

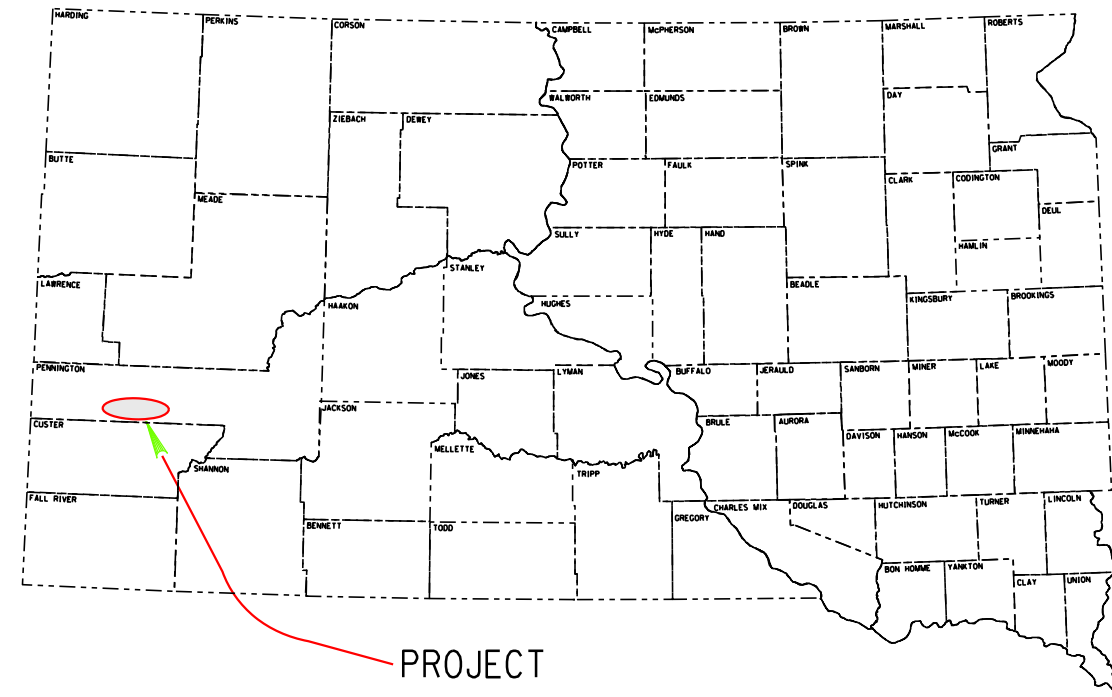
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	040-491 & 016B-491	1	9

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED**

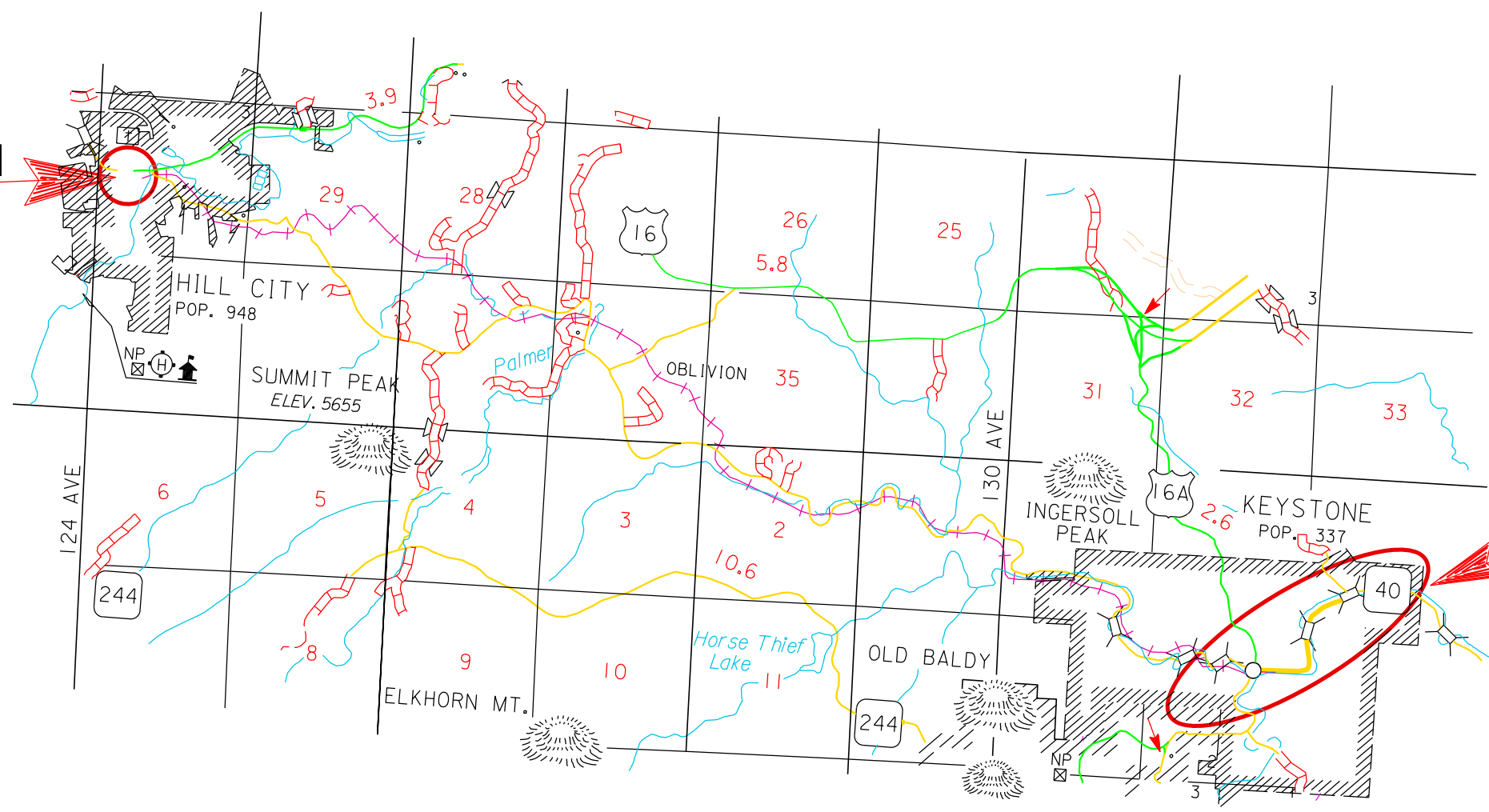
**PROJECT 040-491 & 016B - 491
S.D. HIGHWAYS 40 & 16B
PENNINGTON COUNTY
SIDEWALK & CURB AND GUTTER REPAIR
PCN i3tm & i3tn**

