

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0041(183)	Non	1/10

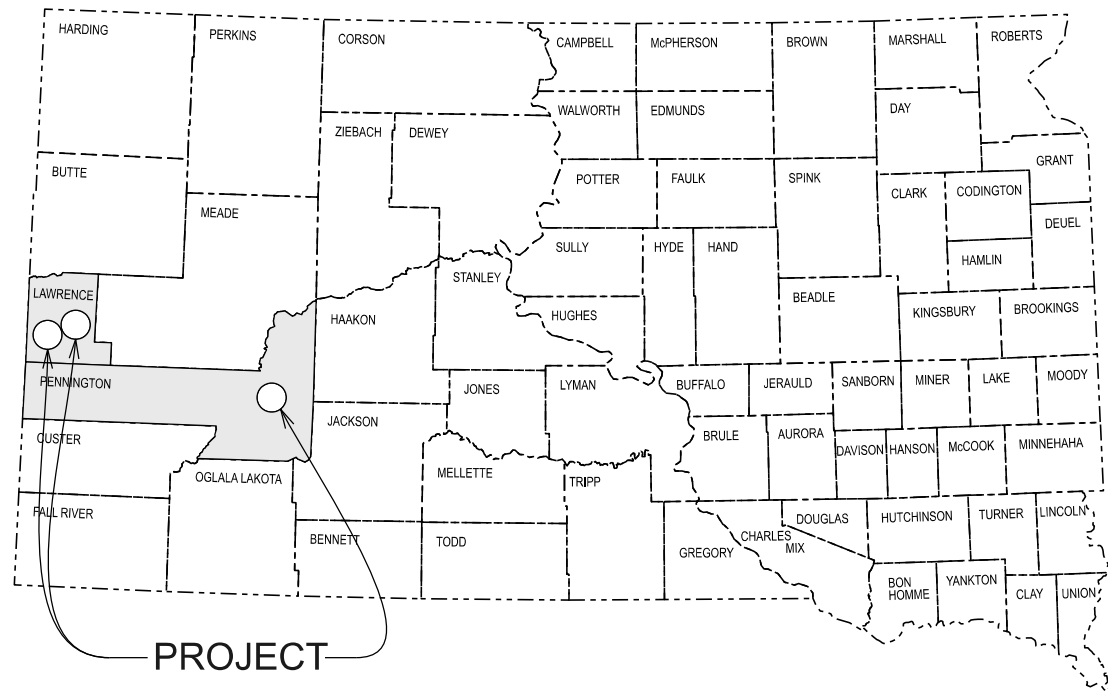
Plotting Date: 12/18/2024

PROJECT NH-P 0041(183)
US HIGHWAY 14A
SD HIGHWAY 44
LAWRENCE AND PENNINGTON
COUNTIES

ASPHALT CONCRETE CRACK SEALING
PCN 09KQ

INDEX OF SHEETS

- 1 General Layout with Index
- 2-4 Estimate of Quantities and Plan Notes
- 5 Crack Sealing Details
- 6 Traffic Control for 3 Lane Detail
- 7-10 Standard Plates



① US14A, MRM 29.15+ 0.000 to MRM 36.51+ 0.282

DESIGN DESIGNATION

ADT (2023)	1714
ADT (2043)	2483
DHV	118
D	51%
T DHV	2.2%
T ADT	4.9%
V	35 MPH

② US14A, MRM 37.14+ 0.142 to MRM 40.60+ 0.053

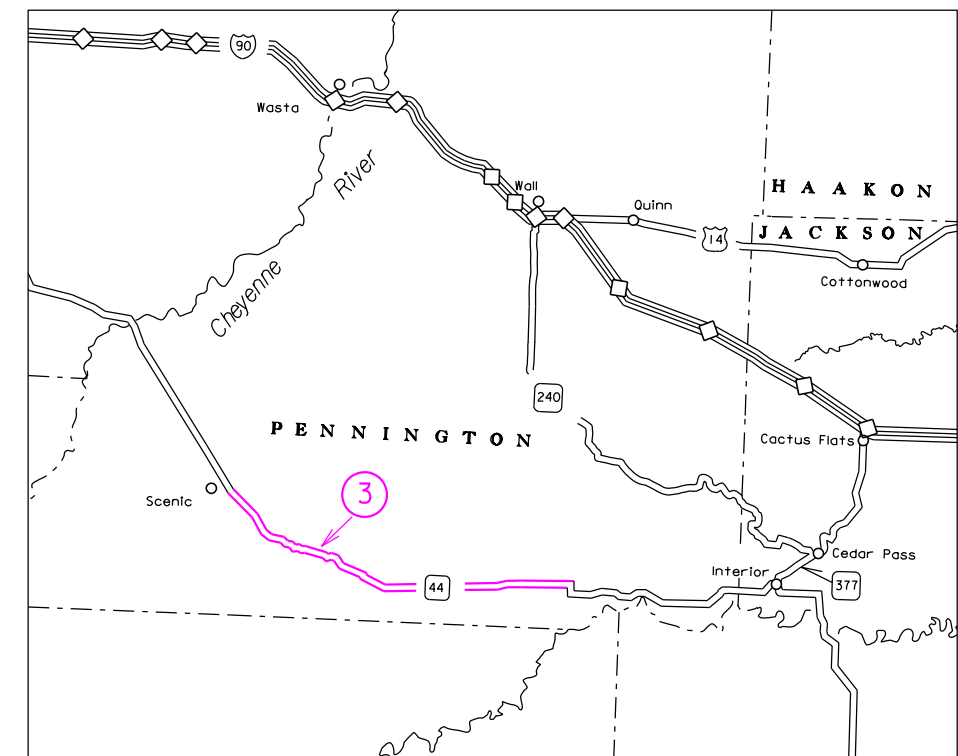
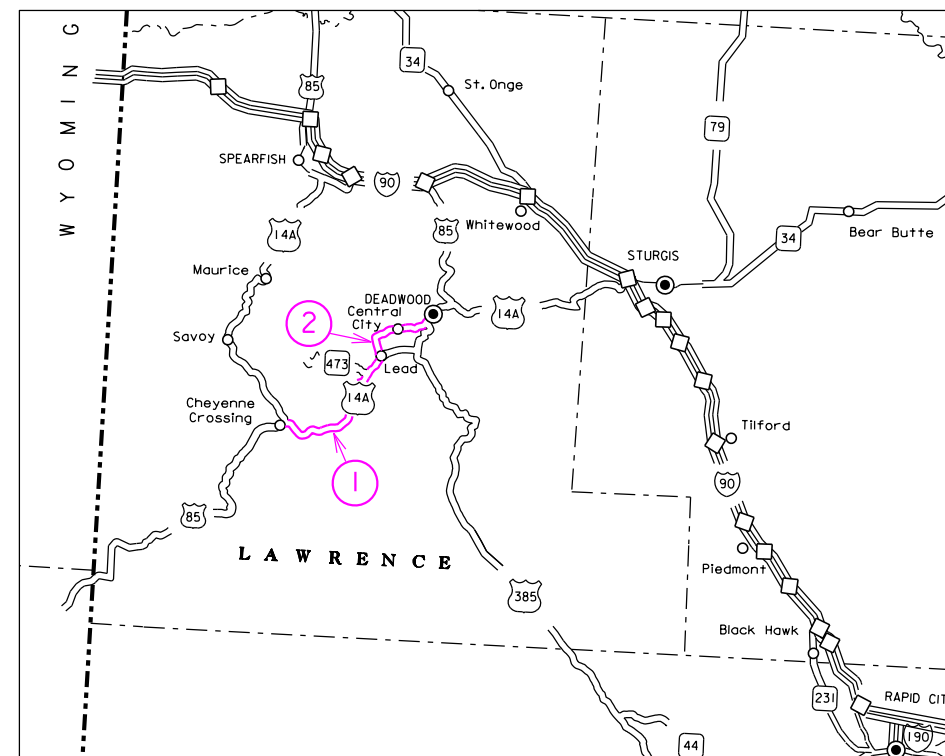
DESIGN DESIGNATION

ADT (2023)	7658
ADT (2043)	11097
DHV	1818
D	51%
T DHV	4.5%
T ADT	9.8%
V	30 MPH

③ SD44, MRM 88.04+ 0.038 to MRM 107.53+ 0.000

DESIGN DESIGNATION

ADT (2023)	500
ADT (2043)	788
DHV	93
D	50%
T DHV	3.3%
T ADT	7.3%
V	60 MPH



STORM WATER PERMIT
No Permit Required

Gross Length	30.225 Miles
Length of Exceptions	0.000 Miles
Net Length	30.225 Miles

6

March 19, 2025

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
350E0010	Asphalt Concrete Crack Sealing	15,577	Lb
634E0010	Flagging	400.0	Hour
634E0020	Pilot Car	200.0	Hour
634E0110	Traffic Control Signs	799.6	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	4	Each
634E0420	Type C Advance Warning Arrow Board	4	Each

SPECIFICATIONS

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

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.

