

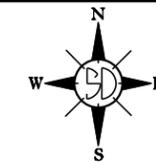
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
P 1804(41)393
SD HIGHWAY 1804
CAMPBELL COUNTY

ASPHALT CONCRETE RESURFACING
& RUMBLE STRIPES

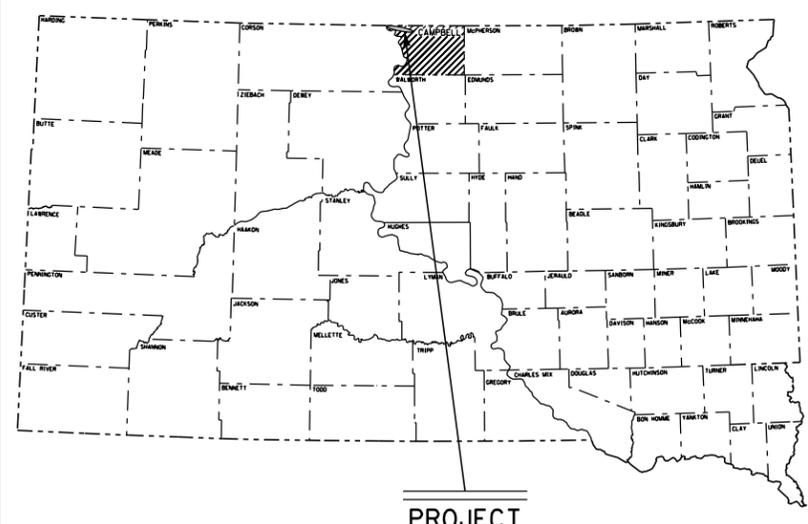
PCN 038U

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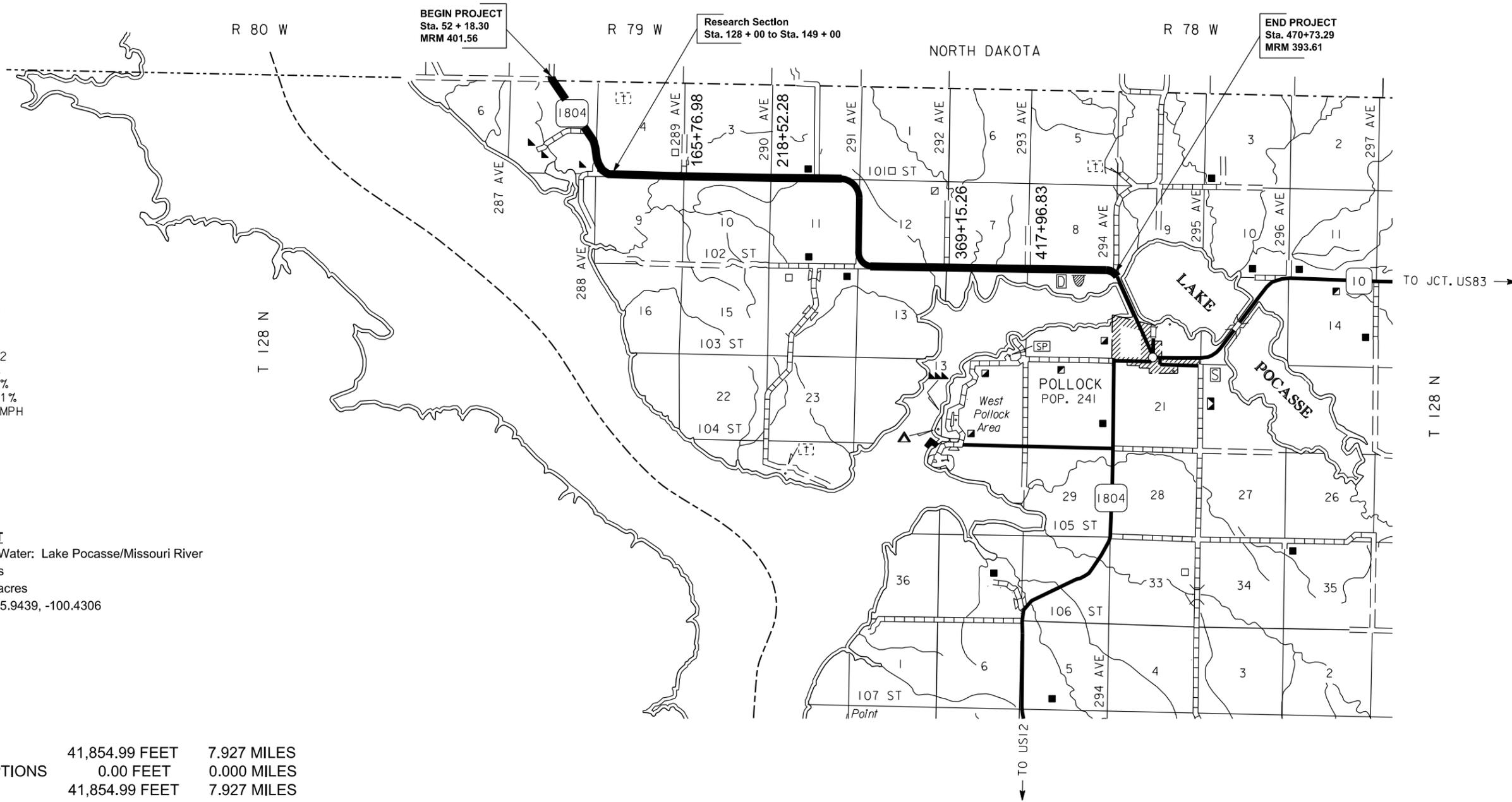


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PROJECT



DESIGN DESIGNATION

ADT (2012)	140
ADT (2032)	210
DHV	22.2
D	51%
T DHV	6.9%
T ADT	15.1%
V	55 MPH

STORM WATER PERMIT

Major Receiving Body of Water: Lake Pocasse/Missouri River
Area Disturbed: 5.8 acres
Total Project Area: 63.4 acres
Approx. Begin Lat/Long 45.9439, -100.4306

SD HIGHWAY 1804

GROSS LENGTH	41,854.99 FEET	7.927 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.000 MILES
NET LENGTH	41,854.99 FEET	7.927 MILES

ESTIMATE OF QUANTITIES

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Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	396	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	792.7	Ton
260E1050	Base Course, Salvaged Asphalt Mix	44.8	Ton
260E3010	Gravel Surfacing	733.7	Ton
320E0007	PG 64-28 Asphalt Binder	882.4	Ton
320E1002	Class Q2 Hot Mixed Asphalt Concrete	14,832.9	Ton
320E4000	Hydrated Lime	145.9	Ton
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	15.9	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	31.0	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	23.8	Ton
330E2000	Sand for Flush Seal	408.2	Ton
332E0010	Cold Milling Asphalt Concrete	854	SqYd
600E0300	Type III Field Laboratory	1	Each
633E1300	Pavement Marking Paint, White	268.0	Gal
633E1305	Pavement Marking Paint, Yellow	124.0	Gal
634E0010	Flagging	200	Hour
634E0020	Pilot Car	100	Hour
634E0100	Traffic Control	748	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	15.9	Mile
634E0810	Groove 6" Wide Rumble Strip	350	Ft
730E0210	Type F Permanent Seed Mixture	151	Lb
900E0010	Refurbish Single Mailbox	2	Each
900E1980	Storage Unit	1	Each

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ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: <http://sddot.com/transportation/highways/environmental/stormwater/Default.aspx>

DENR: <http://www.denr.sd.gov/des/sw/stormwater.aspx>

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Contractor Certification Form:

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at: <http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf>

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the 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 Project 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 and/or 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 and/or 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.

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COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC 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 artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

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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** 63.4 Acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** 5.8 Acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 70
- **Soil Properties:** AASHTO Soil or USDA-NRCS Soil Series Classification Linton Silt Loam **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Lake Pocasse/Missouri 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 and windrow topsoil.**
- **Replace topsoil.**
- **Stabilize disturbed areas.**
- **Reseed areas disturbed by removal activities.**

❖ 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: Windrow Topsoil/Utilize Existing Vegetation for Control Barrier

➤ **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
- Rock Check Dams
- Sediment Traps/Basins
- Inlet Protection
- Outlet Protection
- Surface Inlet Protection (Area Drain)
- Curb Inlet Protection
- Stabilized Construction Entrances
- Entrance/Exit Equipment Tire Wash
- Interceptor Ditch
- Concrete Washout Area
- Temporary Diversion Channel
- Work Platform
- Temporary Water Barrier
- Temporary Water Crossing
- 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:

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❖ **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.

➤ **Product Specific Practices (6.8) – (Continued)**

- 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 clean up 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 clean up 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.

➤ **Spill Response (4.2 2 c.(2)) – (Continued)**

- 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 clean up 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.

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❖ **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.

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SPECIFICATIONS

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

FLEXIBLE PAVEMENT SMOOTHNESS PROVISION

The Special Provision for Flexible Pavement Smoothness will be followed with the subsequent exception; all horizontal curves will be profiled.

SCOPE OF WORK

The work required for this project includes, but is not limited to, the following items, not listed in order of execution.

1. Asphalt Concrete Resurfacing
2. Cold Milling Transition Areas
3. Install Rumble Stripes & In-Lane Rumble Strips
4. Permanent Pavement Markings Installation
5. Remove/Replace Topsoil
6. Seed Disturbed Areas
7. Refurbish Mailboxes

The Contractor is encouraged to inspect the project site prior to bidding to evaluate the extent of work that will be required for construction.

SEQUENCE OF OPERATIONS

Traffic shall be maintained through the project at ALL times. The Contractor shall maintain access on and off the highway for local residences and county roads. The Contractor may perform work on the roadway during daylight hours only, unless additional hours are approved by the Engineer. Daylight hours are considered to be ½ hour before sunrise until ½ hour after sunset. Traffic shall be returned to normal driving lanes during non-working hours.

Cold milling of the transitions shall commence the same day paving is anticipated to begin.

Rumble stripes shall be completed prior to permanent pavement marking and the flush seal.