INDEX OF SHEETS

- Sheet 1: Title Sheet
- Sheet 2 - 4: Estimate of Quantities & Plan Notes
- Sheet 5: Hill City Project Detour
- Sheet 6 - 9: Standard Plates



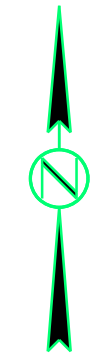
PROJECT 16B - 491



PROJECT 040-491

Storm Water Permit
No Permit Required

PROJECT 040 & 016B - 491
GROSS LENGTH 4910.4 FEET 0.93 MILES



PLOT SCALE - 1:200

PLOTTED FROM - TRCU10206

PLOT NAME - 1

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ESTIMATE OF QUANTITIES

I3tm

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	170	Ft
110E1140	Remove Concrete Sidewalk	48.0	SqYd
120E0100	Unclassified Excavation, Digouts	5	CuYd
260E2010	Gravel Cushion	10.0	Ton
634E0010	Flagging	40	Hour
634E0100	Traffic Control	1,644	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E0060	Type B66 Concrete Curb and Gutter	170	Ft
651E0040	4" Concrete Sidewalk	432	SqFt

I3tn

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E1140	Remove Concrete Sidewalk	20.0	SqYd
260E2010	Gravel Cushion	5.0	Ton
634E0010	Flagging	20	Hour
634E0100	Traffic Control	508	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
651E0040	4" Concrete Sidewalk	180	SqFt

SPECIFICATIONS

Standard Specifications for Roads & Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

UTILITIES

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 shall contact the project engineer to determine modifications that will be necessary to avoid utility impacts.

HISTORICAL PRESERVATION OFFICE CLEARANCES

To obtain State Historical Preservation Office (SHPO) clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. In lieu of a cultural resources survey, the Contractor could request a records search from Jim Donohue, State Archaeological Research Center (SARC). Provide SARC with the following: a topographical map or aerial view on 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 no artifacts have been found on the site. The Contractor shall arrange and pay for the cultural resource survey and/or records search.

If any earth disturbing activities occur within the current geographical or historic boundaries of any South Dakota reservation, the Contractor shall obtain Tribal Historical Preservation Office (THPO) clearance. If no THPO exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO or THPO responses, the Contractor should submit a records search or cultural resources survey report to the DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3268). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO/THPO approval. The Contractor is responsible for obtaining all required permits and clearances for staging areas, borrow sites, waste disposal sites, and all material processing sites. The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

WASTE DISPOSAL SITE

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

Construction/demolition debris may not be disposed of within the State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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) shall 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 Engineer.

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

- Construction/demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction/demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of 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.

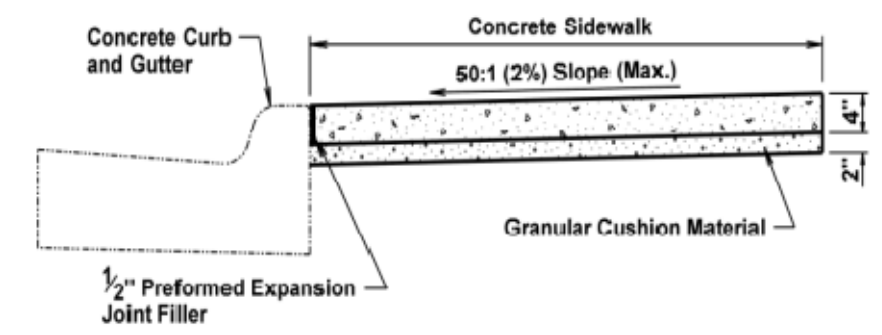
The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

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) shall be incidental to the various contract items.

TABLE OF SIDEWALK / CURB AND GUTTER REPAIR

HWY	MRM	C&G Ft	Rt/Lt	Sidewalk SqFt	Rt/Lt
US 16B	41.05	0	R	20	R
SD 40	33.19	8	R	5.8	R
SD 40	33.15	12	I		
SD 40	32.90	8	R		
SD 40	32.76	12	R	4.4	R
SD 40	32.75	12	R	5.3	R
SD 40	32.57	9	R		
SD 40	32.52	14	L		
SD 40	32.48	8	L	3.6	L
SD 40	32.47	9	L	8	L
SD 40	32.47	9	R	8	R
SD 40	32.45			7.1	L
SD 40	32.39	14	L		
SD 40	32.32	24	L		
SD 40	32.29	18	L		
SD 40	32.26	13	R	5.8	R
	TOTALS	170 FT		612 SqFt	



The concrete sidewalk shall be constructed in accordance with Section 651 of the Standard Specifications. The sidewalk details shown above are typical of this project; however, the sidewalk width and other special details are shown on the Plan and Profile sheet.

CURB AND GUTTER

Concrete curb and gutter shall be removed as shown in the table. The existing surface shall be sawed full depth to a true line with a vertical face where curb and gutter is to be removed.

All costs for the removal of the curb and gutter including saw-cutting shall be incidental to the contract unit price per foot for Remove Concrete Curb and Gutter.

New 6' curb tapers shall be constructed at the end of the remaining in-place curb and gutter sections.

New curb and gutter shall be placed against the saw-cut existing surfacing.

All costs for installation of the curb tapers shall be incidental to the contract unit price per foot for Type B66 Concrete Curb and Gutter.

RESTORATION OF GRAVEL CUSHION

An inspection of the gravel cushion subgrade shall be made after removing concrete from each replacement area. Areas of excess moisture shall be dried to the satisfaction of the Engineer. Loose and excess material shall be removed. Each replacement area shall be leveled and compacted to the satisfaction of the Engineer.

If additional gravel cushion material is required, the Contractor shall furnish, place and compact gravel cushion to the satisfaction of the Engineer.

All costs associated with this work shall be incidental to the contract unit price per square yard for 4" Concrete Sidewalk.

SUBGRADE REPAIR

Included in the Estimate of Quantities is Unclassified Excavation, Digouts for the necessary removal of unstable material.

Backfill shall be Gravel Cushion.

CURB AND GUTTER

Concrete curb and gutter shall be removed as shown in the table.

The existing surface shall be sawed full depth to a true line with a vertical face where curb and gutter is to be removed.

All costs for the removal of the curb and gutter including saw-cutting shall be incidental to the contract unit price per foot for Remove Concrete Curb and Gutter.

New 6' curb tapers shall be constructed at the end of the remaining in-place curb and gutter sections.

New curb and gutter shall be placed against the saw-cut existing surfacing.

