

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PS 0014(247)227	1	11

Plotting Date: 01/15/2025

INDEX OF SECTIONS

Sheet 1	Title Sheet
Sheets 2,3	Estimate of Quantities, Environmental Commitments, General Notes and Tables
Sheet 4	Fixed Location Signing
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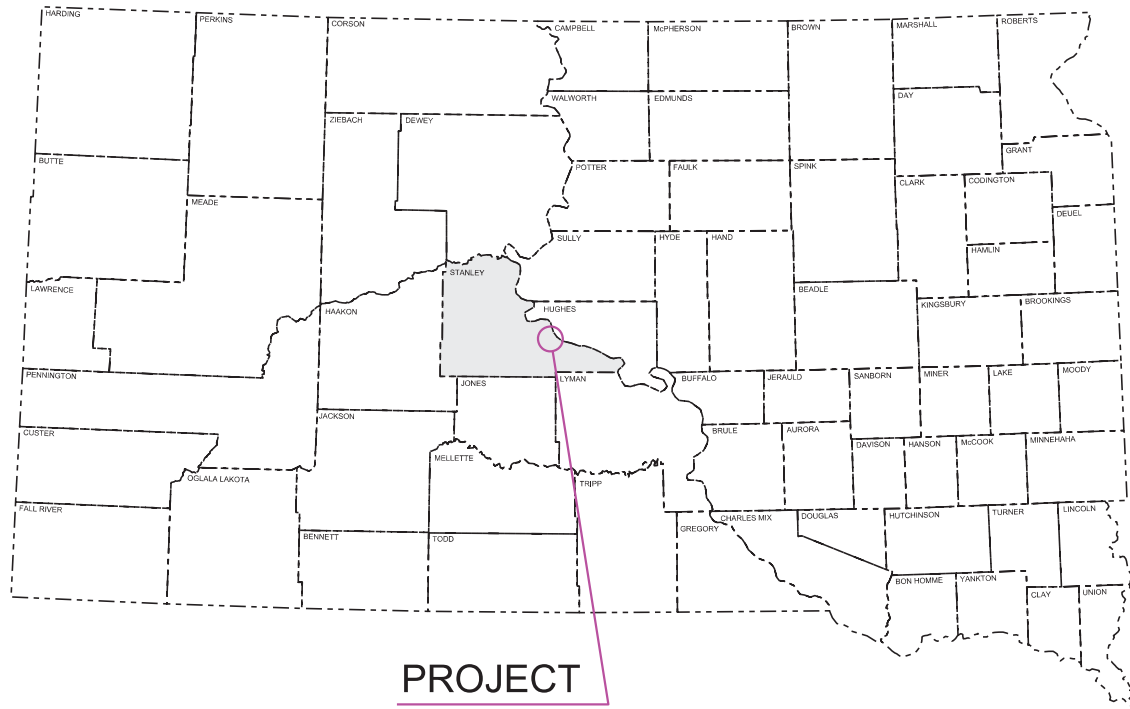
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT PS 0014(247)227

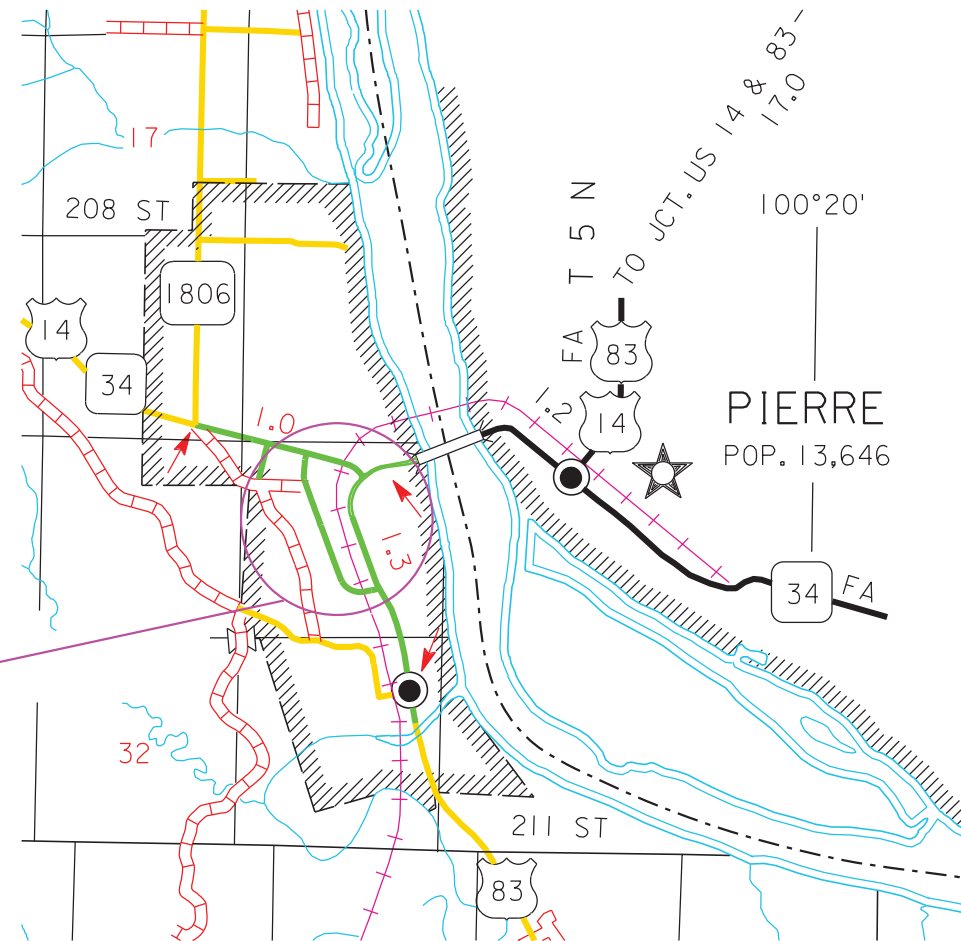
US HIGHWAY 14/83

STANLEY COUNTY

Traffic Detour, Pavement Marking,
and Asphalt at RR Crossing
PCN 08H1



PROJECT



PCN 08H1
PS 0014(247)227
Stanley County
Jct. US14 and US83

DESIGN DESIGNATION

AADT (2023)	7906
AADT (2043)	11377
DHV	1812
D	50%
DHV T%	2.3%
AADT T%	5.1%
V	35 MPH

STORM WATER PERMIT

None Required



5

April 2, 2025

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	10.1	Ton
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each
634E0010	Flagging	16.0	Hour
634E0110	Traffic Control Signs	294.7	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	9	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	270	Ft
634E0400	Type A Advance Warning Arrow Board	1	Each
634E1002	Detour and Restriction Signing	253.0	SqFt

SPECIFICATIONS

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

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified 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. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

ENVIRONMENTAL COMMITMENTS (CONTINUED)

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <<https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf>>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

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.

