

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018 - 492	1	4

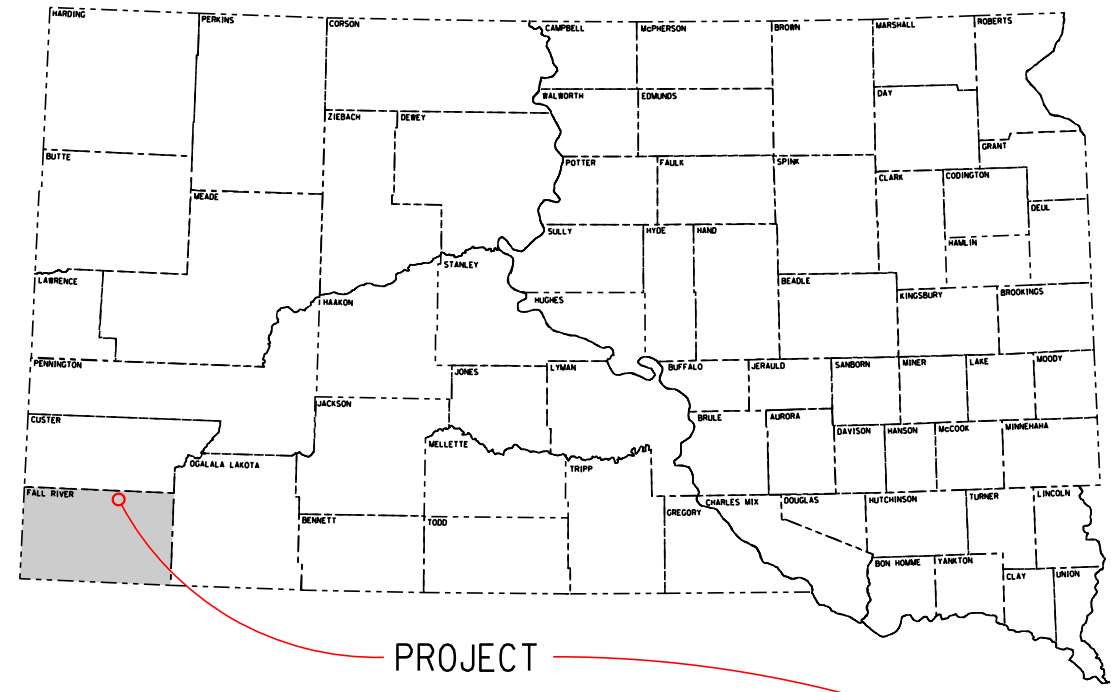
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT 018-492
U.S. HIGHWAY 18
FALL RIVER COUNTY

