

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

SD DOT	PROJECT	SECTION	SHEET
	IM 0901(209)14	Non	1/8

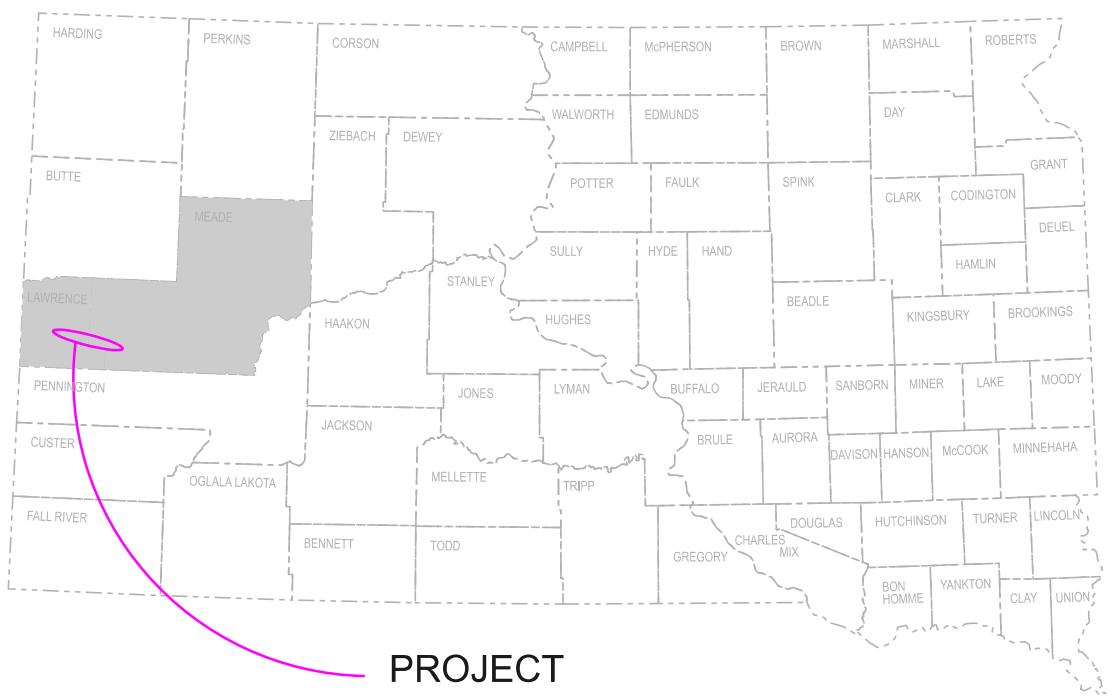
Plotting Date: 05/21/2024

PROJECT IM 0901(209)14 INTERSTATE 90 WB LAWRENCE & MEADE COUNTIES

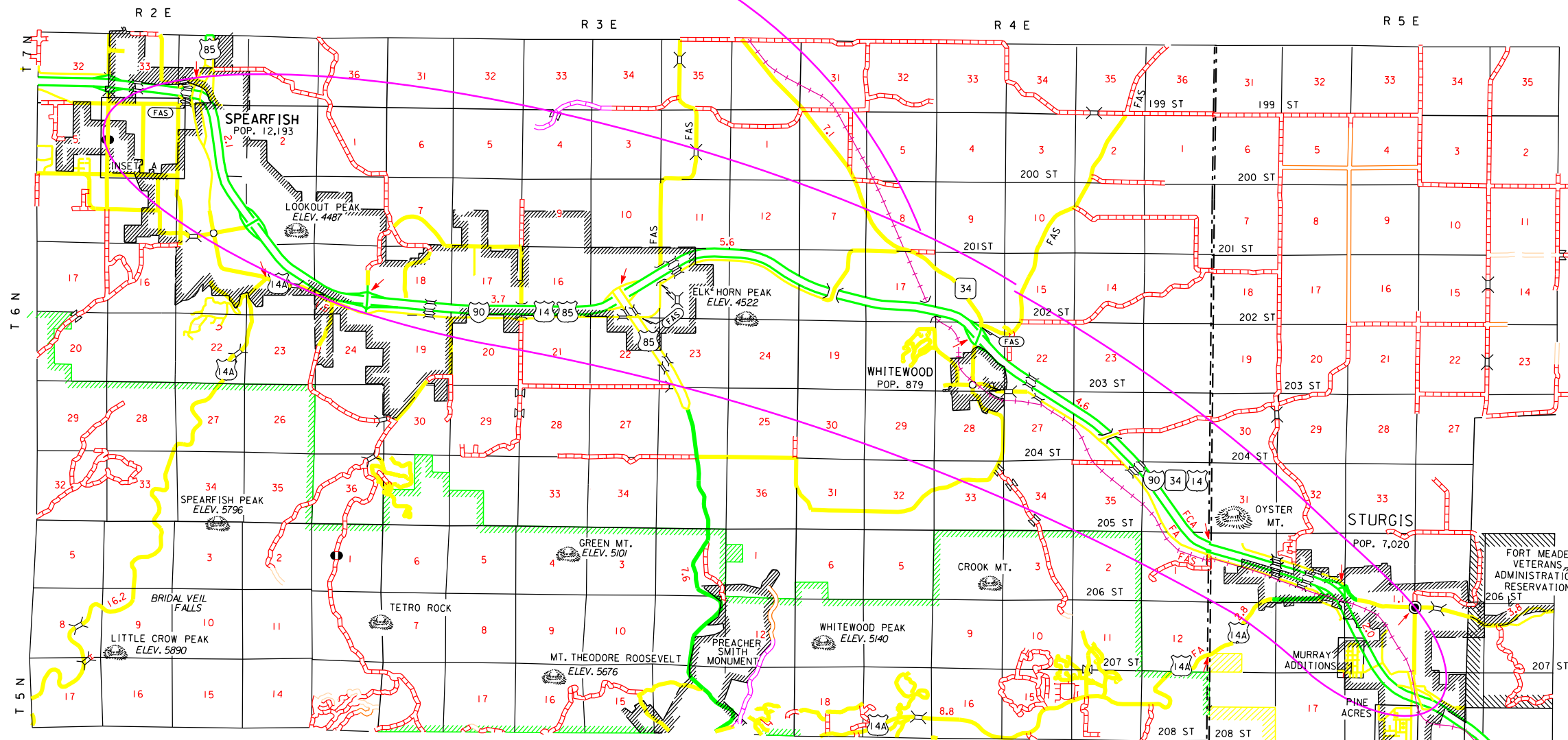
INTERSTATE FENCING
096E

INDEX OF SHEETS

- Sheet 1: Title and Index
- Sheet 2-4: Estimate, Notes and Tables
- Sheets 5-8: Standard Plates



PROJECT
I90 WB MRM 14.9 to MRM 33.1



DESIGN DESIGNATION

ADT (2023)	8196
ADT (2043)	12787
DHV	1879
D	51%
T DHV	7.4%
T ADT	16.3%
V	75 mph

STORM WATER PERMIT
None Required

10
November 20, 2024

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	17,100	Ft
621E0160	6' Chain Link Fence with Tension Wired Top	17,680	Ft
621E0410	Pedestrian Swing Gate	3	Each
621E0430	Double Vehicular Swing Gate	1	Each
621E0500	Modify Chain Link Fence	6,932	Ft
621E0510	Replace Chain Link Fence Fabric	846	SqFt
621E0512	Straighten Chain Link Fence Post	15	Each
621E0600	Chain Link Fence Post	9	Each
634E0110	Traffic Control Signs	32.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

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

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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(209)14	3	8

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic 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 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.

SHPO/THPO review does not relieve the Contractor of the responsibility 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.

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.

Utilities are not planned to be affected on this project. 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 project engineer to determine modifications that will be necessary to avoid utility impacts.

REMOVE FENCE

The Contractor will remove the existing right-of-way fence that is to be replaced as designated in the plans and/or as ordered by the Engineer. This includes all fencing, posts, brace panels, or anything pertaining to the existing fence. Upon removal all items other than tubular gates will become property of contractor.

Limited Access Security - All barbed wire fence removed during any one working day is to be replaced during the same day. Contractor is responsible for any and all livestock encountered anywhere along the fence being replaced. Control of livestock during the time that any fence is being replaced is the sole responsibility of the Contractor. All costs of this work and any temporary fencing will be incidental to the contract unit price for the various fence items.