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer's recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 AW or an approved equal.

ASPHALT CONCRETE COMPOSITE

The Contractor will begin placement of the new asphalt surfacing within one working day upon the completion of installation of the new RR crossing.

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

All other requirements in the Standard Specifications for Asphalt Concrete Composite will apply. Prime will not be required prior to the placement of asphalt.

The asphalt binder used in the mixture will be PG 58-34 or PG 64-34 Asphalt Binder.

The Contractor will place asphalt concrete composite (approx. 9.0" thick and 18" wide) in the areas between the new railroad tracks and the existing concrete pavement. Lifts will not exceed 3 inches in depth.

Asphalt for tack SS-1h or CSS-1h will be applied prior to each lift of Asphalt Concrete Composite. Asphalt for tack will be applied at a rate of 0.09 gallons per square yard on existing pavement or milled asphalt concrete surfaces and at a rate of 0.06 gallons per square yard on primed base course or new asphalt concrete pavement. The Asphalt for tack will be applied for the full width of the bottom layer of Asphalt Concrete Composite plus one-half foot additional on the outside shoulder.

WORK DESCRIPTION

1. Provide traffic control and detour signing for the US 14 road closure to allow for RCP&E's contractor to upgrade the railroad crossing.
2. Upgrade railroad crossing by placing new asphalt concrete composite and installing new Railroad Crossing pavement markings.

SEQUENCE OF OPERATIONS

1. Set up traffic control and detour signing one day prior to RCP&E Contractor commencing work. Switch traffic to detour route.
2. Install grooving and permanent pavement markings at the railroad crossing in coordination with RCP&E Contractor.
3. Place new pavement between the new rail and the existing concrete pavement.
4. Remove traffic control and detour signing. Switch traffic onto US 14.

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.

COORDINATION BETWEEN CONTRACTORS

A separate contract for RCP&E Railroad Upgrade Project will be awarded to a contractor selected by the RCP&E (Tyler VanAsperen, Road Master RCP&E. (605)-430-5582) for railroad rail replacement on US 14 adjacent to this project (PCN 08H1). The railroad rail replacement for the Railroad Upgrade Project will begin at MRM 227.60 and end at MRM 227.70.

The Contractor will coordinate work so that traffic control and detour signing will be in place one day prior to the Railroad Upgrade Project commencing work. The Contractor will coordinate so that the work on permanent pavement markings and grooving will be completed in conjunction with the Railroad Upgrade Project.

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.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

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 or covered within 1 calendar day following pavement marking.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing.

DETOUR SIGNING

The Contractor will furnish and install the detour signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Detour signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the detour signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the detour signs will be incidental to the contract unit price per square foot for "Detour and Restriction Signing".

ITEMIZED LIST FOR DETOUR AND RESTRICTION SIGNING

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
M1-4	US ROUTE MARKER (1 or 2 digits)	21	24" x 24"	4.0	84.0
M1-5	SD ROUTE MARKER (1 or 2 digits)	14	24" x 24"	4.0	56.0
M3-1	DIRECTION MARKER - NORTH	6	24" x 12"	2.0	12.0
M3-2	DIRECTION MARKER - EAST	6	24" x 12"	2.0	12.0
M3-3	DIRECTION MARKER - SOUTH	6	24" x 12"	2.0	12.0
M3-4	DIRECTION MARKER - WEST	8	24" x 12"	2.0	16.0
M4-8	DETOUR	11	24" x 12"	2.0	22.0
M4-8a	END DETOUR	2	24" x 18"	3.0	6.0
M5-1	ADVANCE TURN ARROW 90° (L or R)	3	21" x 15"	2.2	6.6
M6-1	DIRECTION ARROW - Horizontal Single Head (L or R)	9	21" x 15"	2.2	19.8
M6-3	DIRECTION ARROW - Vertical Single Head	3	21" x 15"	2.2	6.6
DETOUR AND RESTRICTION SIGNING					253.0

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R3-1	RIGHT TURN PROHIBITION (symbol)	2	24" x 24"	4.0	8.0
R3-2	LEFT TURN PROHIBITION (symbol)	2	24" x 24"	4.0	8.0
R3-7R	RIGHT LANE MUST TURN RIGHT	1	30" x 30"	6.3	6.3
W4-7	THRU TRAFFIC KEEP RIGHT	1	30" x 30"	6.3	6.3
R4-7	(Narrow) KEEP RIGHT (symbol)	1	18" x 30"	3.8	3.8
R11-2	ROAD CLOSED	1	48" x 30"	10.0	10.0
R11-3a	ROAD CLOSED _____ MILES AHEAD LOCAL TRAFFIC ONLY	2	60" x 30"	12.5	25.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0
W8-12	NO CENTER LINE	4	48" x 48"	16.0	64.0
W12-1	DOUBLE ARROW	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	1	48" x 48"	16.0	16.0
W20-2	DETOUR AHEAD	5	36" x 36"	9.0	45.0
W20-3	ROAD CLOSED AHEAD	4	36" x 36"	9.0	36.0
W20-5L	THRU LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W20-5	LEFT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
M4-10	DETOUR ARROW (L or R)	2	48" x 18"	6.0	12.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					294.7

TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) may be used as detailed in the specifications. 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.

PERMANENT PAVEMENT MARKING

The Contractor will be required to repaint all existing pavement markings including centerline, edge line, lane lines, stop bars (X), railroad crossings (X). This list is approximate. The Contractor will be required to document and be able to relocate for replacement of the existing stop bars, railroad crossings. Before the markings are obliterated. Additional quantities are included in the estimate of quantities to paint the additional pavement marking. The cost to duplicate the existing marking locations will be incidental to the contract unit prices for the various contract items.

Existing stop bars and railroad crossing markings will be replaced according to standard plate 633.10. All costs associated with the restoration of stop bars and railroad crossing markings will be incidental to the contract unit price per each for "Cold Applied Plastic Pavement Marking, Railroad Crossing". Cold applied permanent pavement markings will be grooved into existing pavement.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PS 0014(247)227	3	11

REVISED: 02/06/2025

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot, square foot, each, or word for "Grooving for Cold Applied Plastic Pavement Marking" contract items.

INCIDENTS

An incident is an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic such as a crash, hazardous materials spill, or other event.

The Contractor will set up a meeting prior to start of work to plan and coordinate responses to an incident. The Contractor will invite the Department of Transportation, the South Dakota Highway Patrol, the Stanley County Sheriff and local emergency response entities to the meeting.

The Contractor will assist to maintain traffic as required by these plan notes and as agreed to at that meeting.

Emergency vehicle access through the project will be considered and discussed at the meeting.

The Contractor should be prepared to relocate advance warning signs if determined to be necessary for a major traffic incident lasting more than two hours. Fixed location ground mounted signs may be covered and additional portable signs provided.

Cost for the relocation of an advance warning sign due to an incident will be 50% of the designated sign rate. Flaggers will be paid for at the contract unit price per hour for "Flagging".