All costs for installation of the curb tapers shall be incidental to the contract unit price per foot for Type B66 Concrete Curb and Gutter.

PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and 6 inches on temporary easements. Removal of top soil will be incidental to the other bid items.

EROSION CONTROL

All materials, equipment, and labor necessary to seed and fertilize the disturbed area resulting from work required by this contract shall be incidental to the unit price per sqft for 4" Concrete Sidewalk.

All permanent seed shall be planted in the topsoil at the depth of ¼" to ½".

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½' of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The area to be seeded is estimated at -0.1 acre. Limits of erosion control work shall be determined on construction by the Engineer. South Dakotan native grown seed is an acceptable alternative to any of the seed varieties listed below. South Dakota native grown seed used as an alternative shall conform to the same specifications and requirements for that individual seed type.

Application of fertilizer or mulch will not be required on this project.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10

Total: 26

FERTILIZING

A commercial fertilizer with a minimum guaranteed analysis of 11-52-0 or an approved alternate fertilizer shall be applied disturbed areas. The application rate shall be 100 pounds per acre.

ASPHALT CONCRETE COMPOSITE

There is 5.0 ton of Asphalt Concrete Composite provided in the Contract Quantities for mainline repairs from the Contractors formwork required for the installation of curb and gutter. All work associated with furnishing, placing, and compaction of the asphalt concrete composite shall be incidental to the Contract Unit Price per ton for Asphalt Concrete Composite.

Mineral aggregate for the Asphalt Concrete Composite shall conform to the requirements of the Standard Specifications for Class E, Type 1. The Asphalt Concrete Composite shall be placed full-width, 2" thick.

All other requirements in the Standard Specifications for Asphalt Concrete Composite shall apply.

The asphalt binder used in the mixture shall be PG 58-28, PG 64-22, PG 64-28 or 64-34 Asphalt Binder.

SS-1h or CSS-1h Emulsified Asphalt for Tack shall be applied at the rate of 0.05 gallons per square yard.

SURFACING THICKNESS DIMENSIONS

Plan tonnage will be applied even though the thickness may vary from that shown in the plans. At those locations where material must be placed to achieve a required elevation, plans tonnages may be varied to achieve the required elevation.

MAINTENANCE OF TRAFFIC

Requests to deviate from the sequence of operations shall 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 shall be submitted for review a minimum of one week prior to potential implementation.

Unless otherwise stated in these plans, no work will be allowed during hours of darkness. Hours of darkness are defined, as ½ hour after sunset until ½ hour before sunrise.

Storage of vehicles and equipment shall be as near the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage of the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

Existing guide, route, informational logo, regulatory, and warning signs shall be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Non-applicable signing shall be covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 36 hours. The cost of removing or covering non-applicable signs shall be incidental to the contract lump sum price for, Traffic Control, Miscellaneous.

MAINTENANCE OF TRAFFIC (CONTINUED)

Construction signing mounted on portable supports shall not be used for a duration of more than 3 days, unless approved by the Engineer. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location, ground mounted, breakaway supports.

If inappropriate/conflicting pavement markings exist, the markings shall 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 shall be placed at a spacing of ½ G. Pavement marking removals shall be paid for at the contract unit price for Remove Pavement Marking, 4" or equivalent. Temporary pavement marking shall be paid for at the contract unit bid price for Temporary Pavement Marking. The additional channelizing devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

The quantity of signs paid for will be for the greatest number of installations per sign per PCN in place at any one time regardless of the number of set-ups on the project.

Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

The Contractor shall be required to have a person available 24 hour/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.

The Contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. The amber light shall be mounted on the uppermost part of the contractor's vehicle. Lights must have peak intensity within the range of 40 to 400 candelas and must flash at 75 ± 15 flashes per minute. Vehicle flasher/hazard lights are not acceptable.

All construction operations shall 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 shall be used.

Temporary Road Markers shall be used for lane closure tapers or lane shift tapers and lane lines. Temporary Pavement Marking installed in accordance with the traffic control standard plates will not be measured for payment and will be incidental to the contract lump sum price for Traffic Control, Miscellaneous. Drums are required in all enclosure tapers.

Traffic shall 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 shall be repaired at the Contractor's expense and no expense to the State.

A Type III Barricade shall be installed as per the details in these plans and at a minimum spacing of 2000' within the lane closure. 3 drums shall be placed across the lane closure in front of any open concrete panel repair area, as directed by the Engineer.

Six sets of work zone signing for standard plate 634.25 are provided in the estimate of quantities. The Contractor shall try to group the work zones together, so that vehicle speeds are kept low traveling from one work zone to the next. The length of the lane closures shall provide adequate sight distance to oncoming vehicles and be kept to a minimum to reduce the delay to the traveling public.

TABLE OF TRAFFIC CONTROL

Hill City

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
R9-9	24" x 12"	SIDEWALK CLOSED	2	4	8
R9-11	24" x 18"	SIDEWALK CLOSED AHEAD, CROSS HERE	2	7	14
R9-11a	24" x 12"	SIDEWALK CLOSED, CROSS HERE	2	4	8
W3-1	48" x 48"	STOP AHEAD (SYMBOL)	1	34	34
W11-2	36" x 36"	PEDSTRIAN (SYMBOL)	2	27	54
W16-7P	30" x 18"	DOWNWARD DIAGONAL ARROW	2	15	30
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	2	34	68
W20-3	48" x 48"	ROAD CLOSED ##### FT. OR AHEAD	1	34	34
*****		TYPE III BARRICADE - 8 FT. DOUBLE SIDED	4	56	224
TOTAL UNITS					508

Keystone

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	8	17	136
W3-4	48" x 48"	BE PREPARED TO STOP	2	34	68
W11-2	36" x 36"	PEDSTRIAN (SYMBOL)	8	27	216
W16-7P	30" x 18"	DOWNWARD DIAGONAL ARROW	4	15	60
W16-9P	30" x 18"	AHEAD	4	15	60
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	8	34	272
W20-7a	48" x 48"	FLAGGER	2	34	68
W21-1a	48" x 48"	WORKERS (SYMBOL)	2	34	68
W21-5	48" x 48"	SHOULDER WORK	4	34	136
*****		TYPE III BARRICADE - 8 FT. DOUBLE SIDED	10	56	560
TOTAL UNITS					1644

SIDEWALK DETOURS

Sidewalk detours will be required during the construction of the project in the locations where there is sufficient right-of-way for a sidewalk or adjacent sidewalk. This will be determined on a site by site basis as per the project Engineer. The price of the Sidewalk Detours will be incidental to the contract price per unit for traffic control. There will be appropriate quantities for 4 detour locations simultaneously. The bid item price per unit for the detour signs shall cover all costs associated with the installation, maintenance and takedown of the detour.