The Contractor will coordinate with landowners to ensure cattle are contained on the landowner's property.

CLEARING

Prior to installing right-of-way fence, the fence alignment will be cleared of all brush and various debris to allow for placement of new fence on existing alignment

The Contractor is responsible for visiting the project site and determining the amount of work involved with Clearing.

FENCE ALIGNMENT

Where fence is being removed and replaced, fence will be installed on the same alignment as existing.

Fence posts may be adjusted so not to fall in the same hole from removed fence.

It will be the Contractor's responsibility to preserve the existing fence alignment.

New fence will be placed 51 feet from the centerline of the adjacent railroad tracks (equivalent to 1 foot inside the ROW line), as shown in plan details, or as directed by the Engineer.

New and existing fence will be tied to existing structures using the various Standard Plates, plan details, and as directed by the Engineer.

GATES, WIDE DEPRESSIONS, AND STREAM CROSSINGS

Prior to submitting a bid the Contractor will inspect the project site and determine the number of gates, wide depressions, and stream crossings.

RESTORATION OF INSLOPES AND DITCHES

Any slope area or ditch that is rutted or otherwise unduly disturbed during fencing operations will be restored and seeded by the Contractor, at no expense to the State.

MODIFY FENCE

Modifying chain link fence will consist of removing the top rail and installing tension wire in its place. All work associated with modifying fence will be incidental to the contract unit price per foot for Modify Chain Link Fence.

The section of fence between MRM 31.6 and MRM 32 will not have the top rail removed. This section of fence has three-strands of barbed wire on top of the existing fence.

The top rail removed during fence modification will become the property of the Contractor.

REPAIR FENCE

From MRM 30 to MRM 33.1, eastbound and westbound, the chain link fence will be repaired as directed by the Engineer. The work will consist of straightening posts, replacing posts, and replacing fabric.

The corresponding bid items will be the basis of payment for the repair work.

SURVEY MARKERS

Any survey markers that are damaged or destroyed during construction will be replaced by the Contractor at no additional cost to the State.