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 will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

DETOUR SIGNING LAYOUT

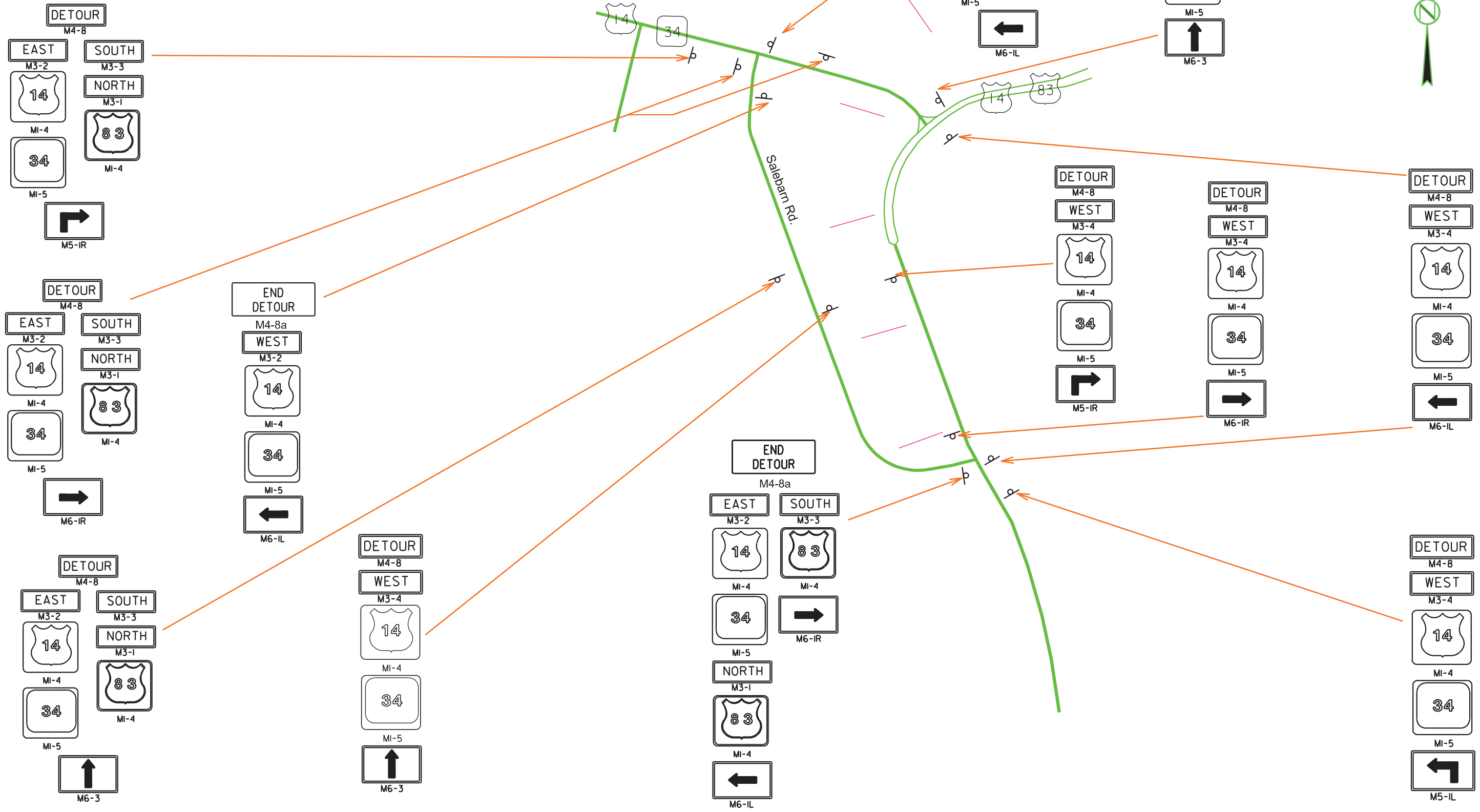
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PS 0014(247)227	4	11

NOTES:

SIGNS TO BE FURNISHED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR.

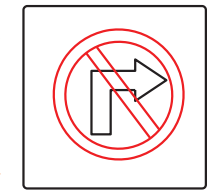
EXACT LOCATION OF SIGNS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

COST FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVAL WILL BE PAID AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR THE BID ITEM "DETOUR AND RESTRICTION SIGNING".



JCT. US83/US14 TRAFFIC DETAIL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PS 0014(247)227	5	11



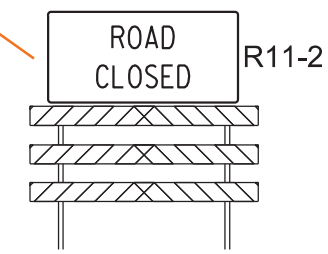
R3-1
(24"x24")



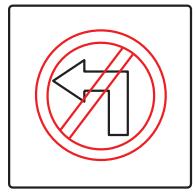
DRAWING NOT TO SCALE

○ : 42" CANDLESTICKS MAY BE USED

— : INDICATES LANE CLOSED



JCT. US83/US14 TRAFFIC DETAIL (CONT.)

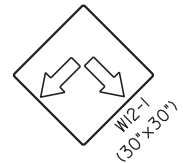


R3-2
(24"x24")