Temporary curb ramps shall be in place where pedestrian detour does not have existing curb ramps available. All costs associated with the placement and maintenance of the temporary curb ramps shall be incidental to the contract unit price Traffic Control Miscellaneous.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	040-491 & 016B-491	5	9

HILL CITY ROAD CLOSURE

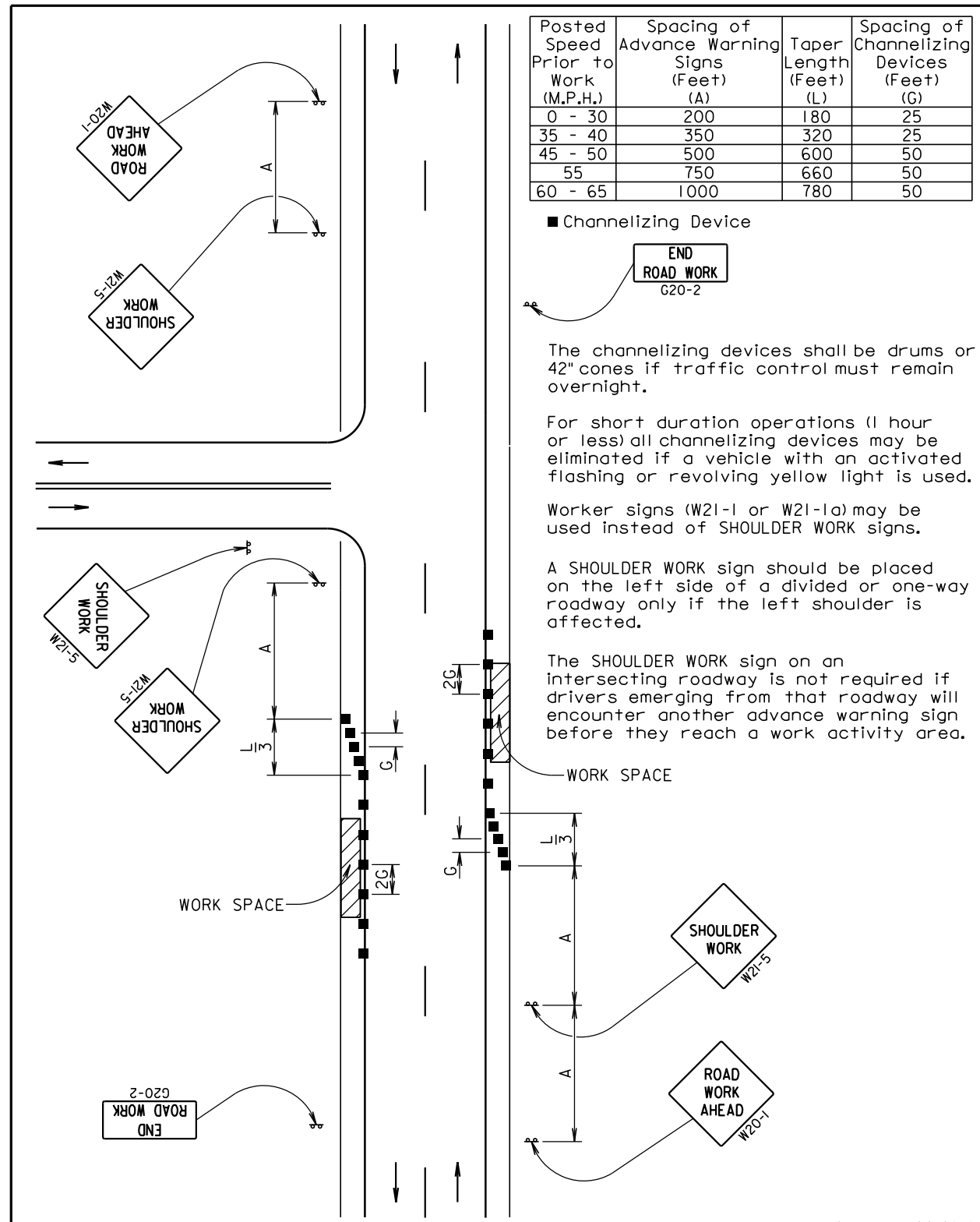