PIPE CLEANOUT AND BORING
PCN 145A

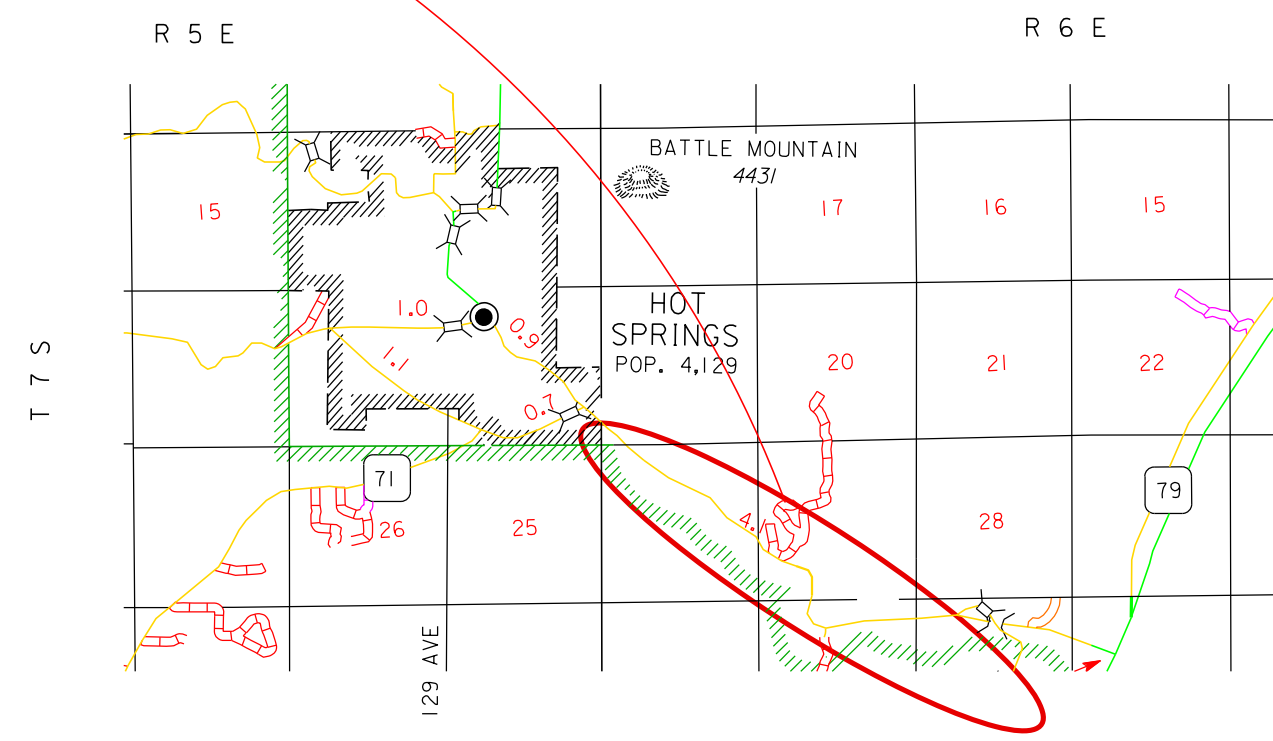
INDEX OF SECTIONS

- Sheet No. 1: Title Sheet
- Sheet No. 2-3: Estimate and Notes
- Sheet No. 4: Standard Plates

PLOT SCALE - 1"=201.642



MRM 42.45, 42.36, 41.98 & 40.86



ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
451E5190	Bore Obstruction	8	Each
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	148.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0900	Temporary Diversion Channel and/or Pipe	4	Each

SPECIFICATIONS

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

WORK DESCRIPTION

Work on this project will consist of the diverting water away from two culverts, boring within the two culverts to achieve a 24" opening, and subsequently removing the water diversion.

TRAFFIC CONTROL – GENERAL NOTES

1. 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.
2. 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.
3. 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.
4. Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.
5. All non-applicable existing signing and temporary traffic control devices 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 48 hours. The cost of removing or covering

non-applicable signs and temporary traffic control devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

6. 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.
7. The quantity of traffic control units paid for will be for the greatest number of installations per sign in place at any one time regardless of the number of set-ups on the project.
8. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.
9. All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.
10. 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.
11. 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.
12. 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.
13. 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 haul trucks shall 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 shall be incidental to the various related contract bid items.
14. All construction operations shall be conducted in the general direction of traffic movement.
15. If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used, as determined by the Engineer.
16. Temporary Road Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	4	48" x 48"	16	64
W21-5	SHOULDER WORK	4	48" x 48"	16	64
G20-2	END ROAD WORK	4	36" x 18"	5	20
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT					148

REFLECTORIZED SHEETING REQUIREMENTS FOR TEMPORARY TRAFFIC CONTROL DEVICES

Delete the first paragraph of Section 984.1 and replace with the following:

Temporary traffic control devices, including signs, drums, cones, tubular markers, barricades, vertical panels, and direction indicator barricades shall be reflectorized with sheeting applied to a satisfactory backing. Flat surfaced temporary traffic control devices including, but not limited to; signs, barricades, vertical panels, and direction indicator barricades shall be reflectorized with super/very high intensity reflectorized sheeting meeting the standards of Type XI as defined by AASHTO M 268 (ASTM D4956). Round surfaced temporary traffic control devices including, but not limited to; drums, cones, and tubular markers shall be reflectorized with high intensity reflectorized sheeting meeting the standards of Type IV as defined by AASHTO M 268 (ASTM D4956). All orange colored material shall be fluorescent.