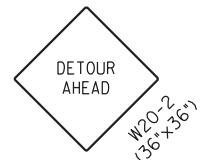
A



B



C



D



— : INDICATES LANE CLOSED ○ : 42" CANDLESTICKS MAY BE USED

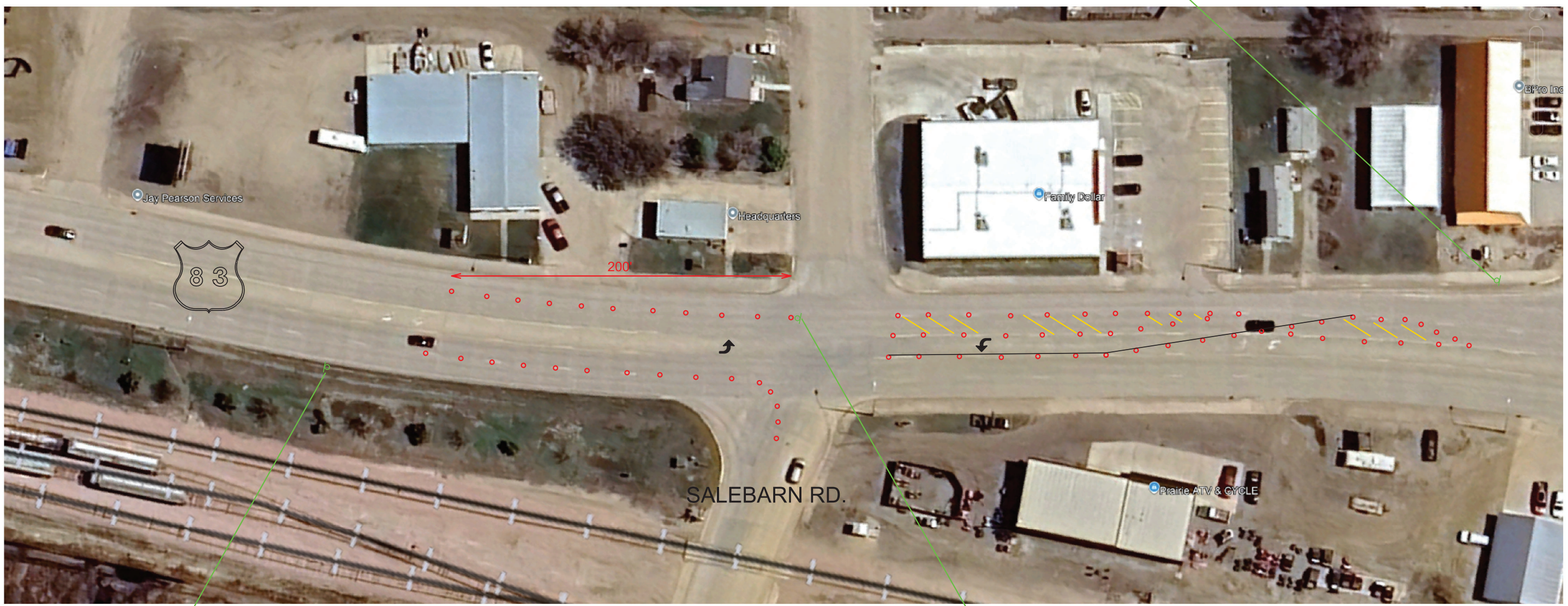
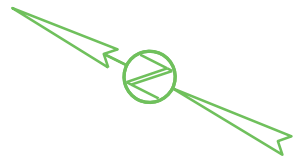
DRAWING NOT TO SCALE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PS 0014(247)227	7	11

JCT. US83/SALEBARN RD. TRAFFIC DETAIL

**THRU
TRAFFIC
KEEP RIGHT**

W4-7



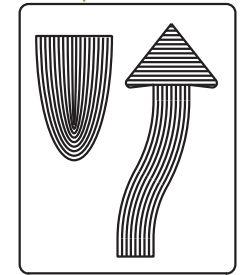
SALEBARN RD.

200

**RIGHT LANE
MUST
TURN RIGHT**

R3-7R

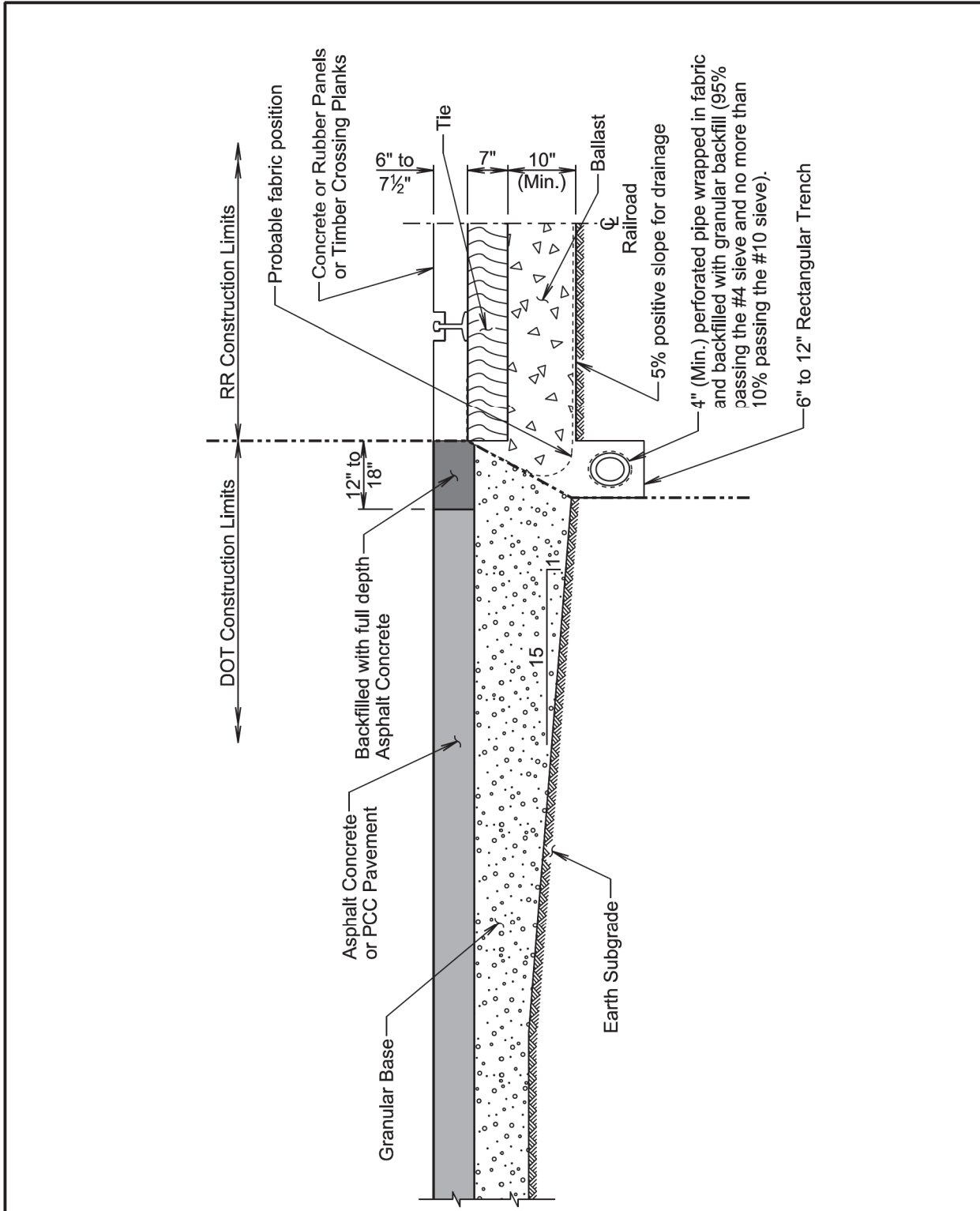
- : 42" CANDLESTICKS MAY BE USED
- : TEMPORARY FLEXIBLE VERTICAL MARKERS (TABS)
- : INDICATES LANE CLOSED



