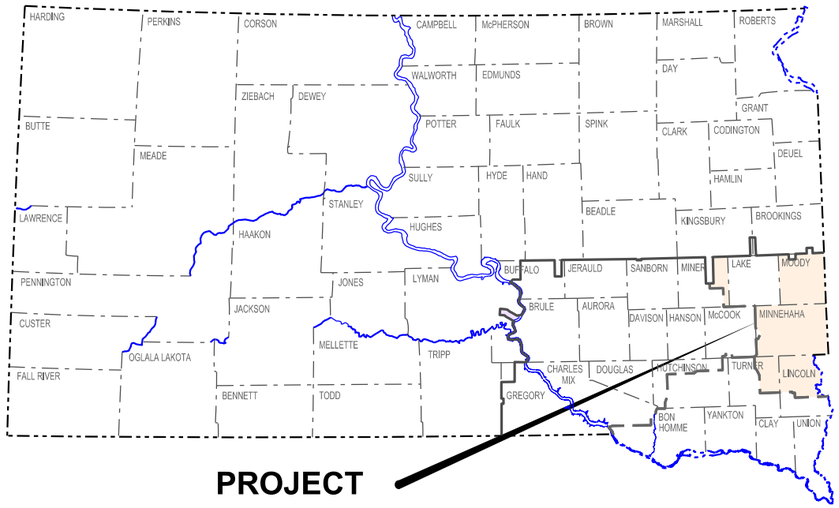
PLOT SCALE - 1:70000



STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

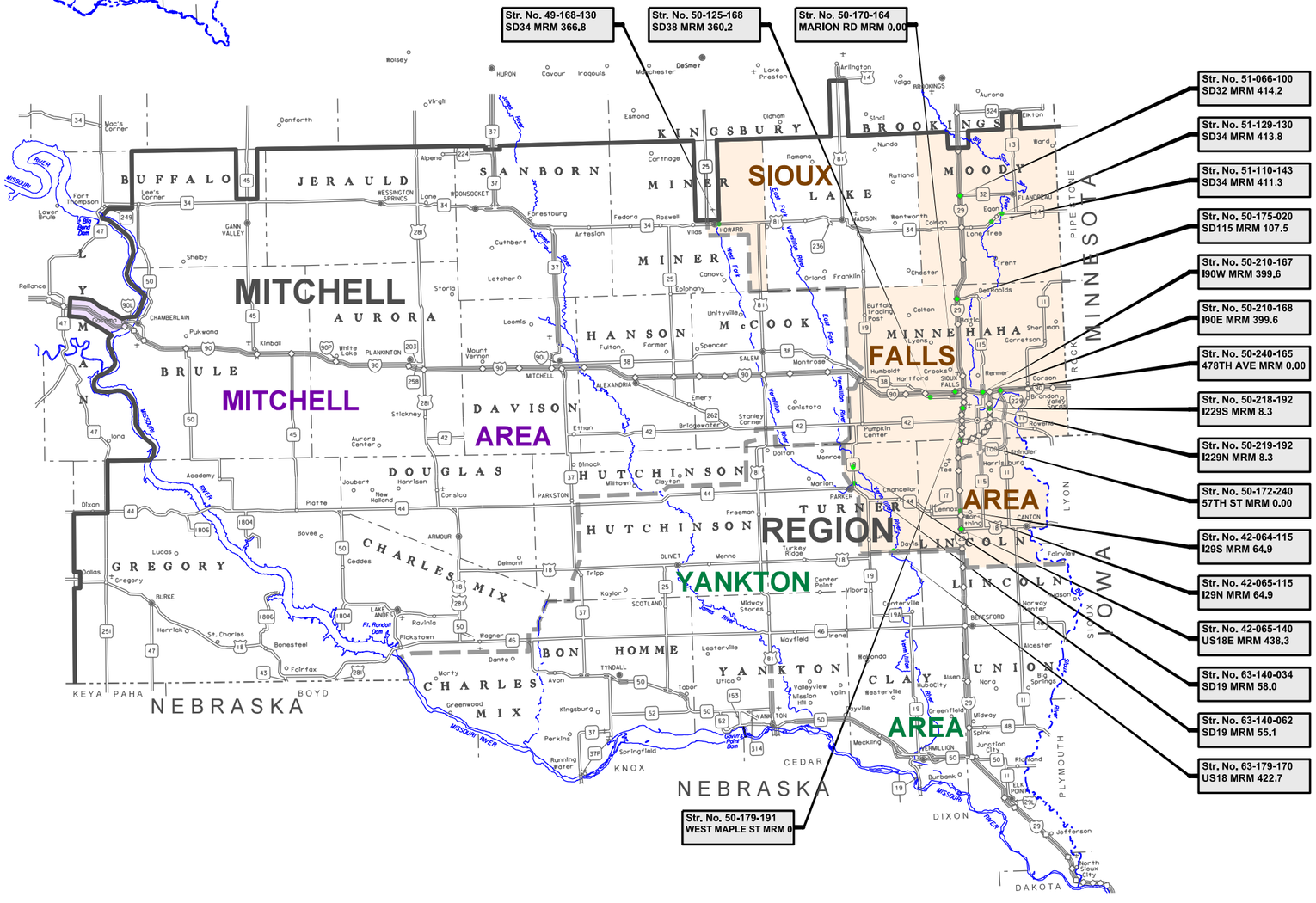
PROJECT P 0020(225)
SIOUX FALLS AREAWIDE

INTERSTATES 29, 90, 229
US HIGHWAY 18
SD HIGHWAYS 19, 32, 34, 38, & 115
MARION ROAD, 57TH STREET, WEST MAPLE STREET, 478TH AVENUE
LINCOLN, MINER, MINNEHAHA, MOODY, & TURNER COUNTIES
CONCRETE PENETRATING SEALER ON BRIDGE DECKS
PCN 08P8

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(225)	1	12

Plotting Date: 08/01/2024 REVISED 08/01/24 GB

INDEX OF SHEETS



DESIGN DESIGNATIONS

Str. No.	ADT
42-064-115	12340 (2023)
42-065-115	12340 (2023)
42-065-140	4033 (2023)
49-168-130	1894 (2023)
50-125-168	3892 (2023)
50-170-164	6100 (2023)
50-172-240	22800 (2023)
50-175-020	3599 (2023)
50-179-191	2000 (2023)
50-210-167	11240 (2023)
50-210-168	11240 (2023)
50-218-192	14390 (2023)
50-219-192	14390 (2023)
50-240-165	2450 (2021)
51-066-100	2043 (2023)
51-110-143	1942 (2023)
51-129-130	1942 (2023)
63-140-034	1097 (2023)
63-140-062	1660 (2023)
63-179-170	2058 (2023)

STORM WATER PERMIT
(None required)

November 6, 2024

PLOTTED FROM - TRM111119

PLOT NAME - 1

FILE - ...\REGM08P8\DGN\TITL08P8.DGN

ESTIMATE OF QUANTITIES – 08P8

..