A section of this project is in a Long Term Pavement Performance (LTPP) research site. The Contractor is only responsible for contacting the Mobridge Area office 3 weeks prior to the beginning of paving operations so that any required testing can be accomplished on the research site by other agencies. The Mobridge Area shall contact Daris Ormesher from the Research Office.

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.

SAWING OF EXISTING ASPHALT CONCRETE

Where new asphalt concrete is placed adjacent to existing asphalt concrete, the existing asphalt shall be sawed full depth to a true line with a vertical face. There will not be a separate payment made for sawing. All costs associated with sawing existing asphalt concrete shall be incidental to the various contract items.

SURFACING THICKNESS DIMENSIONS

Material will be placed evenly, at the rates shown in the plans, even though the thickness may vary from that shown on the typical section. At those locations where material must be placed to achieve a required elevation, quantities may be varied to achieve the required elevations, as approved by the Engineer.

INTERSECTING ROADS AND ENTRANCES

Intersecting roads and entrances shall be satisfactorily cleared of vegetation, shaped, and compacted prior to placement of mainline surfacing. Separate measurement and payment will not be made for this work. All costs associated with intersecting roads and entrances preparation shall be incidental to the various contract items.

SHOULDER PREPARATION

Prior to mainline paving, the shoulders shall be broomed of all vegetation and loose/accumulated material to the satisfaction of the Engineer. Shoulder preparation shall not be measured for payment, and no separate payment will be made for this work. All costs associated with shoulder preparation shall be incidental to the various contract items.

The Contractor shall notify the Mobridge Area (605) 845-3844 at least two weeks prior to beginning work on this project so SDDOT personnel can mow or spray along the shoulder inslopes. The Department will not be responsible for the effectiveness of the mowing or spraying.

COLD MILLING TRANSITIONS

In order to construct the new surfacing flush with the existing Asphalt Concrete Pavement at begin/end project it will be necessary to transition the depth of cold milling to the limits as shown in the layout below. The transition shall be approved by the Engineer.

The surface shall be cold milled full roadway width.

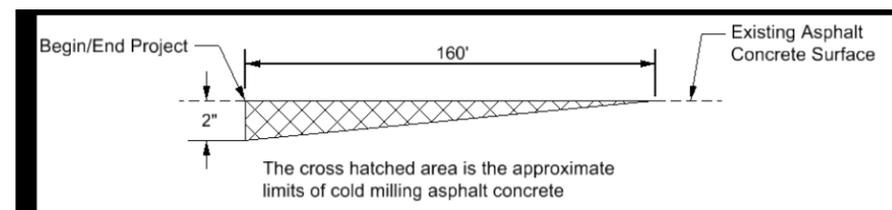
Cold milling asphalt is estimated to produce 44.8 tons of salvaged asphalt concrete material. The remaining material shall be used on the project as Base Course, Salvaged Asphalt Mix.

All vertical cuts from cold milling operations left and right of centerline shall be daylighted to the outside edge of the road as directed by the Engineer to allow surface water to be drained off the roadway.

After completion of the milling operation, the Contractor shall clean up and dispose of any remaining debris to the satisfaction of the Engineer.

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

Cold Milling Asphalt Concrete Transition



BASE COURSE

Base Course shall be furnished by the Contractor and be utilized for backfilling digouts.

Included in the "Table of Additional Quantities" are 100 tons of Base Course per mile for the backfilling of digouts.

Base Course shall be compacted to the satisfaction of the Engineer.

GRAVEL SURFACING

Gravel Surfacing shall be furnished by the Contractor and be utilized for approaches.

Gravel Surfacing shall be compacted to the satisfaction of the Engineer.

BASE COURSE, SALVAGED ASPHALT MIX

The Base Course, Salvaged Asphalt Mix shall be obtained from the milled material produced on this project and shall be utilized on approaches without further testing.

Base Course, Salvaged Asphalt Mix shall be compacted to the satisfaction of the Engineer.

EXCAVATION OF UNSTABLE MATERIAL

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts shall be Base Course.

Included in the Estimate of Quantities are 396 cubic yards of Unclassified Excavation – Digouts for the removal of unstable material throughout the project.

WATER FOR GRANULAR MATERIAL

The moisture content for compaction of the Base Course, Gravel Surfacing, and Base Course, Salvaged Asphalt Mix shall be approximately optimum moisture for the material or as directed by the Engineer. The quantity for Water for Granular Material is based on 4% of the quantity of the aforementioned material. All costs for furnishing and placing the water shall be incidental to the contract unit price per ton for the corresponding granular material.

CLASS Q2 HOT MIXED ASPHALT CONCRETE

Mineral Aggregate for Class Q2 Hot Mixed Asphalt Concrete shall conform to the requirements of the Special Provision for Gyrotory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement.

The asphalt concrete on the shoulders will not be compacted to a specified density. The shoulders shall be compacted using the same rolling pattern used on the adjacent mainline asphalt concrete or as directed by the Engineer.

ADDITIONAL QUANTITIES

Included in the Table of Additional Quantities are 300 tons of Class Q2 Hot Mixed Asphalt Concrete, 18.0 tons of PG 64-28 Asphalt Binder, and 3.0 ton of Hydrated Lime per mile for spot leveling, strengthening and repair of the existing surface. Also included in the Table of Additional Quantities are 6.0 tons of SS-1h or CSS-1h Emulsified Asphalt for Tack for repair and leveling areas throughout the project. The aforementioned materials shall be placed as directed by the Engineer.

GUIDE SPECIFICATION FOR SAFETY EDGE CONSTRUCTION WITH HOT MIX ASPHALT PAVEMENTS

When specified in the plans an approved longitudinal paver wedge system shall be included to create a sloped safety edge along the outside edge of the asphalt concrete pavement. The wedge system shall be attached to the paver screed and shall compact the hot mixed asphalt pavement (HMA) to a density at least as dense as the compaction imparted to the rest of the HMA by the paving screed.

The system shall provide a sloped Safety Edge equal to 30° plus or minus 5° measured from the extended pavement surface cross slope. The safety edge must be constructed as an integral operation in the paving process and in accordance with the attached Detail.

The use of a single plate strike-off method to construct the safety edge will not be allowed.

The Engineer may allow the Contractor to use handwork for short sections or to saw cut the sloped safety edge after paving operations are complete in areas such as driveways, intersections, and interchanges.

The Contractor shall submit the proposed system for approval by the Engineer at the Preconstruction Meeting. The Engineer may require proof that the system has been used on previous projects with acceptable results or may require a test section to be constructed prior to the beginning of work to demonstrate that it can create an acceptable safety wedge and compaction. Paving shall not begin until the system is approved in writing by the Engineer. The safety edge shall be constructed on each lift of HMA specified in the plans.

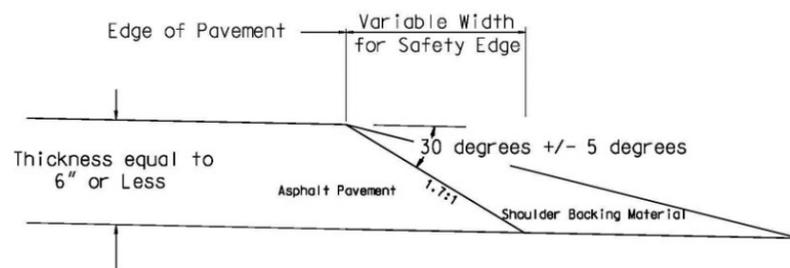
The safety edge device shall be attached to the paving machine as recommended by the supplier. The device shall use a spring loaded shoe that constrains the asphalt head, thus increasing the density of the extruded profile. The shoe shall be capable of applying variable pressure to ensure some compaction of the edge during the paving operation. Currently there is a least two manufactures producing equipment that can create a Safety Edge (see list below). The Engineer may permit an approved equal.

Transtech Systems, Inc.
1594 State Street
Schenectady, NY 12304
Phone: 1-800-724-6306 or 1-518-370-5558
www.transtechsys.com

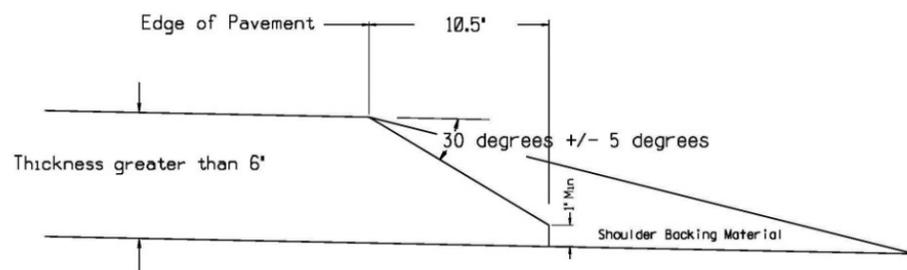
Advant-Edge Paving Equipment LLC
1197 Hillside Avenue, Suite B47
Niskayuria, NY 12309
Phone: 1-518-280-6090
www.advantagepaving.com

Separate measurement and payment will not be made; all work associated with furnishing and constructing the safety edge shall be incidental to the asphalt concrete placement bid item.

SAFETY EDGE CONFIGURATION FOR ASPHALT PAVEMENTS



Detail 1: Safety Edge Dimension For HMA Pavements (Thickness 6" or Less)



FLUSH SEAL

Application of Flush Seal shall be completed within 10 working days following completion of the asphalt concrete surfacing.

SAND FOR FLUSH SEAL

Sand for Flush Seal shall be furnished by the Contractor.

Sand for Flush Seal shall conform to the Standard Specifications Section 879.1.B.

The spreading device placing the sand shall leave a gap of 6 inches each side of centerline, applicable lane lines and the edge-line to ensure a better bond between the pavement and the permanent pavement marking.

RUMBLE STRIPES

The Contractor shall install rumble stripes as per standard plate shown in the plans. The rumble stripes must be grooved into the asphalt concrete surfacing. Following installation, the rumble stripes shall be flush sealed with SS-1h or CSS-1h Asphalt for Flush Seal.

