

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-392	1	15

Plotting Date: 05/08/2013

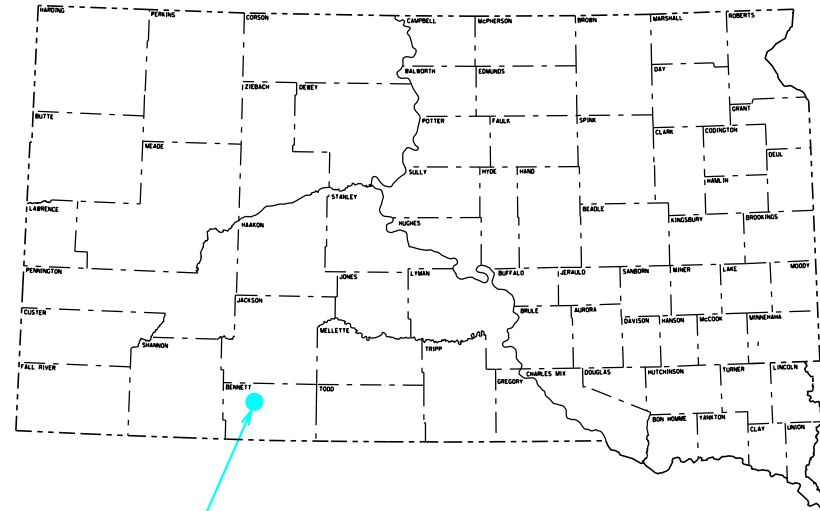
STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED

**PROJECT 018-392**  
**US HIGHWAY 18**  
**BENNETT COUNTY**

DITCH REPROFILING  
PCN i2rj

INDEX OF SHEETS

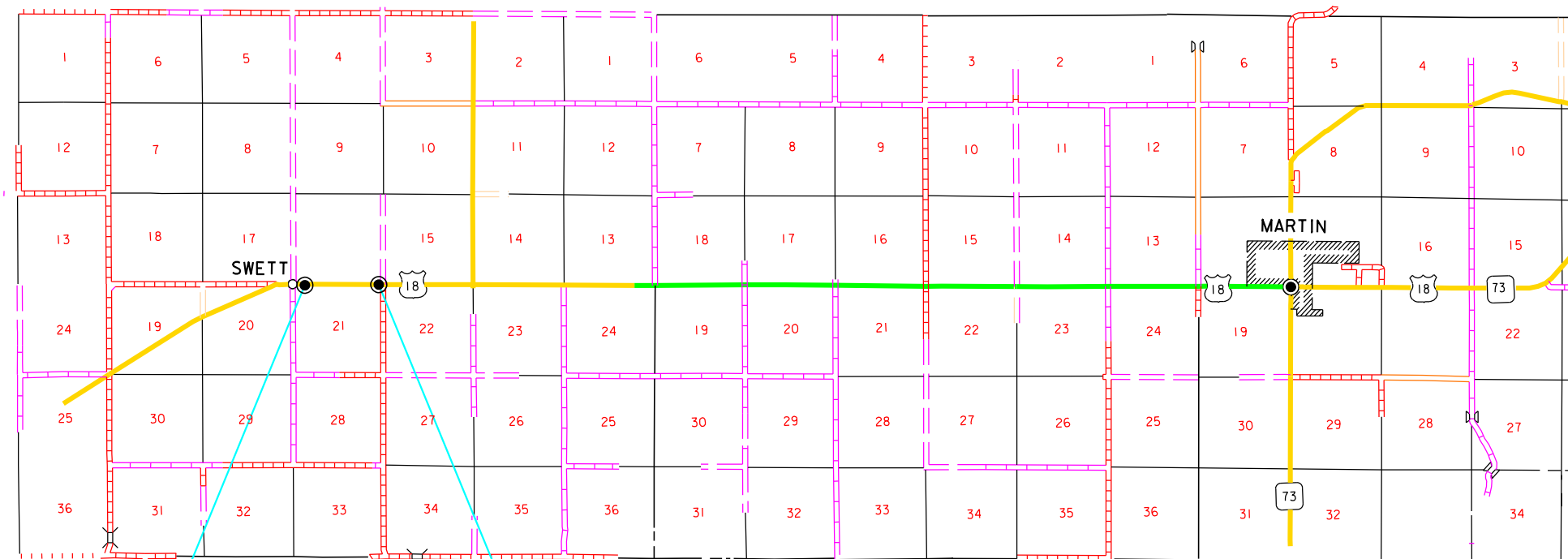
Sheet No.1	Title Sheet & Layout Map
Sheet Nos.2-3	Estimate of Quantities & Plan Notes
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PROJECT  
018-392

DESIGN DESIGNATION

018-392		
ADT (2012)	867	
ADT (2032)	1131	
DHV	135.7	
D	14.4%	
T DHV	5.9%	
T ADT	13.0%	



START PROJECT: MRM 138.1

END PROJECT: MRM 138.9

STORM WATER PERMIT

MAJOR RECEIVING BODY OF WATER : UNNAMED TRIBUTARY TO LITTLE WHITE RIVER  
 AREA DISTURBED : 3.0 ACRES  
 TOTAL PROJECT AREA : 8.3 ACRES  
 Latitude = 43.172703  
 Longitude = -101.945787

GROSS LENGTH 3,332.00 FEET 0.63 MILES  
 LENGTH OF EXCEPTIONS 0.00 FEET 0.00 MILES  
 NET LENGTH 3,332.00 FEET 0.63 MILES

PLOTTED FROM: I:\136381

FILE: ... \12RJ.TITLE.CROSS.DGN

PLOT NAME: 1

FILE: ... \12RJ.TITLE.CROSS.DGN

**PROJECT 018-392 PCN I2RJ**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0010	Unclassified Excavation	7,500	CuYd
250E0030	Incidental Work, Structure	Lump Sum	LS
634E0010	Flagging	200	Hour
634E0020	Pilot Car	50	Hour
634E0100	Traffic Control	442	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
730E0100	Cover Crop Seeding	1.0	Bu
730E0251	Special Permanent Seed Mixture 1	78	Lb
732E0100	Mulching	6.0	Ton
734E0102	Type 2 Erosion Control Blanket	890	SqYd
734E0154	12" Diameter Erosion Control Wattle	240	Ft
734E0165	Remove and Reset Erosion Control Wattle	50	Ft
734E0510	Shaping for Erosion Control Blanket	400	Ft

**SPECIFICATIONS**

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

**SEQUENCE OF OPERATIONS**

The Contractor shall submit his/her proposed sequence of operations for the Engineer's approval at least two weeks prior to the preconstruction meeting. No preconstruction meeting will be allowed without the above submittal.

Access shall be maintained through the project, to businesses, and local residences at ALL times.

**PROJECT WORK HOURS**

The Contractor may perform work at the work sites during daylight hours only, unless additional hours are approved by the Engineer.

**SCOPE OF WORK**

The Contractor shall grade and reshape the north ditch bottom to a width of 20 feet from station 131+46 to station 146+62 using the left ditch slopes from "typical grading section" shown on sheet 8 of 15. The Contractor shall grade and reshape the south ditch to a width of 20 feet from station 146+62 to station 164+78 using the right ditch slopes from "typical grading section" shown on sheet 8 of 15.

Station 131+46 = MRM 138.11 = Start of project where drainage ditch around the town of Swett enters the SDDOT right of way from the north.

Station 146+62 = MRM 138.39 = Existing box culvert under US Highway 18 channel drainage flow from north ditch to south ditch is an easterly direction.

Station 164+78 = MRM 138.74 = End of project where drainage from south ditch will leave SDDOT right of way to landowner property to the south. Location of existing box culvert.

The ditch sides shall be shaped to match into the newly shaped ditch bottom. All costs associated with reshaping the existing ditch, including labor, excavation, equipment, and incidentals shall be paid by the cubic yard at the contract unit price for "Unclassified Excavation". Material removed during this work, estimated at 7,500 CuYd will consist primarily of sod and topsoil. The plan quantity for "Unclassified Excavation" will be the basis of payment for this bid item and no field measurement will be made.

Contractor shall clean sediment out of existing box culvert under US Highway 18 located at station 146+62 to ensure continued ditch drainage to the east by a method approved by the Engineer. The method of cleaning shall be submitted for approval at the preconstruction meeting. All costs associated with the cleaning of the existing box culvert, including material, labor, excavation, and equipment shall be incidental to the contract lump sum price for "Incidental Work, Structure".

The excavated material removed from the ditch clean out work shall consist primarily of sod and topsoil blown into the ditch from adjacent landowner property. The Contractor will not be required to remove and replace topsoil and will be allowed to seed and mulch after scarifying the final excavated grade. Any excavated material not used or required to complete the profiling work shall be become the property of the Contractor and be disposed of by the Contractor.

All areas shall be seeded with Special Permanent Seed Mixture 1 or as approved by Engineer, due to seed shortages, and mulched.

The Contractor shall work around the existing traffic signs and any signs damaged or removed shall be replaced and reset at the Contractor's expense.

**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.

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**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".

2. 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.

**GENERAL MAINTENANCE OF TRAFFIC**

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. 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 to 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.

All construction operations shall be conducted in the general direction of traffic movement. All signs shall be mounted on portable supports. The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than three days. If the duration is more than three days, the signs shall be on fixed supports. The work areas for this contract will be signed as rural areas.