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	25,465.7	SqYd
634E0010	Flagging	100.0	Hour
634E0110	Traffic Control Signs	3,124.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	12	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each

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 C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx>

< South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species: https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the 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 Agriculture 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:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench 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".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will 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.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

State Historic Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

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 in 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 within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery 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.

CONCRETE PENETRATING SEALER

1. This work consists of furnishing and applying a concrete penetrating sealer to a prepared deck surface. Sidewalks are not included to be sealed but the quantities do include the raised median pavements.
2. The sealers will be per the Department's Approved Products List for Concrete Penetrating Sealer. The Contractor will furnish the Engineer the manufacturer's technical data sheets, materials safety data sheet (MSDS), and sufficient evidence that the material to be used has not exceeded the manufacturer's specified shelf life. This documentation will be furnished to the Engineer a minimum of 5 days prior to application of the sealer.
3. Concrete surfaces will be cleaned by power washing such that all traces of laitance, dirt, dust, salt, and foreign materials, and deleterious substances are removed. Oil, grease, or other contaminants on the concrete surface will require removal with detergent cleaning and abrasive blast on the affected areas. If necessary, solvents and hand tools will be used to remove bonded materials detrimental to the treatment of the concrete surface. The cleaning process will not cause undue damage to the concrete surface, remove or alter the existing surface finish, or expose the coarse aggregate of the concrete. The method of cleaning will be performed in such a manner as to provide a reasonably uniform appearing surface color and texture. Surface preparation will at a minimum as listed above, additional preparation maybe be required by the Manufacturer. Other methods and equipment for surface preparation may be used if prior approval is obtained from the Engineer.
4. Once the deck surface has been cleaned, the deck will be protected from contamination from traffic and construction operations. The concrete surfaces will be allowed to dry a minimum of 3 days after power washing or precipitation. The Engineer will determine when the surface is sufficiently dry.
5. The sealer may be harmful to materials such as rubber, asphalt, and joint compounds; therefore, the Contractor will be required to mask off all joints, strip seals, etc. prior to applying the sealer. The Engineer will approve the prepared surface prior to application of the penetrating sealer.
6. The Contractor will have enough sealer on the project prior to the start of application such that the Manufacturer's maximum rate of coverage (minimum ft^2 /gal) can be attained. Sealer application will conform to the Manufacturer's recommendations and the following:
   a. The penetrating sealer will only be applied when the ambient air and concrete surface temperatures are between 40 ºF and 100 ºF unless otherwise recommended by the Manufacturer.
   b. The treatment solution will not be sprayed when blowing winds or other conditions prevent proper application. The sealer will not be applied during inclement weather or rain, or if inclement weather or rain is anticipated within 24 hours.
   c. Spray equipment for the application of the treatment solution will be a low-pressure airless sprayer with a maximum application pressure of 15 psi.
   d. Concrete will be cured 28-days prior to application on the sealer. The sealer may be applied prior to the 28-day cure period, but no sooner than 14 days, provided there is no evidence of moisture when concrete is tested in accordance with ASTM D4263 and the concrete has attained 80% of the specified design strength.

CONCRETE PENETRATING SEALER

   e. All surfaces will be dry prior to application of the sealer. The concrete surfaces will be allowed to dry for 3 days after power washing or precipitation. The Engineer will determine when the surface is sufficiently dry.
   f. All loose dust and debris will be blown off of the concrete surface with compressed air immediately prior to application of the sealer.
   g. The sealer will be used as supplied by the manufacturer and will not be diluted or altered in any way. The solution will be sprayed on to the concrete surfaces at the manufacturer's recommended maximum rate of coverage (minimum ft^2/gal) or to refusal, whichever is achieved first. Refusal is defined such that additional spray applications remain on the concrete surface and do not soak in, as determined by the Engineer.
   h. Traffic will not be permitted on treated surfaces until the solution has completely penetrated and the treated surface is dry. The Engineer will determine when the treated surface is sufficiently dry.
7. Concrete Penetrating Sealer will be measured to the nearest 0.1 square yard.
8. Concrete Penetrating Sealer will be paid for at the contract unit price per square yard. Payment will be full compensation for equipment, labor, materials, concrete surface preparation and cleaning, and all other incidental items required to furnish and apply the Concrete Penetrating Sealer.

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.

GENERAL TRAFFIC CONTROL

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.

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

TRAFFIC CONTROL SIGNS

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

FLAGGING

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

It is required that the flaggers 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”.

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

One week prior to starting work affecting the traveling public, portable changeable message signs (PCMS) will be installed at locations detailed in the plans to notify drivers of the upcoming construction. The Contractor will program the portable changeable message signs with the following message:

ROAD WORK
STARTS (Date)

When work begins that will affect traffic patterns, the Contractor will re-program the PCMS with the messages as detailed in the plans.

PERMANENT PAVEMENT MARKING

The Contractor will be required to repaint all existing pavement markings including centerline, edge line, and lane lines only if the markings are damaged by the Contractor’s materials, means, and methods. The Contractor will be required to document and be able to relocate for replacement of the existing markings before the markings are obliterated. The cost to duplicate the existing marking locations will be incidental to the contract unit prices for the various contract items.

BRIDGE INFORMATION

HIGHWAY	Str. No.	MRM	WIDTH	LENGTH	DECK AREA SQ YD (2)
I29S	42-064-115	64.9	40.0	145.1	644.9
I29N	42-065-115	64.9	40.0	145.1	644.9
US18E	42-065-140	438.3	52.0	243.5	1406.9
SD34	49-168-130	366.8	40.0	96.3	428.0
SD38	50-125-168	360.2	40.0	192.0	853.3
Marion Road	50-170-164	0.0	80.0	264.1	2347.6
57th St	50-172-240	0.0	52.0	228.2	1318.5
SD115	50-175-020	107.5	52.0	251.5	1453.1
West Maple St	50-179-191	0.0	40.0	42.1	187.1
I90W	50-210-167	399.6	40.0	374.0	1662.2
I90E	50-210-168	399.6	40.0	374.0	1662.2
I229S	50-218-192	8.3	68.0	431.5	3260.2
I229N	50-219-192	8.3	68.0	431.5	3260.2
478th Avenue (1)	50-240-165	0.0	116.3	191.1	2475.8
SD32	51-066-100	414.2	32.0	252.3	897.1
SD34	51-110-143	411.3	36.0	99.5	398.0
SD34	51-129-130	413.8	36.0	226.3	905.2
SD19	63-140-034	58.0	36.0	157.3	629.2
SD19	63-140-062	55.1	36.0	125.5	502.0
US18	63-179-170	422.7	40.0	119.1	529.3
				TOTAL	**25465.7**

(1) Deck area has been reduced for areas covered with PCS/ECS

(2) Deck areas include sidewalk area for any locations that have sidewalks

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS 50-210-167, 50-210-168

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 65	1	36" x 48"	12.0	12.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	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	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-5a	2 RIGHT LANES CLOSED	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			206.6