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 B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

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 pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will 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) will 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 Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

- Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".
- 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) will be incidental to the various contract items.

SD DOT	PROJECT	SECTION	SHEET
	NH-P 0041(183)	Non	2/10

Revised Date: 12/20/24 jpr

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 a cultural resource review prior to scheduling the pre-construction meeting. 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 will arrange and pay for a record search and when necessary, a cultural resource survey. 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 if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. 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.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible 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 will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

ROADWAY CLEANING

The Contractor will be responsible for removing the router tailings from the roadway surface, including shoulders, intersecting roads, median crossovers, sidewalks, etc. as directed by the Engineer.

A Pickup Broom will be required to remove the router tailings from the project as per Sec. 360.3.B.1. All costs associated with this work will be incidental to the various bid items on the project.

CRACK SEALING

All quantities are based on a factor of 0.4 lbs. of sealant per 1 foot of existing crack. Actual quantities used may vary depending upon the location and width of the existing crack. Rates may vary as directed by the Engineer.

The Typical Reservoir Section will be 3/4 inch wide x 3/4 inch deep.

The use of a squeegee will not be allowed on this project except for locations where the sealant begins to run out of the routed crack due to the grade or superelevation of the road and at locations where cracks are less than 6" apart. The squeegee will be used to push the sealant material back into the crack and remove as much sealant as possible from the roadway surface at these locations.

At locations with multiple cracks less than 6" apart, route only the widest crack. Routing will not be required to seal the remaining cracks. Trace these remaining cracks with sealant and use a squeegee to level and fill.

TABLE OF CRACK SEAL QUANTITIES

Highway	MRM to		MRM		Length (Miles)	Asphalt Concrete Crack Sealing (Lb)
US14A	29.15+	0.000	36.51+	0.282	7.459	1,444
US14A	37.14+	0.142	40.60+	0.053	3.325	3,120
SD44	88.04+	0.038	107.53+	0.000	19.441	11,013
			Total		30.225	15,577

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the 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.

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 temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

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.

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.

Lane closures will be removed prior to nightfall.

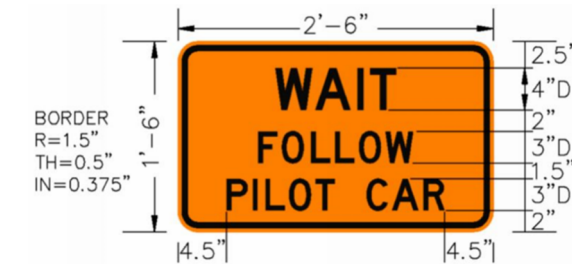
TRAFFIC CONTROL SIGNS

Traffic control signs have been included in a table for each route. Payment will only be for those signs used on each route.

FLAGGING

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

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".

INVENTORY OF TRAFFIC CONTROL DEVICES US14A, MRM 29.15 to MRM 36.51+ 0.282

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	1	30"	5.2	5.2
R3-2	LEFT TURN PROHIBITION (symbol)	1	24" x 24"	4.0	4.0
W1-4	REVERSE CURVE (L or R)	2	48" x 48"	16.0	32.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W9-3	CENTER LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					325.6

INVENTORY OF TRAFFIC CONTROL DEVICES SD44, MRM 88.04+ 0.038 to MRM 107.53

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
SPECIAL	WAIT FOLLOW PILOT CAR	3	30" x 18"	3.8	11.4
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					148.4

SUMMARY OF TRAFFIC CONTROL SIGNS

Highway	MRM to		MRM		Traffic Control Signs	Type 3 Barricade	Type C Advance Warning Arrow Board
					SqFt	Each	Each
US14A	29.15+	0.000	36.51+	0.282	325.6	2	2
US14A	37.14+	0.142	40.60+	0.053	325.6	2	2
SD44	88.04+	0.038	107.53+	0.000	148.4		
			Total		799.6	4	4

INVENTORY OF TRAFFIC CONTROL DEVICES US14A, MRM 37.14+ 0.142 to MRM 40.60+ 0.053

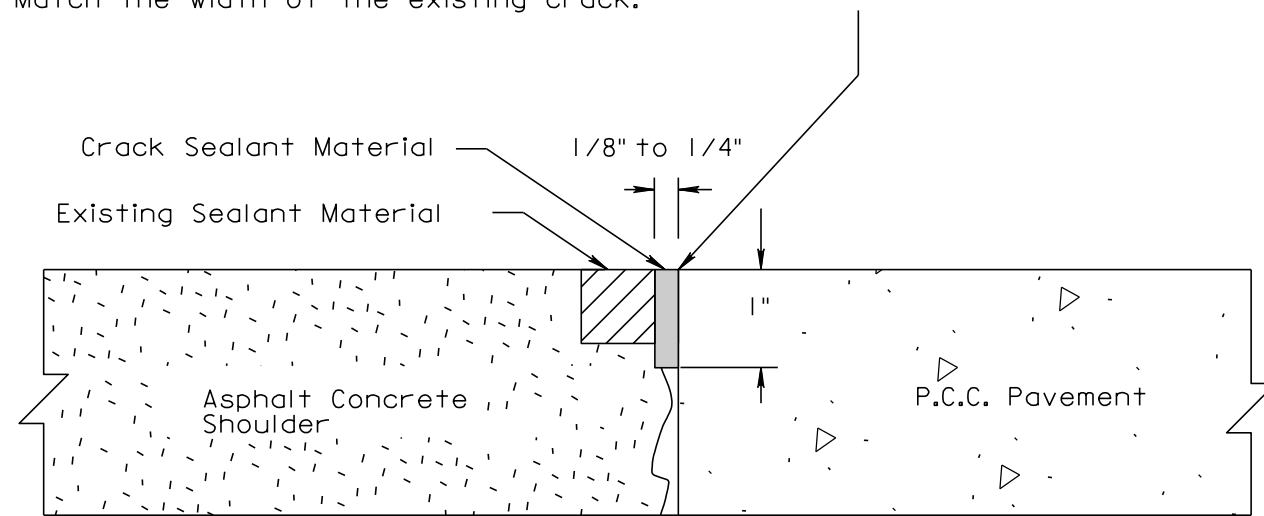
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	1	30"	5.2	5.2
R3-2	LEFT TURN PROHIBITION (symbol)	1	24" x 24"	4.0	4.0
W1-4	REVERSE CURVE (L or R)	2	48" x 48"	16.0	32.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W9-3	CENTER LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
SPECIAL	WAIT FOLLOW PILOT CAR	6	30" x 18"	3.8	22.8
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					325.6

**CRACK SEALING SHOULDER JOINT
ADJACENT TO PCC PAVEMENT**

If spalling of the PCC Pavement occurs or the existing sealant is damaged during routing, the Contractor will switch to sawing.