TEMPORARY DRAINAGE DIVERSION

Water shall be temporarily diverted from the pipes and through the existing overflow channel as needed to complete boring. The Contractor shall use sandbags or similar material to divert the flow, so the water remains clean. All costs for diverting and restoring the flow to the culverts shall be incidental to the contract unit price per each for Temporary Diversion Channel and/or pipe.

BORING OBSTRUCTION

The boring pit shall be located on the outlet (east) end of the pipe.

Bedding material required for boring machine shall be clean rock placed as to not interrupt the flow upon release of the water.

The boring machine head excavation shall be circular with a maximum diameter capable of creating a 24" opening while not damaging the existing CMP, whether circular or arch.

All material excavated by the boring head for the pipe installation shall be disposed of by the contractor.

All costs (including construction of the boring pit and bedding material for the boring machine) for opening the pipe to the minimum 24" dimension shall be paid at the contract unit price per each for Bore Obstruction.

BORING OBSTRUCTION (CONTINUED)

Payment will not be made if the minimum opening of 24" is not achieved.

It is estimated the length of the blockage area is short, but should be inspected by the Contractor prior to preparing the bid.

Water blasting has been attempted unsuccessfully at this location in the past.

All sediment and debris removed from the culvert shall be disposed of by the Contractor. The Contractor shall shape the ditches in the area of the culvert ends to restore ditch flow. All costs associated with cleaning out the existing culvert, the removal of debris and shaping of the ditches shall be incidental to the contract unit price per each for "Bore Obstruction".

BORE OBSTRUCTION

MRM	Type	Size	Length
40.86	Arch CMP	Twin 36"	140'
41.98	Arch CMP	Twin 36"	168'
42.36	Arch CMP	Twin 36"	220'
42.45	Arch CMP	Twin 36"	176'

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:

1. 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.

HISTORICAL PRESERVATION OFFICE CLEARANCES

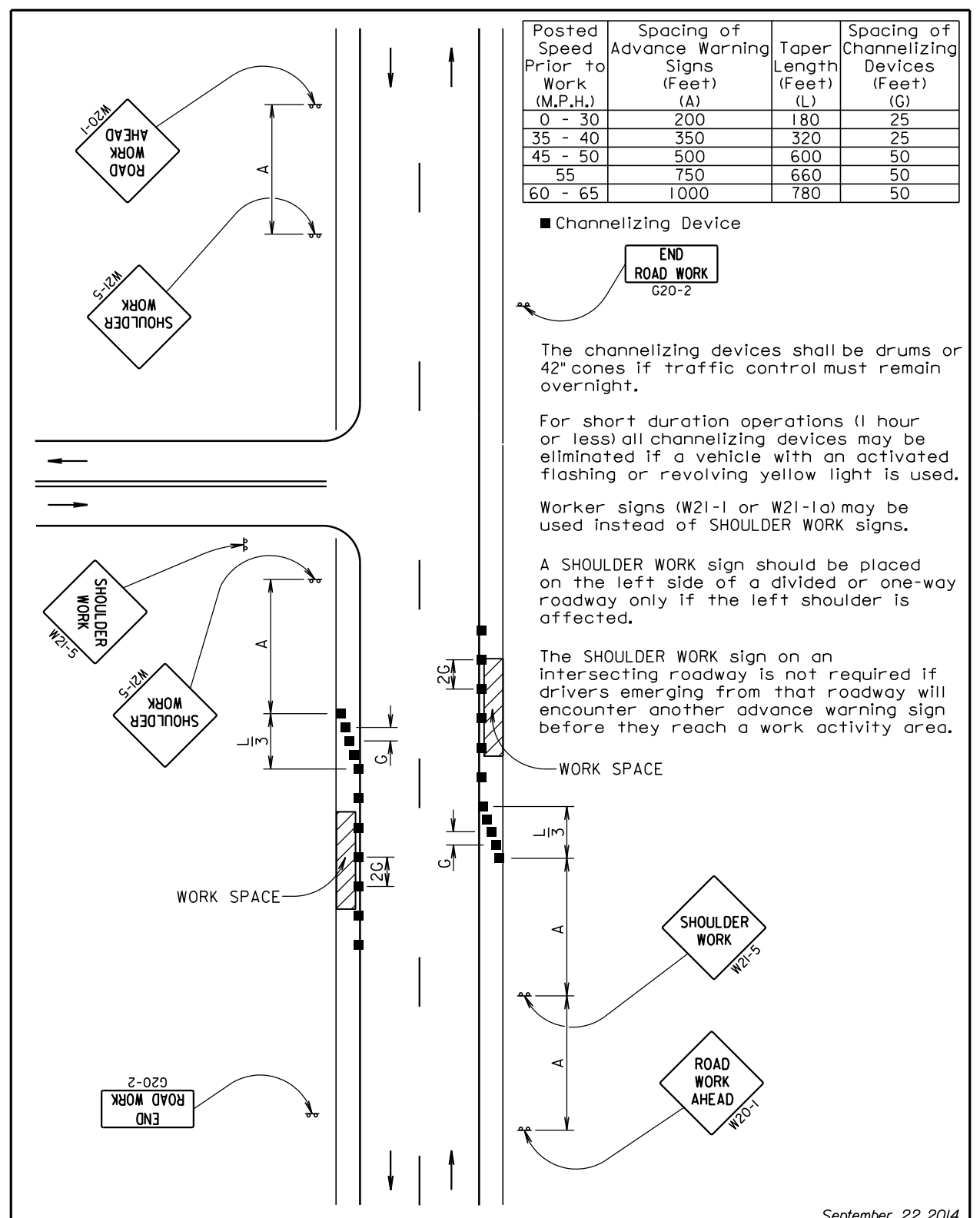
To obtain SHPO clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. The Contractor shall arrange and pay for this survey. In lieu of a cultural resources survey, the Contractor could request a literature search on the site and provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that no artifacts have been found on the site. Jim Donohue, State Archaeological Research Center at 605-394-1937 shall be contacted for a literature search.