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS 42-064-115, 42-065-115

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 80	1	36" x 48"	12.0	12.0
R2-1	SPEED LIMIT 65	3	36" x 48"	12.0	36.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK 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
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			230.0

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS 50-218-192, 50-219-192

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 65	1	36" x 48"	12.0	12.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK 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
W20-5a	2 RIGHT LANES CLOSED	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			246.6

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS: 49-168-130, 50-125-168, 51-066-100, 51-110-143, 51-129-130, 63-140-034, 63-140-062, 63-179-170

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			105.0

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS : 42-065-140, 50-175-020, 50-179-191

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W1-4	REVERSE CURVE (L or R)	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	2	48" x 48"	16.0	32.0
W20-5	CENTER LANE CLOSED XX FEET	2	48" x 48"	16.0	32.0
W20-5a	2 RIGHT LANES CLOSED	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			181.6

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS: 50-170-164, 50-172-240

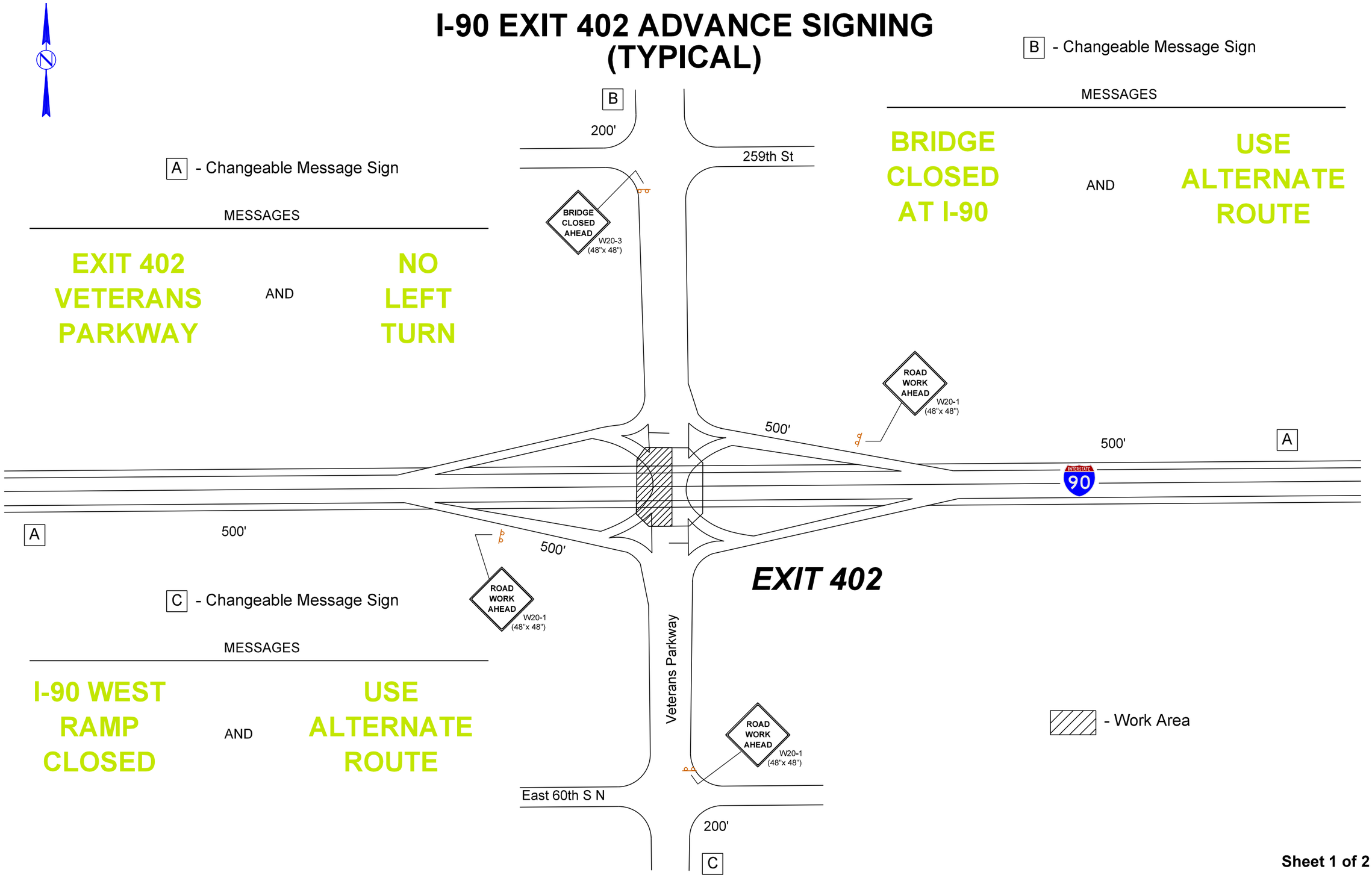
		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-5a	2 RIGHT LANES CLOSED	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			137.0

08P8 - ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS: 50-240-165

		CONVENTIONAL ROAD				EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R3-2	LEFT TURN PROHIBITION (symbol)	4	24" x 24"	4.0	16.0		36" x 36"	9.0	
R11-2	ROAD CLOSED	1	48" x 30"	10.0	10.0		48" x 30"	10.0	
W20-1	ROAD WORK AHEAD	1	48" x 48"	16.0	16.0	2	48" x 48"	16.0	32.0
W20-3	BRIDGE CLOSED AHEAD	1	48" x 48"	16.0	16.0		48" x 48"	16.0	
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0		48" x 24"	8.0	
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			67.0	EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			32.0

TRAFFIC CONTROL

I-90 EXIT 402 ADVANCE SIGNING (TYPICAL)