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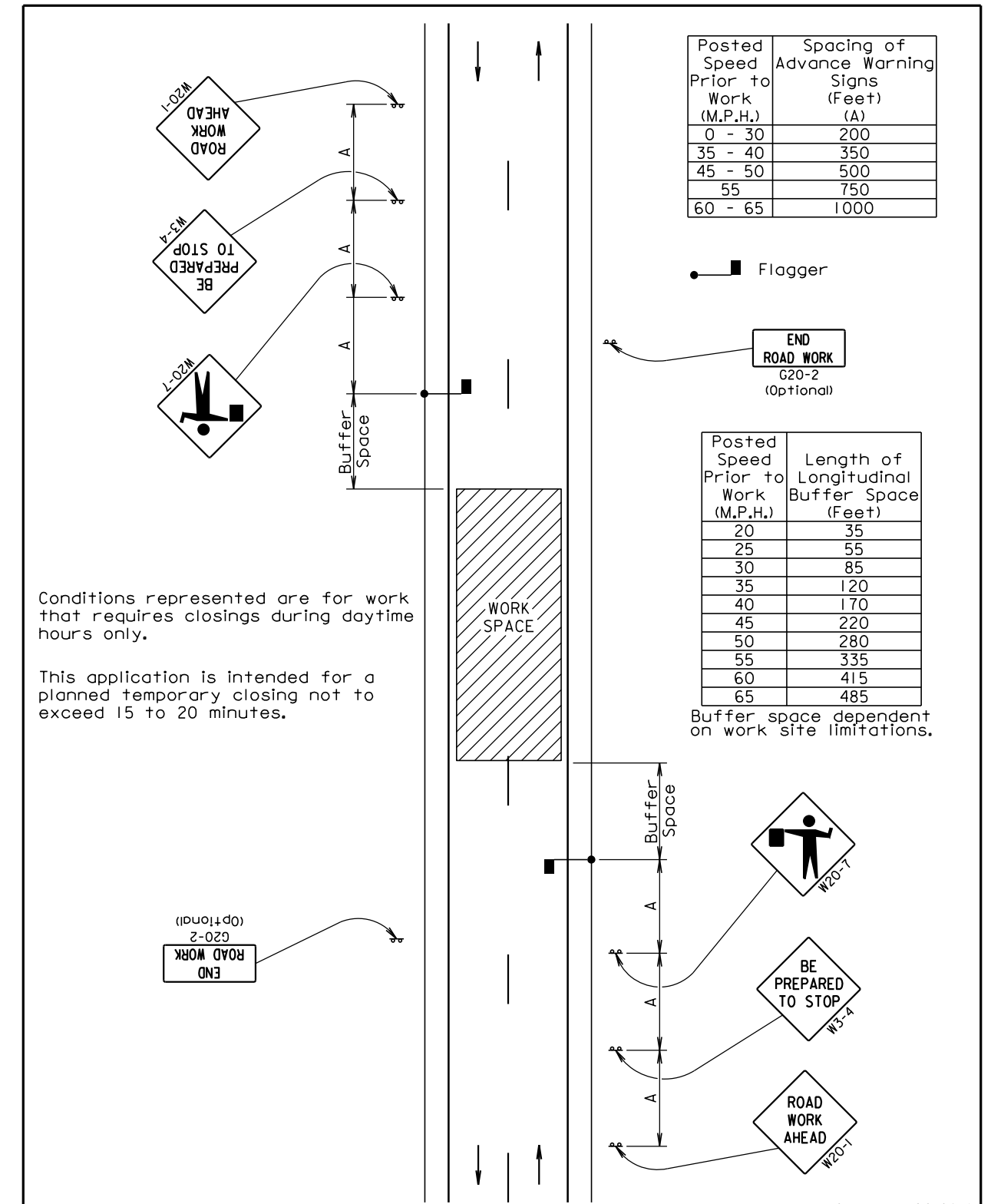
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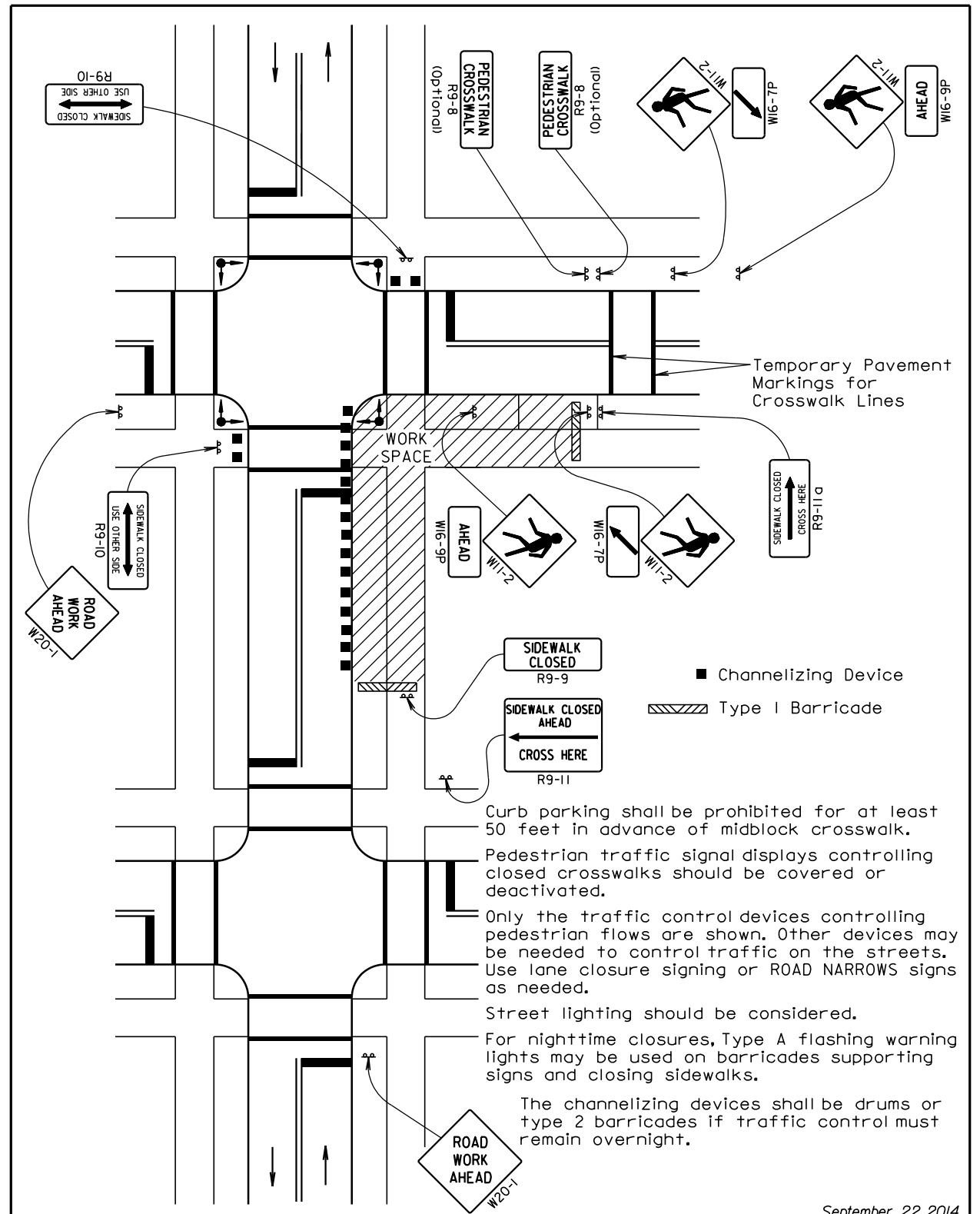
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September 22, 2014



September 22, 2014



Curb parking shall be prohibited for at least 50 feet in advance of midblock crosswalk.

Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.

Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs as needed.