Table of Right-of-Way Fence												
			Direction	Remove Fence (Ft)	6' Chain Link Fence with Tension Wired Top (Ft)	Double Vehicular Swing Gate (16') (Each)	Pedestrian Swing Gate (4') (Each)	Replace Chain Link Fence Fabric (SqFt)	Straighten Chain Link Fence Post (Each)	Chain Link Fence Post (Each)	Modify Chain Link Fence (Ft)	Comments
MRM	to	MRM	E/W									
14.90		15.36	WB	2620	2620	1						
16.46		16.66	WB	1060	1060							
16.67			WB	80	80							Between structures
16.67		18.20	WB	8000	8000							
18.84			WB	100	100							Between structures
18.85		19.08	WB	1245	1245							
19.09			WB	50	50		1					Between structures
22.98		23.60	WB	3825	3825							
30.36		30.45	WB		580							
30.45			WB	60	60		1					Between structures
30.48			WB	60	60		1					Between structures
30.00		33.10	WB					846	15	9	6932	
				17100	17680	1	3	846	15	9	6932	

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 – GENERAL NOTES

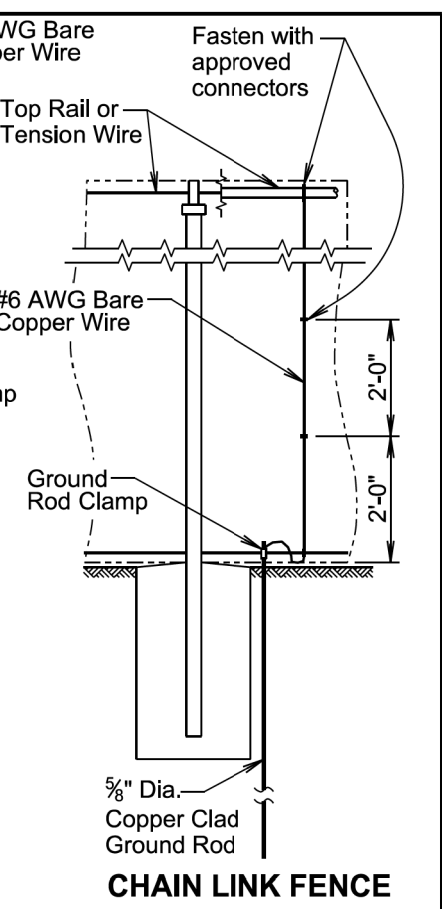
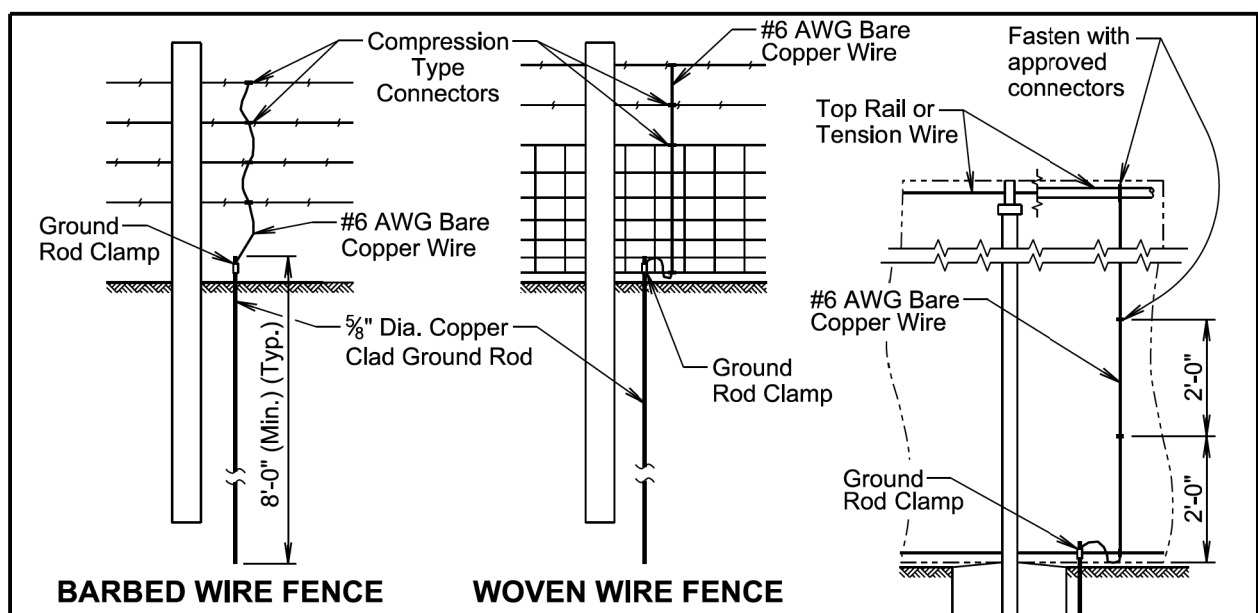
Unless otherwise stated in these plans, no work will be allowed during hours of darkness.

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

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

ITEMIZED LIST OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT					32.0



GENERAL NOTES:

Details shown on this standard plate will apply to all types of Right-of-Way fence constructed with all wood posts or chain link fence.

Continuous fence in urban areas will be grounded at maximum intervals of 500 feet. Continuous fence in rural areas will be grounded at maximum intervals of 1000 feet. There will be a ground at a maximum of 100 feet from a gate in each adjacent section of fence.

Fence placed under a power line will be grounded with three grounds. One ground will be placed directly below the crossing and the other two will be placed 25 feet to 50 feet away, one on each side.

One ground will be placed directly below each telephone or cable crossing.

Ground rods will be located on the post side of the fence and will be as close as possible to the post and fence.

The cost of furnishing and placing all materials for grounding will be incidental to the contract unit price per foot for the respective Right-of-Way fence or chain link fence contract item.