A - Changeable Message Sign

MESSAGES

EXIT 402 VETERANS PARKWAY AND **NO LEFT TURN**

B - Changeable Message Sign

MESSAGES

BRIDGE CLOSED AT I-90 AND **USE ALTERNATE ROUTE**

C - Changeable Message Sign

MESSAGES

I-90 WEST RAMP CLOSED AND **USE ALTERNATE ROUTE**

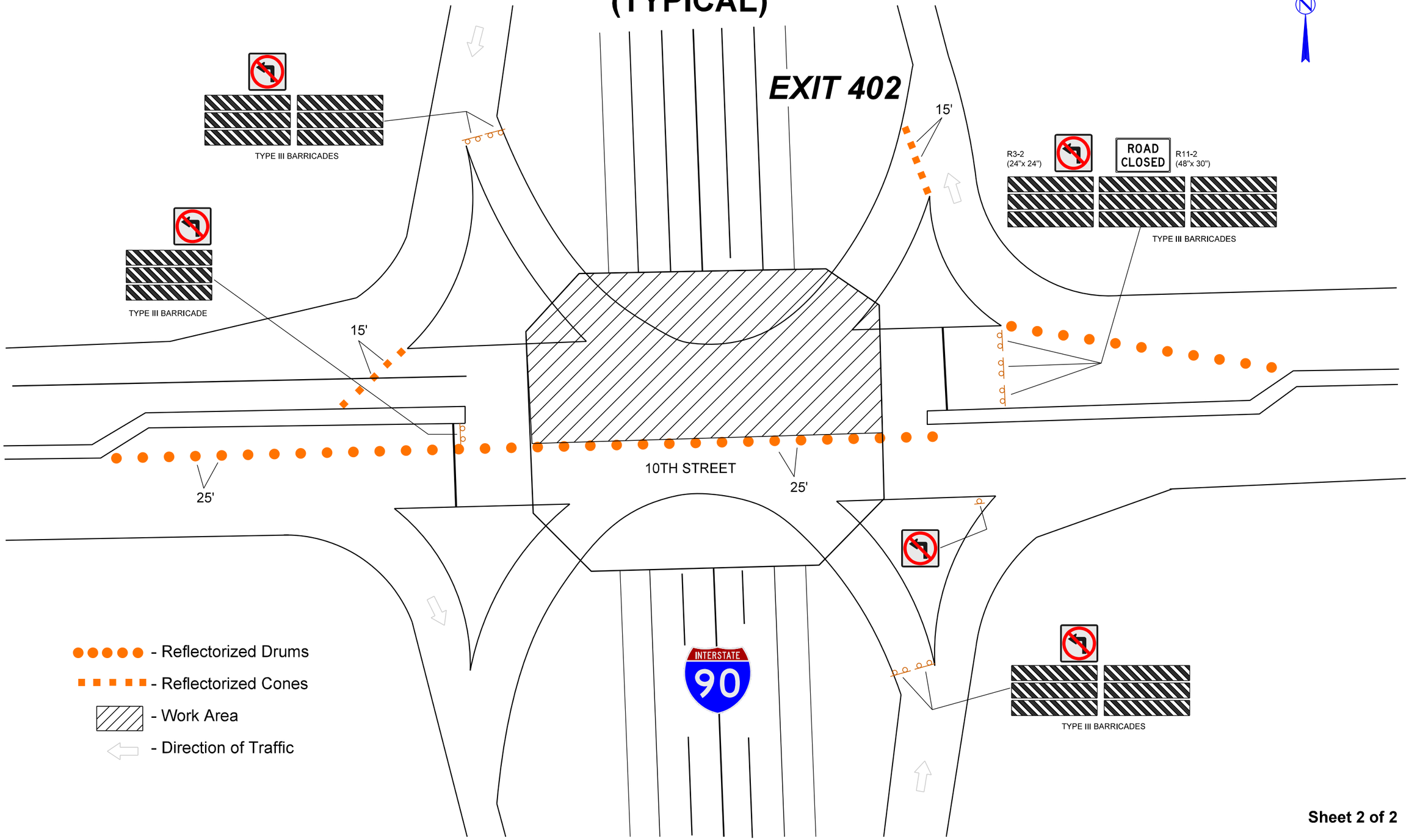
- Work Area

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(225)	7	12

Plotting Date: 07/26/2024

TRAFFIC CONTROL

1/2 EXIT 402 STRUCTURE CLOSED (TYPICAL)



Sheet 2 of 2

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.

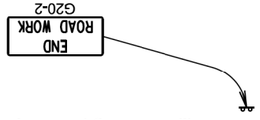
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

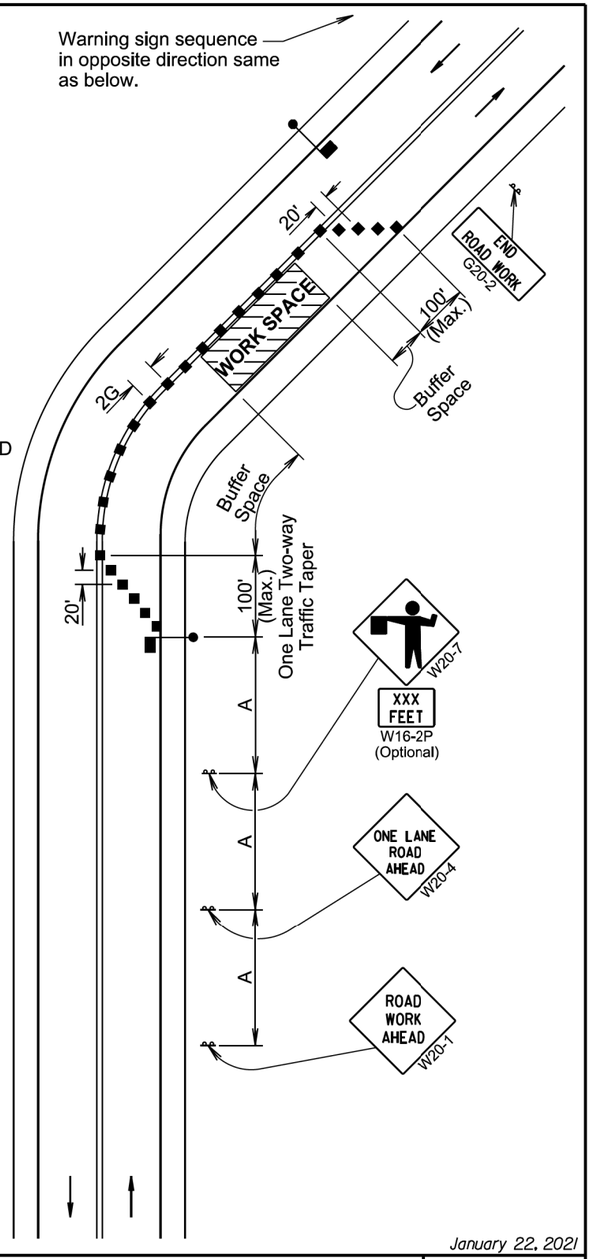
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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.



January 22, 2021

Published Date: 2025	SDDOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			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