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

Traffic control signs furnished will be paid for only once per project. The cost of moving signs within project limits shall be incidental to the contract unit price per unit for Traffic Control.

Additional standard signs, as ordered by the Engineer, shall be available within two (2) working days. Failure to provide signs within this time limit will result in Liquidated Damages being assessed in the amount of \$400 per Calendar Day. Payment for additional signs will be paid using the contract unit price per unit for Traffic Control.

Traffic Control units, as shown in the Estimate of Quantities, are estimates. The Contractor's operation may require adjustments in quantities, either more or less. Payment will be based on the signs ordered by the Engineer and actually used on the project.

The contractor shall furnish, install and maintain "Truck Crossing" signs. The exact number and location will be determined on construction. Payment for these signs will be incidental to the contract unit price per unit for Traffic Control and will be paid for once on the project.

**TOPSOIL**

The excavated material removed from the ditch clean out work, consisting primarily of sod and topsoil blown into the ditch from adjacent landowner property, shall become the responsibility of the Contractor after completion of grading work. Contractor will not be required to replace topsoil and will be allowed to place seed directly on new ditch grade.

**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 Engineer to determine modifications that will be necessary to avoid utility impacts.

**STORM WATER POLLUTION PREVENTION PLAN CHECKLIST**  
*(The numbers right of the title headings are reference numbers to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES)*

❖ **SITE DESCRIPTION (4.2 1)**

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - Clearing and grubbing
  - Excavation/borrow
  - Grading and shaping
  - Filling
  - Cutting and filling
  - Other (describe):
- **Total Project Area 8.3 Acres (4.2 1.b.)**
- **Total Area To Be Disturbed 3.0 Acres (4.2 1.b.)**
- **Existing Vegetative Cover (70%)**
- **Soil Properties:** Classification Canyon, Hoven, Keith, Goshen, Rosebud, Richfield **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Little White River **(4.2 1.e.)**

❖ **ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)**

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Remove topsoil.**
- **Stabilize disturbed areas.**
- **Complete final grading**
- **Reseed areas disturbed by removal activities.**
- **Install channel and ditch bottom protection.**

❖ **EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))**

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - Temporary Seeding (Cover Crop Seeding)
  - Permanent Seeding
  - Sodding
  - Planting (Woody Vegetation for Soil Stabilization)
  - Mulching (Grass Hay or Straw)
  - Hydraulic Mulch (Wood Fiber Mulch)
  - Soil Stabilizer
  - Bonded Fiber Matrix
  - Erosion Control Blankets or Mats
  - Vegetation Buffer Strips
  - Roughened Surface (e.g. tracking)
  - Dust Control
  - Other:

➤ **Structural Temporary Erosion and Sediment Controls**

- Silt Fence
- Floating Silt Curtain
- Straw Bale Check
- Temporary Berm
- Temporary Slope Drain
- Straw Wattles or Rolls
- Turf Reinforcement Mat
- Rip Rap
- Gabions
- Sediment Traps/Basins
- Inlet Protection
- Outlet Protection
- Surface Inlet Protection (Area Drain)
- Stabilized Construction Entrances
- Temporary Diversion Channel
- Work Platform
- Other:

➤ **Wetland Avoidance**

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes  No  If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

➤ **Storm Water Management (4.2 2.b., (1) and (2))**

Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

➤ **Other Storm Water Controls (4.2 2.c., (1) and (2))**

▪ **Waste Disposal**

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.

▪ **Hazardous Waste**

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.

▪ **Sanitary Waste**

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

❖ **Maintenance and Inspection (4.2 3. and 4.2 4.)**

➤ **Maintenance and Inspection Practices**

- Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches  $\frac{1}{3}$  of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches  $\frac{1}{2}$  the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ **Non-Storm Water Discharges (3.0)**

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- Discharges from water line flushing.
- Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- Uncontaminated ground water associated with dewatering activities.

❖ **Materials Inventory (4.2. 2.c.(2))**

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

- Concrete and Portland Cement
- Detergents
- Paints
- Metals
- Bituminous Materials
- Petroleum Based Products
- Cleaning Solvents
- Wood
- Cure
- Texture
- Chemical Fertilizers
- Other:

❖ **Spill Prevention (4.2 2.c.(2))**

➤ **Material Management**

- Housekeeping
  - Only needed products will be stored on-site by the contractor.
  - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
  - Products must be stored in original containers and labeled.
  - Material mixing will be conducted in accordance with the manufacturer's recommendations.
  - When possible, all products will be completely used before properly disposing of the container off site.
  - The manufacturer's directions for disposal of materials and containers will be followed.
  - The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
  - Dust generated will be controlled in an environmentally safe manner.
  - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.
- Hazardous Materials
  - Products will be kept in original containers unless the container is not resealable.
  - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
  - If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
  - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
  - Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
  - Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➤ **Product Specific Practices (6.8)**

- Petroleum Products  
All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- Fertilizers  
Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.
- Paints  
All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.
- Concrete Trucks  
Contractors will provide designated truck washout areas on the site. These areas must be self-contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➤ **Spill Control Practices (4.2 2 c.(2))**

- In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.
- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
  - Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for cleanup purposes.
  - All spills will be cleaned immediately after discovery and the materials disposed of properly.
  - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
  - After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
  - The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➤ **Spill Response (4.2 2 c.(2))**

- The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.
- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
  - If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
  - Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
  - If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
  - If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
  - Personnel with primary responsibility for spill response and cleanup will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
  - Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
  - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
  - The discharge causes an immediate danger to human health or safety.
  - The discharge exceeds 25 gallons.
  - The discharge causes a sheen on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
  - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
  - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

❖ **Construction Changes (4.4)**

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

❖ **CERTIFICATIONS**

➤ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➤ **South Dakota Department of Transportation**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Authorized Signature (See the General Permit, Section 6.7.1.C.)

➤ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature

❖ **CONTACT INFORMATION**

➤ **Contractor Information:**

- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City:                      State:                      Zip:
- Office Phone:                                      Field:
- Cell Phone:                                      Fax:

➤ **Erosion Control Supervisor**

- Name:
- Address:
- Address:
- City:                      State:                      Zip:
- Office Phone:                                      Field:
- Cell Phone:                                      Fax:

➤ **SDDOT Project Engineer**

- Name:
- Business Address:
- Job Office Location:
- City:                      State:                      Zip:
- Office Phone:                                      Field:
- Cell Phone:                                      Fax:

➤ **SD DENR Contact Spill Reporting**

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

➤ **SD DENR Contact for Hazardous Materials.**

- (605) 773-3153

➤ **National Response Center Hotline**

- (800) 424-8802.

**PERMANENT SEEDING**

Permanent Seeding will be measured and paid for where excavation work is accomplished and any disturbed areas.

Hand seeding devices approved by the Engineer will be allowed. All seed broadcast, including the use of a hydro seeder, must be raked or dragged in (incorporated) with the top 1/4 to 1/2 inch of topsoil to the satisfaction of the Engineer.

The areas to be seeded comprise of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation.

All permanent seed shall be planted in the topsoil at a depth of 1/4" to 1/2".

All seed broadcast must be raked or dragged in (incorporated) within the top 1/4" to 1/2" 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 will be reseeded with Special Permanent Seed Mixture 1 (estimated @ 3.0 acres).

Special Permanent Seed Mixture 1, or as approved, 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
Little Bluestem or Buffalograss or Blue Grama	Badlands, Itasca Bowie, Cody, Tatanka Bad River, Willis	2
Regreen or Quickguard: All year; Oats or Spring Wheat: April through July; Winter Wheat: August through November		10
Total:		26

**DRILLS**

In addition to the drills specified in Section 730 of the Standard Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of 1/4" to 1/2".

**COVER CROP SEEDING**

Oats or spring wheat seed shall be used April through July and winter wheat seed shall be used August through November.

Cover crop seeding may be used on this project as a temporary erosion control measure. The quantity of cover crop seeding was estimated at 25% of the disturbed earthen areas. The actual limits and use of cover crop seeding shall be determined by the Engineer during construction.

**MULCHING (HAY OR STRAW)**

Following permanent seeding, mulch consisting of grass hay or straw shall be blown on at the rate of 2 tons per acre and punched in on slopes 3:1 and flatter and on 2:1 slopes where equipment can be operated without rutting the slope due to slippage. Bales with noxious weed contamination will be rejected and the Contractor will be required to remove the contaminated bales from the project.

**EROSION CONTROL WATTLE**

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles shall remain on the project until vegetation has been established.

The erosion control wattle provided shall be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

**TABLE OF EROSION CONTROL WATTLE**

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
135+00	L	12	Ditch Bottom	40
140+00	L	12	Ditch Bottom	40
145+00	L	12	Ditch Bottom	40
149+00	R	12	Ditch Bottom	30
154+00	R	12	Ditch Bottom	30
159+00	R	12	Ditch Bottom	30
164+00	R	12	Ditch Bottom	30
Total:				240

**EROSION CONTROL BLANKET**

Erosion control blanket shall be installed 20 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

The erosion control blanket provided shall be from the approved product list. The approved product list for erosion control blanket may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

The Contractor shall install erosion control blanket according to the manufacturer's installation instructions.