If borrow material is furnished from within the current geographical reservation boundaries or historic boundaries of the Lake Traverse, Yankton, or Flandreau-Santee reservations, the Contractor shall obtain THPO (Tribal Historical Preservation Office) clearance from the Tribal Cultural Resources Officer. This requirement is in addition to the SHPO clearance. If no Tribal contact exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO and THPO responses, the Contractor should submit a cultural resources survey report or the results of the literature search along with a legal description of the site, a topographical map with the site clearly marked, and evidence of prior site disturbance to Terrence G. Keller, DOT Environmental Supervisor, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3721). Allow 30 days from the date this information is submitted to the Environmental Supervisor for SHPO approval. The Contractor is responsible for obtaining all required permits and clearances for the borrow and/or waste disposal site(s) prior to commencing construction activities at the borrow and/or waste disposal site(s). The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

UTILITIES

It is not anticipated that any utilities will be found within the boundaries of the project. The Contractor, however, will be responsible for locating and protecting any utility that would conflict with any work. Any damage done to a utility will be the Contractor's responsibility to repair at no cost to the State.



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 - 50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

END ROAD WORK
G20-2

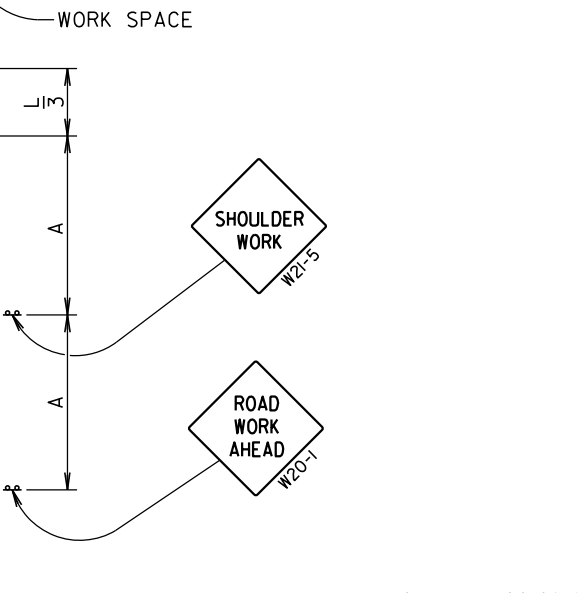
The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