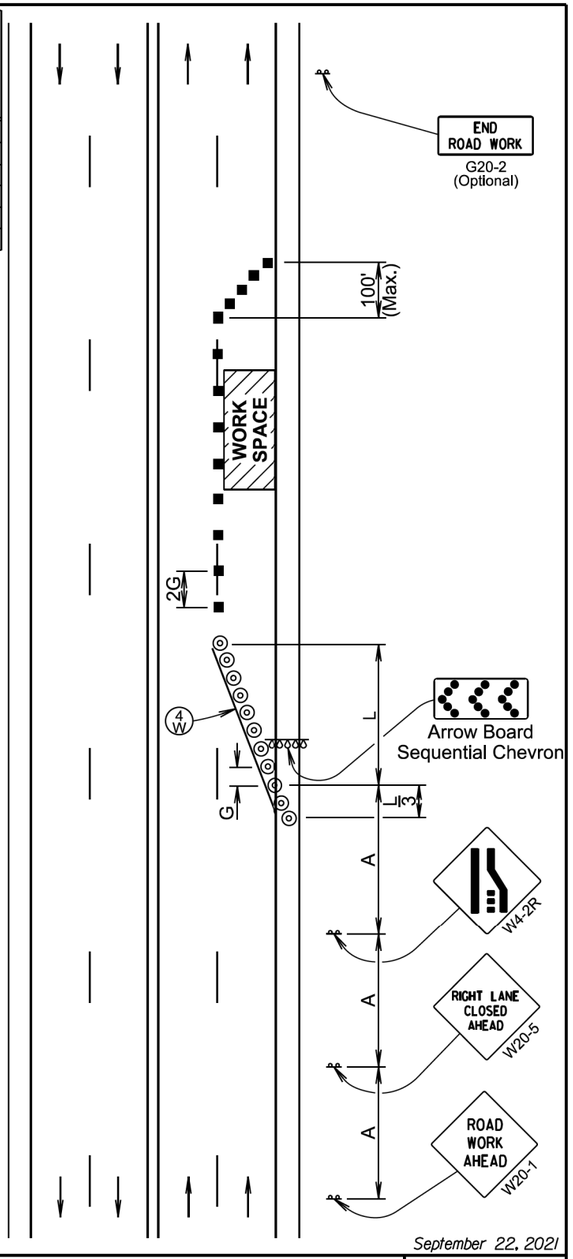
(4W) 4" White Temporary Pavement Marking

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.

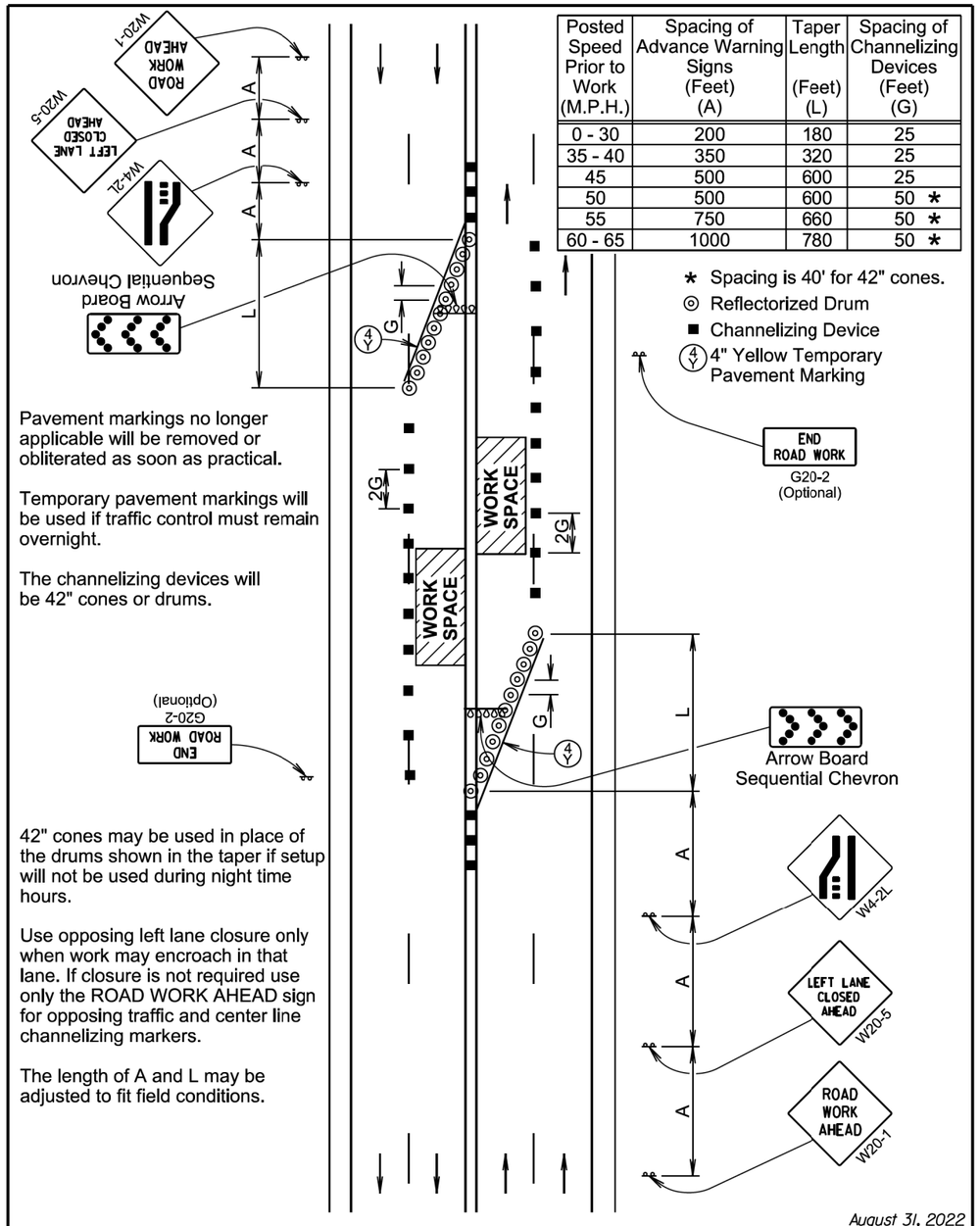
Temporary pavement markings will be used if traffic control must remain overnight.

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



September 22, 2021

Published Date: 2025	SDDOT	4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
			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
(4Y) 4" Yellow Temporary Pavement Marking

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.