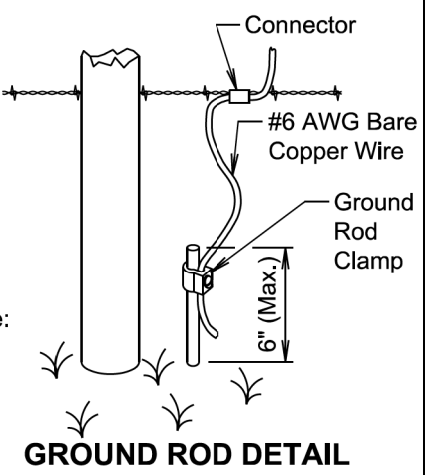
The approximate quantities of materials per each installation of a ground are:

- 1 ground rod clamp.
- 1 5/8" diameter x 8' long copper clad ground rod
- 1 #6 AWG bare copper wire; 7' long for Right-of-Way fence or 10' long for chain link fence.

Compression type or other type of connectors:

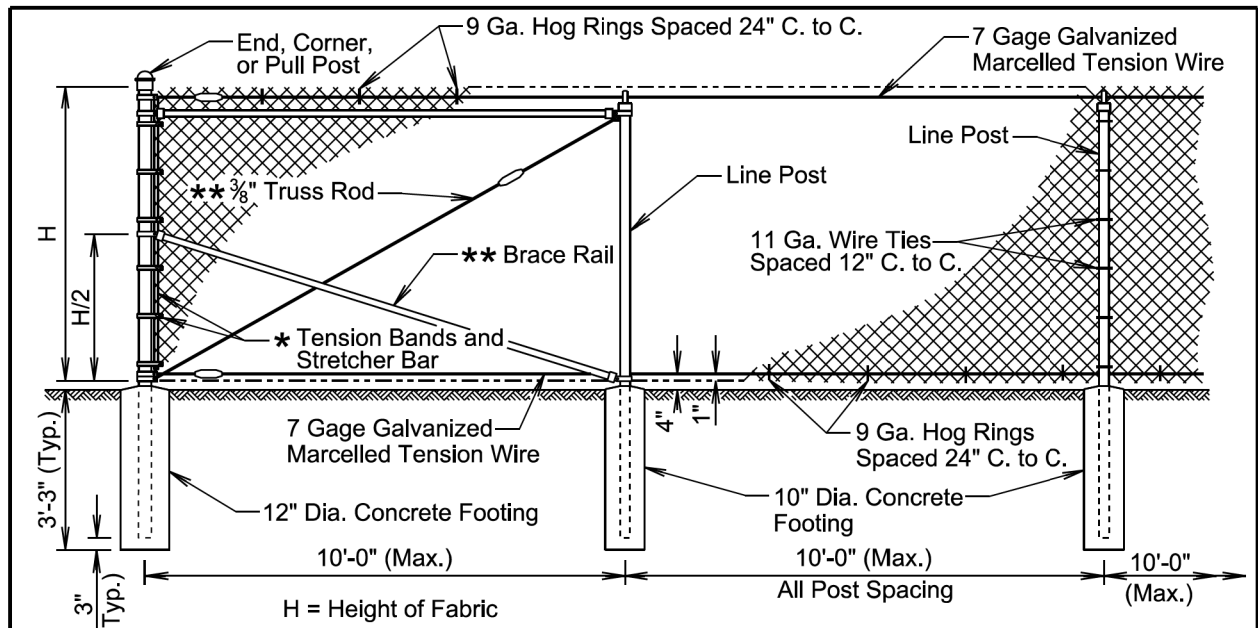
26" woven wire will have a total of two connectors, one secured to the top and one secured to the bottom.
 32" woven wire will have a total of three connectors, one secured to the top, one secured to the middle, and one secured to the bottom.

One connector will be used for each strand of barbed wire.
 A minimum of 3 connectors will be installed on chain link fence, the connectors will be placed vertically at every 2-foot increment and connectors will be placed on the top and bottom tension wires or top rail.



June 26, 2019

	<p>FENCE GROUNDING</p>	PLATE NUMBER
		620.11
Published Date: 2025		Sheet 1 of 1



H = Height of Fabric
 * Tension bands will be spaced 12" c. to c.
 ** Are not required for 3' through 5' height fences.
 ○ Tightening device such as shown on standard plate 621.03

COMPONENT	END, CORNER, and PULL POST		LINE POST			BRACE RAIL	
	Round Pipe Nominal	Roll Formed Steel	Round Pipe Nominal	"C" Section	H Beam Steel	Round Pipe Nominal	Roll Formed Steel
Type of Fabrication							
Size	3.00" O. D.	3.5"x3.5"	2.50" O. D.	1.875"x1.625"	2.25"x1.70"	1.625" O. D.	1.625"x1.25"
Weight (lb. / Ft.)	5.79 or 4.64	5.14	3.65 or 3.12	2.34	3.43	2.27 or 1.84	1.35

GENERAL NOTES:

Specific details of the component parts of the fence will be approved by the Engineer. Commercially available items produced specifically for the use intended will be used wherever possible in the construction of the fence.

Height of the fabric will be as shown in the plans. Fabric is available at the following heights: 36", 42", 48", 60", 72", 84", 96", 108", 120", and 144". Fabric heights 60 inches and less will be knuckled at both selvages. Fabric heights 72 inches and higher will be knuckled at one selvage and twisted at the other selvage.

Chain link fabric will be 2-inch mesh, No. 9 gage galvanized wire securely fastened to tension wire, line post, rails, braces, and stretcher bars.

Fence may be constructed with either round pipe, "C" section, "H" beam, or roll formed steel components as shown in the table above. Line posts may be round pipe, "C" section, or "H" beam. The corner post and rails will be either round pipe or roll formed steel. The type of components used must be approved by the Engineer prior to installation.