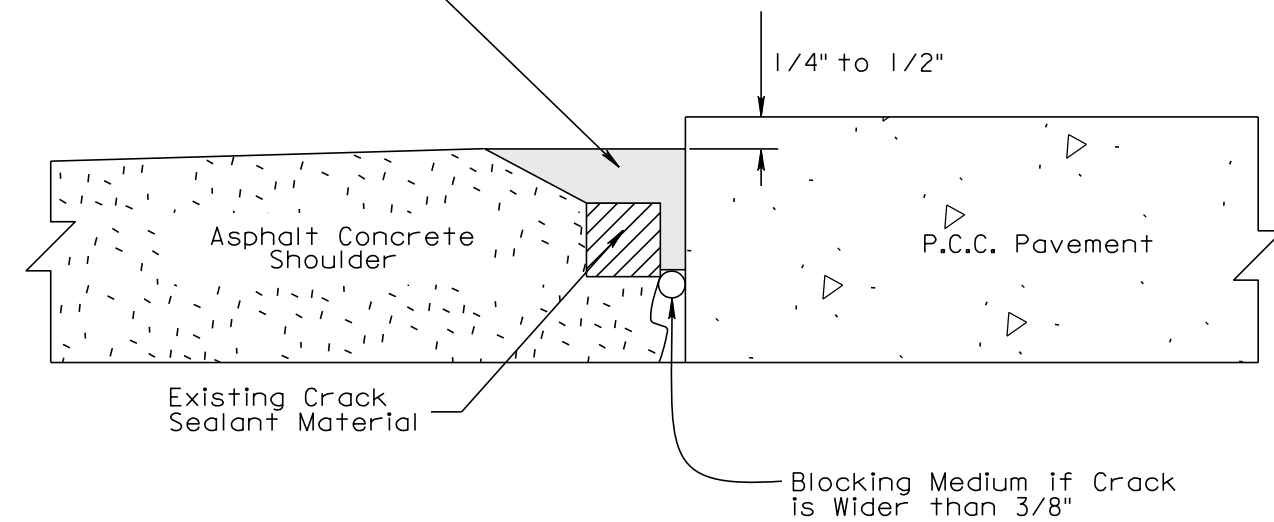
If the existing sealant is easily removed during routing, remove and replace the existing sealant.

If the crack is greater than 1/4", routing will not be required. Match the width of the existing crack.

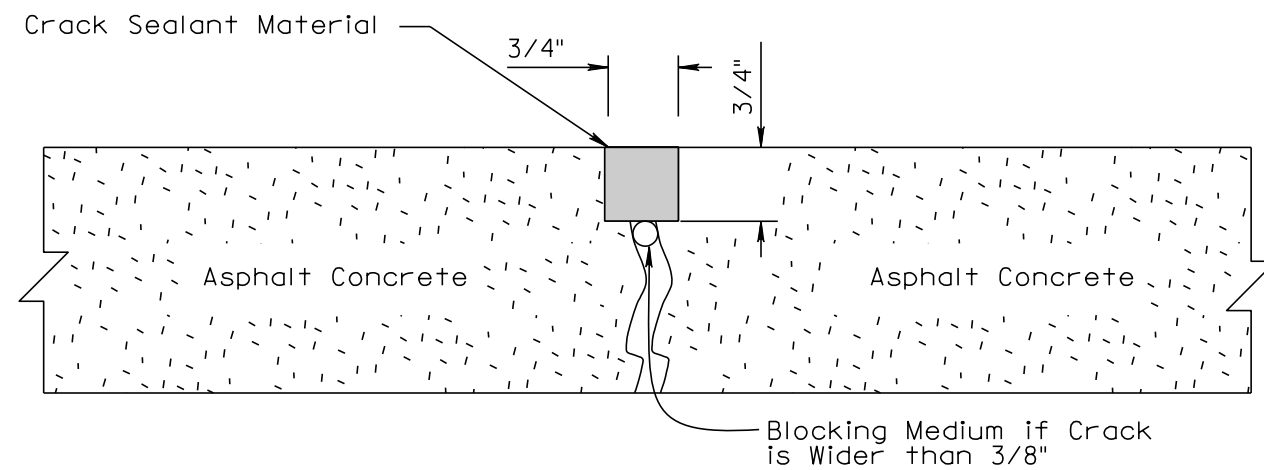


**CRACK SEALING SHOULDER JOINT
ADJACENT TO PCC PAVEMENT
with SETTLEMENT**

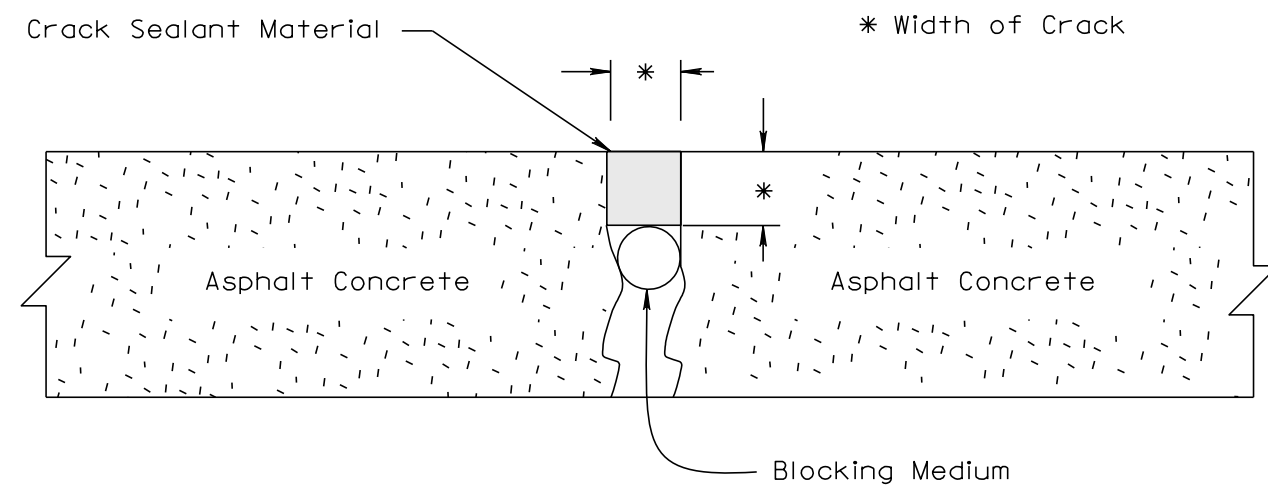
Remove Vegetation, Clean and Seal Crack.
Routing will not be required.