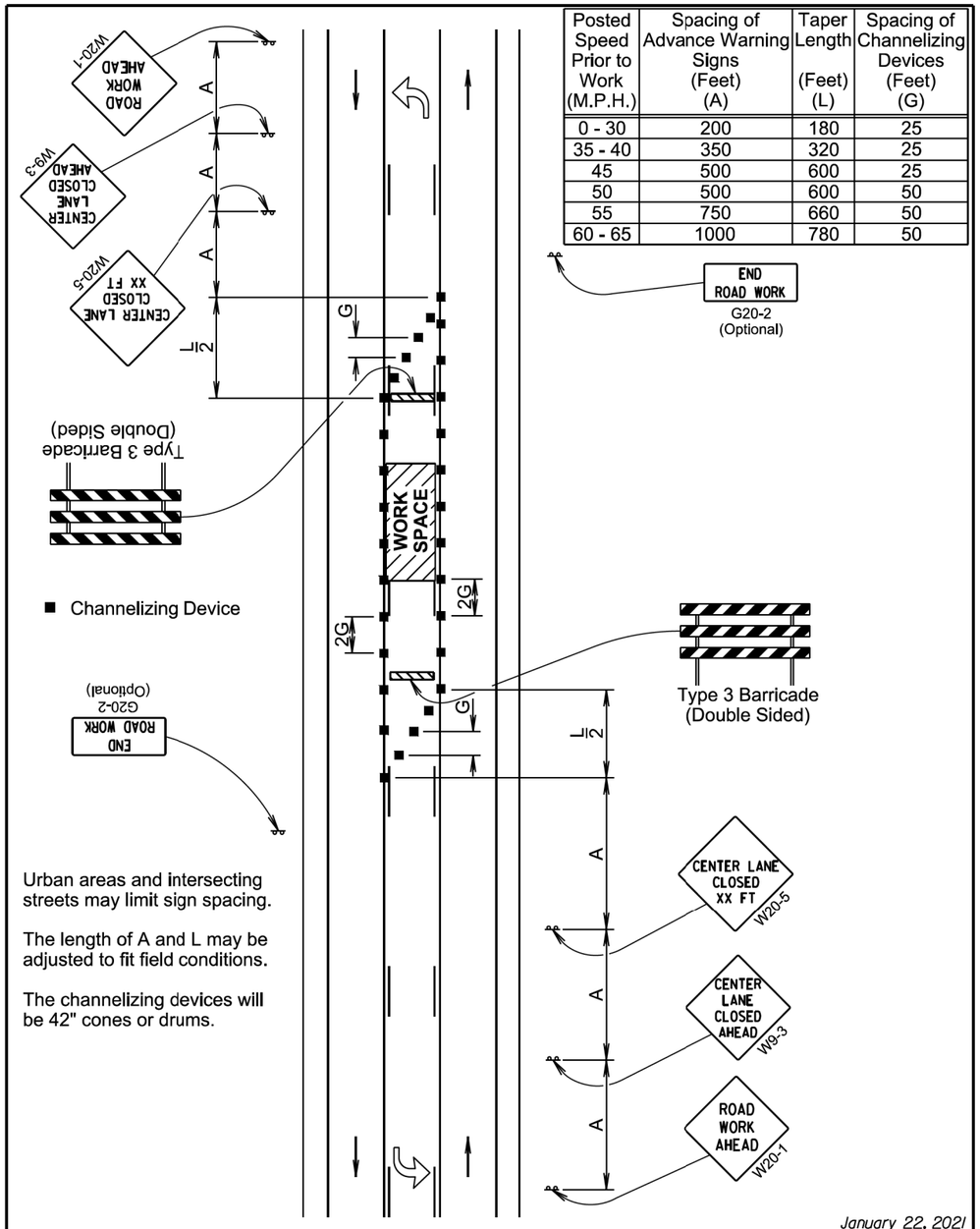
42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Use opposing left lane closure only when work may encroach in that lane. If closure is not required use only the ROAD WORK AHEAD sign for opposing traffic and center line channelizing markers.

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

August 31, 2022

Published Date: 2025	SDDOT	4-LANE UNDIVIDED, LEFT LANE CLOSED	PLATE NUMBER 634.48
			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

■ Channelizing Device

Urban areas and intersecting streets may limit sign spacing.

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

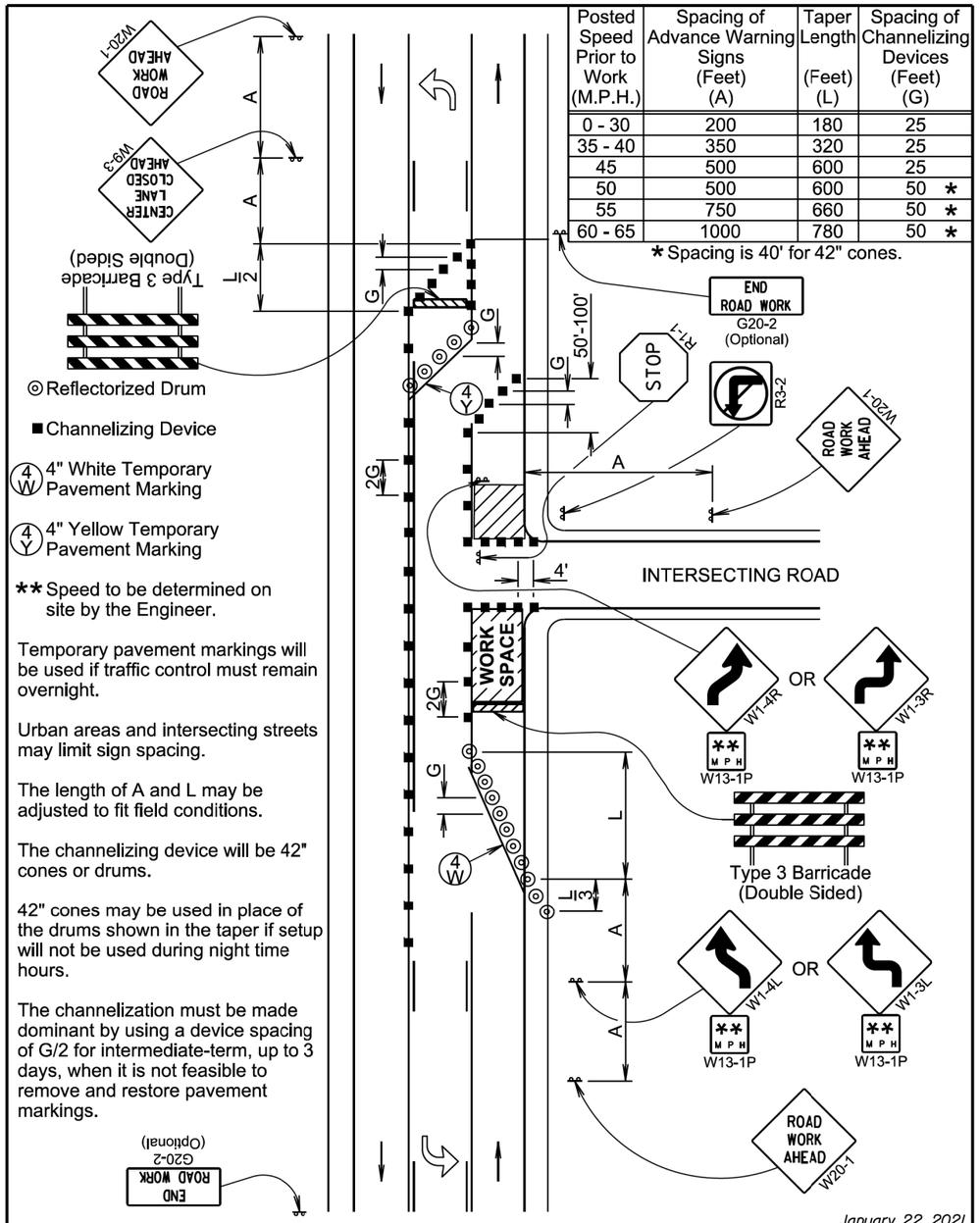
The channelizing devices will be 42" cones or drums.

January 22, 2021

Published Date: 2025	SDDOT	3-LANE, CENTER LANE CLOSED	PLATE NUMBER 634.52
			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.