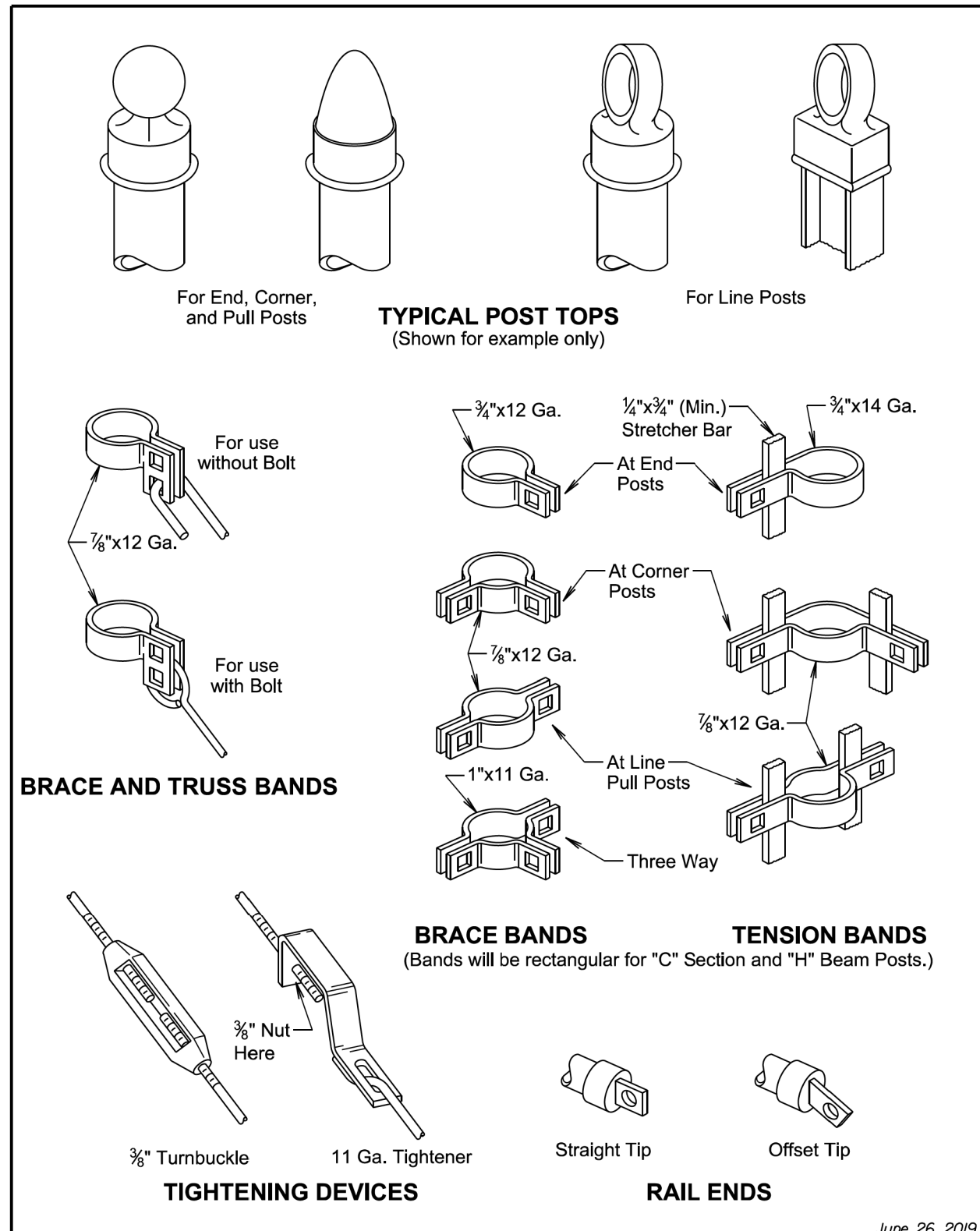
All posts will have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top tension wire.

Where fence must cross small bodies of water such as drainage areas or ponds that could freeze during the winter, use 11 gage hog rings. Provide only two ties per tension wire between line posts.

Fence grounding will be as shown on standard plate 620.11.

November 19, 2022

Published Date: 2025	SD DOT	CHAIN LINK FENCE WITH TENSION WIRED TOP	PLATE NUMBER 621.02
			Sheet 1 of 1