All costs for installing the rumble stripes shall be paid for at the contract unit price per mile for "Grind 8" Rumble Strip or Stripe in Asphalt Concrete".

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IN-LANE RUMBLE STRIPS

The Contractor shall install in-lane rumble strips as per detail shown in the plans.

The in-lane rumble strips must be grooved into the asphalt concrete surfacing. Following installation, the in-lane rumble strips shall be flush sealed with SS-1h or CSS-1h Asphalt for Flush Seal. The in-lane rumble strips shall be completed prior to the flush seal and permanent pavement markings.

Cost for installing the in-lane rumble strips shall be paid for at the contract unit price per foot for "Groove 6" Wide Rumble Strip".

REFURBISH MAILBOXES

The Contractor shall reset the existing mailboxes on new posts with the necessary support hardware for single assemblies (See Standard Plate No's. 900.02 and 900.03). The Contractor may submit documentation of an alternate FHWA NCHRP 350 crashworthy compliant mailbox support system to the Department for review and approval. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor shall coordinate with the Engineer on the proper postal representative to contact.

The mailboxes shall be removed and reset on the nearest approach and/or as determined by the Engineer at a minimum of 20 feet from the roadway edgeline.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware shall be incidental to the contract unit price per each for "Refurbish Single Mailbox".

Table of Refurbish Mailbox

Station	L/R	Single (Each)	Double (Each)
89+10	Rt	1	-
420+80	Rt	1	-
Total:		2	-

TYPE III FIELD LABORATORY

The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by job location and approved by the DOT. Prior to installing the wireless router the Contractor shall submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer.

The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Project Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order (CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for "Type III Field Laboratory".

STORAGE UNIT

The Contractor shall provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit shall be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit shall be weather proof and shall be set in a level position. The storage unit shall be able to be locked with a padlock.

The storage unit shall be placed adjacent to the QA lab, as approved by the Engineer.

The following shall apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container shall be constructed of steel.
2. The portable storage container shall be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

The following shall apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings shall be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing shall be constructed at the exterior door. The minimum dimensions for the landing shall be 4 feet by 5 feet. The top of the landing shall be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway shall be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway shall be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction shall be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails shall be included in the contract unit price per each for "Storage Unit".

REMOVING, STOCKPILING, AND REPLACING TOPSOIL

The Contractor will be required to remove/peel back and salvage 4 inches of the existing topsoil for 3 feet along the top portion of the inslopes for the entire length of the project to accommodate the asphalt paving operation as determined by the Engineer.

The Contractor shall windrow the material near the disturbed areas to control potential sediment runoff as determined by the Engineer.

The replacement of topsoil shall be spread evenly throughout all disturbed areas upon completion of the work. Any clumps larger than 3 inches shall be broken up prior to seeding the areas.

All topsoil removal, stockpiling, salvaging, windrowing, and replacement shall be done as according to the plans and/or as directed by the Engineer.

Measurement of topsoil quantities will not be made; however for informational purposes only, an amount of 3,100 cubic yards of topsoil removal and replacement has been estimated.

All cost associated with removing, salvaging, stockpiling, windrowing, and replacing topsoil shall be incidental to the contract lump sum price for "Remove and Replace Topsoil".

EROSION CONTROL

All disturbed areas as a result of work on this project shall be restored, reshaped, and seeded to the satisfaction of the Engineer. Disturbed areas anticipated on the project include the topsoil peel down areas along with all other areas disturbed as a result of the Contractor's operations.

All permanent seed shall be planted in the topsoil at a depth of ¼" to ½". Hand seeding devices approved by the Engineer will be allowed. 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 varieties listed for the seed mixture are preferred varieties. Native harvest seed will be allowed.

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
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 May; Winter Wheat: August through November		10
Total:		26

It is estimated that 5.8 acres of disturbed area will require seeding. Limits of the work shall be as determined by the Engineer at the time of construction.

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

All costs associated with furnishing/placing the seed, along with all labor, equipment and incidentals shall be paid for at the contract unit price per pound for "Type F Permanent Seed Mixture".

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	25%

All seed shall be inoculated with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum shall be from the list below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

TRAFFIC CONTROL FOR ASPHALT CORING

Coring operations shall be completed during daylight hours only. Traffic control for coring operations shall be executed by following the "Special Detail for Mobile Operations for Asphalt Coring" sheet.

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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 site 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.

Traffic approaching the project from intersecting roadways and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

Access to businesses and residences along the project shall be maintained at all times, unless arrangements are made between the Contractor and business or residence owners to provide an alternative entrance during construction.

All traffic control sign locations shall be set in the field by the Contractor and verified by the Engineer prior to installation.

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 3 days. If the duration is more than 3 days the signs shall meet the minimum mounting heights of 5 foot for rural areas and 7 foot for urban areas.

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

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

TRAFFIC CONTROL

The Contractor shall designate an employee who will be available 24 hours/day, 7 days/week to be responsible for the maintenance of traffic during periods of repair work. The person so designated must have training and experience in the field of construction traffic control and be knowledgeable about the Manual on Uniform Traffic Control Devices (MUTCD). The cost of the traffic control person shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous. The Engineer must approve the employee selected. The name and phone number of person(s) shall be provided to the SD Department of Transportation (605-845-3844), SD Highway Patrol (Pierre State Radio (605-773-3536)), and Campbell County Sheriff Department (605-955-3355).

Channelizing devices in a series shall be of the same type. Channelizing drums shall be of a two part construction with breakaway bases. All traffic control devices shall be in "like new" condition.

TEMPORARY PAVEMENT MARKINGS

Temporary pavement markings shall be as per the Standard Specifications.

The total length of no passing zone is estimated to be **5.344** miles.

No Passing Zones may be identified using DO NOT PASS and PASS WITH CARE signs in addition to dashed centerline pavement markings. It is estimated that 24 DO NOT PASS and 24 PASS WITH CARE signs will be required to mark the no passing zones.

The Contractor shall erect DO NOT PASS signs to mark no passing zones prior to the removal of the existing pavement markings. PASS WITH CARE signs shall also be used in conjunction with the DO NOT PASS signs. These signs shall be erected on fixed location supports.

These signs shall be removed upon completion of the permanent pavement markings.

If the Contractor elects not to use the DO NOT PASS and PASS WITH CARE signs, the temporary pavement markings placed shall be full compliant as normally used to identify no passing zones.

At the end of each day the temporary pavement markings shall be in place and visible. No separate payment will be made for remarking a segment of roadway that was not evened up with surface treatment at the end of the previous day.

Quantities of Temporary Pavement Markings consist of:

- 1) One pass on top of the Asphalt Concrete
- 2) ** One pass on top of the Flush Seal

** If the flush seal is eliminated from the contract, the length of temporary pavement marking used for the flush seal shall also be eliminated from the contract.

Flagger symbol signs (W20-7a) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of temporary road markers. The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Workers symbol sign (W21-1a) or a BE PREPARED TO STOP (W3-4) warning sign shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

PERMANENT PAVEMENT MARKING

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

The application of permanent pavement marking paint may not begin until 2 calendar days following completion of flush seal and shall be completed within 14 calendar days following completion of the flush seal. If the Flush Seal is eliminated, the Contractor shall complete the application of permanent pavement marking paint no sooner than 2 calendar days, but within 14 calendar days following completion of final surfacing.

The Contractor will be required to repaint all existing pavement marking including centerline, edge line, lane lines, turn arrows, etc. This list is approximate. The Contractor will be required to inventory and mark, and/or offset the extent and location of the existing turn arrows, etc. before the markings are obliterated. Additional quantities are included in the Estimate of Quantities to paint the additional pavement markings.

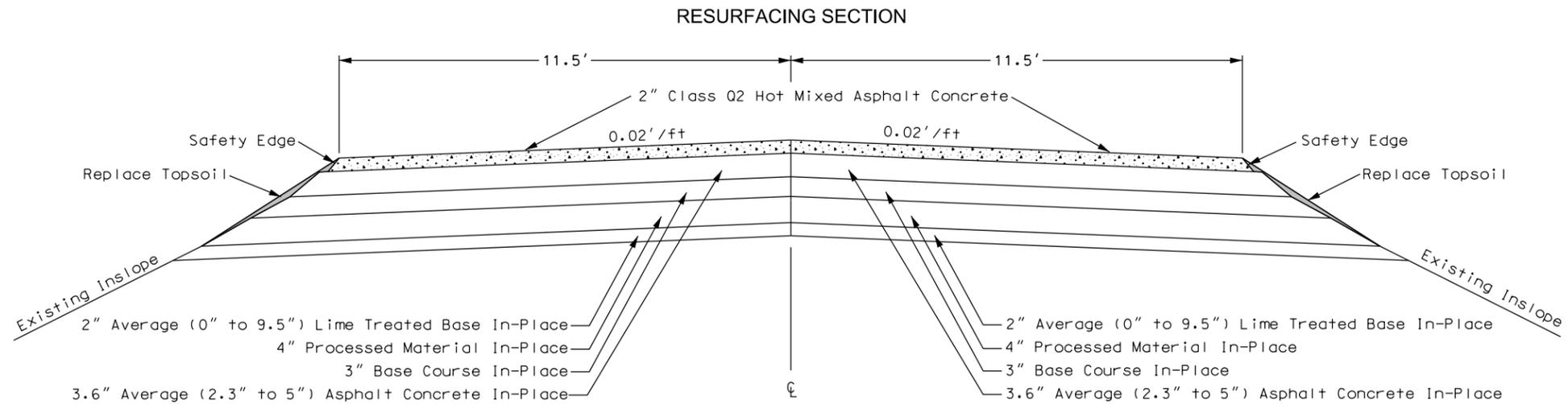
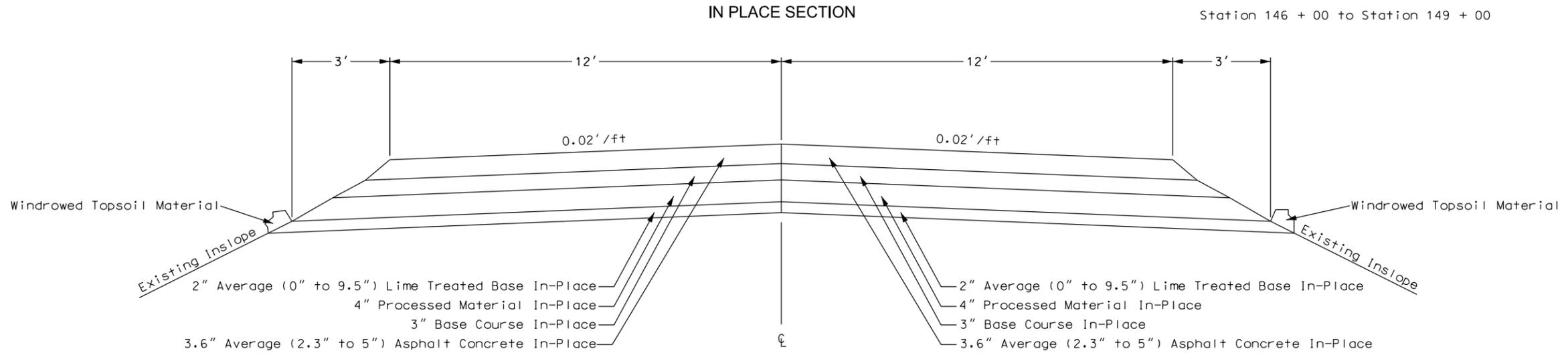
All materials shall be applied as per manufacturer's recommendations.