January 22, 2021

Published Date: 2025	SDDOT	3-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.53 Sheet 1 of 1

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

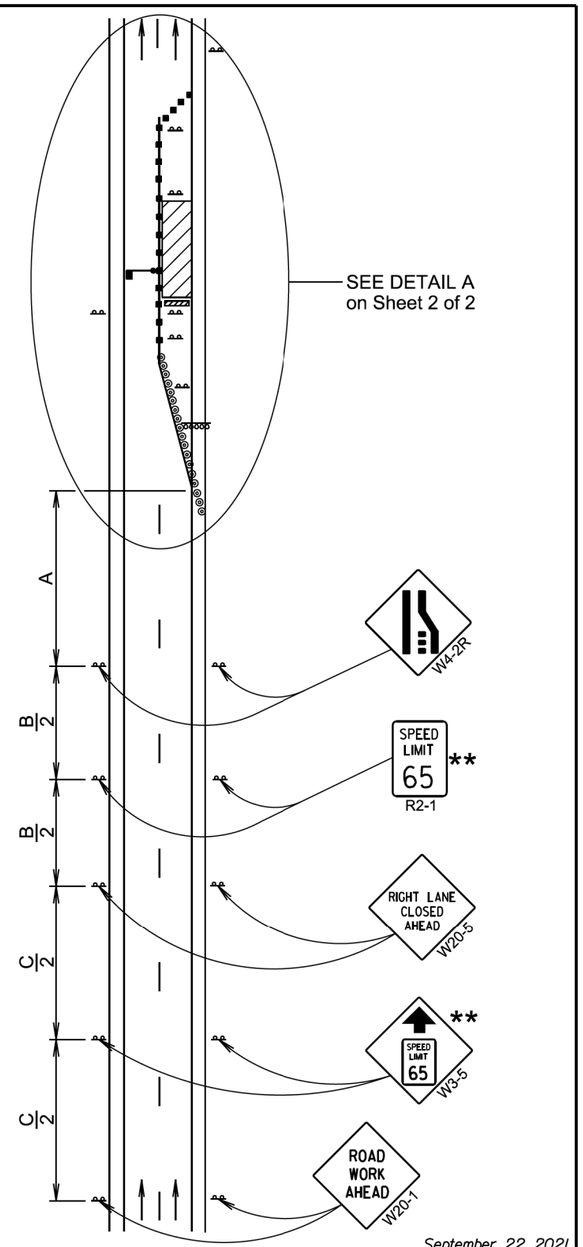
** Speed appropriate for location.

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.



September 22, 2021

Published Date: 2025	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63 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	25	600
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 will be covered or removed when workers are not present.

Flagger (As Necessary)

◎ Reflectorized Drum

■ Channelizing Device

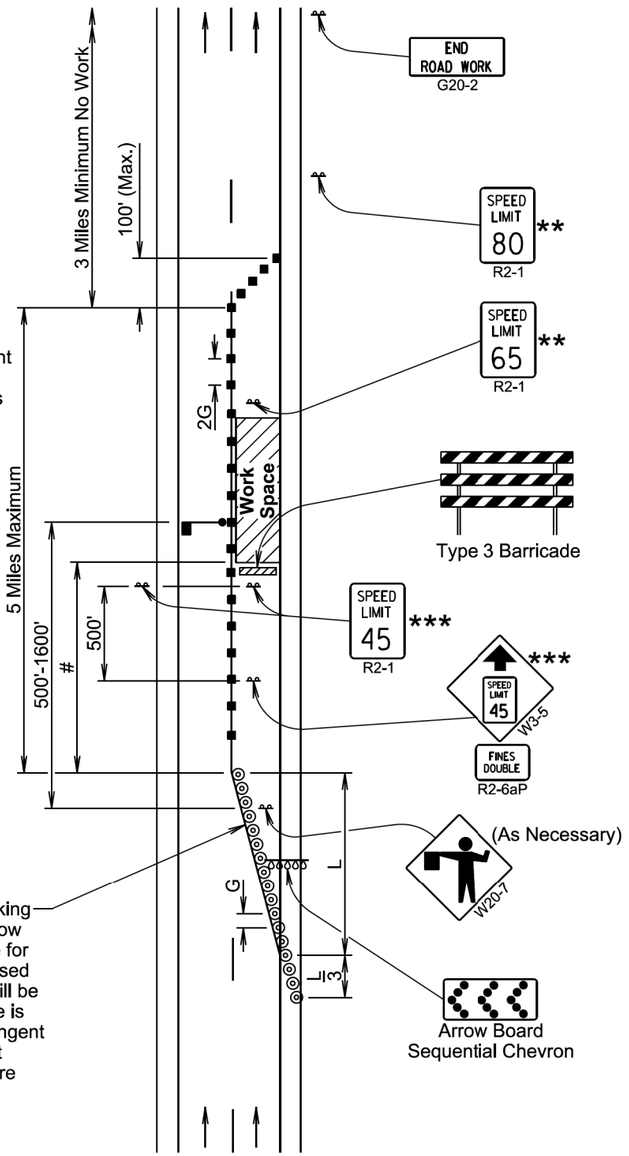
The Work Space will be a minimum of 500' from the end of the taper.

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

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.

4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary raised pavement markers at 5' spacing will be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



DETAIL A

September 22, 2021

Published Date: 2025	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
			Sheet 2 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	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 *
	(A) (B) (C)		
70 - 80	1000 1500 2640	960	50 *

* Spacing is 40' for 42" cones.

** Need and safe speed to be determined on site by the Engineer.

Ordinarily, the preferred position for the second arrow board is in the closed exterior lane at the upstream end of the second merging taper. However, the second arrow board should be placed in the closed interior lane at the downstream end of the second merging taper in the following situations:

When a shadow vehicle is used in the interior closed lane and the second arrow board is mounted on a shadow vehicle.

If alignment or other conditions create any confusion as to which lane is closed by the second arrow board.

