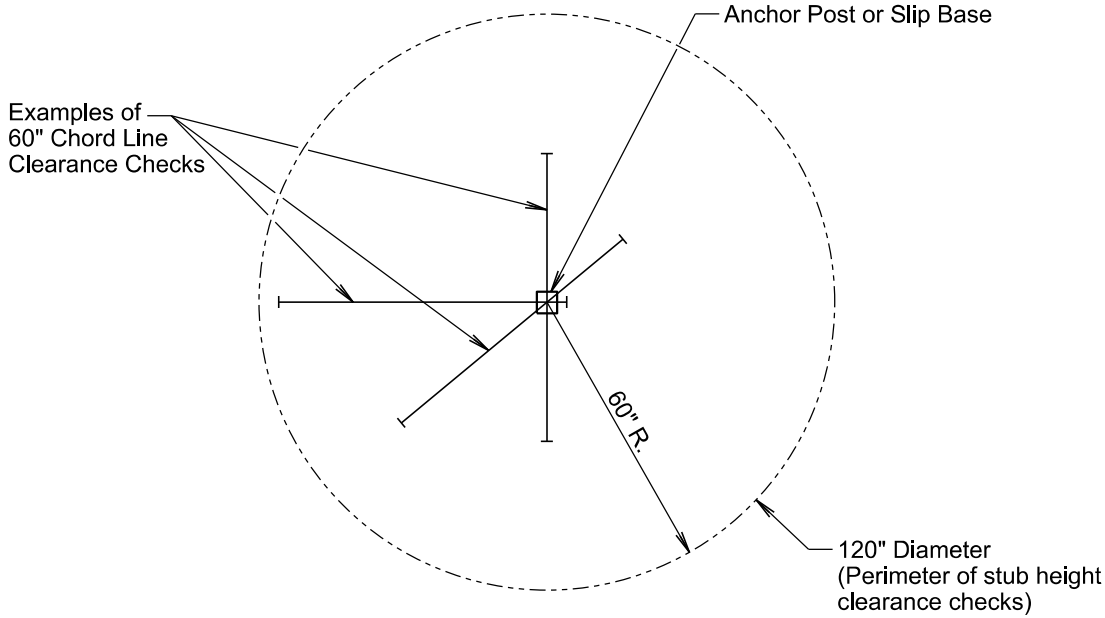
RURAL DISTRICT
3 DAY MAXIMUM

(Not applicable to regulatory signs)

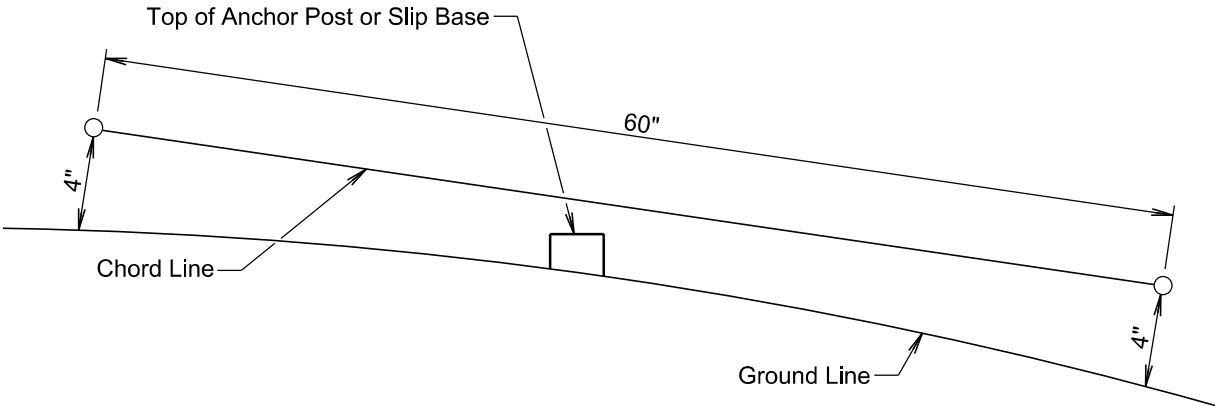
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2025	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases WILL 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 will 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.

January 22, 2021

<i>Published Date: 2025</i>	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	<i>PLATE NUMBER</i> 634.99
			<i>Sheet 1 of 1</i>