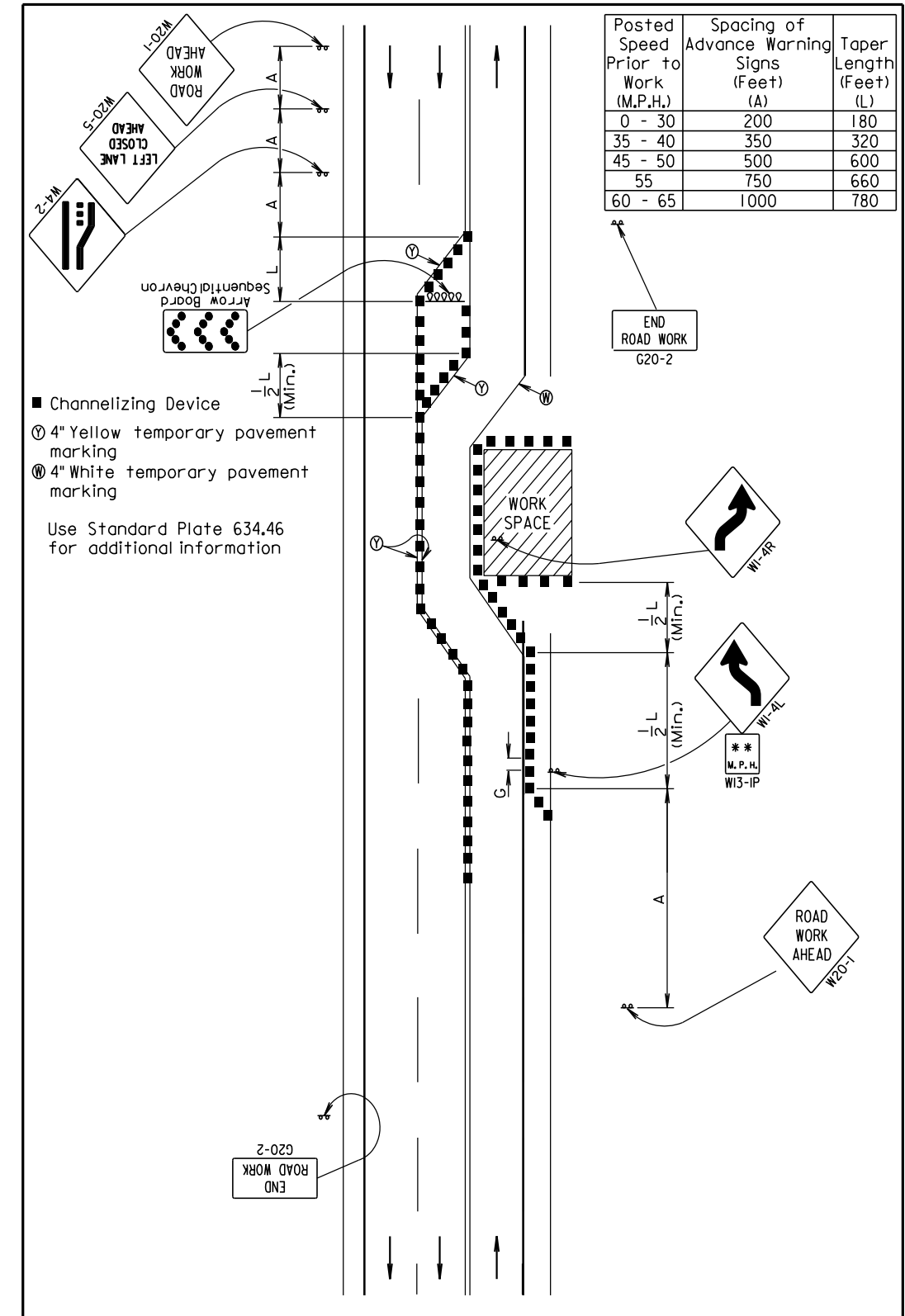
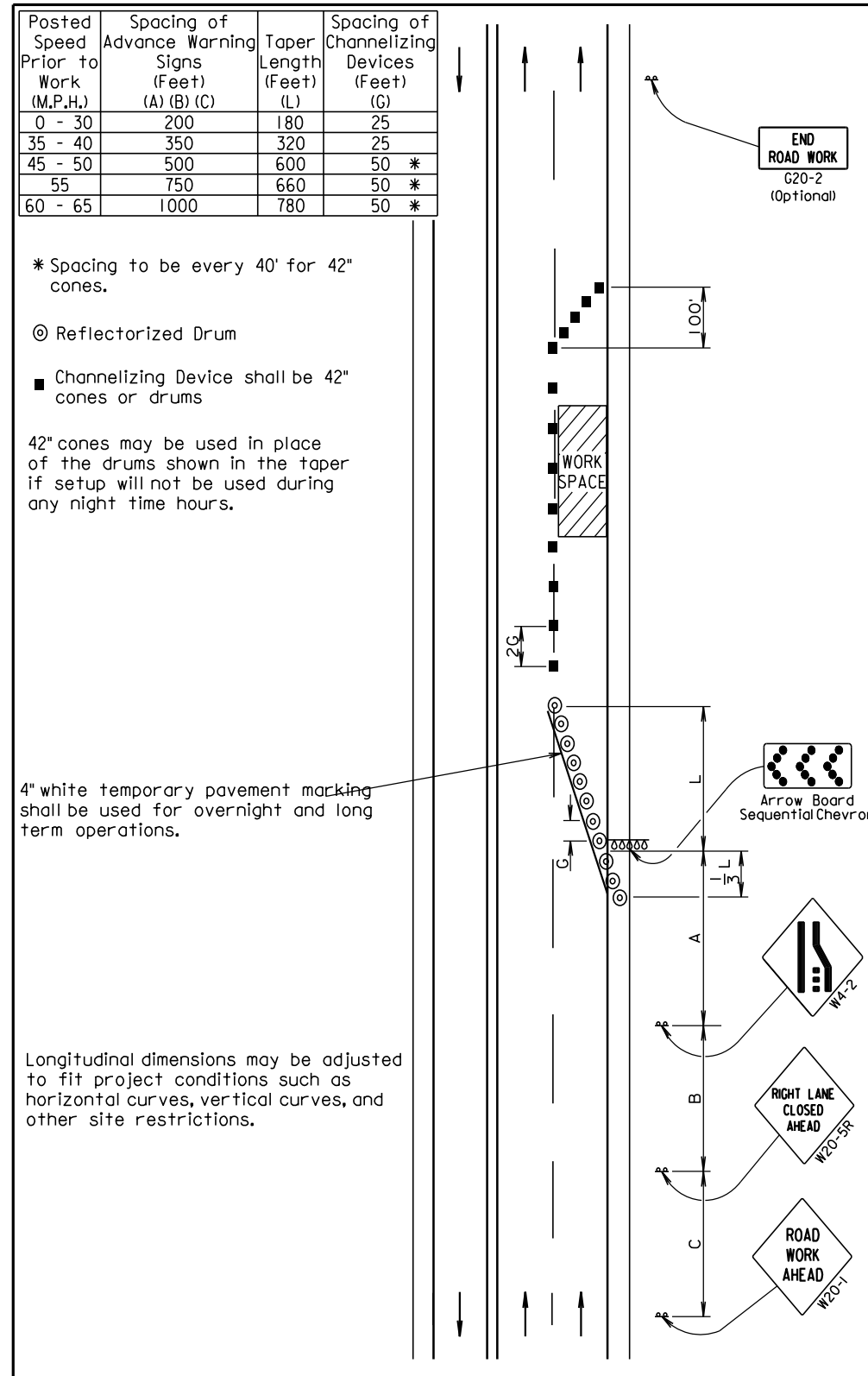
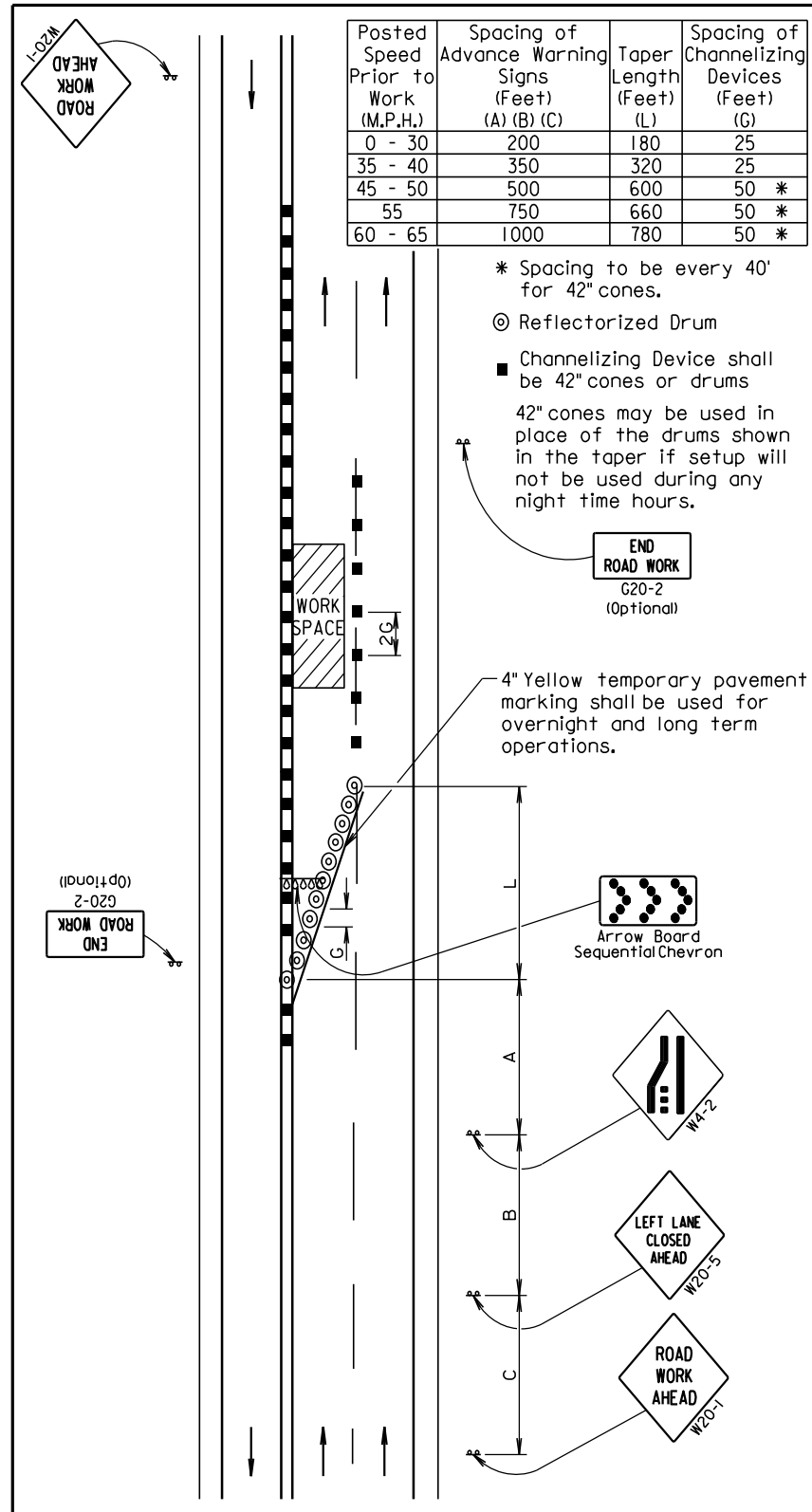
**CRACK SEALING FOR CRACKS LESS
THAN 3/4\"**