**TABLE OF EROSION CONTROL BLANKET**

Station to	Station	L/R	Location	Type	Quantity (SqYd)
144+60	146+60	L	Ditch Channel	2	445
162+75	164+75	R	Ditch Channel	2	445
Total Type 2 Erosion Control Blanket:					890

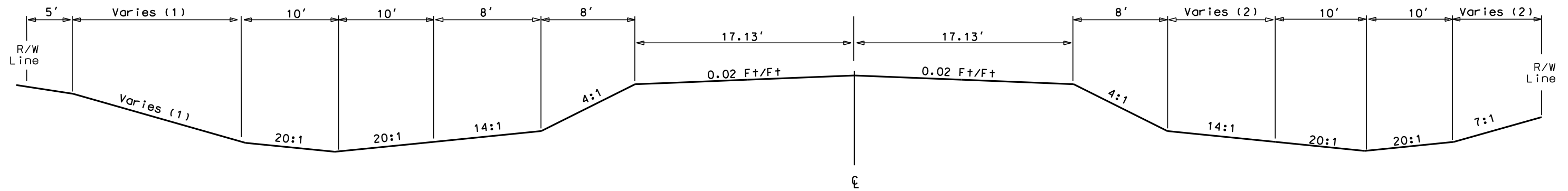
**SHAPING FOR EROSION CONTROL BLANKET**

The ditches shall be shaped for the erosion control blanket and as specified on Standard Plate 734.01. All costs for shaping the ditches for erosion control blanket including labor and equipment shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

**FERTILIZING**

Application of fertilizer will not be required on this project.

# TYPICAL GRADING SECTION



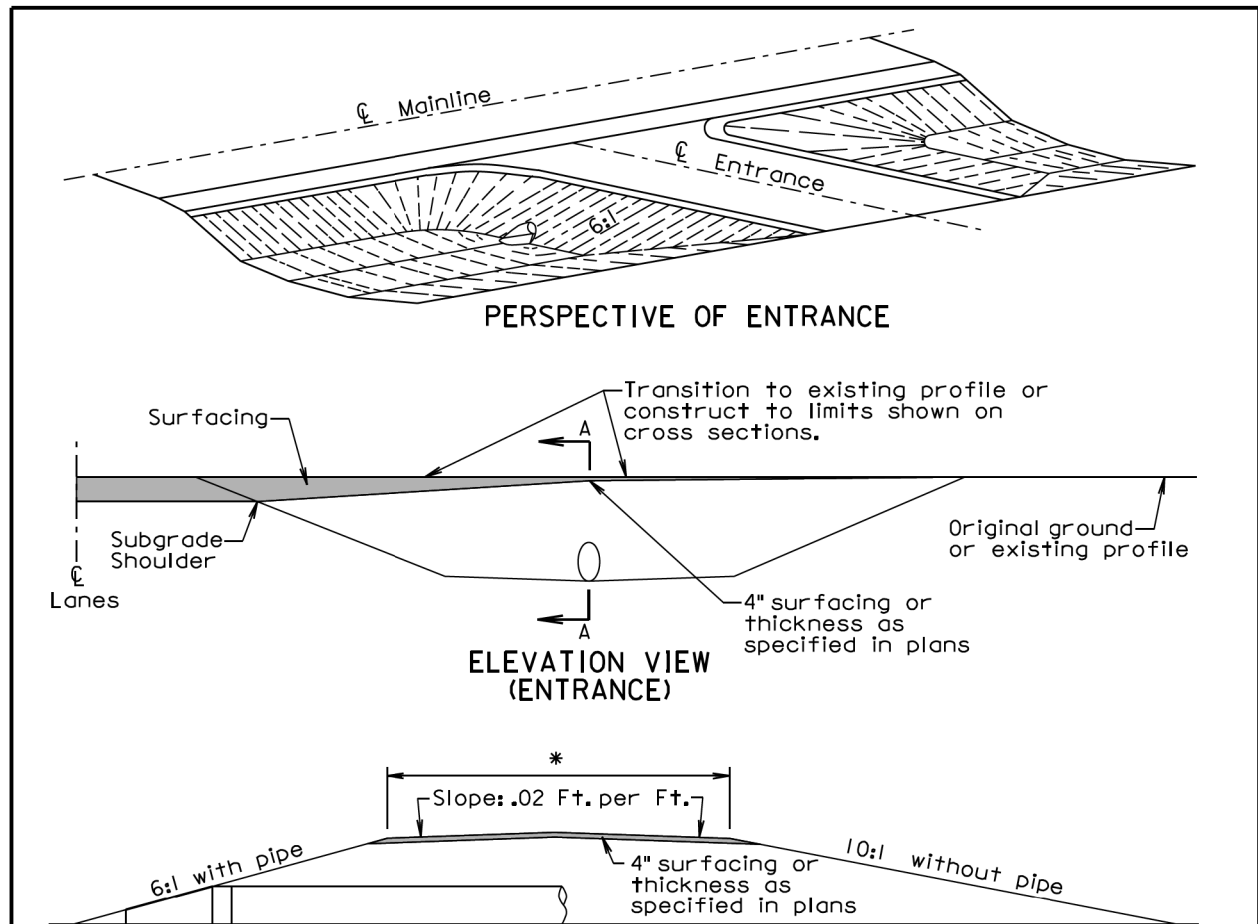
Varies (1) = Slope & distance will vary to match new ditch elevation with existing ground elevation 5 feet inside R/W line.  
 Varies (2) = Offset distance will vary so ditch bottom is placed at low point in existing ditch. New ditch centerline will be determined in field and approved by the Engineer.

## ITEMIZED LIST FOR TRAFFIC CONTROL

018-392 PCN i2rj

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2A	36" x 18"	END ROAD WORK	2	17	34
W8-6	48" x 48"	TRUCK CROSSING	2	34	68
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	2	34	68
W20-4	48" x 48"	ONE LANE ROAD ##### FT. OR AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
W21-3	48" x 48"	ROAD MACHINERY AHEAD	2	34	68
W21-5	48" x 48"	SHOULDER WORK	2	34	68
<b>TOTAL UNITS</b>					<b>442</b>





**SECTION A-A (ENTRANCE)**  
 \*The finished surfacing width is stated elsewhere in the plans. The subgrade width is 4' wider than the finished surfacing width unless stated otherwise in the plans.

**GENERAL NOTES:**

The ditch section shown above in the perspective and elevation view is only for illustrative purposes.

A 6:1 inslope shall be constructed for an entrance when a pipe is required. A 10:1 inslope shall be constructed when a pipe is not required.

Pipe lengths shall be adjusted if necessary during construction to obtain the 6:1 slopes. For grading projects, the pipe lengths are estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.

The transition area between the mainline inslope and the approach inslope for entrances shall be rounded to eliminate an abrupt transition.