TYPICAL SECTION

Section 1

Station 52 + 18.3 to Station 128 + 00
 Station 149 + 00 to Station 470 + 73.29

Transitions:
 Station 128 + 00 to Station 131 + 00
 Station 146 + 00 to Station 149 + 00



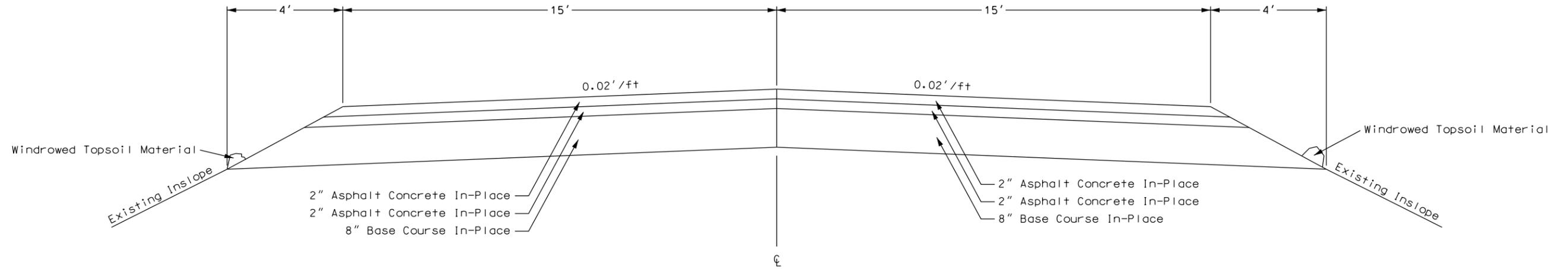
Replace Topsoil

TYPICAL SECTION

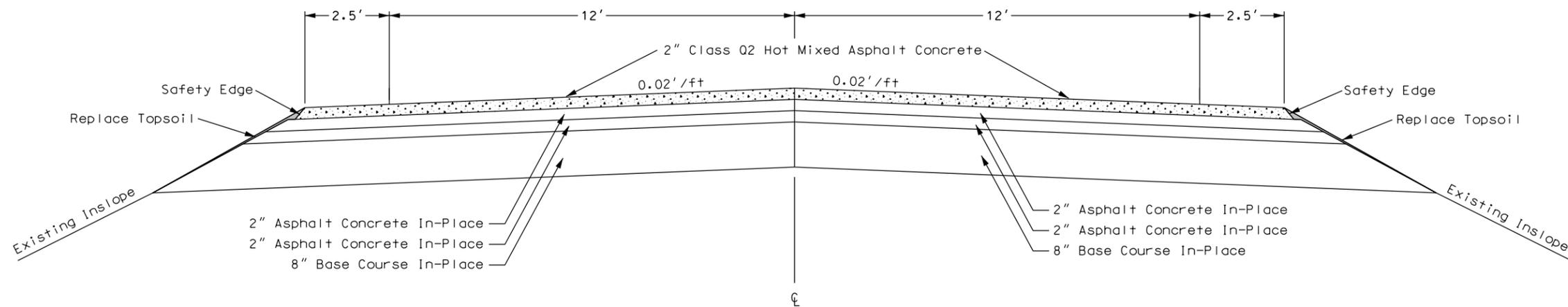
Section 2

Station 131 + 00 to Station 140 + 00

IN PLACE SECTION



RESURFACING SECTION



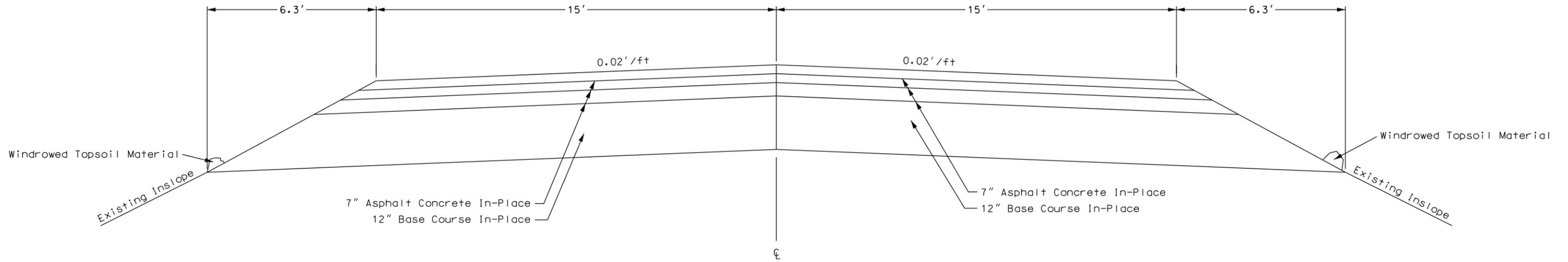
 Replace Topsoil

TYPICAL SECTION

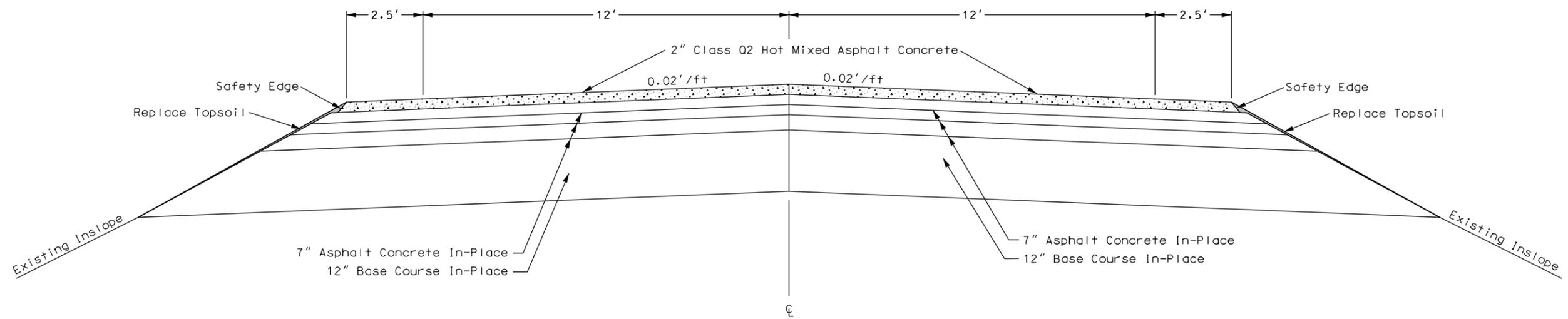
Section 3

Station 140 + 00 to Station 146 + 00

IN PLACE SECTION



RESURFACING SECTION



Replace Topsoil

RATES OF MATERIALS

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Note: The Estimate of Quantities is based on the following quantities of material per mile for Section 1 and per station for Sections 2 and 3.

SECTION 1

Station 52+18.3 to Station 128+00
Station 149+00 to Station 470+73.29

Class Q2 Hot Mixed Asphalt Concrete (2" Lift)

Aggregate (Contractor Furnished)	1426 Tons
PG 64-28 Asphalt Binder	91 Tons
TOTAL MIX	1517 Tons
Hydrated Lime	15 Tons
TOTAL MIX WITH HYDRATED LIME	1532 Tons

The exact proportions of these materials will be determined on construction.

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 3.1 ton applied 25 feet wide (Rate = 0.05 gallon per square yard), prior to application of 2" lift of Class Q2 Hot Mixed Asphalt Concrete.

Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 3.0 ton applied 24 feet wide (Rate = 0.05 gallon per square yard).

Provide Sand for Flush Seal at the rate of 52 ton applied 22 feet wide for (Rate = 8 pounds per square yard).

SECTION 2

Station 131+00 to Station 140+00

Class Q2 Hot Mixed Asphalt Concrete (2" Lift)

Aggregate (Contractor Furnished)	33.96 Tons
PG 64-28 Asphalt Binder	2.17 Tons
TOTAL MIX	36.13 Tons
Hydrated Lime	0.36 Tons
TOTAL MIX WITH HYDRATED LIME	36.49 Tons

The exact proportions of these materials will be determined on construction.

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.07 ton applied 31 feet wide (Rate = 0.05 gallon per square yard), prior to application of 2" lift of Class Q2 Hot Mixed Asphalt Concrete.

Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.07 ton applied 30 feet wide (Rate = 0.05 gallon per square yard).

Provide Sand for Flush Seal at the rate of 0.98 ton applied 22 feet wide for (Rate = 8 pounds per square yard).