BRACE AND TRUSS BANDS

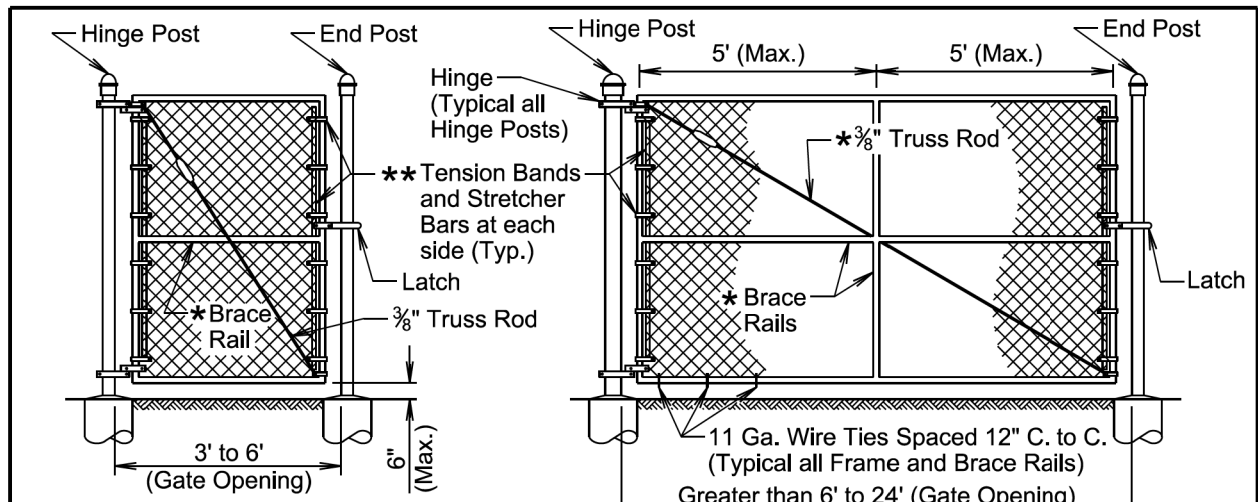
BRACE BANDS TENSION BANDS
 (Bands will be rectangular for "C" Section and "H" Beam Posts.)

TIGHTENING DEVICES

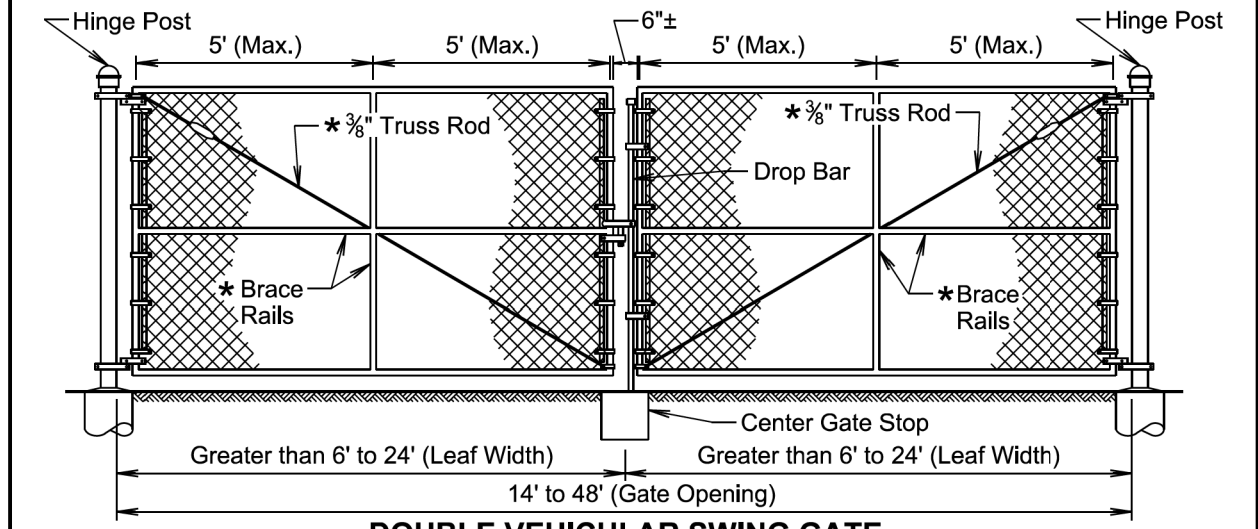
RAIL ENDS

June 26, 2019

Published Date: 2025	SD DOT	HARDWARE FOR CHAIN LINK FENCE	PLATE NUMBER 621.03
			Sheet 1 of 1



PEDESTRIAN SWING GATE **SINGLE VEHICULAR SWING GATE**



DOUBLE VEHICULAR SWING GATE

1 Gate Opening Width	Hinge Post		Concrete Footing	
	Round Pipe Nominal	Roll Formed Steel	Depth	Diameter
3' to 6'	3.00"	3.50"x3.50"	36"	12"
> 6' to 13'	4.00"	—	42"	12"
> 13' to 18'	6.625"	—	48"	18"
> 18' to 23'	8.625"	—	48"	24"

- * Are not required for gates 3' to 5' height or 5' or less in width.
- ** Tension Bands will be spaced 12" center to center.
- Tightening Device such as shown on standard plate 621.03
- 1 Leaf width for Double Vehicular Swing Gate
- 2 Will coincide with fence height

Gate Opening		Frame Pipe Nominal	Brace Rail Pipe Nominal
1 Width	2 Height		
3' to 8'	3' to 6'	1.50"	1.50"
>8' to 23'	6'	1.90"	1.50"
>8' to 23'	>6' to 12'	1.90"	1.90"

GENERAL NOTES:

Gate frames may be constructed of bent or welded steel tubing, must be approved by the Engineer prior to installation, and installed in accordance with the Manufacturer's installation instructions.

Center gate stops must be approved by the Engineer prior to installation and will be installed in accordance with the Manufacturer's installation instructions.