CRACK SEALING FOR CRACKS 3/4\"



TRAFFIC CONTROL DEVICES FOR LANE CLOSURE ON CLIMBING LANE SECTION OF HIGHWAY



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.

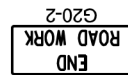
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

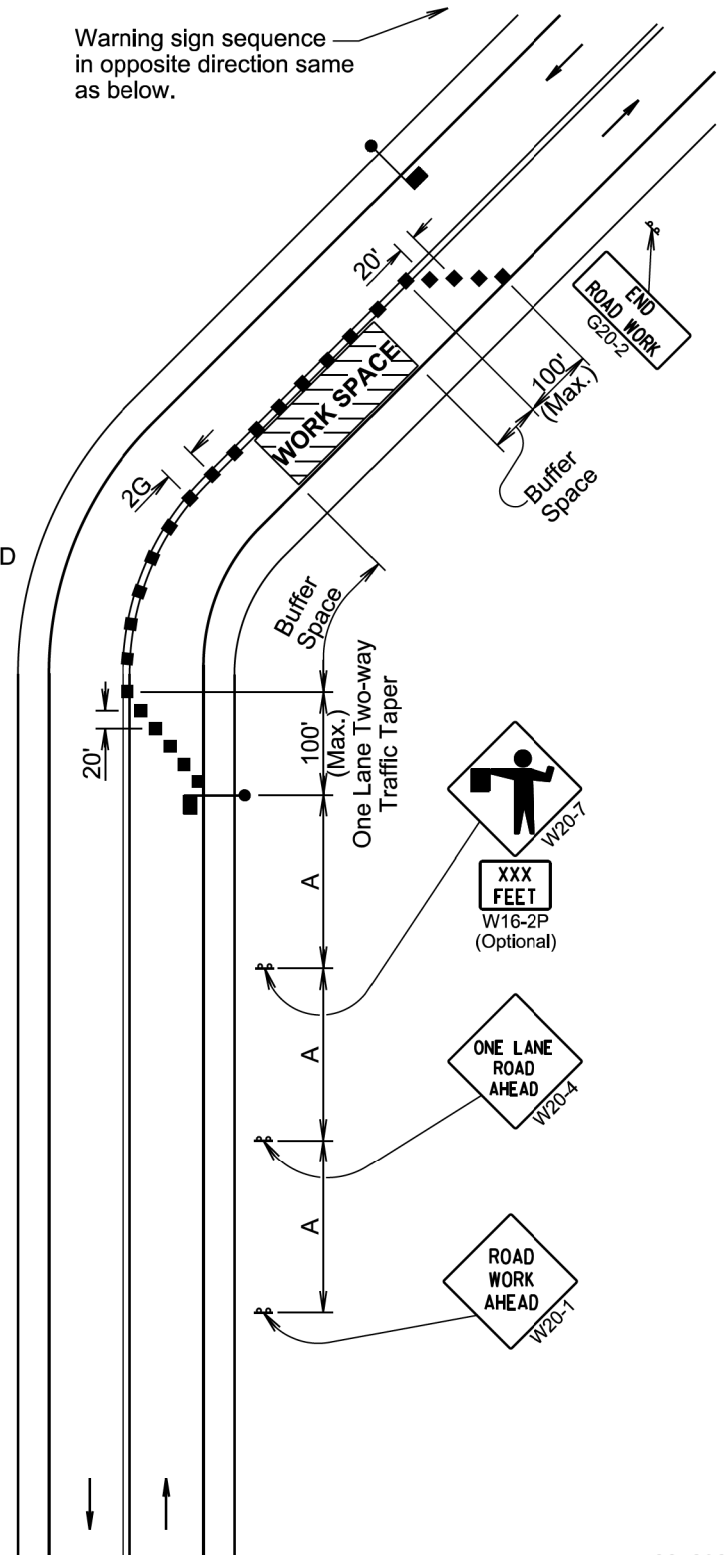


Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

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.