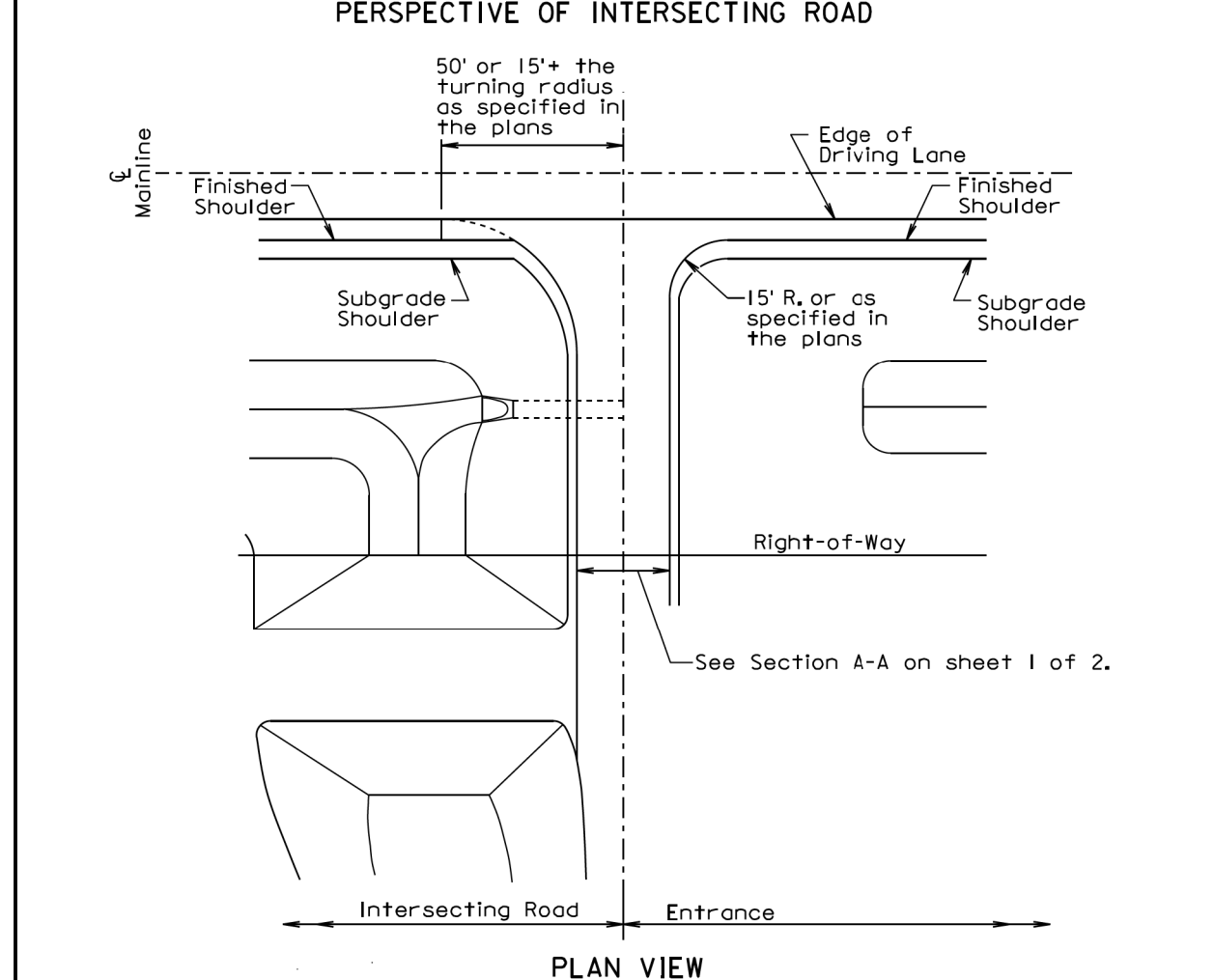
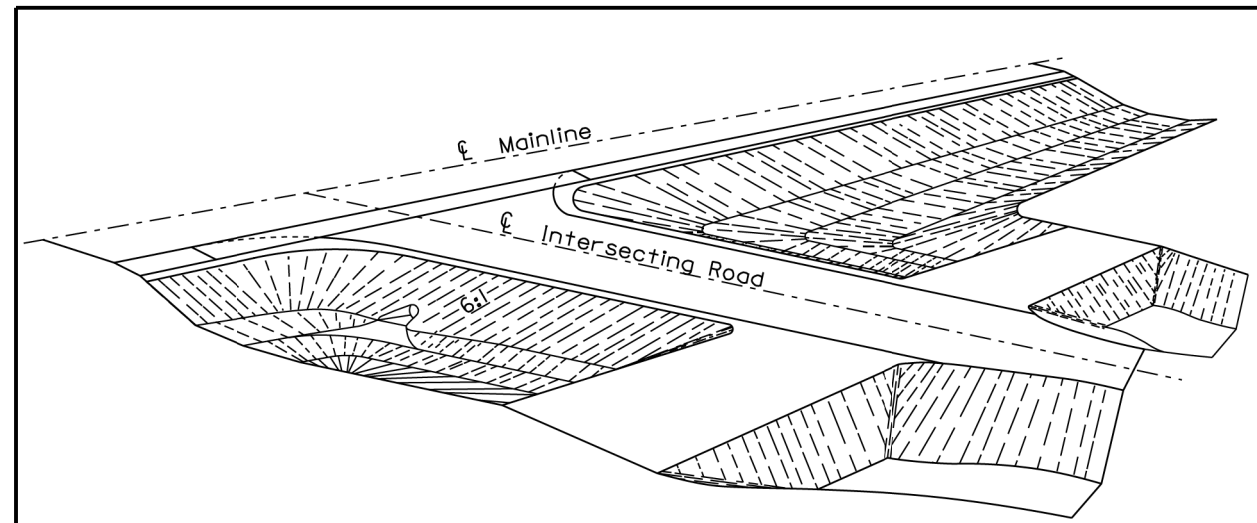
For entrances other than intersecting roads, the radii shall be 15' unless stated otherwise in the plans.

The turning radii shall be 35' for intersecting roads unless stated otherwise in the plans.

December 23, 2010

<b>S D D O T</b>	<b>INTERSECTING ROADS AND ENTRANCES</b>	PLATE NUMBER 120.01
		Sheet 1 of 2

Published Date: 2nd Qtr. 2013



December 23, 2010

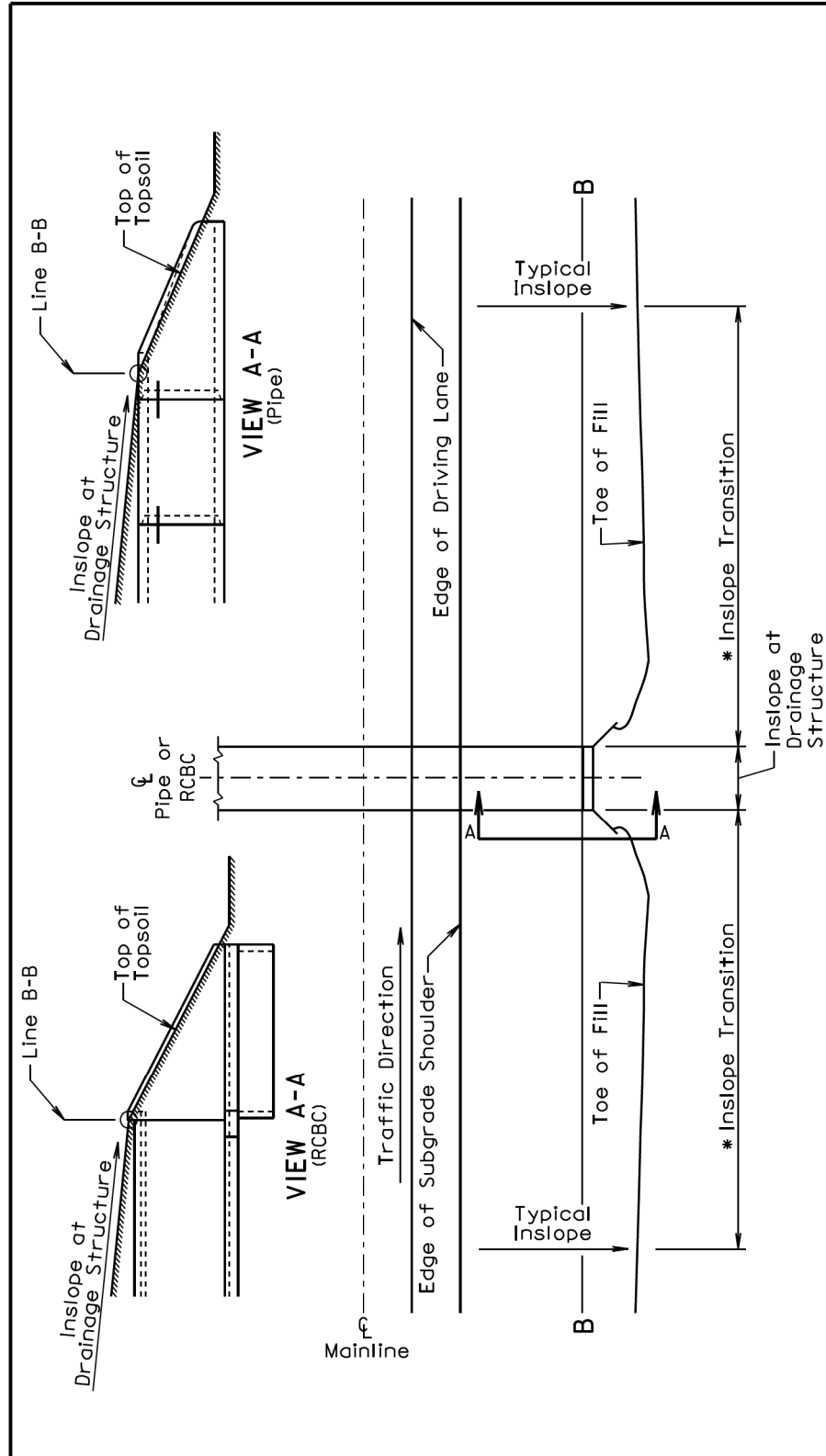
<b>S D D O T</b>	<b>INTERSECTING ROADS AND ENTRANCES</b>	PLATE NUMBER 120.01
		Sheet 2 of 2

Published Date: 2nd Qtr. 2013

Plot Scale - 1:200

Plotted From - Invt1m23

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**TYPE 1 INSLOPE TRANSITION**