SECTION 3

Station 140+00 to Station 146+00

Class Q2 Hot Mixed Asphalt Concrete (2" Lift)

Aggregate (Contractor Furnished)	33.96 Tons
PG 64-28 Asphalt Binder	2.17 Tons
TOTAL MIX	36.13 Tons
Hydrated Lime	0.36 Tons
TOTAL MIX WITH HYDRATED LIME	36.49 Tons

The exact proportions of these materials will be determined on construction.

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.07 ton applied 31 feet wide (Rate = 0.05 gallon per square yard), prior to application of 2" lift of Class Q2 Hot Mixed Asphalt Concrete.

Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.07 ton applied 30 feet wide (Rate = 0.05 gallon per square yard).

Provide Sand for Flush Seal at the rate of 0.98 ton applied 22 feet wide for (Rate = 8 pounds per square yard).

TABLE OF PROJECT STATIONING AND MATERIAL QUANTITIES

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P1804(41)393	16	27

PROJECT STATIONING

SECTION	STATION	TO	STATION	DESCRIPTION	PROJECT GROSS LENGTHS	EXCEPTION LENGTH	PROJECT NET LENGTHS
1	Begin Project 52+18.30	to	128+00.00	Rural 2 Lane at South/North Dakota Border	7581.70'	-	7581.70'
Section Transition	128+00.00	to	131+00.00	Rural 2 Lane	300.00'	-	300.00'
2	131+00.00	to	140+00.00	Rural 2 Lane	900.00'	-	900.00'
3	140+00.00	to	146+00.00	Rural 2 Lane	600.00'	-	600.00'
Section Transition	146+00.00	to	149+00.00	Rural 2 Lane	300.00'	-	300.00'
1	149+00.00	to	470+73.29 End Project	Rural 2 Lane	32173.29'	-	32173.29'
TOTALS =					41854.99' 7.927 Miles	0.00' 0.000 Miles	41854.99' 7.927 Miles

MATERIAL QUANTITIES

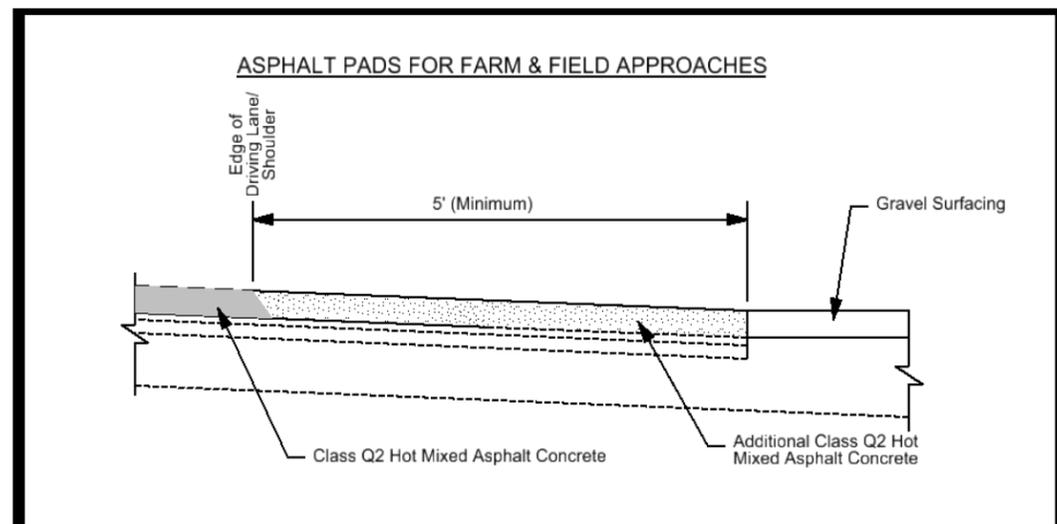
Description	(For Info Only) Water For Granular Material (MGal)	Cold Milling Asphalt Concrete (SqYd)	Base Course, Salvaged Asphalt Mix (Ton)	Base Course (Ton)	Gravel Surfacing (Ton)	Class Q2 Hot Mixed Asphalt Concrete (Ton)	PG 64-28 Asphalt Binder (Ton)	Hydrated Lime (Ton)	SS-1h or CSS-1h Asphalt For Tack (Ton)	SS-1h or CSS-1h Asphalt For Flush Seal (Ton)	Sand For Flush Seal (Ton)
Section 1	-	-	-	-	-	11,534.4	685.1	112.9	23.3	22.6	391.5
Section 2	-	-	-	-	-	328.4	19.5	3.2	0.6	0.6	8.8
Section 3	-	-	-	-	-	218.9	13.0	2.2	0.4	0.4	5.9
Subtotals =	-	-	-	-	-	12,081.7	717.6	118.3	24.3	23.6	406.2
Table of Additional Quantities Totals =	15.1	854	44.8	792.7	733.7	2,751.2	164.8	27.6	6.7	0.2	2.0
TOTALS =	15.1	854	44.8	792.7	733.7	14,832.9	882.4	145.9	31.0	23.8	408.2

TABLE OF ADDITIONAL QUANTITIES

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 1804(41)393	17	27

Description	(For Info Only) Water For Granular Material (MGal)	Cold Milling Asphalt Concrete (SqYd)	Base Course, Salvaged Asphalt Mix (Ton)	Base Course (Ton)	Gravel Surfacing (Ton)	Class Q2 Hot Mixed Asphalt Concrete (Ton)	PG 64-28 Asphalt Binder (Ton)	Hydrated Lime (Ton)	SS-1h or CSS-1h Asphalt For Tack (Ton)	SS-1h or CSS-1h Asphalt For Flush Seal (Ton)	Sand For Flush Seal (Ton)
Asphalt to End of Radius/Gravel Surfacing to ROW											
1 Intersecting Road Entrances Sta 324+00 Rt	0.1	-	-	-	2.6	18.8	1.1	0.2	0.1	-	-
3 Farm & Field Entrances Sta 52+19 Rt, Sta 118+31 Rt, and 316+20 Rt	0.1	-	-	-	10.9	36.1	2.1	0.4	0.1	-	-
Gravel Surfacing/Asphalt Pads											
51 Farm & Field Entrances	7.3	-	44.8	-	720.2	123.6	7.3	1.2	0.3	-	-
Spot Leveling, Strengthening, & Repair	-	-	-	-	-	2378.1	142.7	23.8	6.0	-	-
Cold Milling Transitions at Begin/End Project	-	854	-	-	-	-	-	-	-	-	-
Transition Between Typical Sections 1 & 2 fm Sta 128+00 to Sta 131+00 (Refer to * Note below)	-	-	-	-	-	97.3	5.8	1.0	0.1	0.1	1.0
Transition Between Typical Sections 3 & 1 fm Sta 146+00 to 149+00 (Refer to * Note below)	-	-	-	-	-	97.3	5.8	1.0	0.1	0.1	1.0
Backfill for Digouts	7.6	-	-	792.7	-	-	-	-	-	-	-
TOTALS =	15.1	854	44.8	792.7	733.7	2,751.2	164.8	27.6	6.7	0.2	2.0

* Note ~ All Class Q2 Hot Mixed Asphalt Concrete shall be with "Specified Density Compaction".
 Quantities for Gravel Surfacing to be placed on farm & field entrances that are to only have asphalt pads were calculated using 15 tons per entrance. Refer to "Table of Material Quantities" sheet for asphalt pad details.
 Tonnage shown in the tables above for Class Q2 Hot Mixed Asphalt Concrete is based on a compacted depth as detailed in the plans.
 The quantities above are included in the Material Quantities table in the "Table of Project Stationing and Material Quantities" sheet.



SUMMARY OF ASPHALT CONCRETE

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 1804(41)393	18	27

Location	Class Q2 Hot Mixed Asphalt Concrete With Specified Density Compaction (Ton)	Class Q2 Hot Mixed Asphalt Concrete Without Specified Density Compaction (Ton)
Section 1		
23' Finished Roadway Width w/Safety Edge	11,534.4	-
Section 1 Subtotals =	11,534.4	0.0
Section 2		
29' Finished Roadway Width w/Safety Edge	328.4	-
Section 2 Subtotals =	328.4	0.0
Section 3		
29' Finished Roadway Width w/Safety Edge	218.9	-
Section 3 Subtotals =	218.9	0.0
Sections 1 thru 3 Combined Totals =	12,081.7	0.0
Table of Additional Quantities Totals =	194.6	2,556.6
TOTALS =	12,276.3	2,556.6