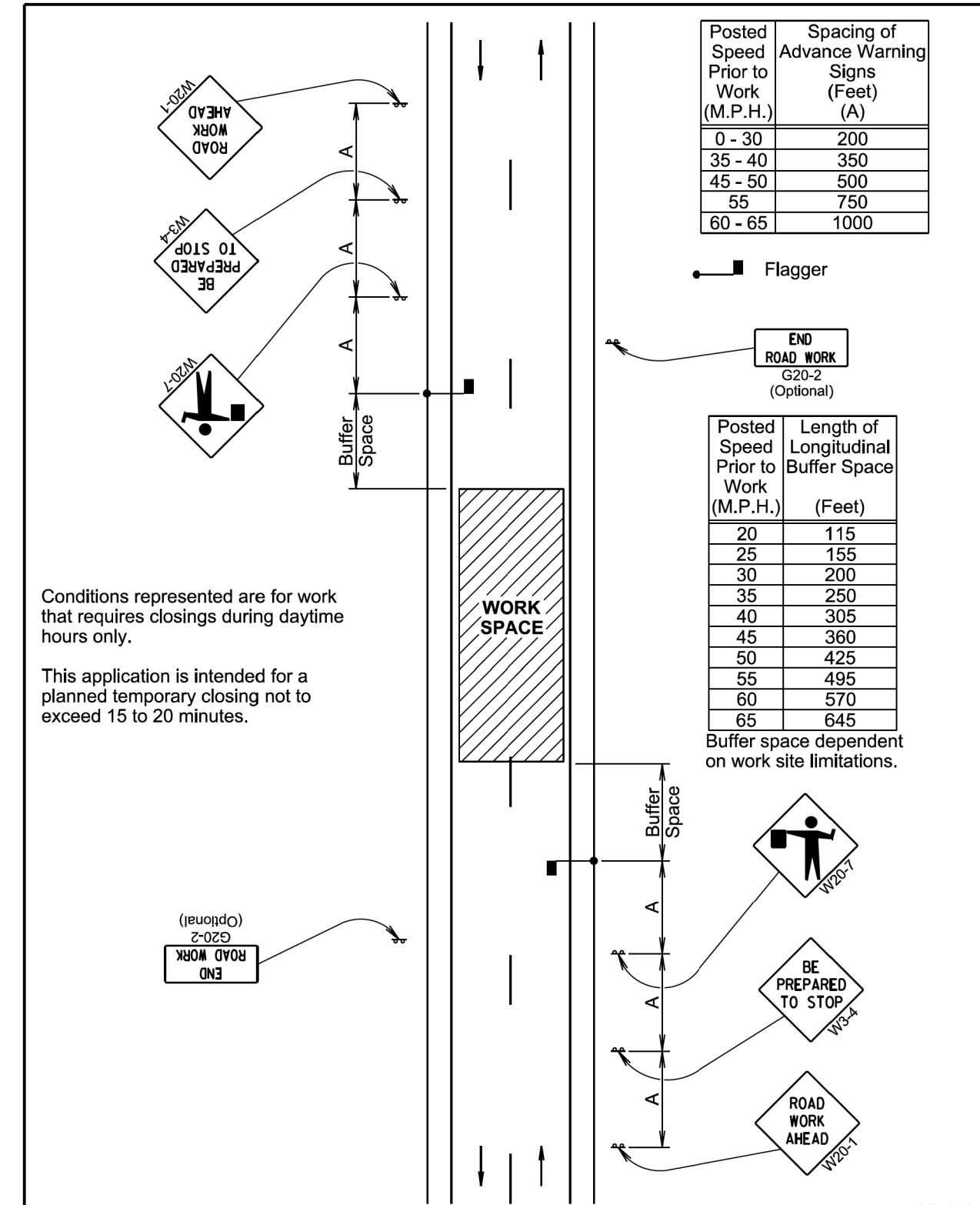
The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.



January 22, 2021

SD DOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	Published Date: 2025	Sheet 1 of 1

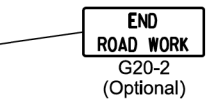


Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15 to 20 minutes.

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 - 65	1000

- Flagger

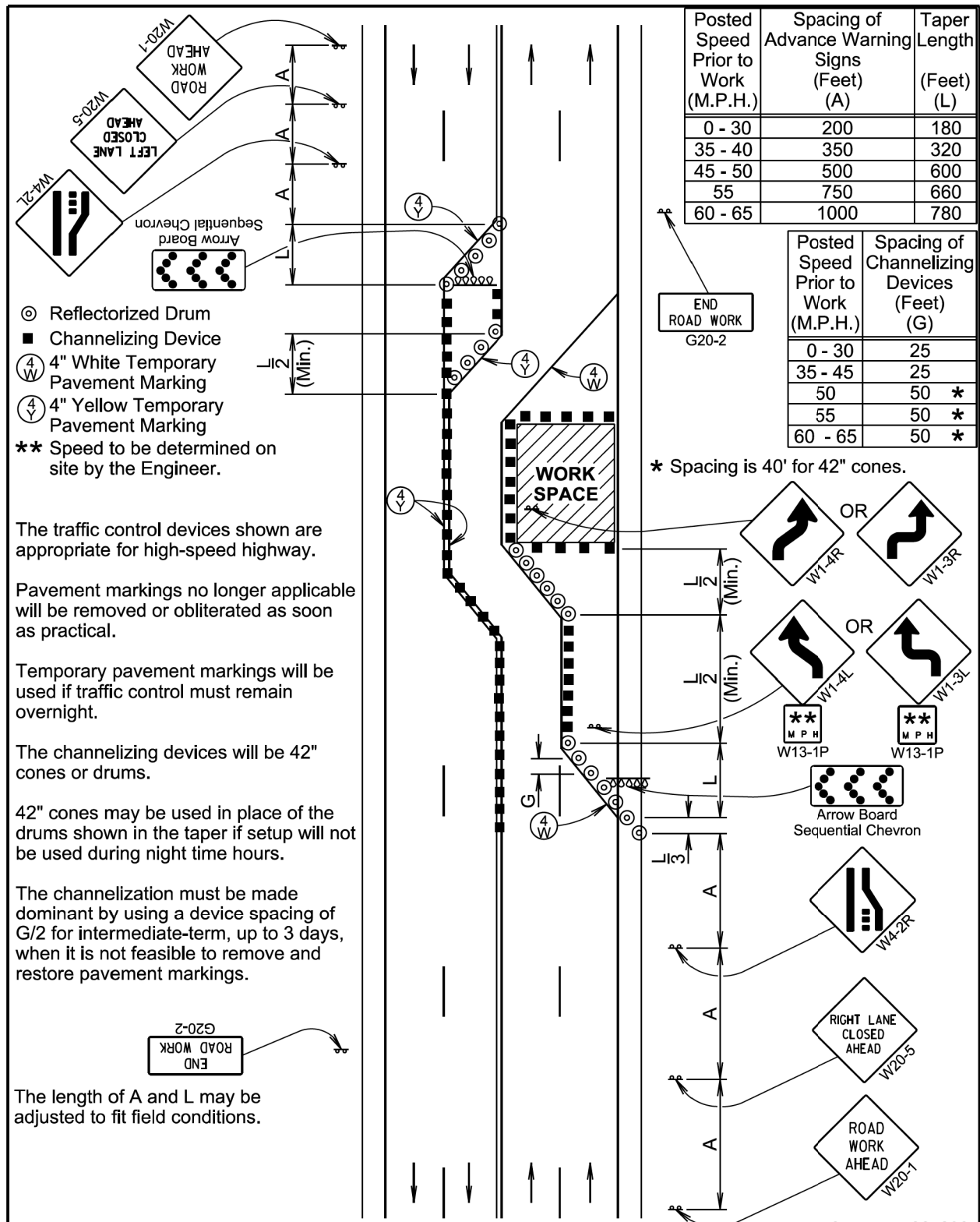


Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

Buffer space dependent on work site limitations.

January 22, 2021

SD DOT	TEMPORARY ROAD WORK	PLATE NUMBER 634.30
	Published Date: 2025	Sheet 1 of 1



The traffic control devices shown are appropriate for high-speed highway.

Pavement markings no longer applicable will be removed or obliterated as soon as practical.

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

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.

The channelization must be made dominant by using a device spacing of G/2 for intermediate-term, up to 3 days, when it is not feasible to remove and restore pavement markings.