R4-7

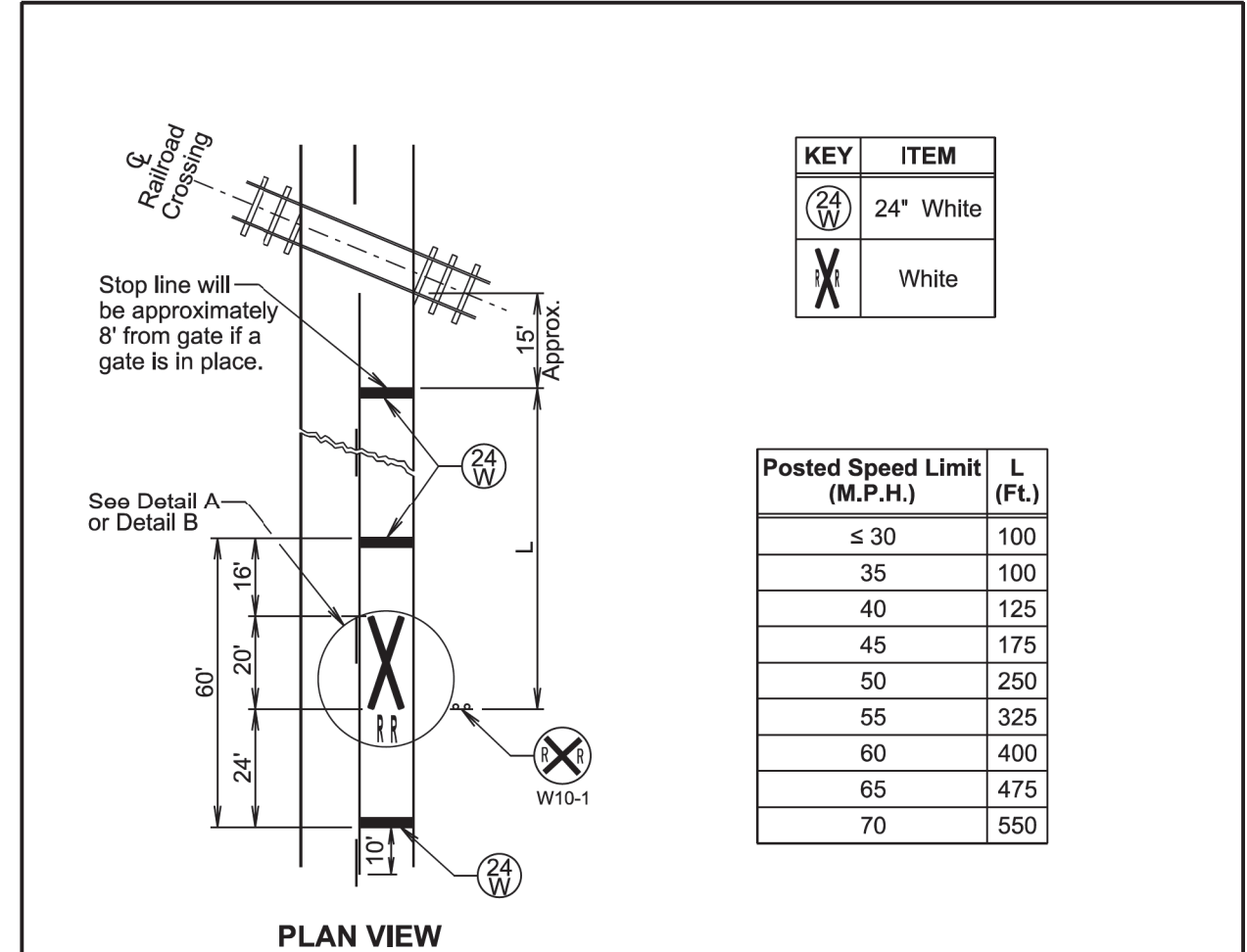
Drawing not to scale

NOTE:
REFERNECE STANDARD PLATE 634.47
FOR COMPLETE US83 NB SET-UP. SIGNS
WILL BE ADJUSTED FOR LEFT LANE
CLOSURE ACCORDINGLY.



November 19, 2022

Published Date: 2025	S D D O T	TYPICAL RAILROAD APPROACH	PLATE NUMBER
			380.65
			Sheet 1 of 1



KEY	ITEM
(24 W)	24" White
(X)	White

Posted Speed Limit (M.P.H.)	L (Ft.)
≤ 30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550

GENERAL NOTES:

The railroad crossing pavement markings will be placed symmetrically about the centerline of the railroad crossing. DETAIL A should be used unless the railroad crossing pavement markings are installed in existing grooves that match DETAIL B.

When pavement markings are used, a portion of the RXR symbol will be placed directly opposite of the advance warning sign W10-1.

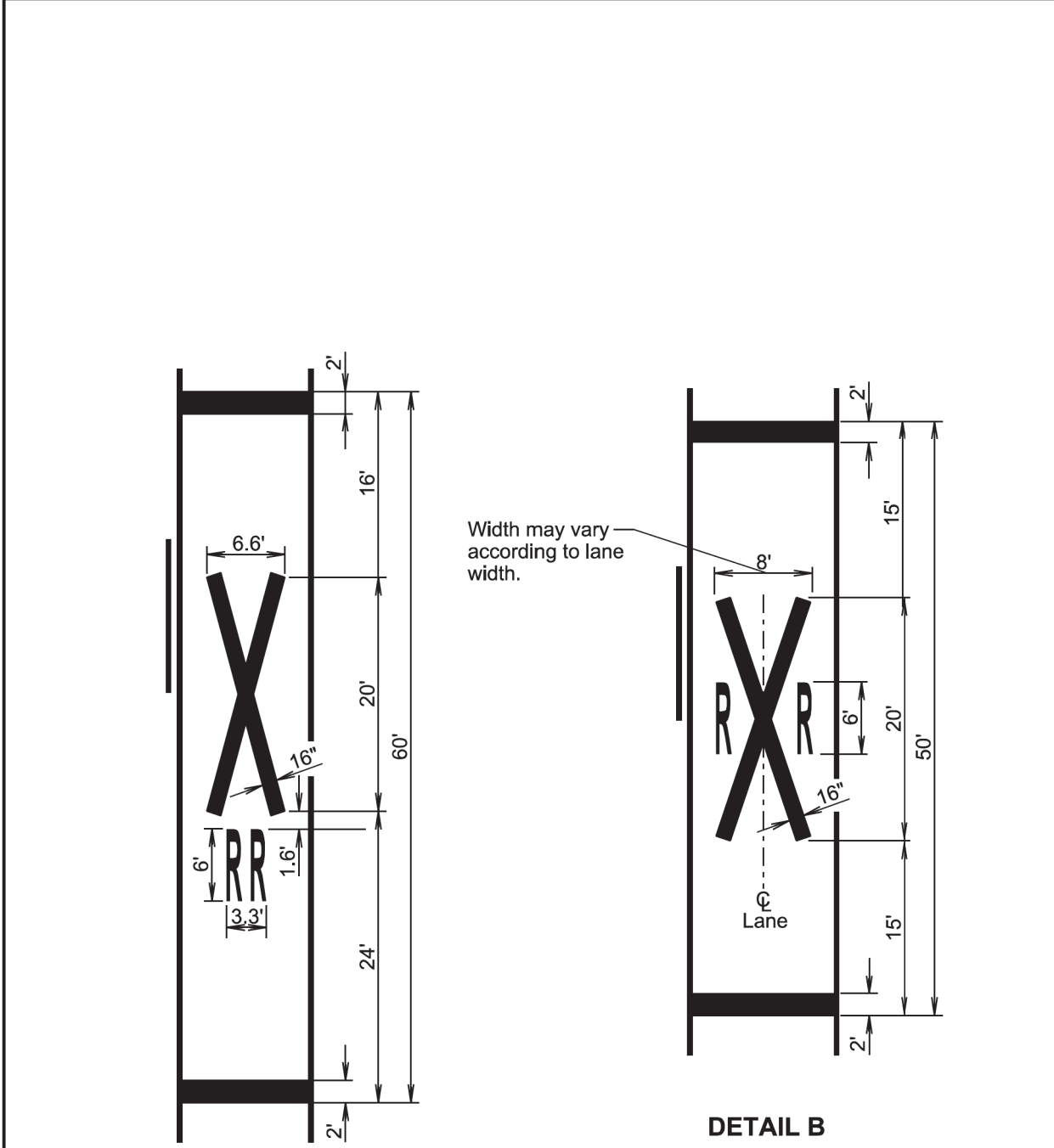
On multi-lane roads the transverse bands will extend across all approach lanes and individual RXR symbols will be placed in each approach lane.