June 26, 2019

SD DOT	SWING GATES FOR CHAIN LINK FENCE	PLATE NUMBER 621.10
	Published Date: 2025	Sheet 1 of 1

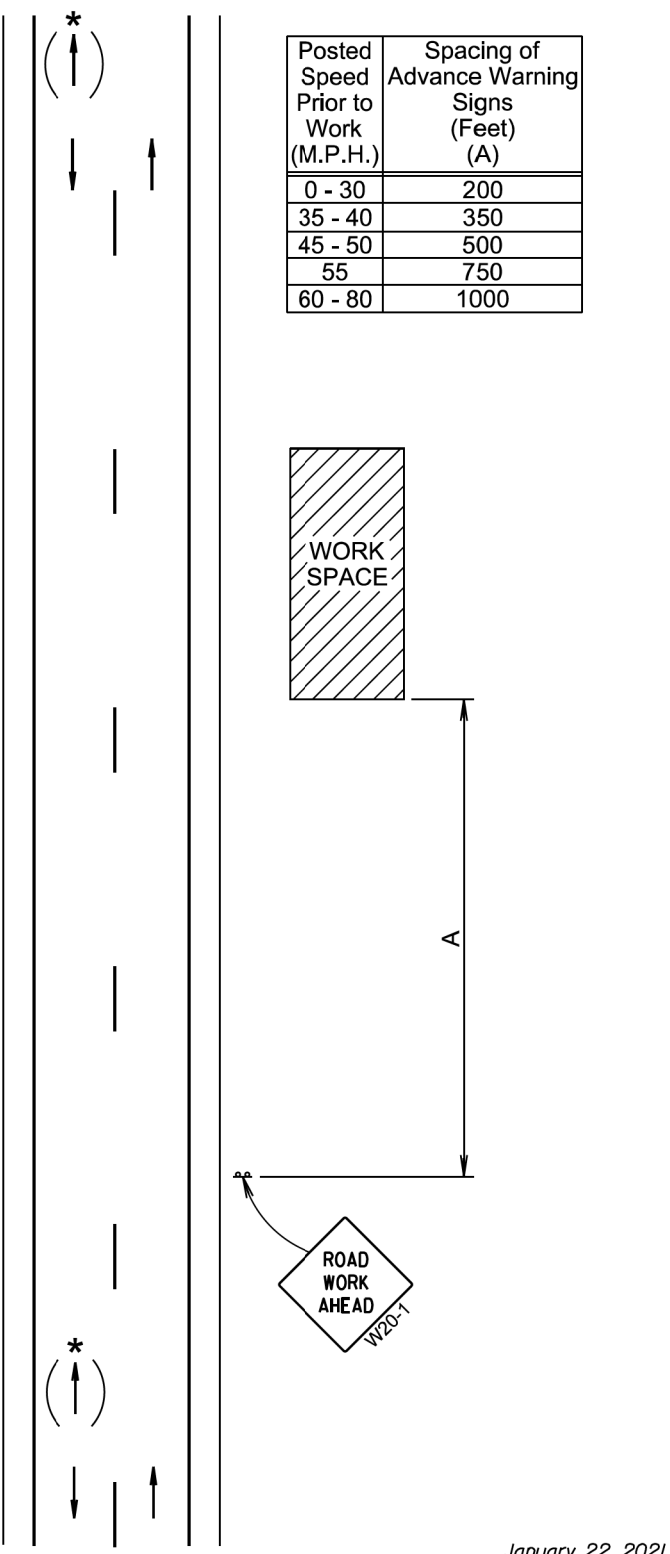
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated will be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

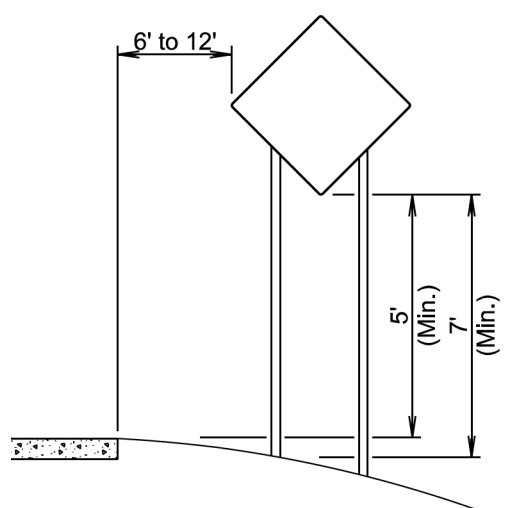
The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

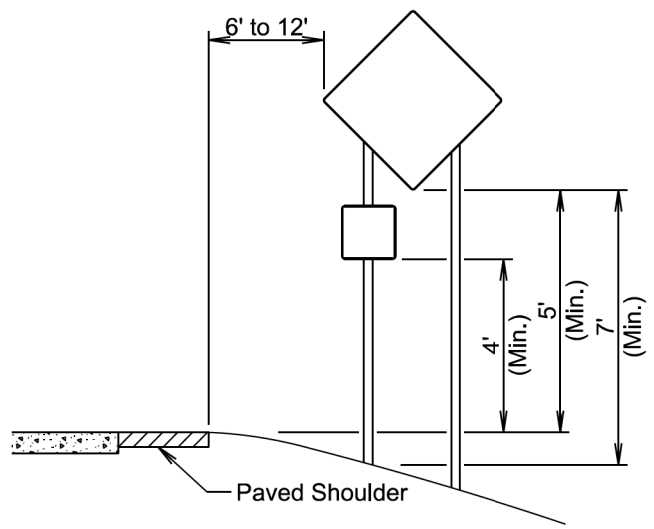
For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.