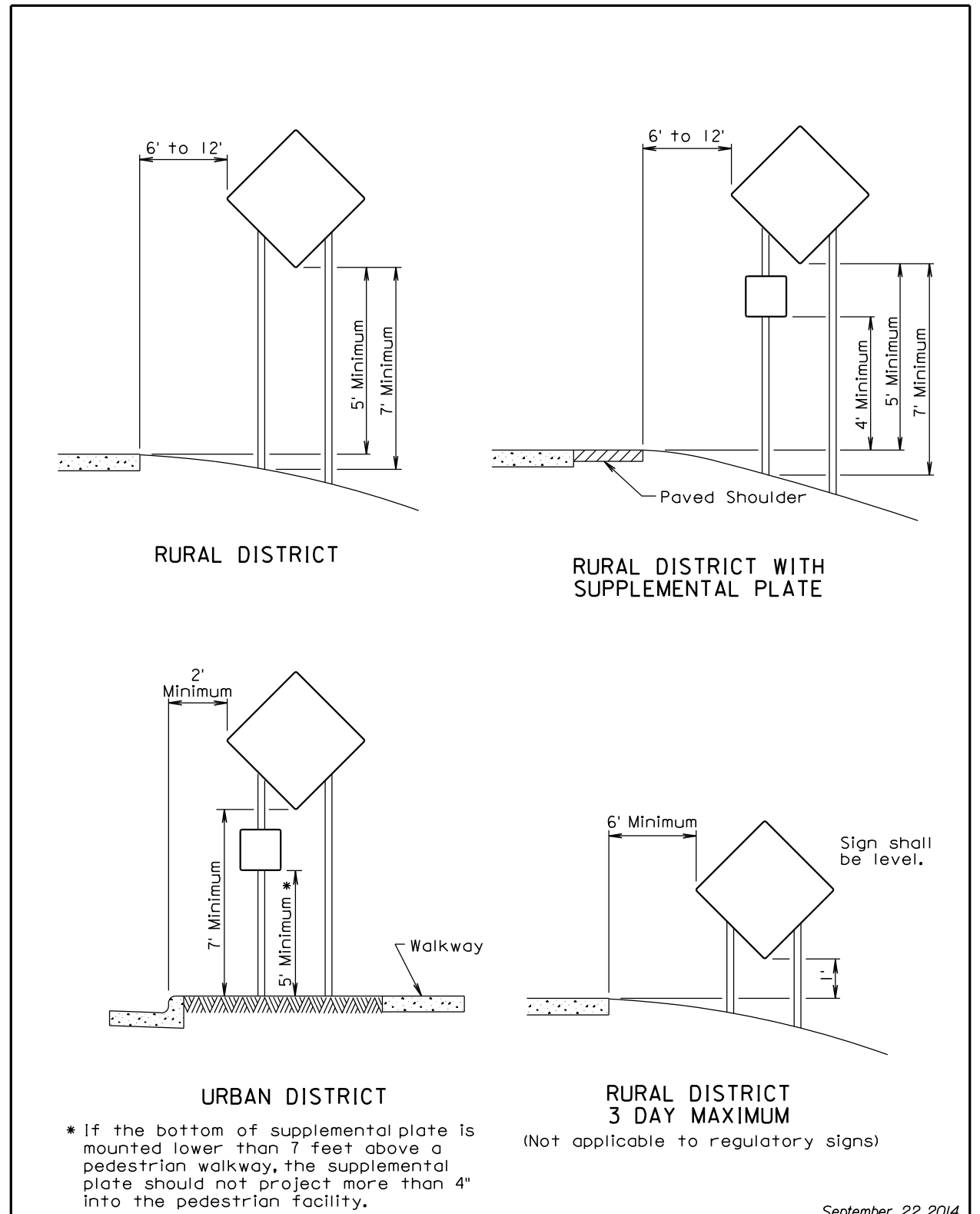
Street lighting should be considered.

For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing sidewalks.

The channelizing devices shall be drums or type 2 barricades if traffic control must remain overnight.

September 22, 2014

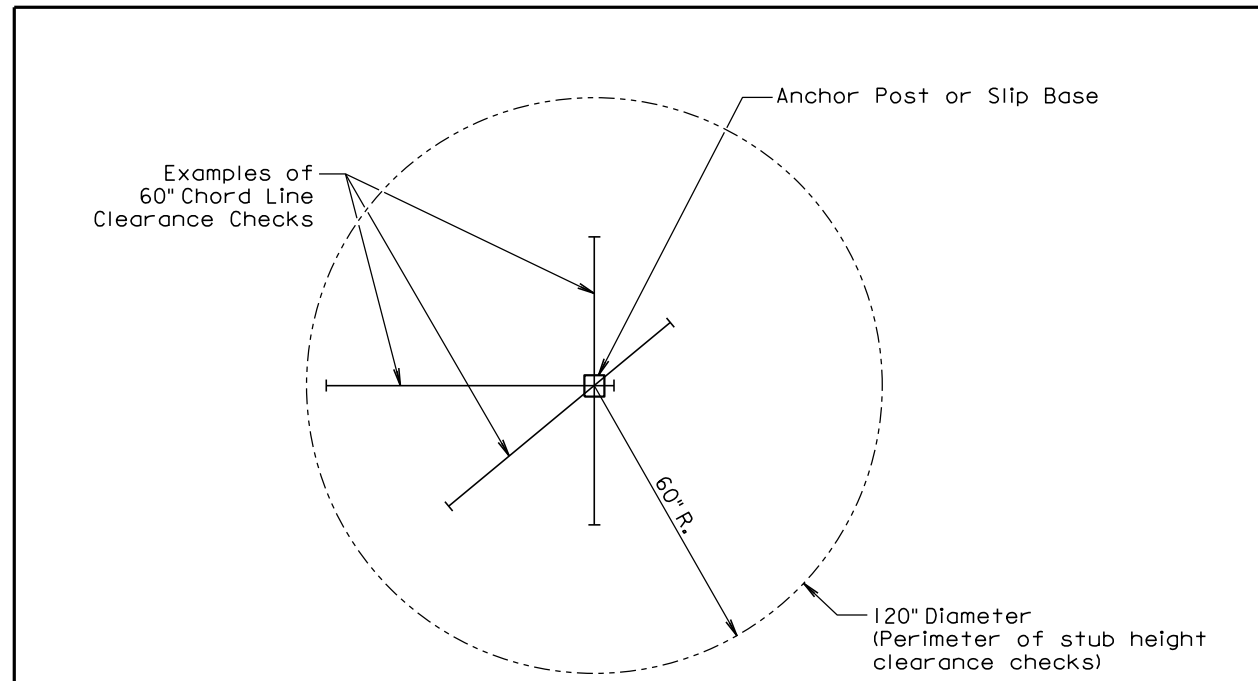
Published Date: 1st Qtr. 2015	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES SIDEWALK CLOSURES AND PEDESTRIAN DETOURS	PLATE NUMBER 634.33
			Sheet 1 of 1