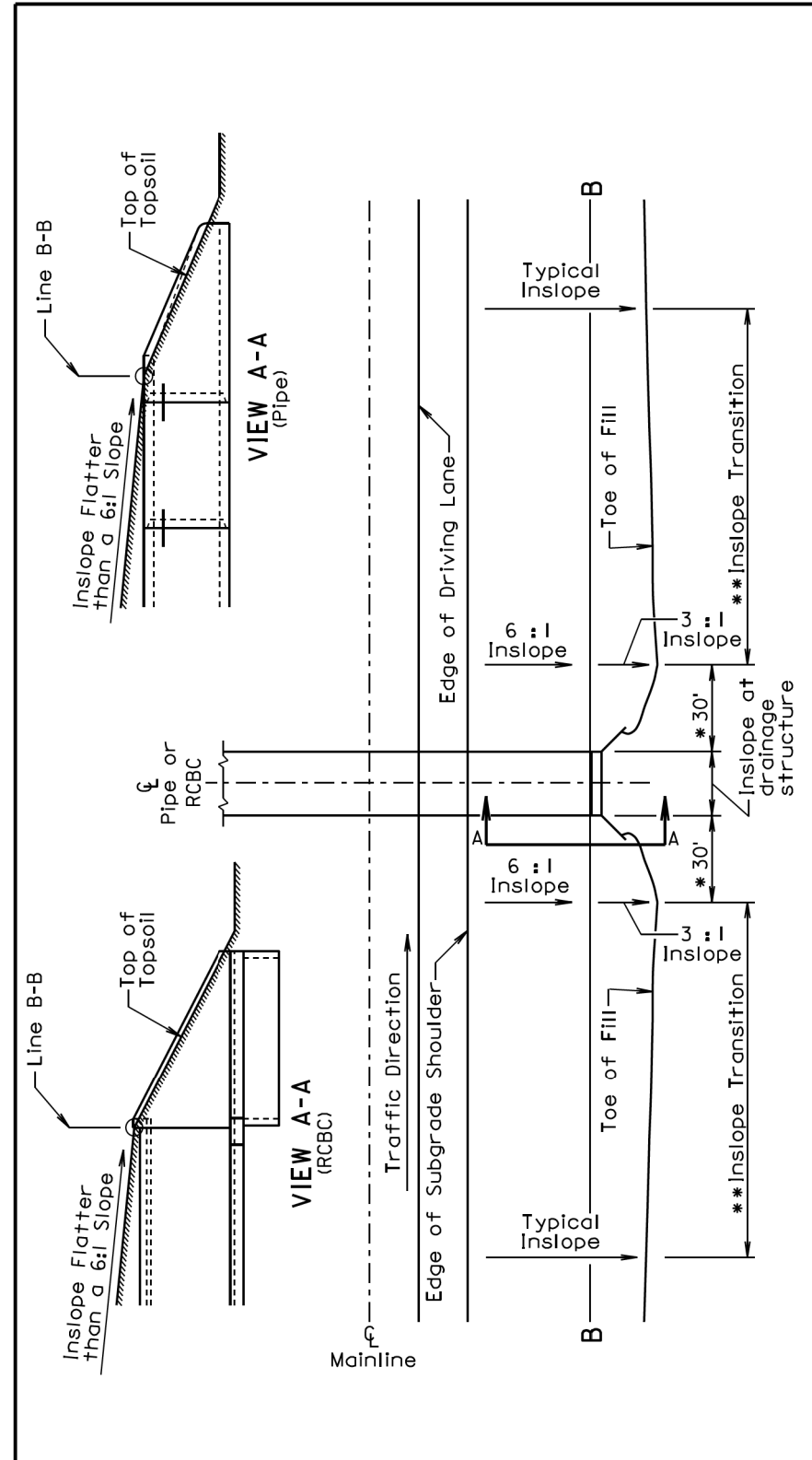
**GENERAL NOTES:**

This Type 1 Inslope Transition is used when the specified inslope at the drainage structure is flatter than the typical inslope and the inslope at the drainage structure is between a 4:1 slope and 6:1 slope. Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

\* Transition from the typical inslope to the inslope at the drainage structure, within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone shall be transitioned gradually to the slope necessary adjacent to the RCBC wing wall or pipe culvert end section within the transition length necessary for the transition within the clear zone.

February 14, 2011

<b>S D D O T</b>	<b>INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS</b>	PLATE NUMBER <b>120.05</b>
		Sheet 1 of 2
		Published Date: 2nd Qtr. 2013



**TYPE 2 INSLOPE TRANSITION**

**GENERAL NOTES:**

This Type 2 Inslope Transition is used when the specified inslope at the pipe or RCBC is flatter than a 6:1 slope. Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

\* Transition from inslope at drainage structure to a 6:1 inslope and 3:1 inslope.

\*\* Transition from typical inslope to the inslopes adjacent to the drainage structure, within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone shall be transitioned to a 3:1 inslope within the transition length necessary for the transition within the clear zone.

February 14, 2011

<b>S D D O T</b>	<b>INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS</b>	PLATE NUMBER <b>120.05</b>
		Sheet 2 of 2
		Published Date: 2nd Qtr. 2013

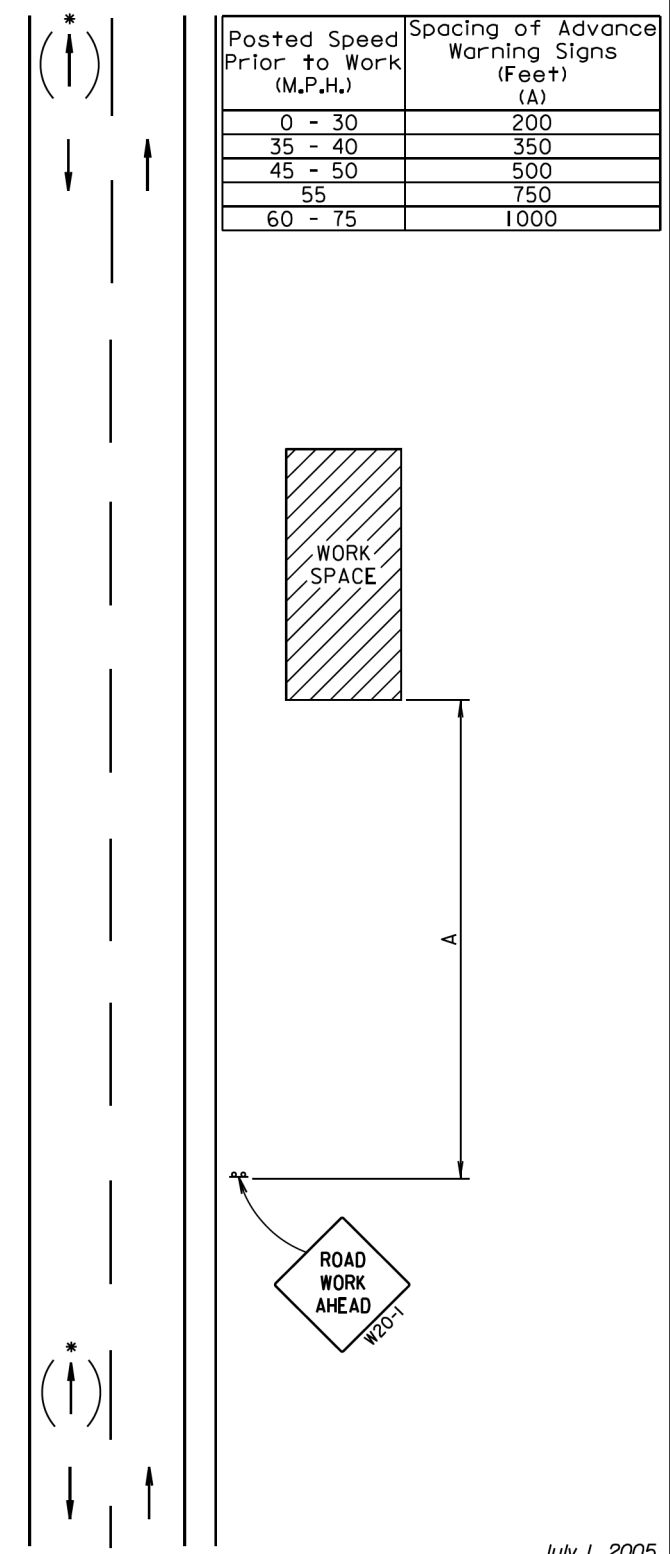
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated shall 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.

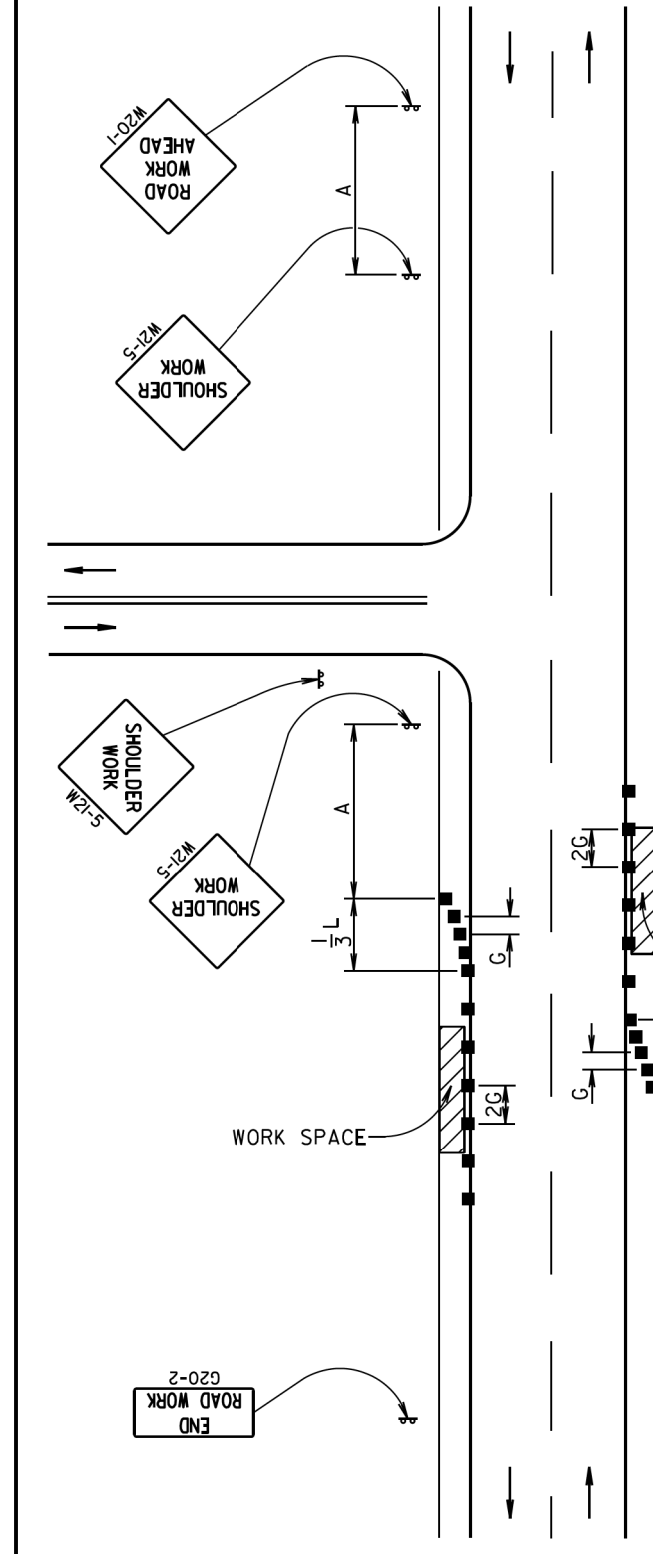
\* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

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.