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

Published Date: 2025

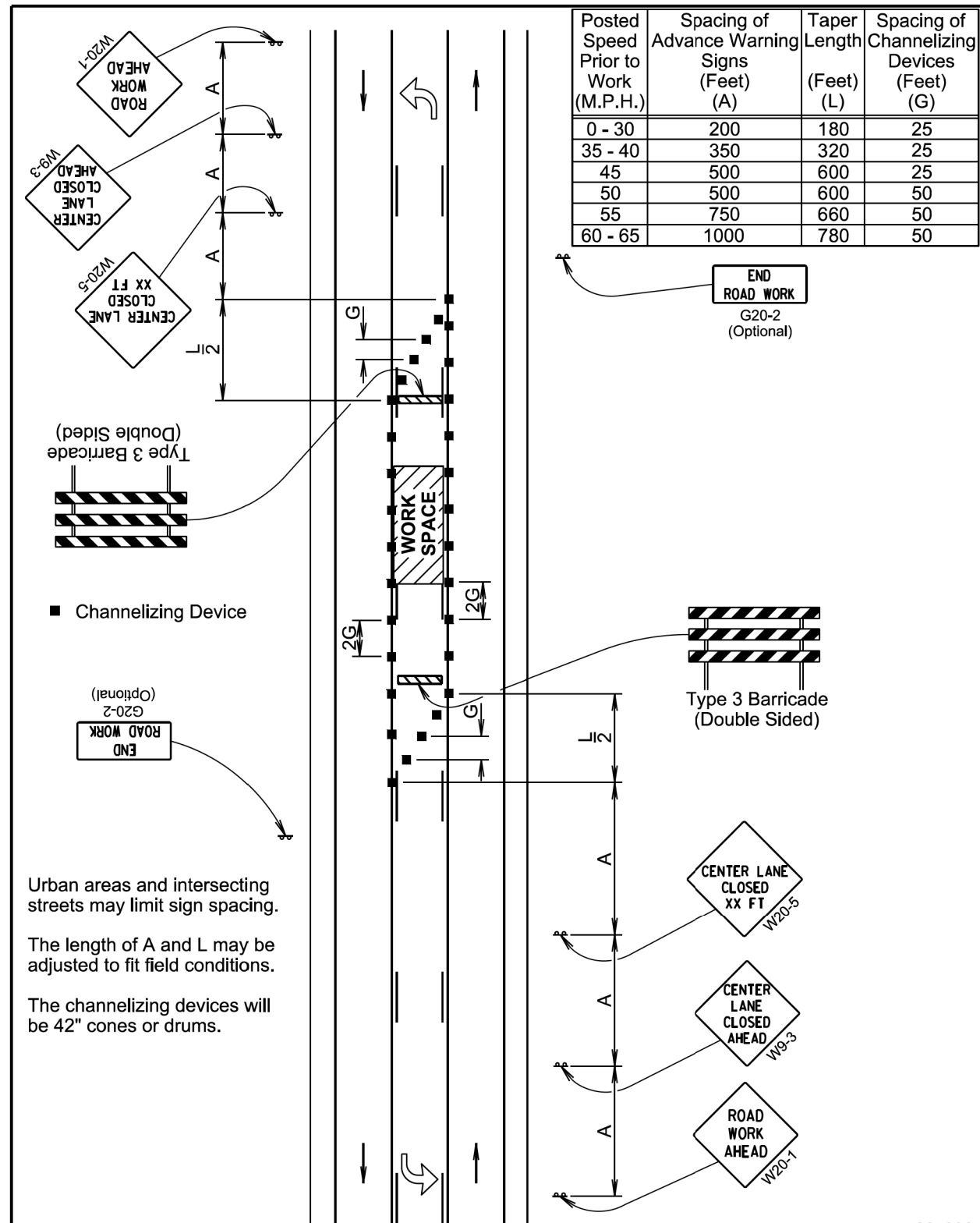
SDOT

HALF ROAD CLOSURE ON MULTILANE HIGHWAY

PLATE NUMBER 634.46

Sheet 1 of 1

September 22, 2021



Urban areas and intersecting streets may limit sign spacing.

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

The channelizing devices will be 42" cones or drums.