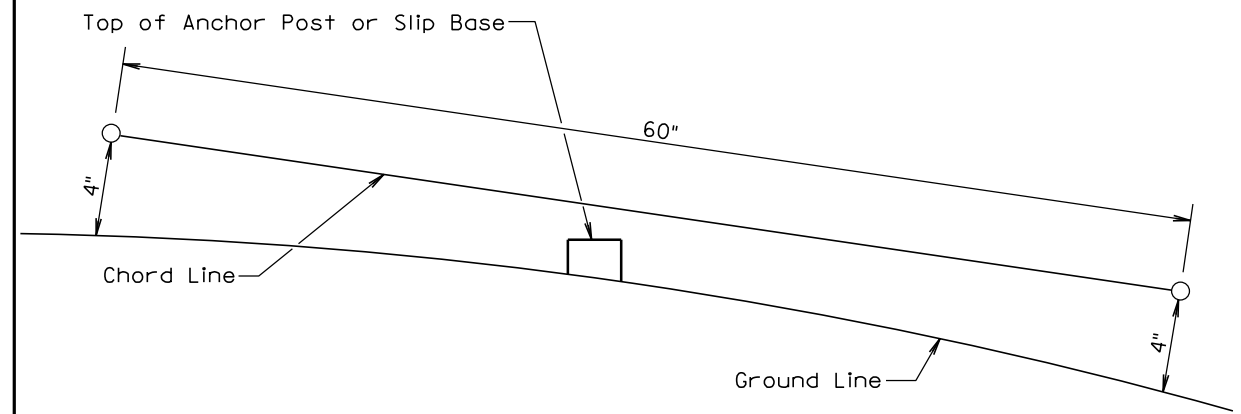
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

Published Date: 1st Qtr. 2015	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

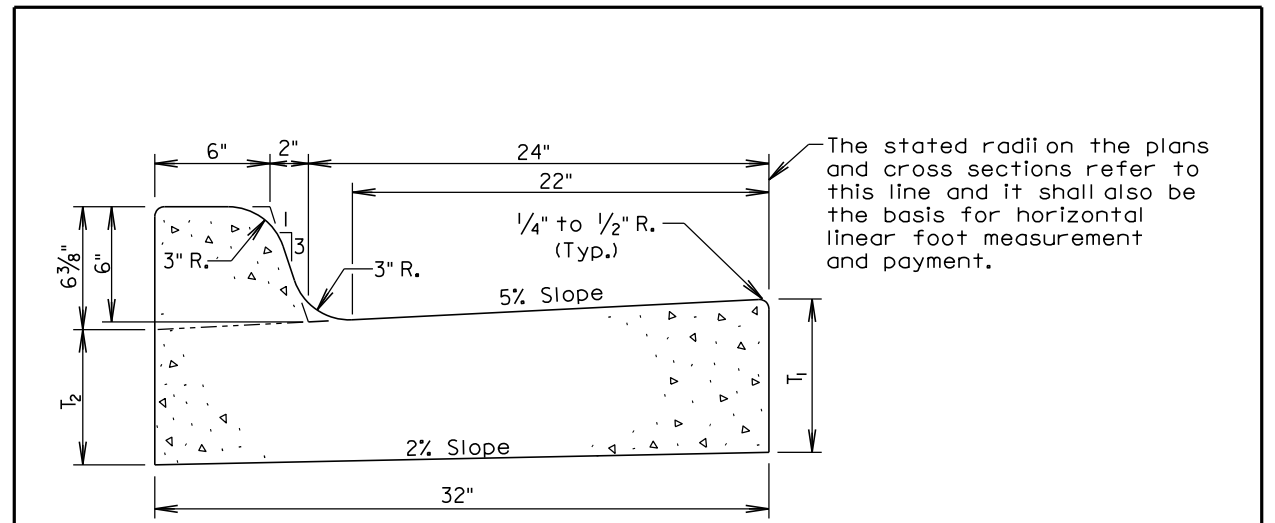
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall 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.

July 1, 2005

Published Date: 1st Qtr. 2015	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1



The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.

Type	T ₁ (Inches)	T ₂ (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 ¹ / ₁₆	0.057	17.7
B67	7	6 ¹ / ₁₆	0.065	15.4
B68	8	7 ¹ / ₁₆	0.073	13.7
B68.5	8.5	7 ⁹ / ₁₆	0.077	13.0
B69	9	8 ¹ / ₁₆	0.081	12.3
B69.5	9.5	8 ⁹ / ₁₆	0.085	11.7
B610	10	9 ¹ / ₁₆	0.090	11.2
B610.5	10.5	9 ⁹ / ₁₆	0.094	10.7
B611	11	10 ¹ / ₁₆	0.098	10.2
B611.5	11.5	10 ⁹ / ₁₆	0.102	9.8
B612	12	11 ¹ / ₁₆	0.106	9.4

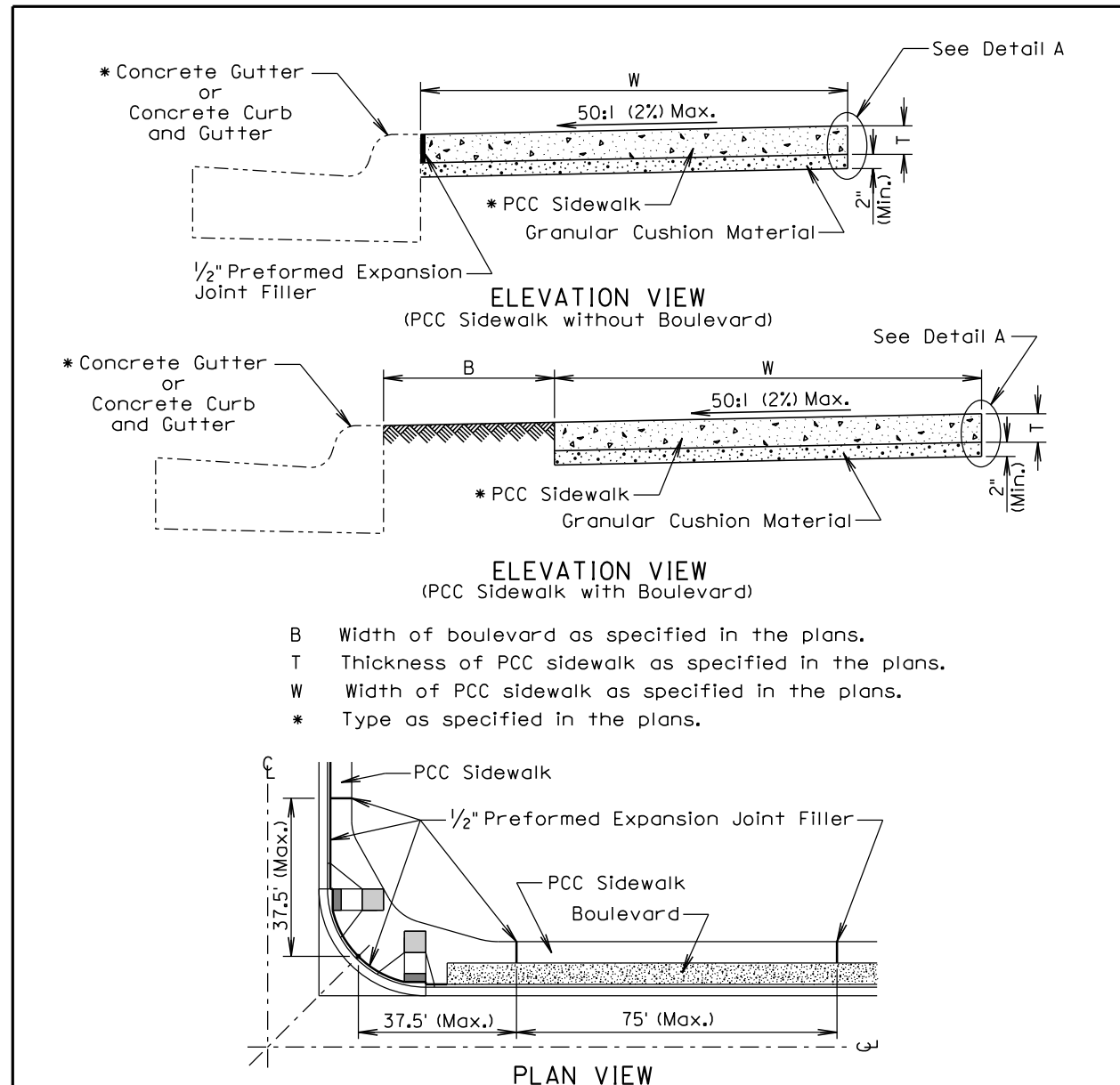
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