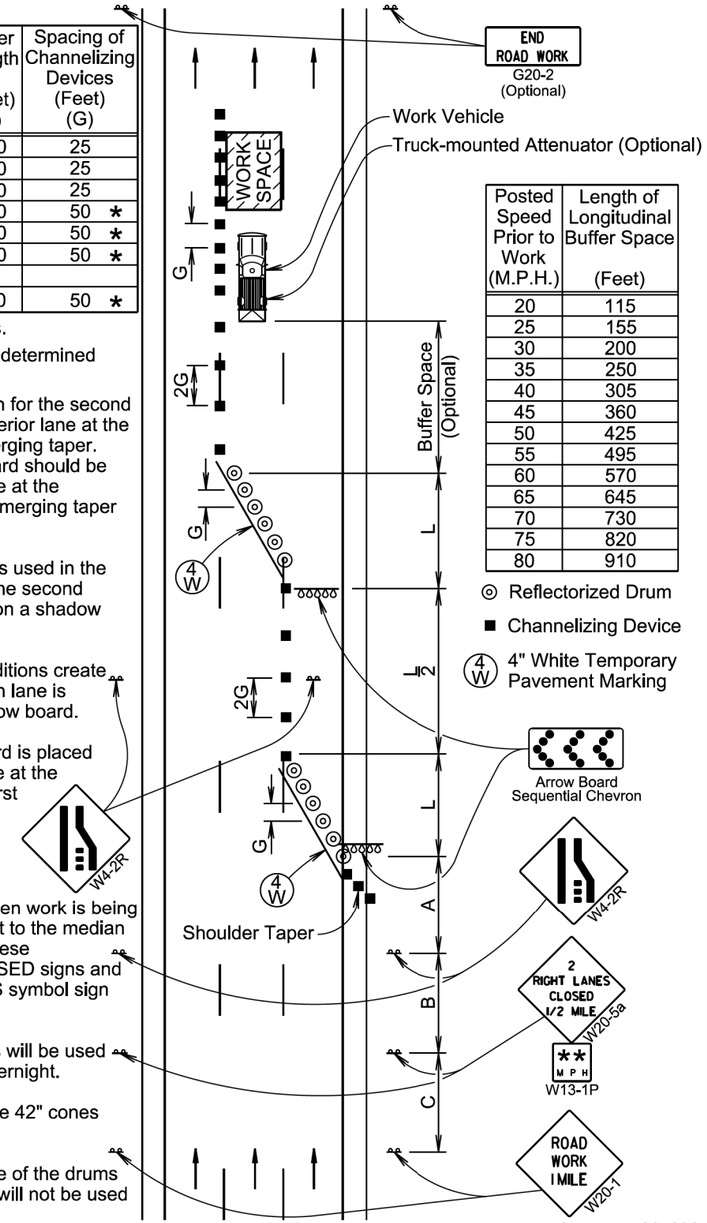
When the first arrow board is placed in the closed exterior lane at the downstream end of the first merging taper (the alternative position when the shoulder is narrow).

This procedure also applies when work is being performed in the lanes adjacent to the median on a divided highway. Under these conditions, 2 LEFT LANE CLOSED signs and the corresponding LANE ENDS symbol sign will be used.

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 the setup will not be used during night time hours.



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

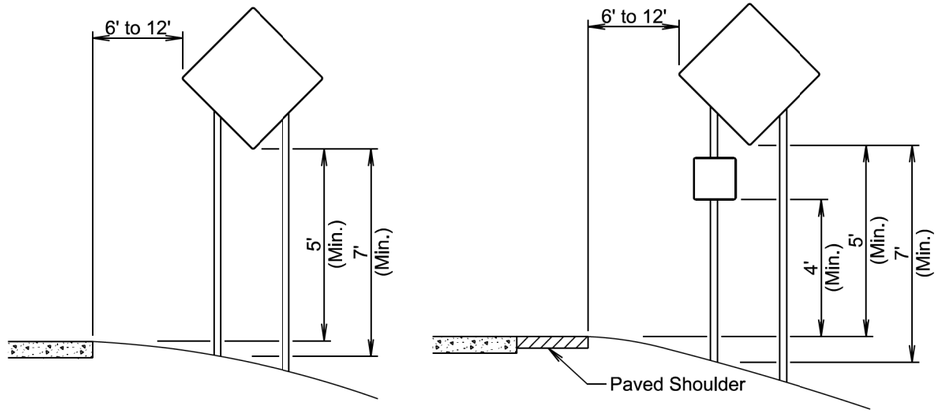
◎ Reflectorized Drum

■ Channelizing Device

4W 4" White Temporary Pavement Marking

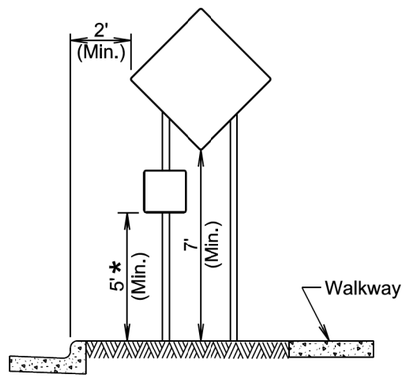
September 22, 2021

Published Date: 2025	SDDOT	DOUBLE LANE CLOSURE	PLATE NUMBER 634.80
			Sheet 1 of 1

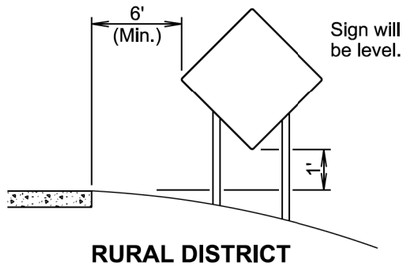


RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

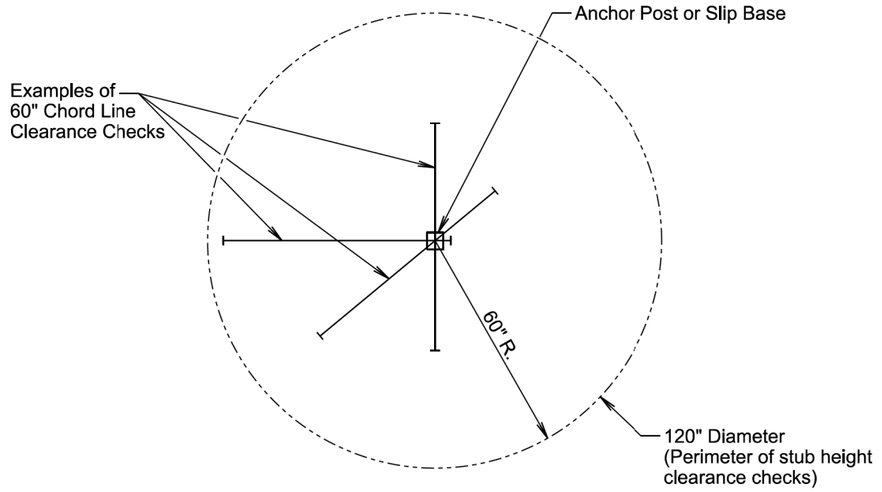


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

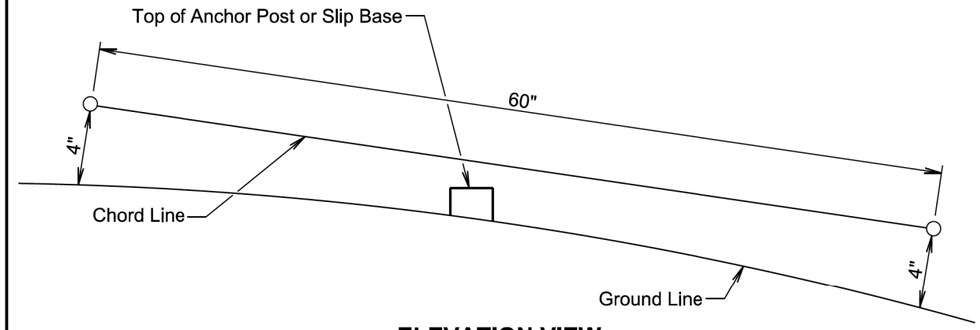
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2025	SDDOT	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

Published Date: 2025	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1