The railroad crossing pavement markings will consist of all the transverse bands, stop lines, and RXR symbols.

All costs for furnishing and installing the markings, materials, labor, and necessary equipment for the railroad crossing markings will be paid for at the contract unit price per gallon or per each for the type of marking material specified in the plans.

November 19, 2020

Published Date: 2025	S D D O T	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER
			633.10
			Sheet 1 of 2

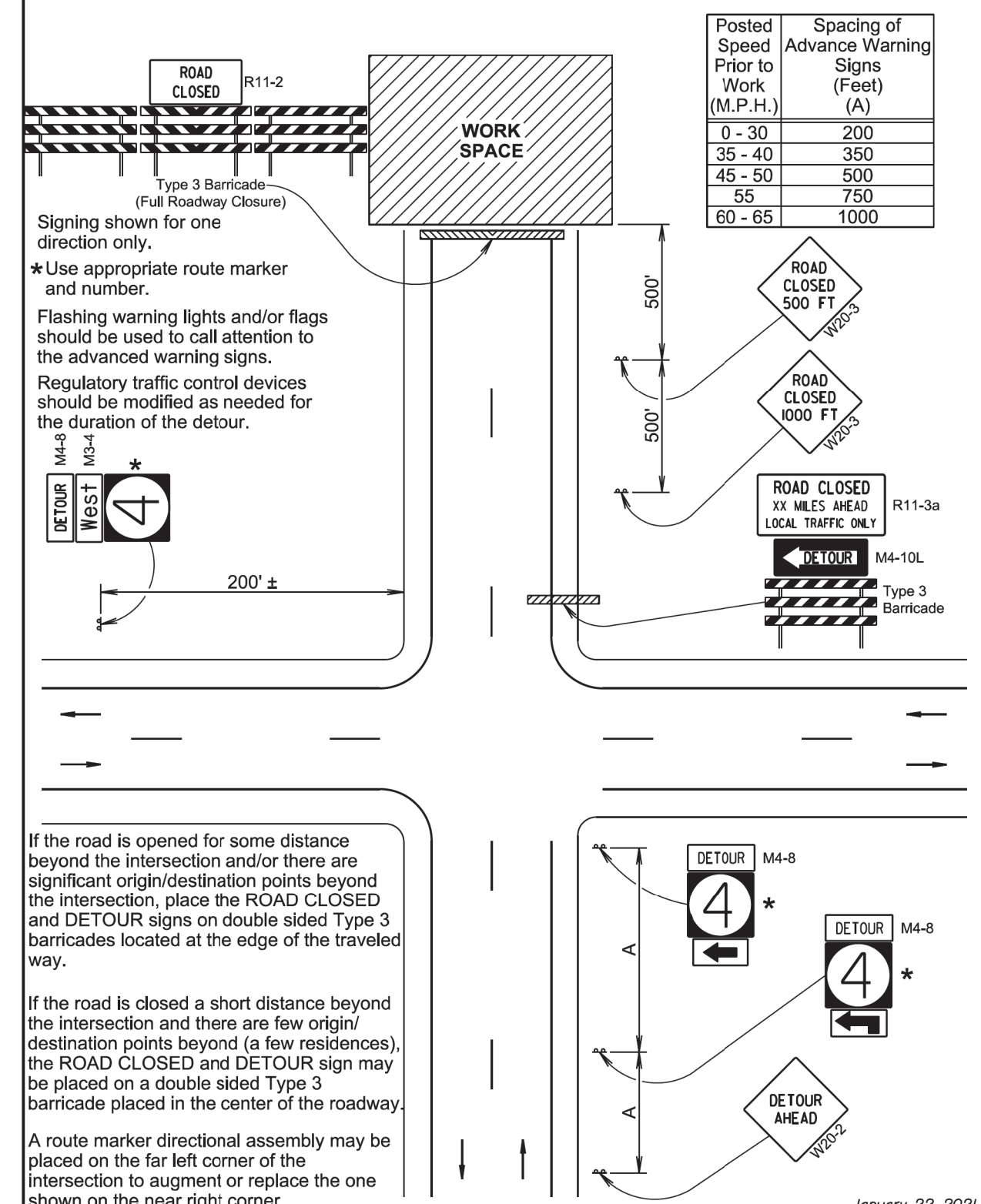


DETAIL A

DETAIL B

November 19, 2020

Published Date: 2025	S D D O T	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 2 of 2



Signage shown for one direction only.
 *Use appropriate route marker and number.
 Flashing warning lights and/or flags should be used to call attention to the advanced warning signs.
 Regulatory traffic control devices should be modified as needed for the duration of the detour.

If the road is opened for some distance beyond the intersection and/or there are significant origin/destination points beyond the intersection, place the ROAD CLOSED and DETOUR signs on double sided Type 3 barricades located at the edge of the traveled way.

If the road is closed a short distance beyond the intersection and there are few origin/destination points beyond (a few residences), the ROAD CLOSED and DETOUR sign may be placed on a double sided Type 3 barricade placed in the center of the roadway.

A route marker directional assembly may be placed on the far left corner of the intersection to augment or replace the one shown on the near right corner.

January 22, 2021

Published Date: 2025	S D D O T	ROAD CLOSED WITH OFF-SITE DETOUR	PLATE NUMBER 634.29
			Sheet 1 of 1

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

* Spacing is 40' for 42" cones.