See Standard Plate 650.90 for expansion and contraction joints in the curb and gutter.

September 6, 2008

Published Date: 1st Qtr. 2015	S D D O T	TYPE B CONCRETE CURB AND GUTTER	PLATE NUMBER 650.01
			Sheet 1 of 1



- B Width of boulevard as specified in the plans.
- T Thickness of PCC sidewalk as specified in the plans.
- W Width of PCC sidewalk as specified in the plans.
- * Type as specified in the plans.

GENERAL NOTES:

The PCC sidewalk shall be constructed in accordance with Section 651 of the Standard Specifications.

The maximum length between expansion joints in PCC sidewalk is 75 feet.

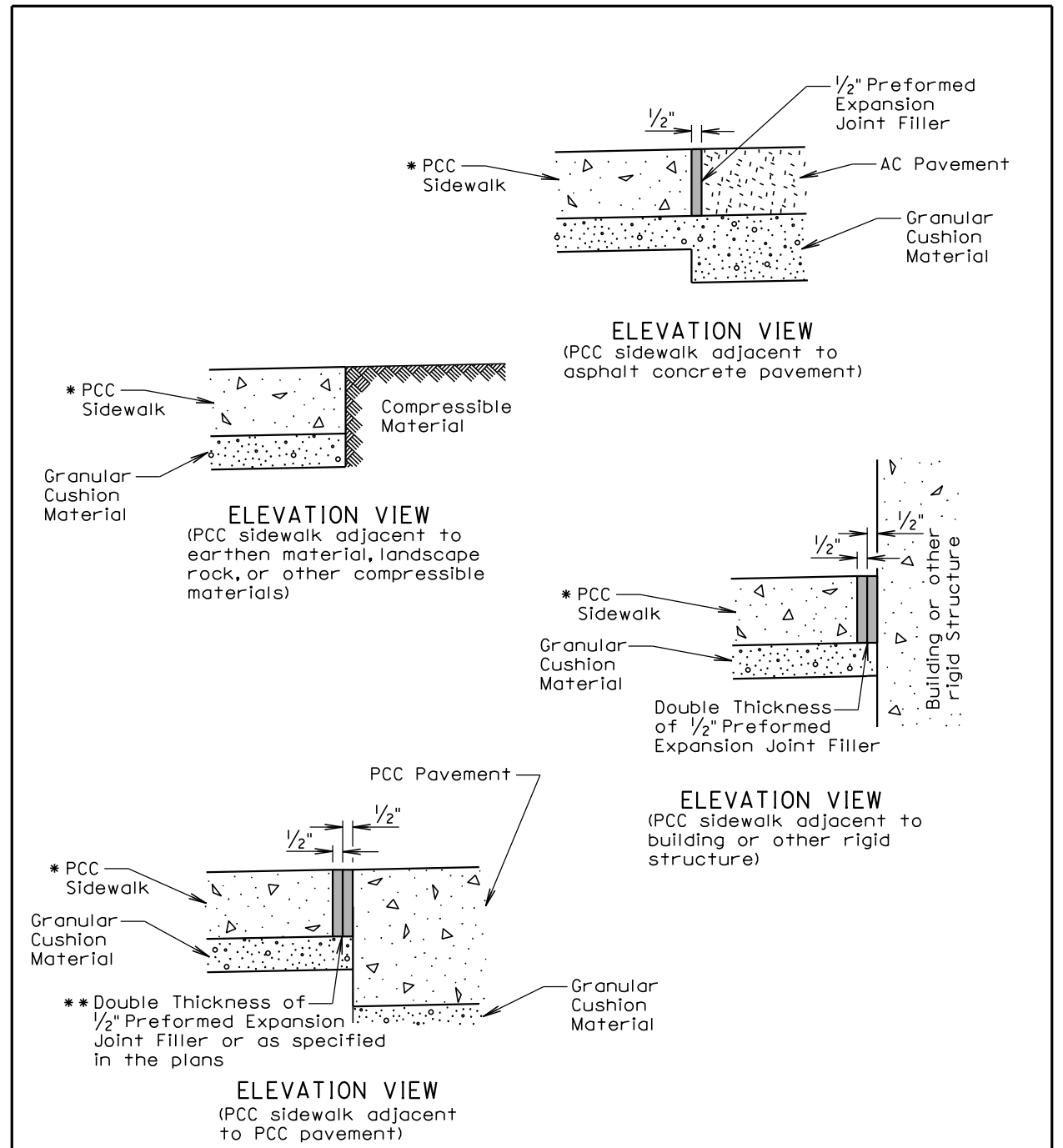
PCC sidewalk placed adjacent to intersection of roadways shall have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See PLAN VIEW.

An expansion joint in PCC sidewalk shall consist of a 1/2 inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

** Large areas of PCC pavement adjacent to PCC sidewalk may require a different joint treatment than shown in the detail. If a different joint detail is necessary, plans will contain the joint detail and the Contractor shall construct the joint treatment in accordance with the plans.

August 31, 2013

<i>Published Date: 1st Qtr. 2015</i>	S D D O T	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 1 of 2



Detail A
(Use Appropriate Detail(s))

August 31, 2013

<i>Published Date: 1st Qtr. 2015</i>	S D D O T	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 2 of 2