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 1804(41)393	19	27

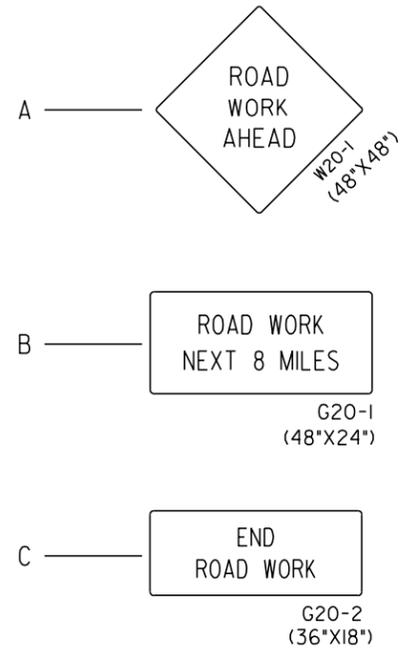
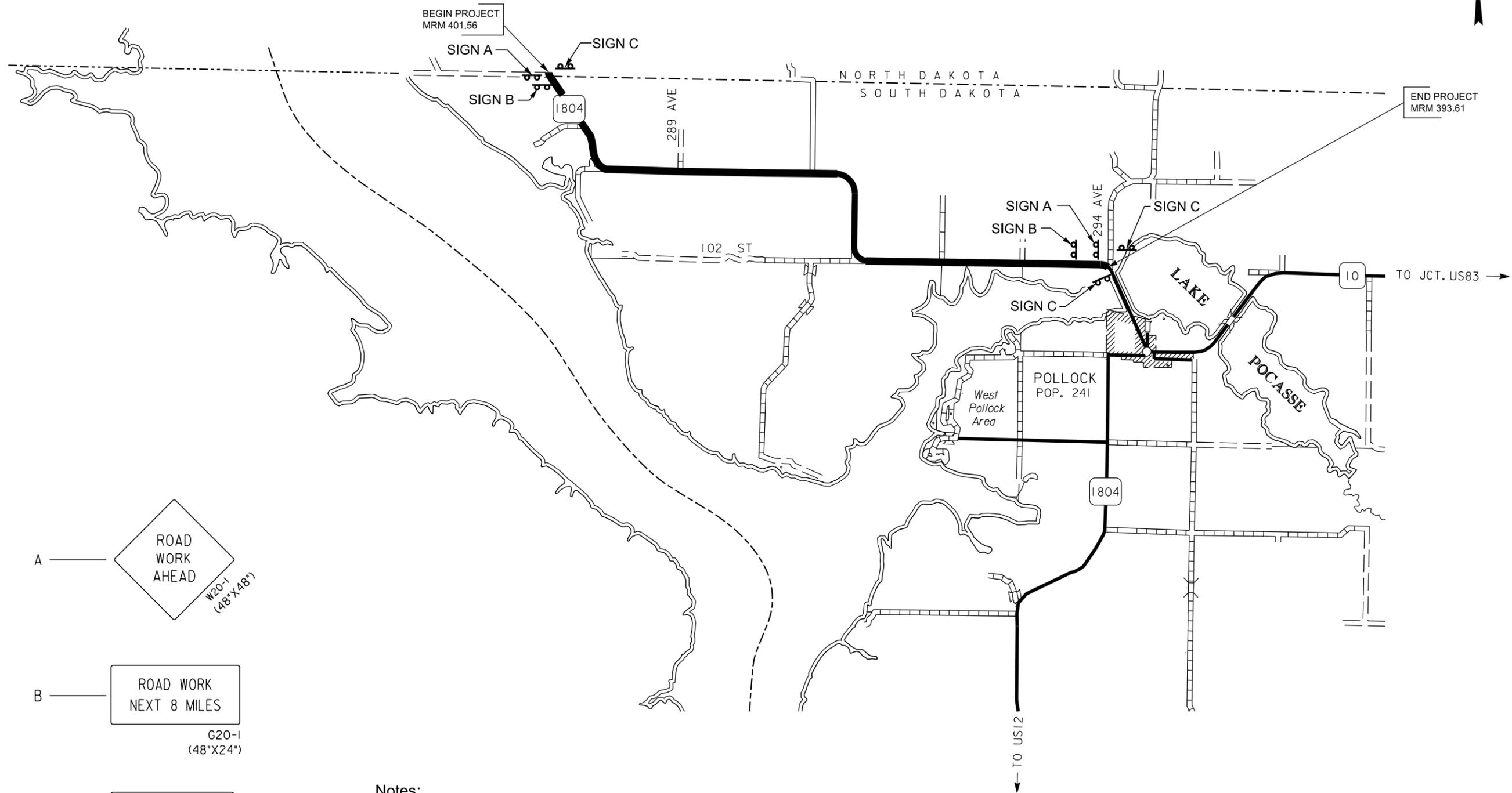
TABLE OF SUPERELEVATED CURVES

<u>Station</u>	<u>To</u>	<u>Station</u>	<u>Remarks</u>
Begin Project			
52+18.30		55+59.47	4° 30' 00" Curve Lt. 0.060 Superelevation Rate Point of Rotation – 12' Lt.
55+59.47		57+63.47	Superelevation Transition
57+63.47		91+40.37	Normal Crown Section
91+40.37		93+19.37	Superelevation Transition
93+19.37		104+53.36	3° 0' 00" Curve Rt. 0.050 Superelevation Rate Point of Rotation – 12' Rt.
104+53.36	**	106+32.36	Superelevation Transition
** 105+77.69		107+81.69	Superelevation Transition
107+81.69		121+89.49	6° 00' 00" Curve Lt. 0.060 Superelevation Rate Point of Rotation – 12' Lt.
121+89.49		123+93.49	Superelevation Transition
123+93.49		260+29.92	Normal Crown Section
260+29.92		262+33.92	Superelevation Transition
262+33.92		276+60.84	6° 0' 00" Curve Rt. 0.060 Superelevation Rate Point of Rotation – 12' Rt.
276+60.84		278+64.84	Superelevation Transition
278+64.84		308+97.35	Normal Crown Section
308+97.35		311+01.35	Superelevation Transition
311+01.35		325+22.43	6° 0' 00" Curve Lt. 0.060 Superelevation Rate Point of Rotation – 12' Lt.
325+22.43		327+26.43	Superelevation Transition
327+26.43		470+73.29	Normal Crown
End Project			

**** Note** – Superelevated transitions between two curves are overlapping and will require being field fit at the time of construction.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 1804(41)393	20	27

FIXED LOCATION SIGN LAYOUT



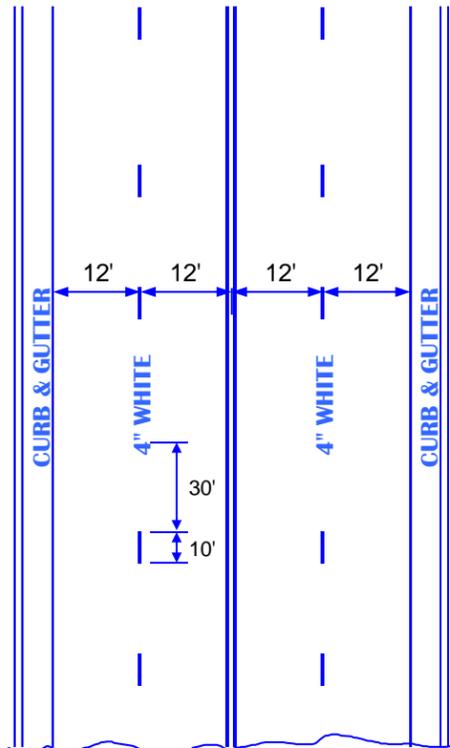
Notes:
 Sign locations will be verified in the field by the Engineer prior to installation.

Fixed location signs to remain in place until the completion of permanent pavement markings.

SIGN AND PAINT TABULATION

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

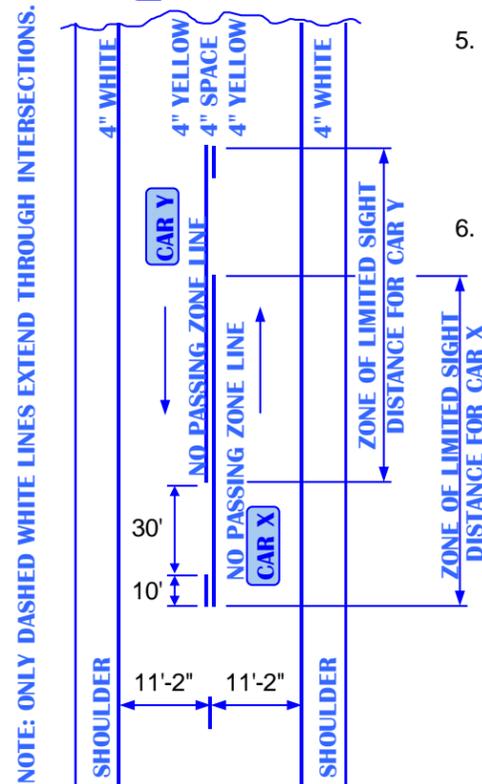
UNDIVIDED ROADWAY



1. Pavement marking paint and glass beads will be furnished and applied by the Contractor. Material shall meet the requirements of Section 980 and 981 of the Standard Specifications. The bead application rate shall be 8 pounds/gallon of paint.
2. Construction requirements, methods of measurement and basis of payment shall conform to the requirements of Section 633 of the Standard Specifications and the Supplemental Specifications.
3. Approximate paint application rates shall be as follows:

Four Lane Roadway (Rates for one line)	Two Lane Roadway
<u>Solid Yellow Centerline</u> Rate = 16.90 Gals./Pass-Mile	<u>Yellow Centerline</u> (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
<u>Dashed White Laneline</u> Rate = 4.60 Gals./Pass-Mile	<u>Solid White Edgeline</u> (Rate for one line) Rate = 16.90 Gals./Pass-Mile
<u>Solid White Edgeline</u> (Not applicable in curb & gutter section) Rate = 16.90 Gals./Pass-Mile	

4. Typical pavement marking as shown on this sheet shall be applied throughout the entire length of undivided roadway.
5. Exact location of NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending of NO PASSING ZONE lines.
6. Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.