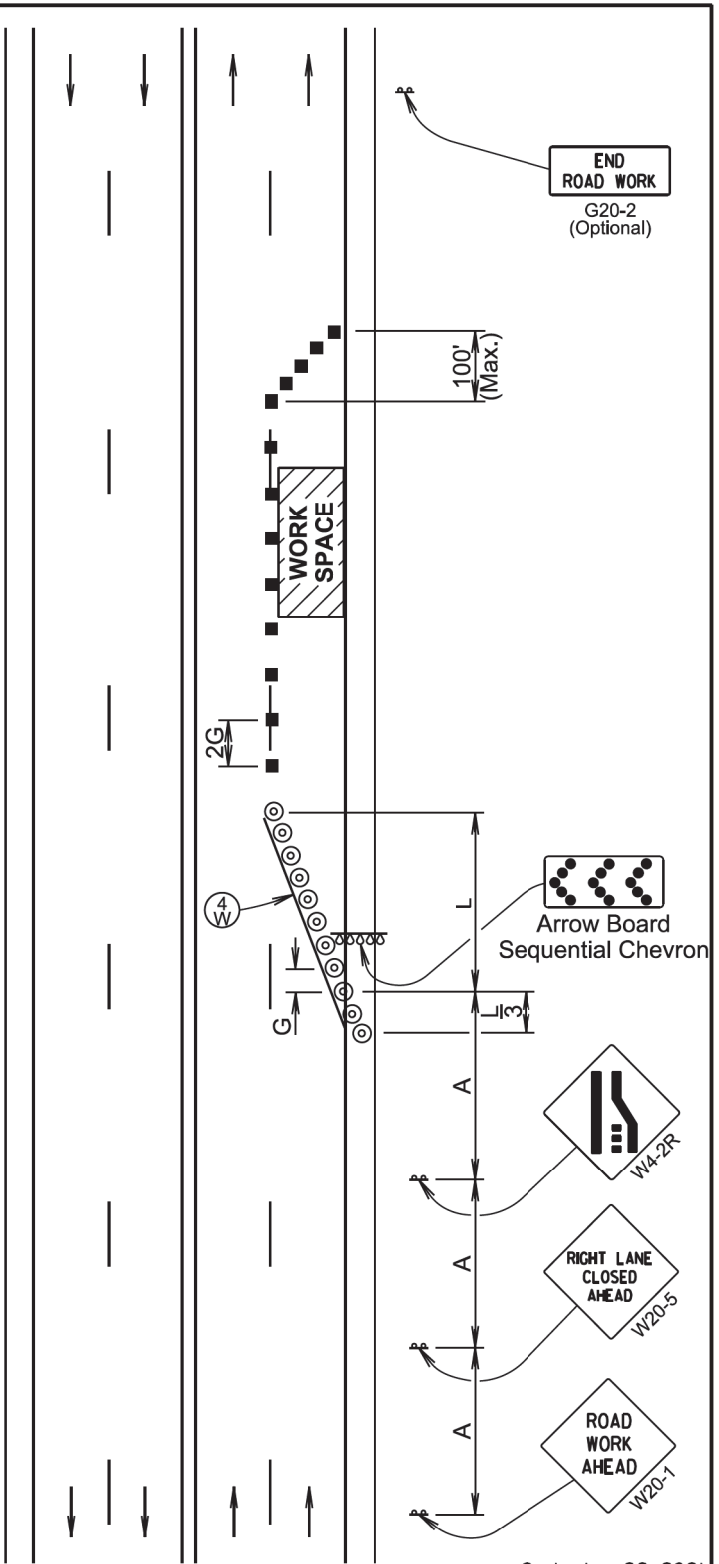
⊙ Reflectorized Drum
 ■ Channelizing Device
 (4/W) 4" White Temporary Pavement Marking

The channelizing devices will 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.

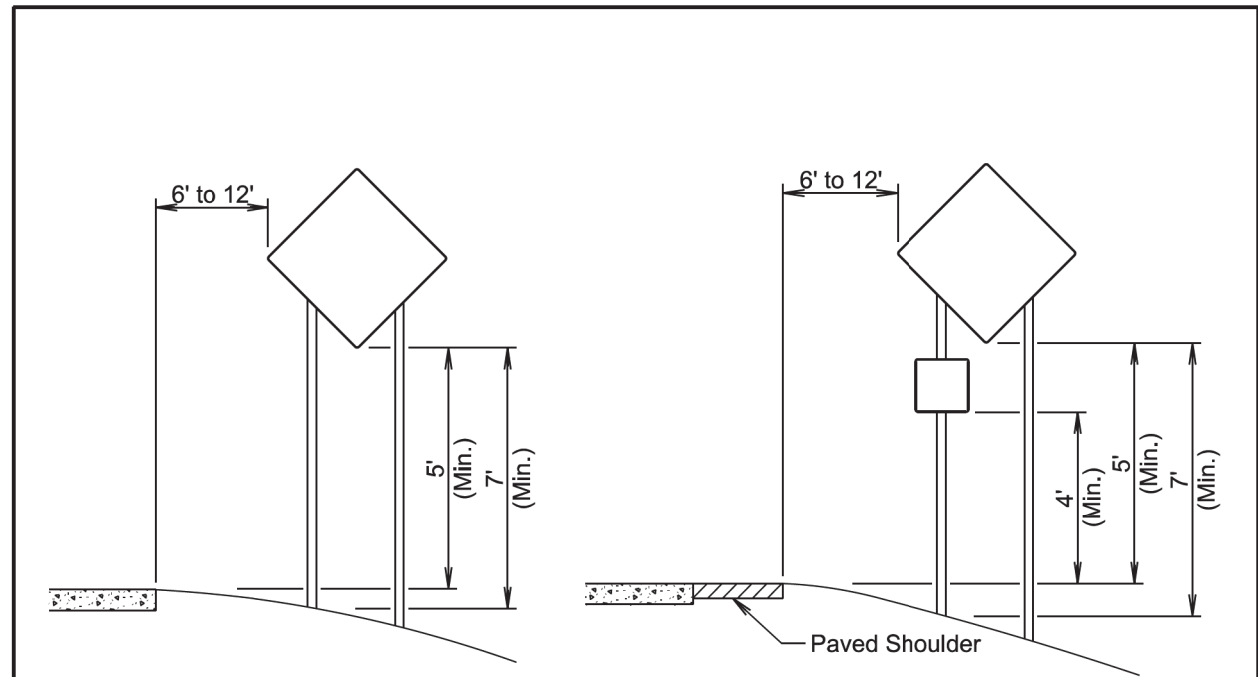
Temporary pavement markings will be used if traffic control must remain overnight.