July 1, 2005

<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER</b>	PLATE NUMBER <b>634.01</b>
	Published Date: 2nd Qtr. 2013	Sheet 1 of 1



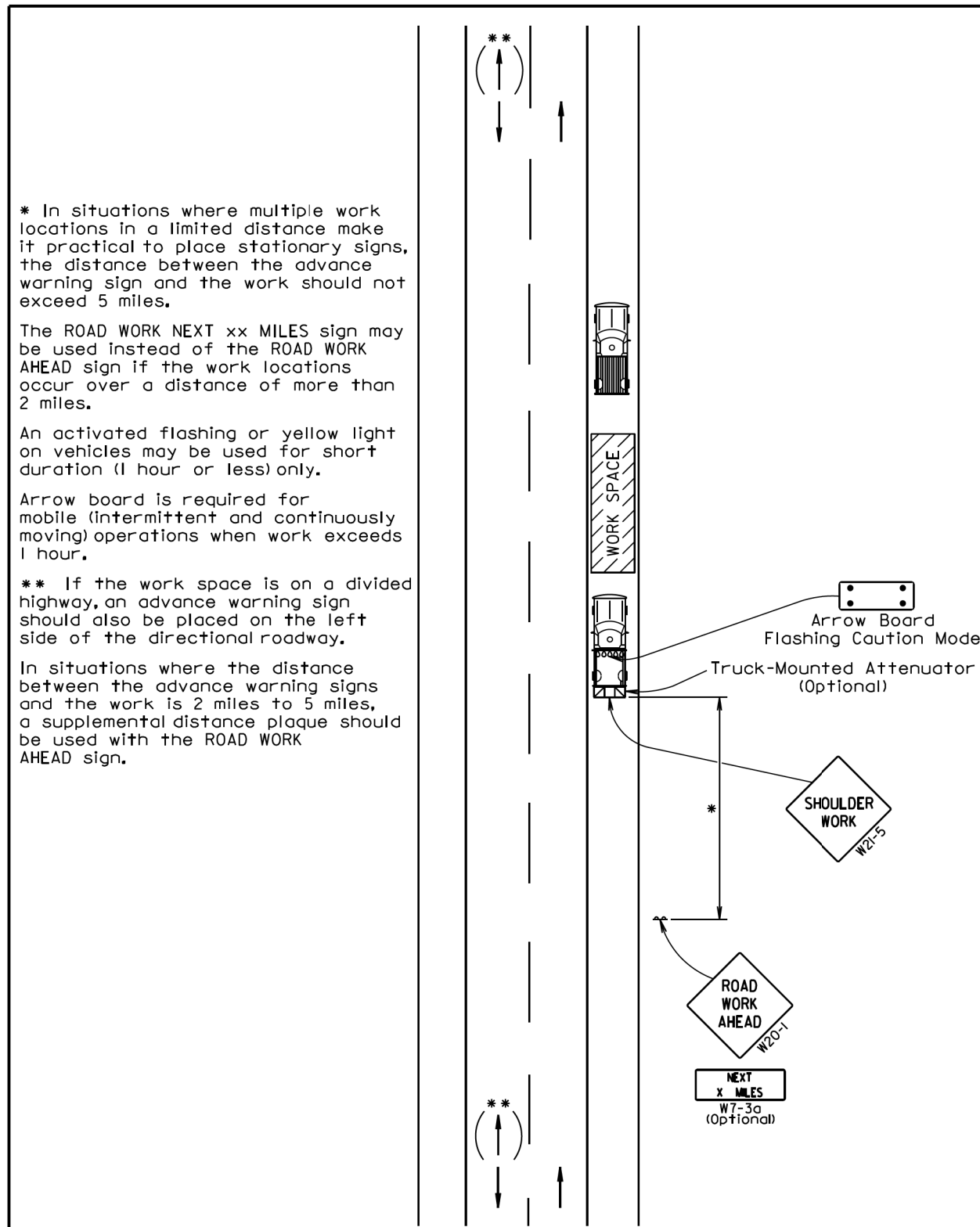
February 14, 2011

<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS</b>	PLATE NUMBER <b>634.03</b>
	Published Date: 2nd Qtr. 2013	Sheet 1 of 1

Plot Scale - 1:200

Plotted From - Invt1m23

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\* In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

An activated flashing or yellow light on vehicles may be used for short duration (1 hour or less) only.

Arrow board is required for mobile (intermittent and continuously moving) operations when work exceeds 1 hour.

\*\* 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.

In situations where the distance between the advance warning signs and the work is 2 miles to 5 miles, a supplemental distance plaque should be used with the ROAD WORK AHEAD sign.

Arrow Board  
Flashing Caution Mode  
Truck-Mounted Attenuator  
(Optional)

SHOULDER WORK  
W21-5

ROAD WORK AHEAD  
W20-1

NEXT X MILES  
W7-3a  
(Optional)

February 14, 2011

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GUIDES FOR TRAFFIC CONTROL DEVICES  
MOBILE OPERATIONS ON SHOULDER

PLATE NUMBER  
634.04

Sheet 1 of 1

Published Date: 2nd Qtr. 2013

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (C)
0 - 30	200	25
35 - 40	350	25
45 - 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) shall 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 shall be drums or 42" cones.

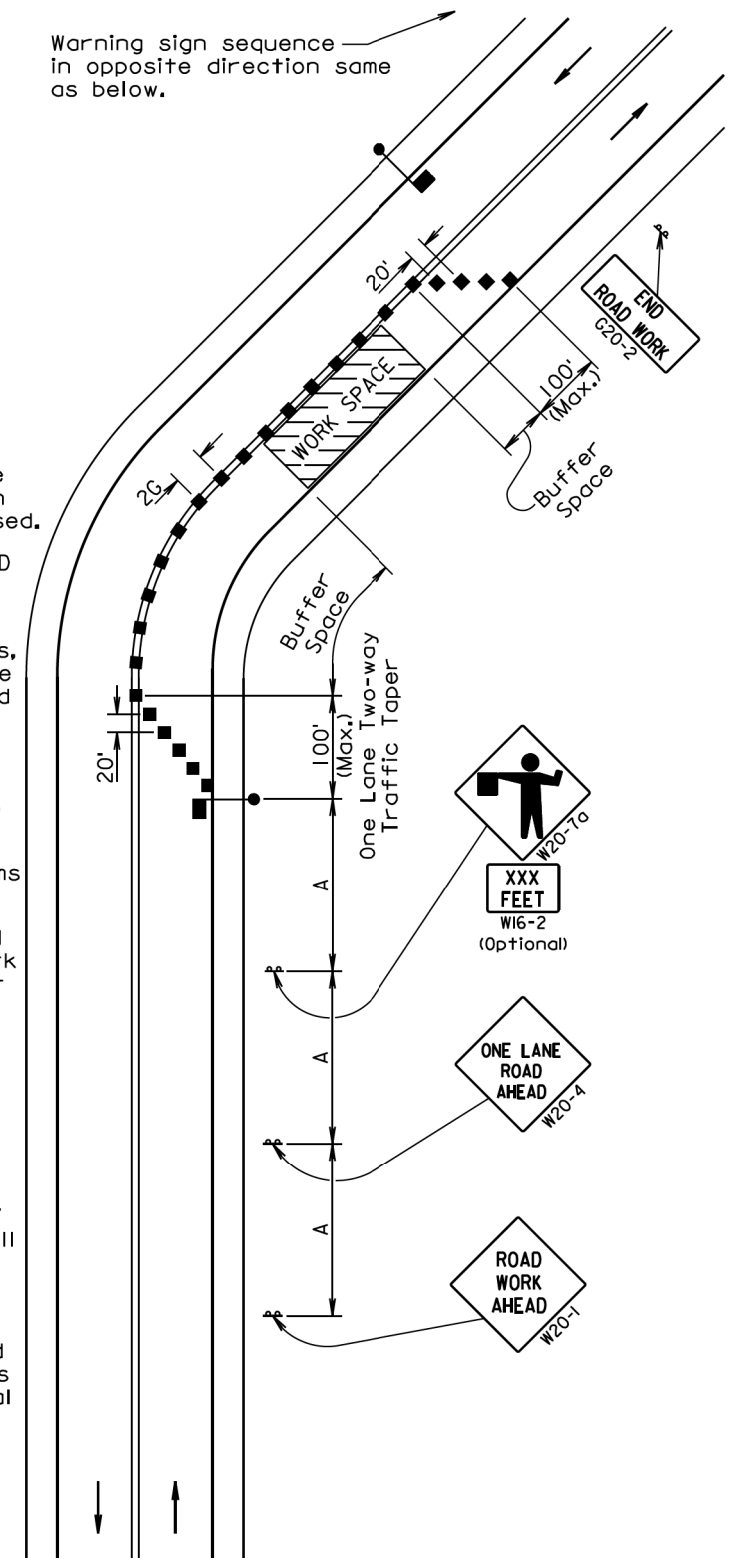
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

Channelizing devices and flaggers shall 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.