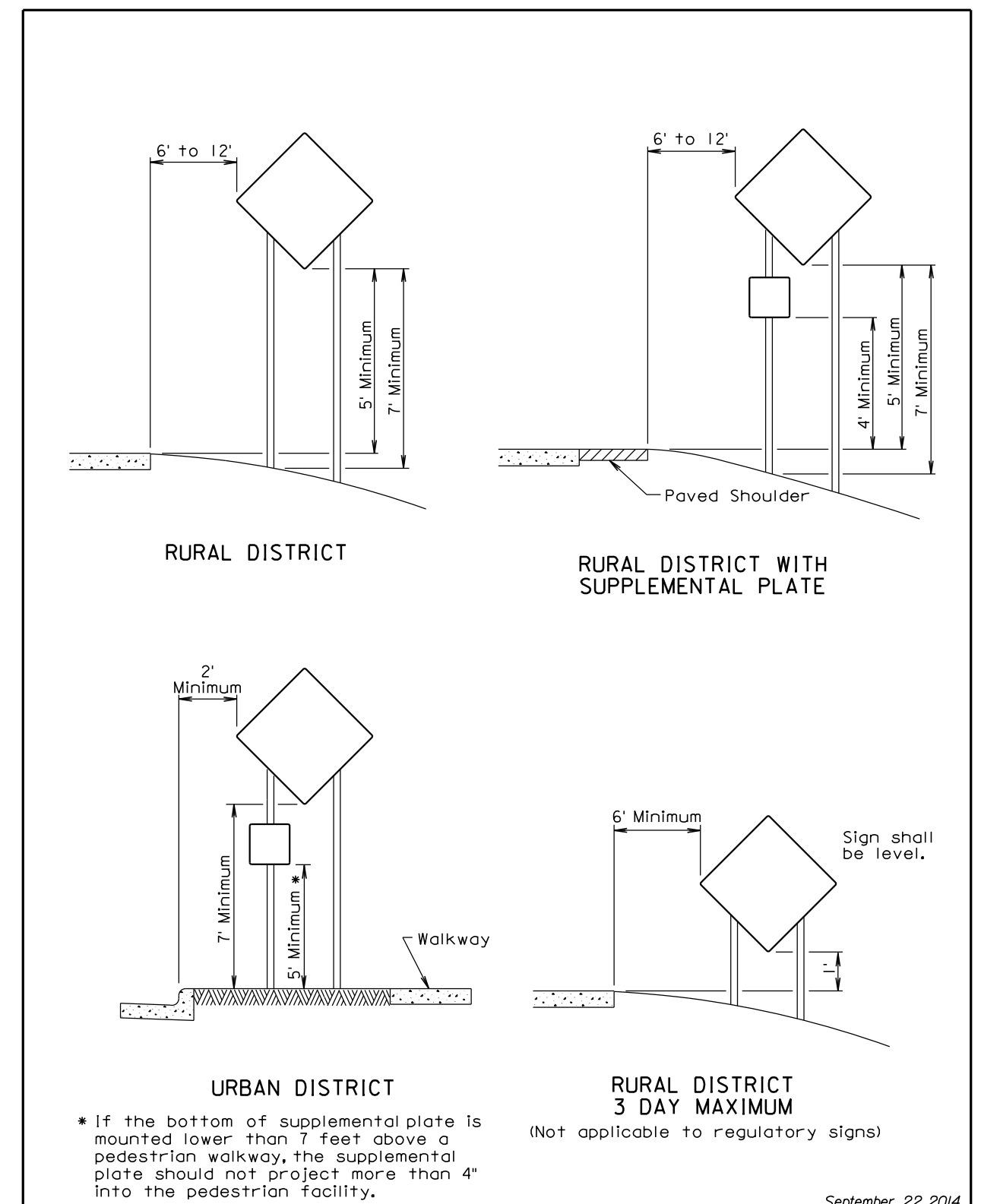
Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.



September 22, 2014



* 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