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



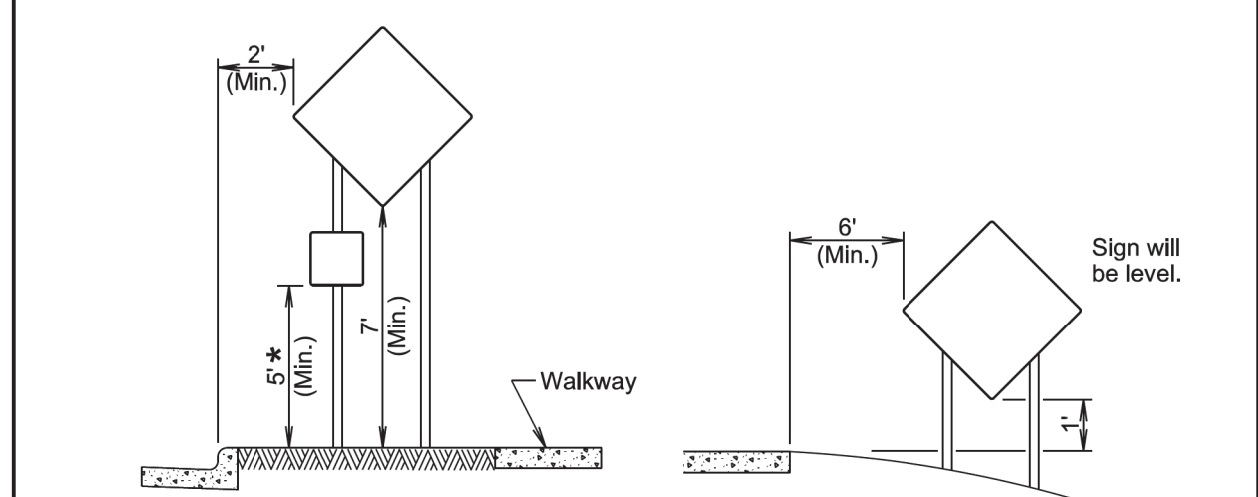
September 22, 2021

Published Date: 2025	S D D O T	4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER
			634.47
			Sheet 1 of 1



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.

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

PLOT SCALE - 1:200.412

PLOT NAME - 1

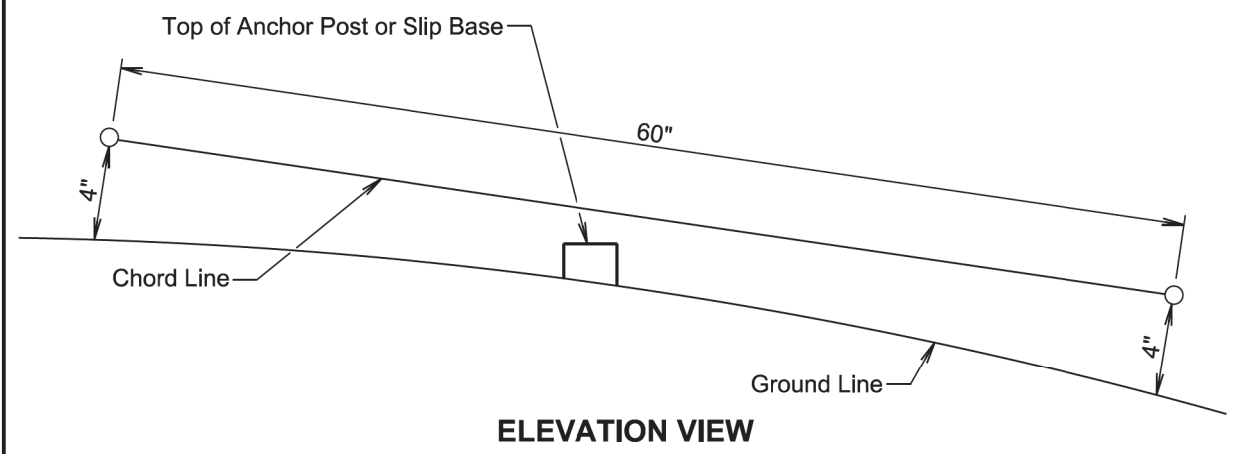
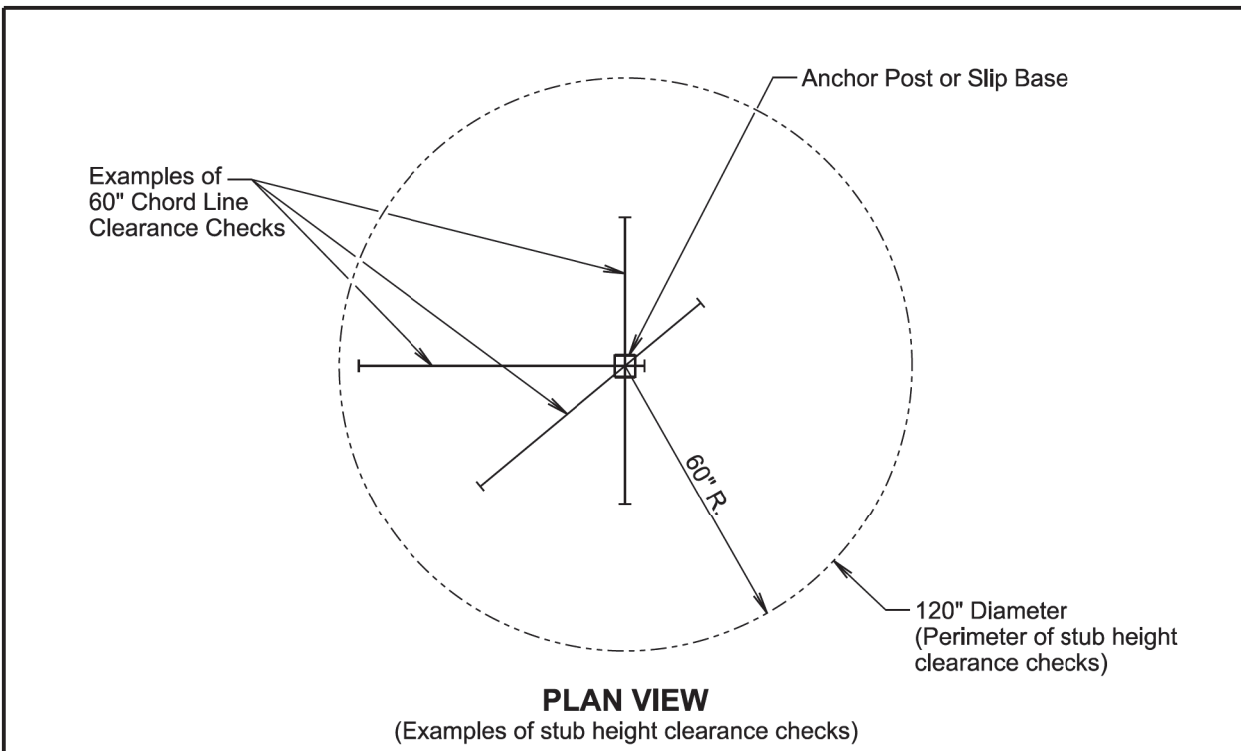
FILE - ... \STAND08H1\STANDARD PLATES.DGN

-PLOTTED FROM - TRPR22411

PLOT SCALE - 1:200.658

PLOT NAME - 1

FILE - ... \STANDARD\STANDARD PLATES.DGN



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>