END ROAD WORK  
G20-2

Warning sign sequence in opposite direction same as below.



February 14, 2011

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T

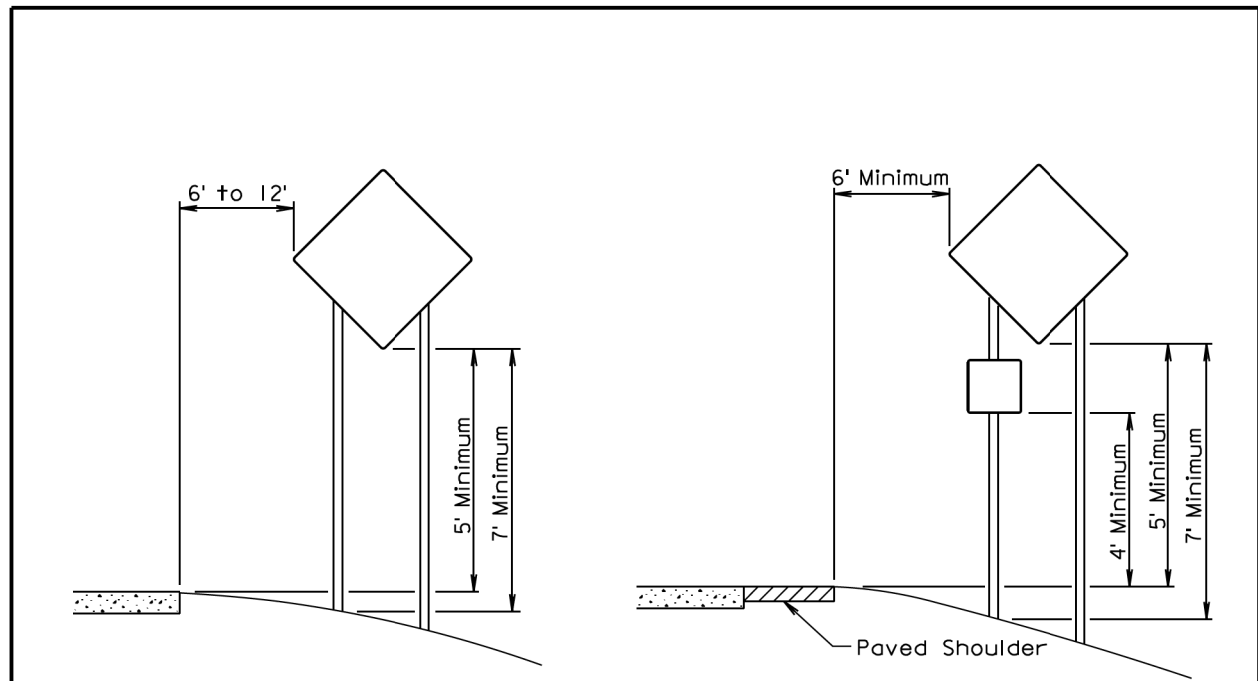
GUIDES FOR TRAFFIC CONTROL DEVICES  
LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER  
634.23

Sheet 1 of 1

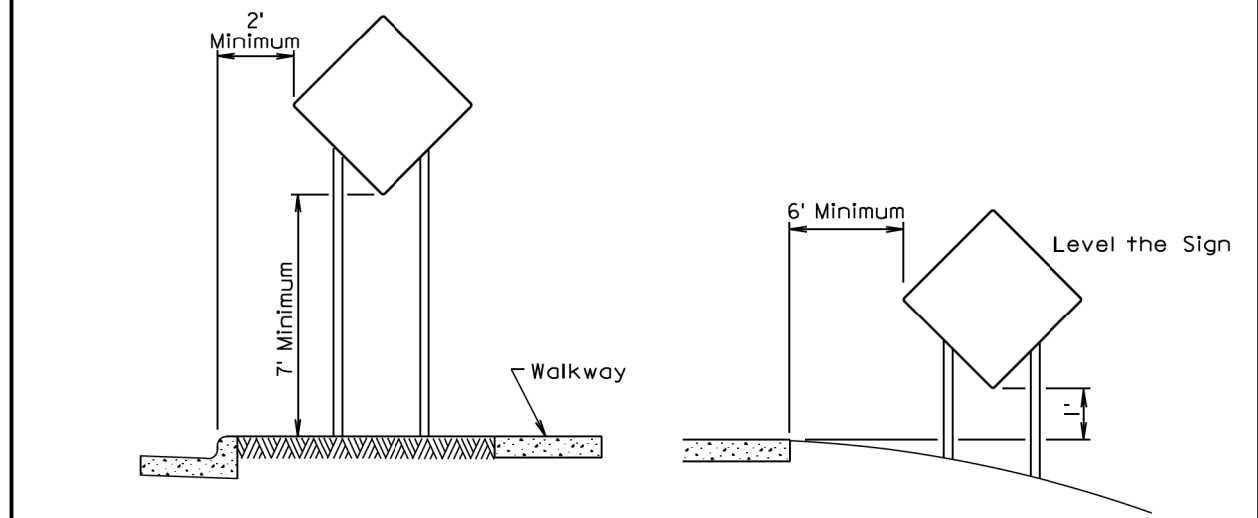
Published Date: 2nd Qtr. 2013

Plot Scale - 1:200



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



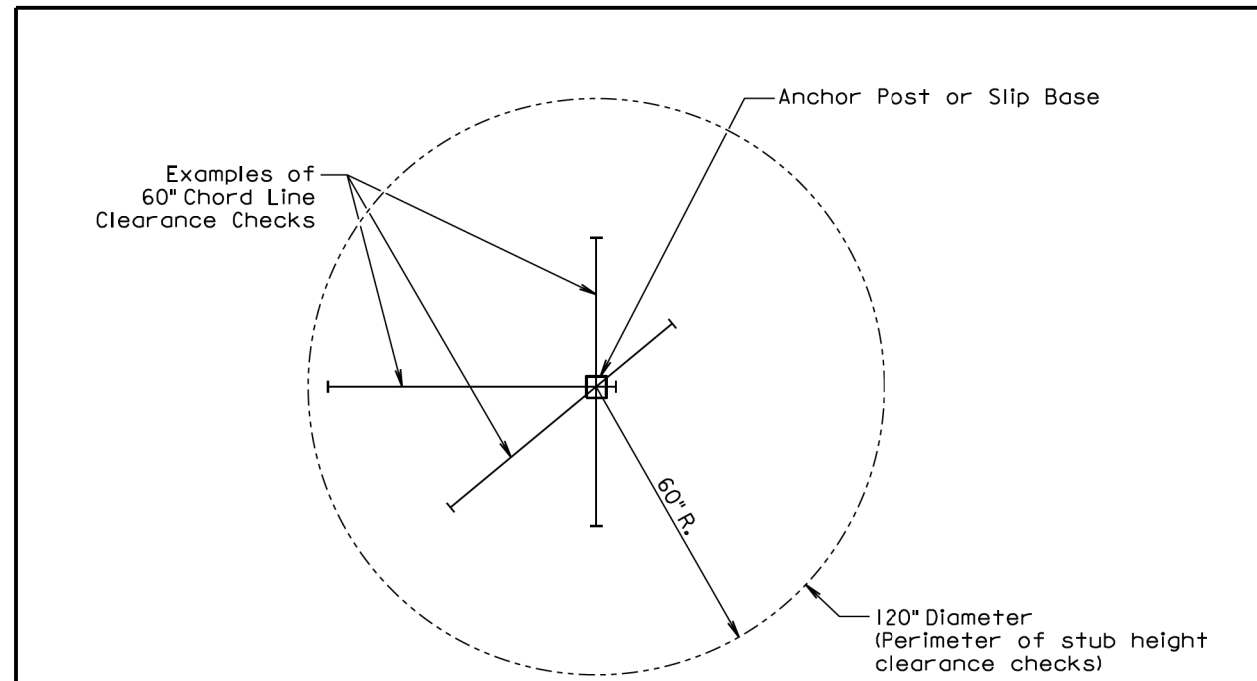
URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