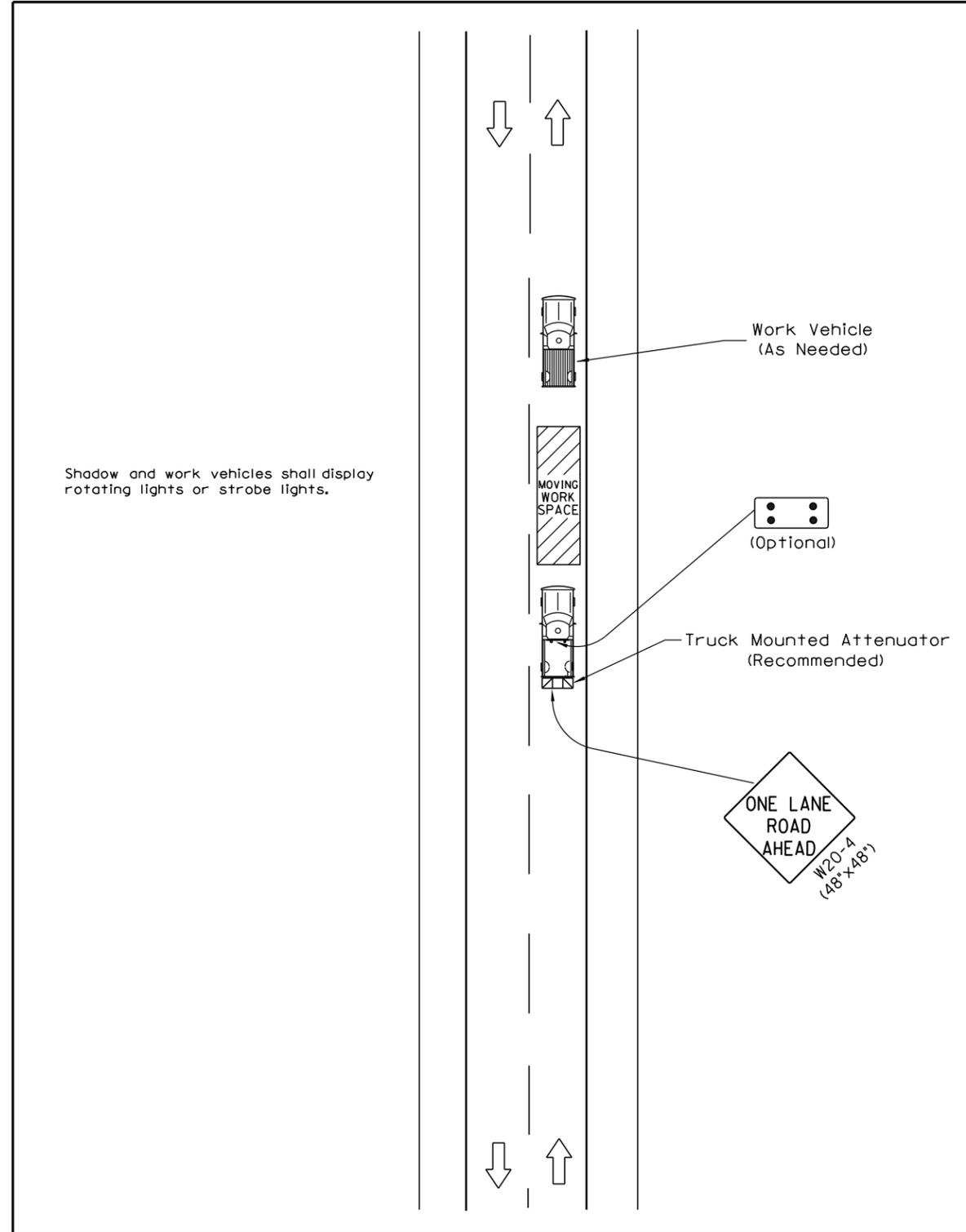
ESTIMATED QUANTITIES	
PAVEMENT MARKING PAINT	QUANTITY
WHITE	268.0 GALLONS
YELLOW	124.0 GALLONS
TOTAL	392.0 GALLONS

SIGN TABULATION

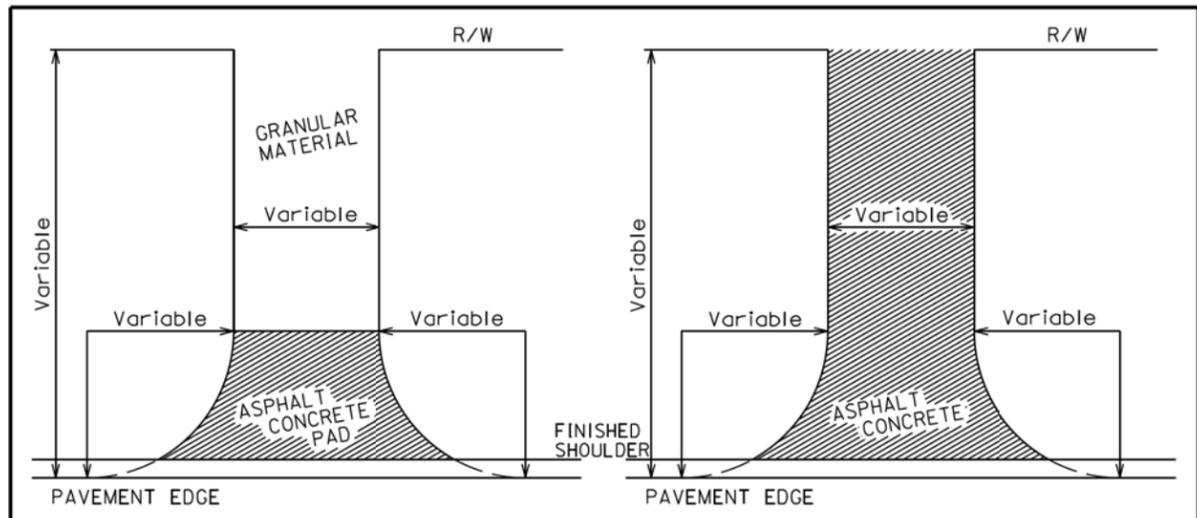
SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	48" x 24"	ROAD WORK NEXT ## MILES	2	24	48
G20-2	36" x 18"	END ROAD WORK	6	17	102
W8-1	36" x 36"	BUMP	2	27	54
W8-6	48" x 48"	TRUCK CROSSING	2	34	68
W8-11	48" x 48"	UNEVEN LANES	4	34	136
W16-2	24" x 18"	### FEET	2	7	14
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	4	34	136
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
W21-2	36" x 36"	FRESH OIL	2	27	54
TOTAL UNITS				748	

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 1804(41)393	23	27

SPECIAL DETAIL FOR MOBILE OPERATION FOR ASPHALT CORING

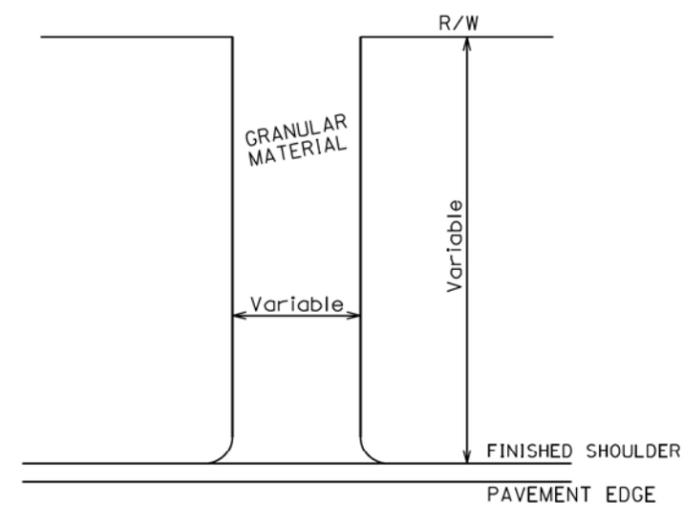


Plotting Date: 01/22/2014



INTERSECTING ROAD
NO ASPHALT CONCRETE SURFACING
BEYOND R/W

INTERSECTING ROAD
ASPHALT CONCRETE SURFACING
BEYOND R/W



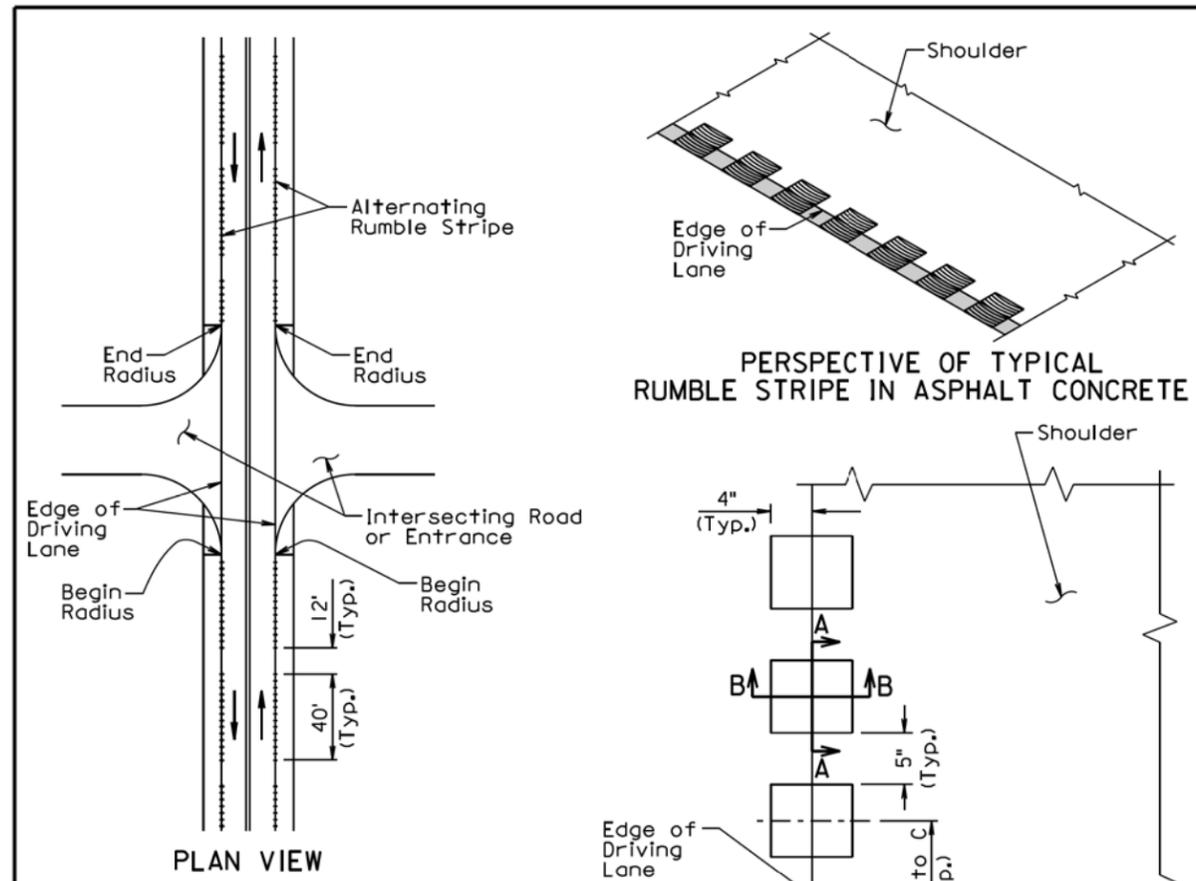
ENTRANCE

The surfacing details shown on this sheet are provided as a guide for surfacing these facilities. The precise construction limits for situations other than the standards shown will be determined by the Engineer, at the time of construction.