Published Date: 2025

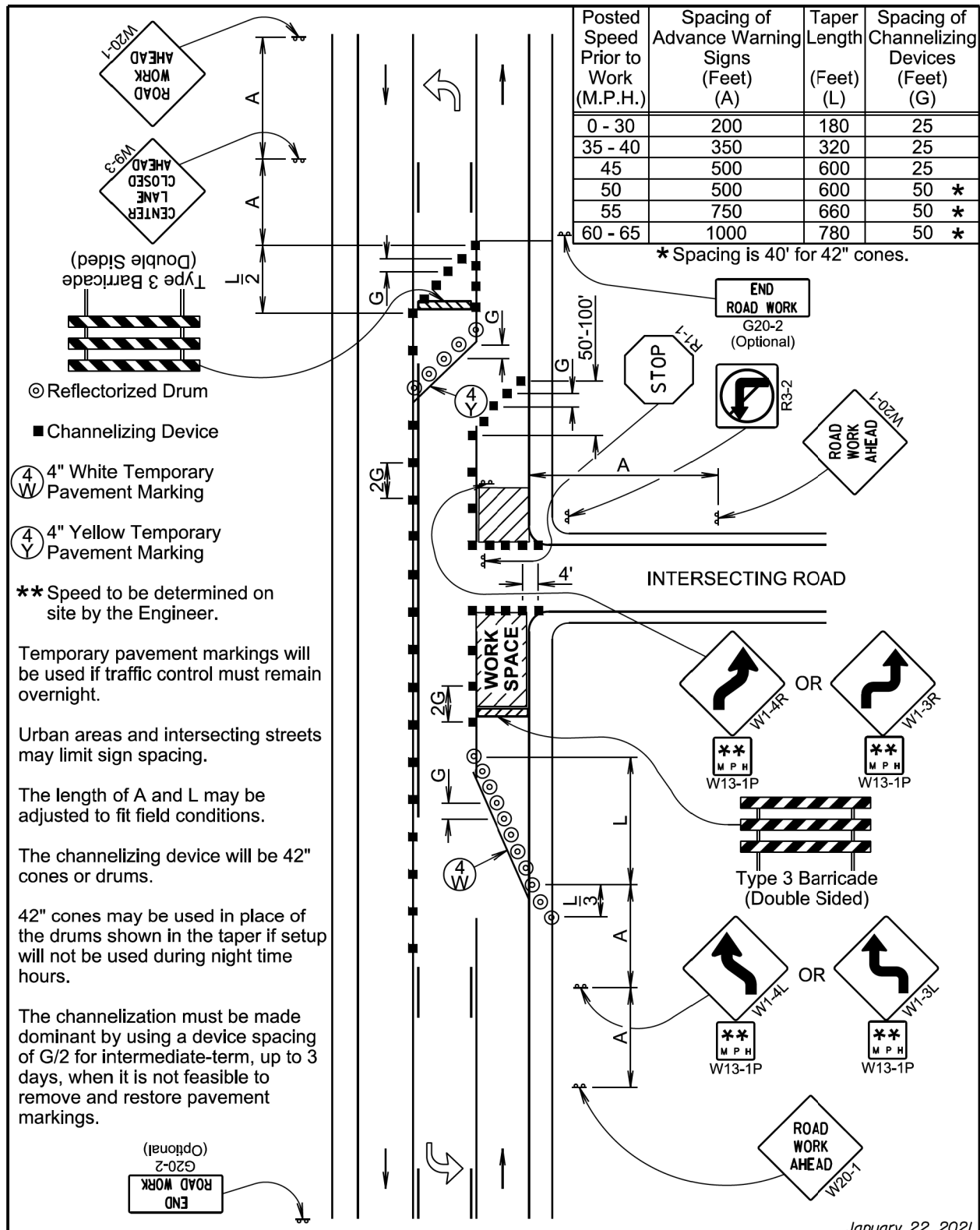
SDOT

3-LANE, CENTER LANE CLOSED

PLATE NUMBER 634.52

Sheet 1 of 1

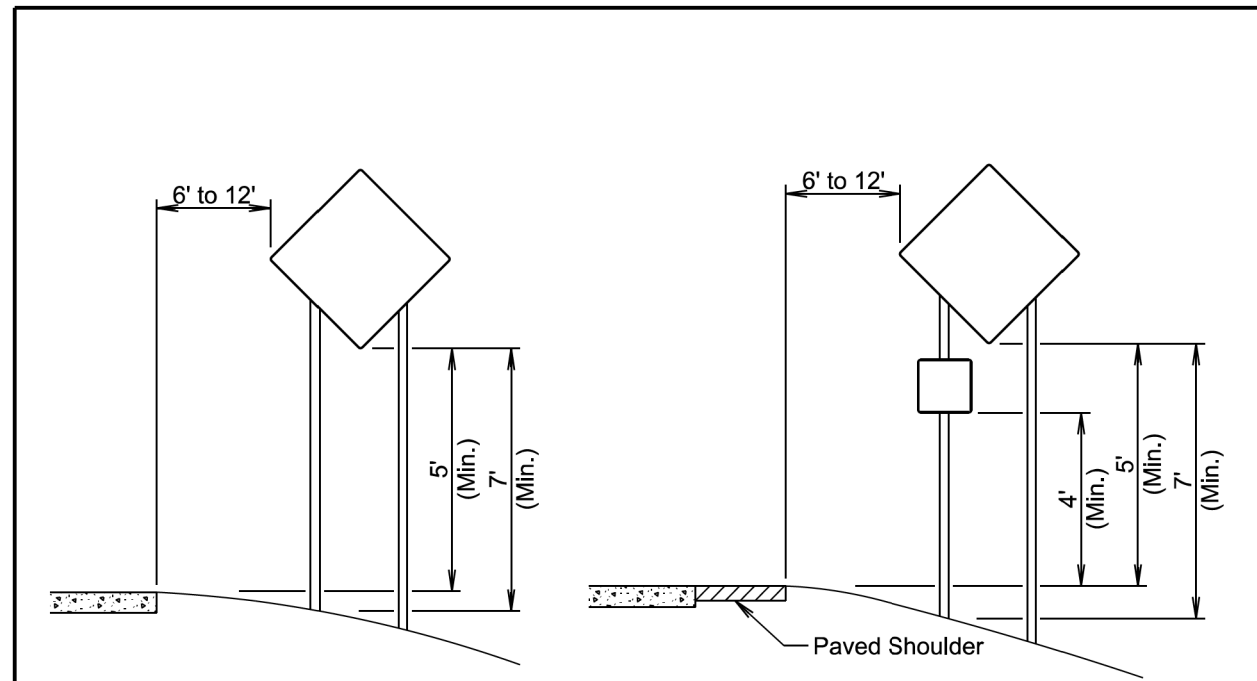
January 22, 2021



January 22, 2021

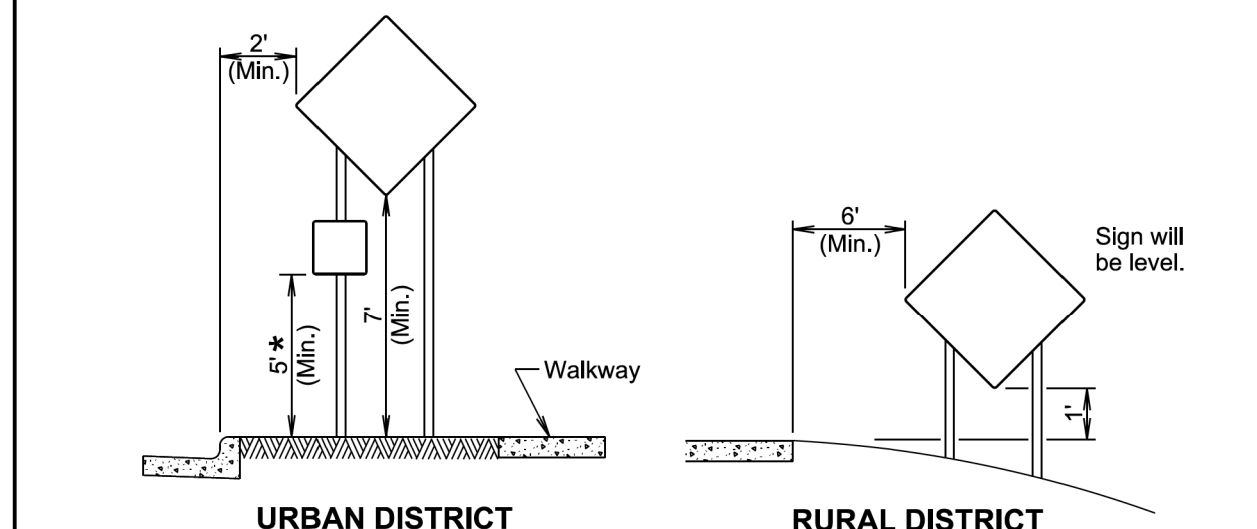
SD DOT	3-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.53
		Sheet 1 of 1

Published Date: 2025



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

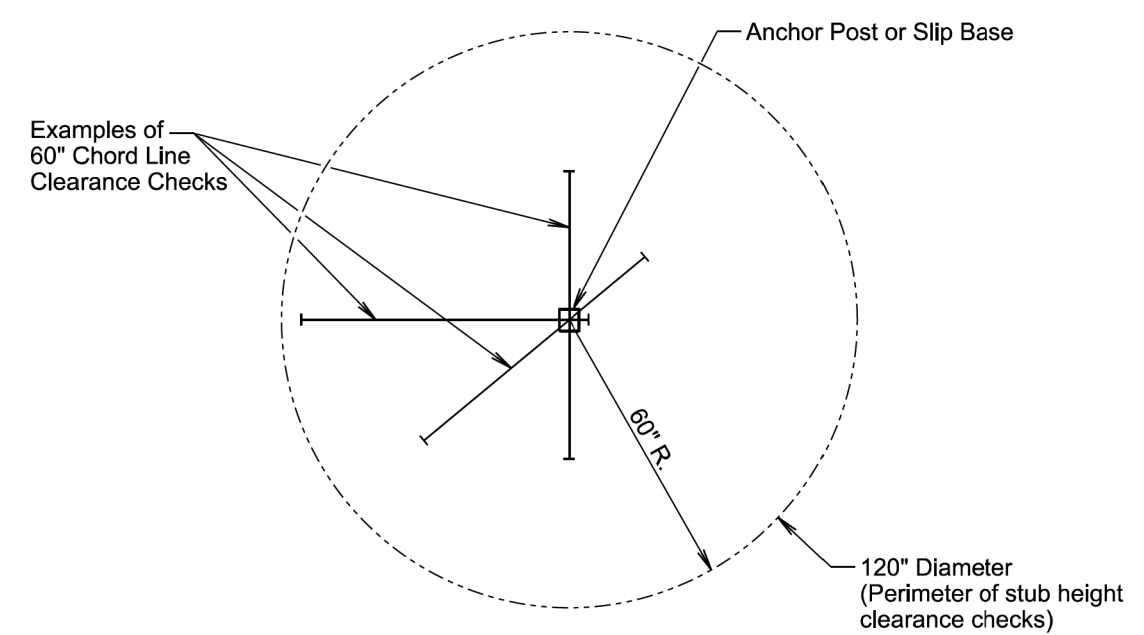
RURAL DISTRICT 3 DAY MAXIMUM

* 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.

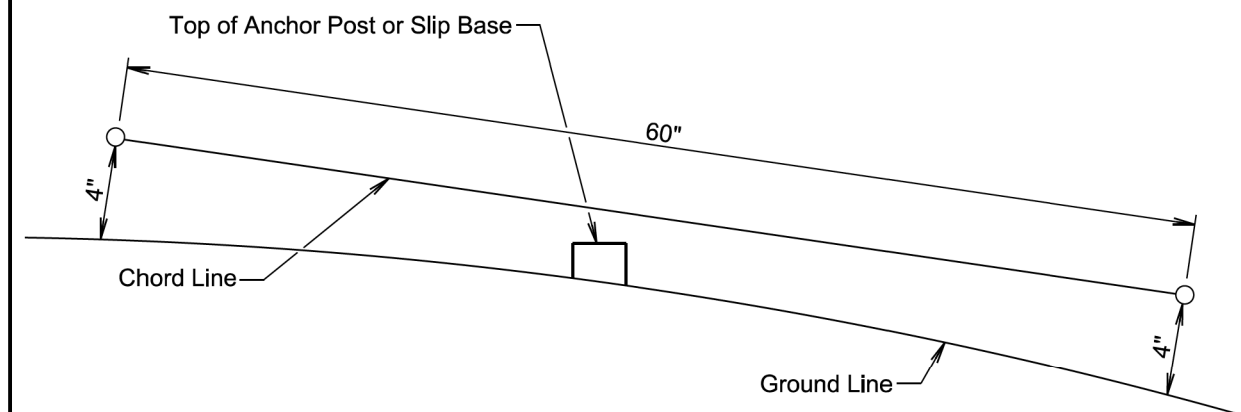
January 22, 2021

SD DOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
		Sheet 1 of 1

Published Date: 2025



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.

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