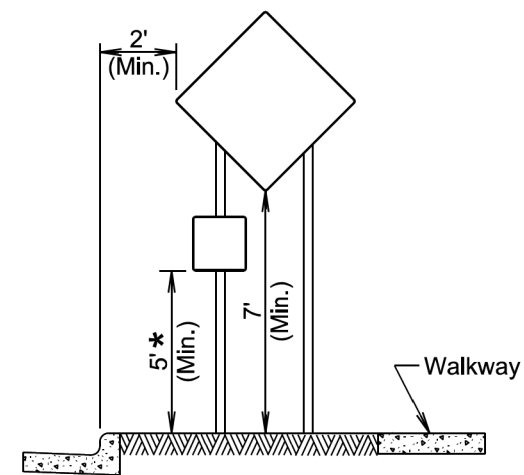
SD DOT	WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
	Published Date: 2025	Sheet 1 of 1



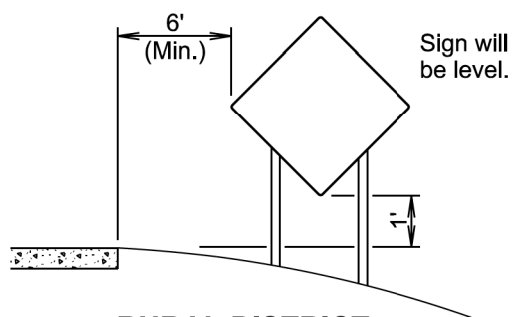
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

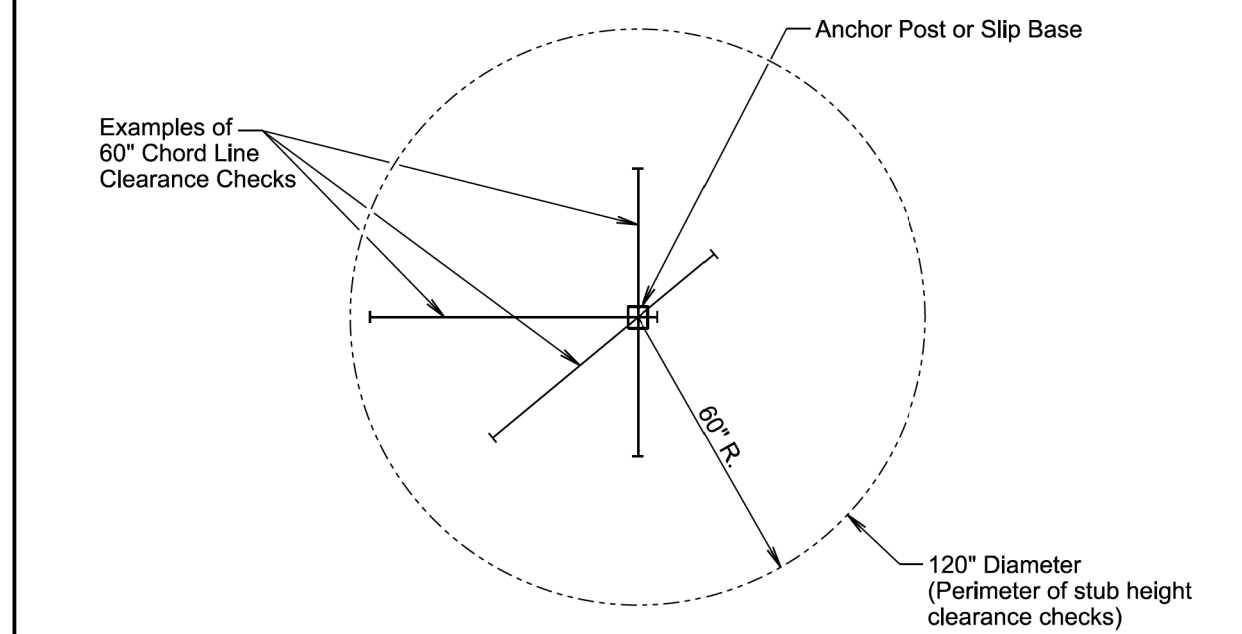


RURAL DISTRICT 3 DAY MAXIMUM
(Not applicable to regulatory signs)

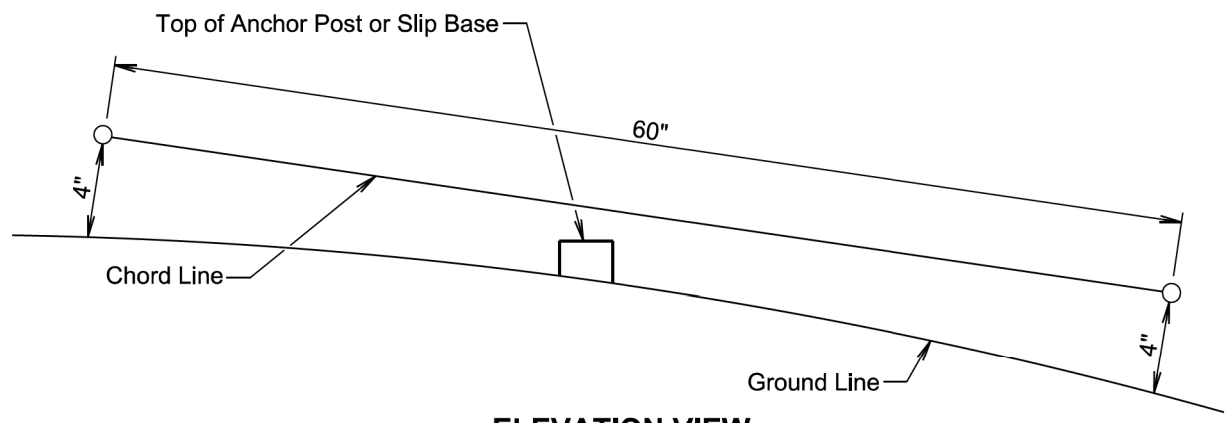
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

SD DOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
	Published Date: 2025	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

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