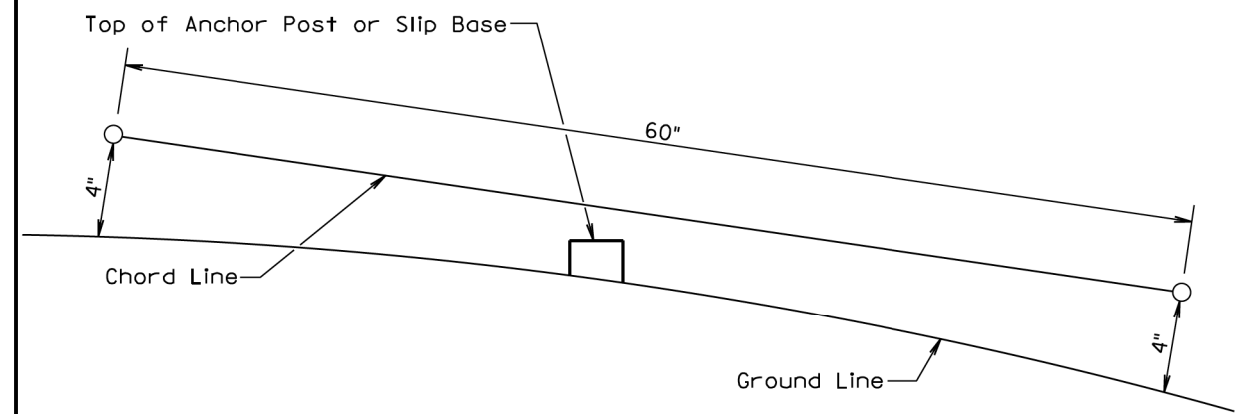
February 14, 2011

<b>S D D O T</b>	<b>CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)</b>	PLATE NUMBER <b>634.85</b>
		Sheet 1 of 1

Published Date: 2nd Qtr. 2013



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.

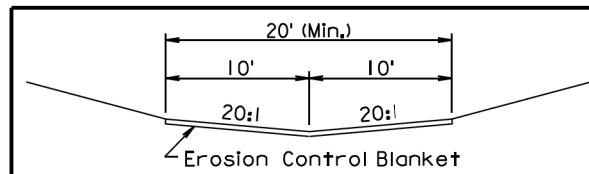
July 1, 2005

<b>S D D O T</b>	<b>BREAKAWAY SUPPORT STUB CLEARANCE</b>	PLATE NUMBER <b>634.99</b>
		Sheet 1 of 1

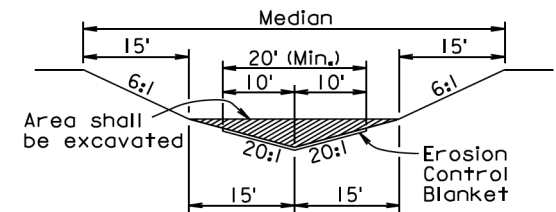
Published Date: 2nd Qtr. 2013

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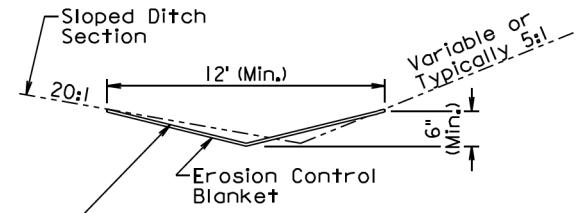


STANDARD DITCH SECTION



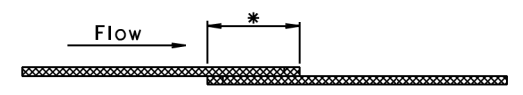
MEDIAN SECTION

The median shall be shaped to the limits shown in this detail where the erosion control blanket will be placed.



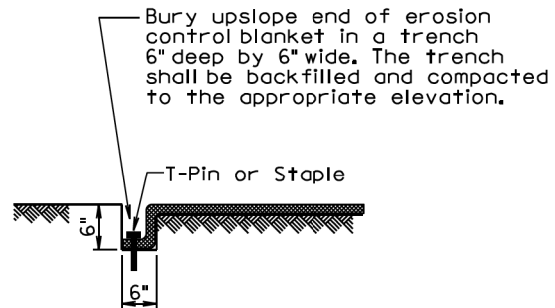
SLOPED DITCH SECTION

This ditch section shall be constructed when installing erosion control blanket.

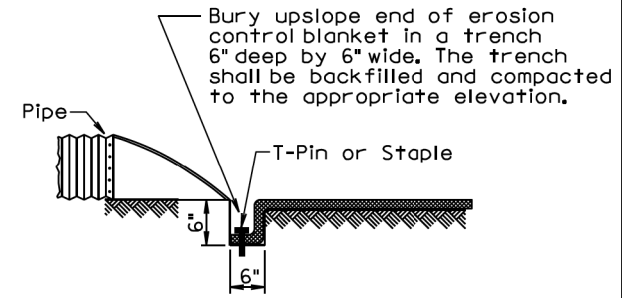


OVERLAP DETAIL

- \* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.
- \* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.



TRENCH DETAIL



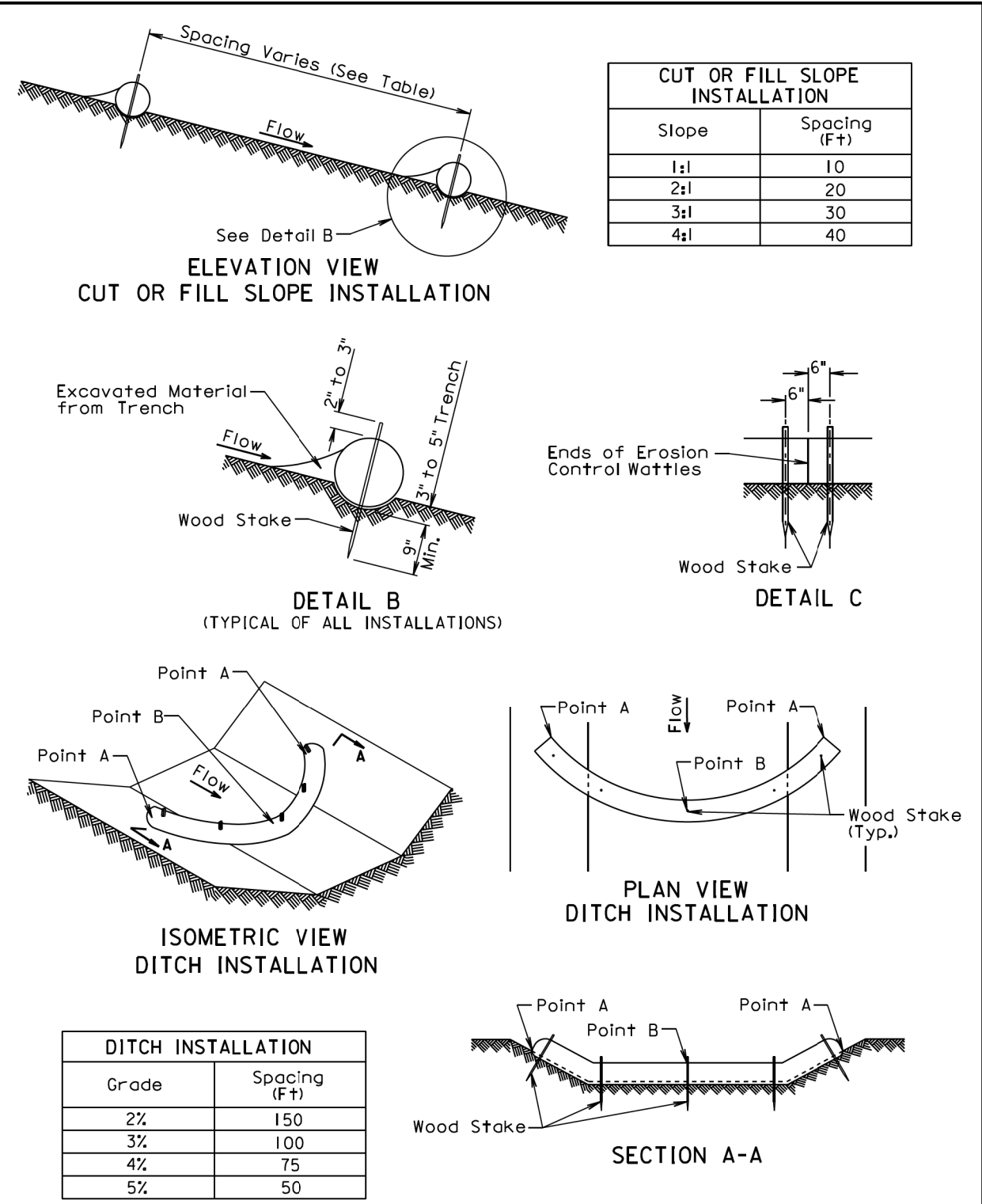
PIPE END DETAIL

**GENERAL NOTES:**

- Prior to placement of the erosion control blanket, the areas shall be properly prepared, shaped, seeded, and fertilized.
- Erosion control blanket shall be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket shall be buried in a trench 6" wide by 6" deep. There shall be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.
- The erosion control blanket shall be pinned to the ground according to the manufacturer's installation recommendations.
- After the placement of the erosion control blanket, the Contractor shall fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.
- All ditch sections shall be shaped when installing the erosion control blanket. All costs for shaping the ditches shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

December 23, 2004

<p>Published Date: 2nd Qtr. 2013</p>	<p><b>S D D O T</b></p>	<p><b>EROSION CONTROL BLANKET</b></p>	<p>PLATE NUMBER 734.01</p>
			<p>Sheet 1 of 1</p>



**GENERAL NOTES:**

At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than 1/2". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

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