ROADWAY WITH SHOULDER

March 31, 2000

S D D O T	RESURFACING OF INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 320.11
		Sheet 1 of 1
		Published Date: 1st Qtr. 2014



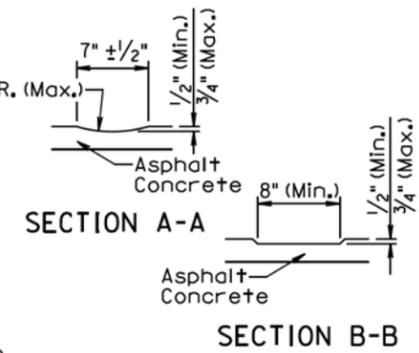
GENERAL NOTES:

A rumble stripe shall be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble stripe shall receive a flush seal with the shoulder flush sealing or asphalt surface treatment.

A rumble stripe shall not be constructed through intersecting roads, entrances, and turnouts. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble stripe adjacent to the intersecting roads, entrances, and turnouts shall be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor shall submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

Measurement of the rumble stripe shall be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble stripe shall include the 12' long segments without rumble stripes and the segments adjacent to intersecting roads, entrances, and turnouts without rumble stripes. Payment for constructing the rumble stripe shall be at the contract unit price per mile for "Grind 8" Rumble Strip or Stripe in Asphalt Concrete".



June 26, 2011

S D D O T	8" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.20
		Sheet 1 of 1
		Published Date: 1st Qtr. 2014

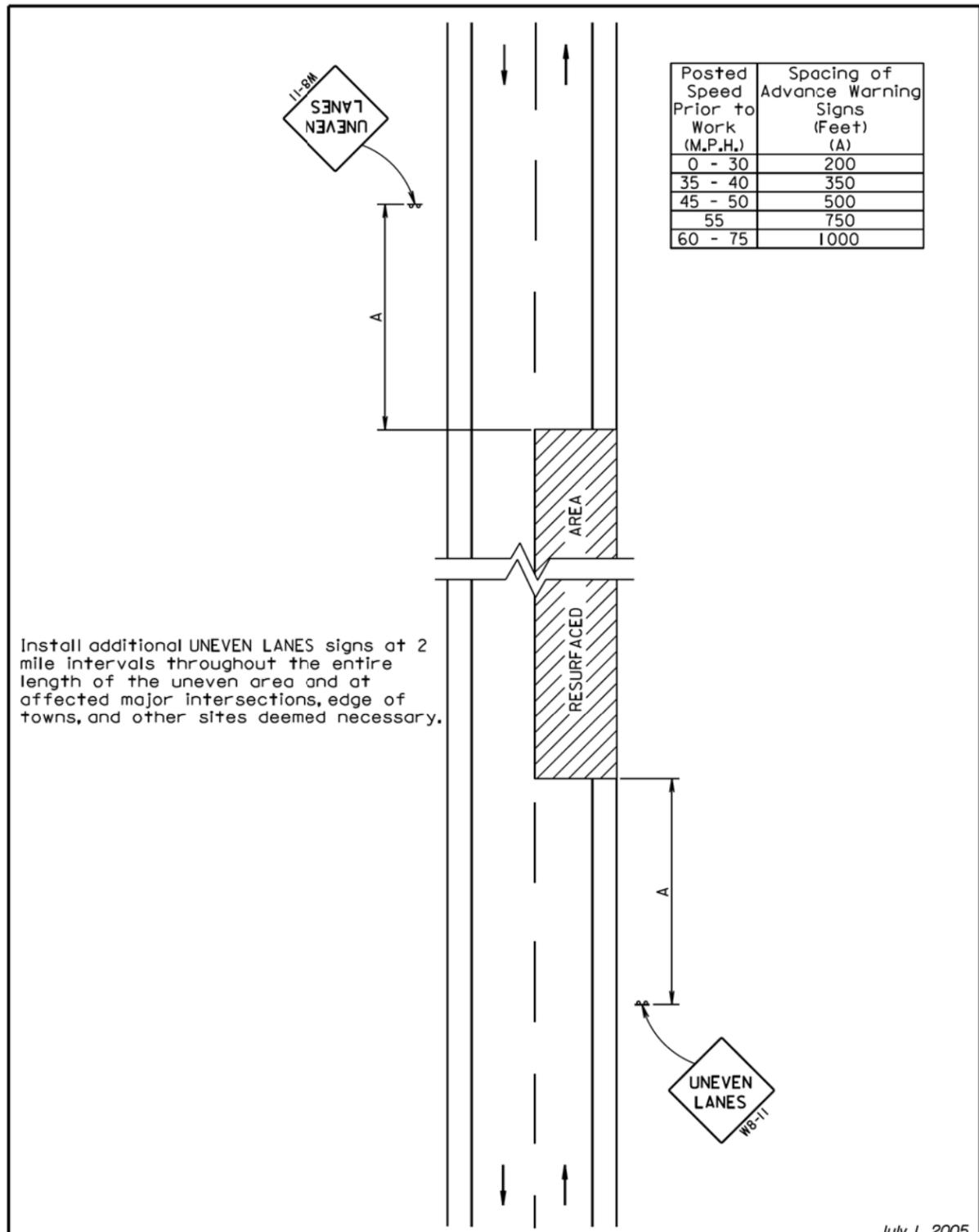
PLOT SCALE - 1:200

PLOTTED FROM - TRPR22410

PLOT NAME - 1

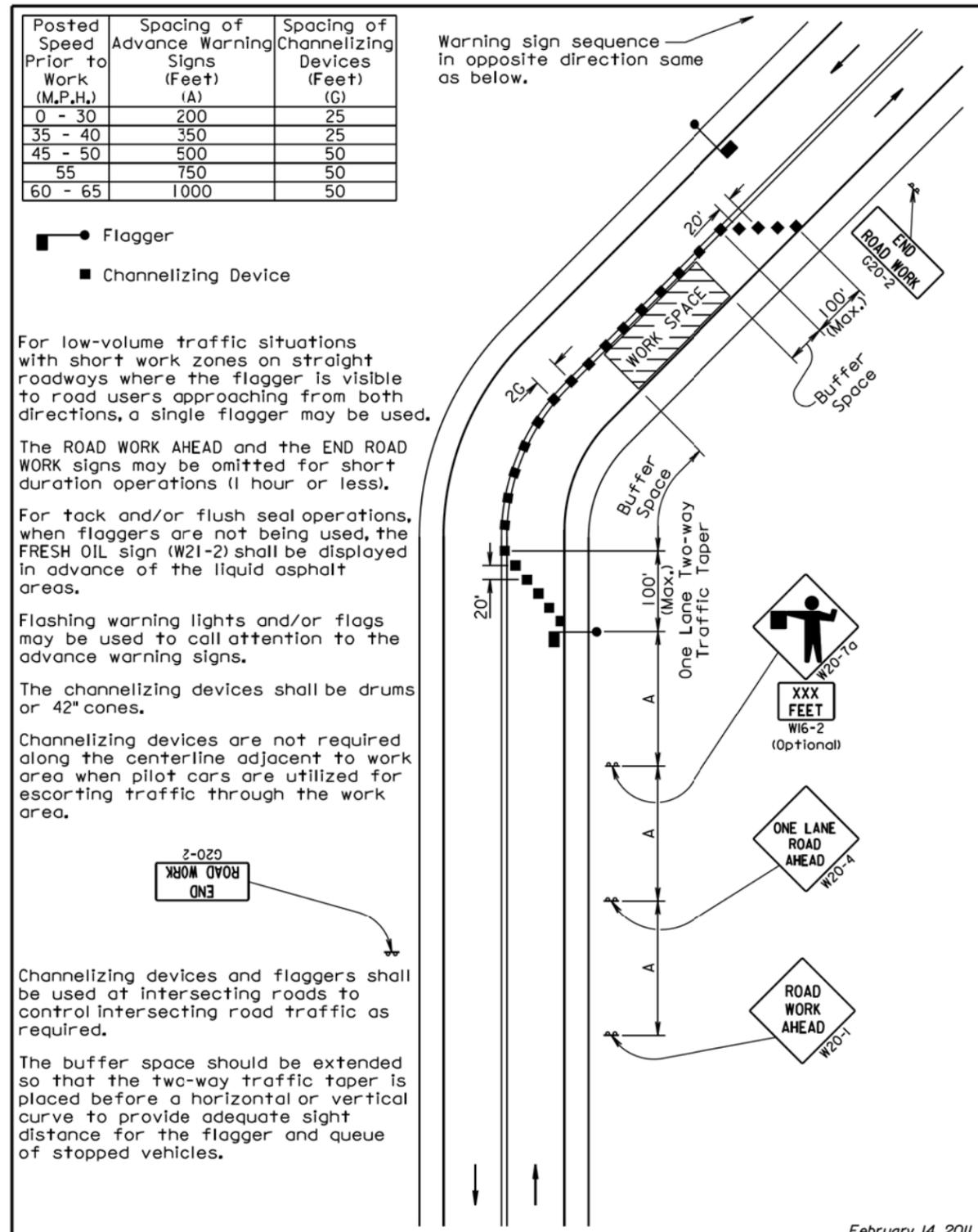
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Plotting Date: 01/22/2014



S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES UNEVEN ROAD SURFACE	PLATE NUMBER 634.22
	Published Date: 1st Qtr. 2014	Sheet 1 of 1

July 1, 2005



S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	Published Date: 1st Qtr. 2014	Sheet 1 of 1

February 14, 2011

PLOT SCALE - 1:200

PLOTTED FROM - TRPR22410

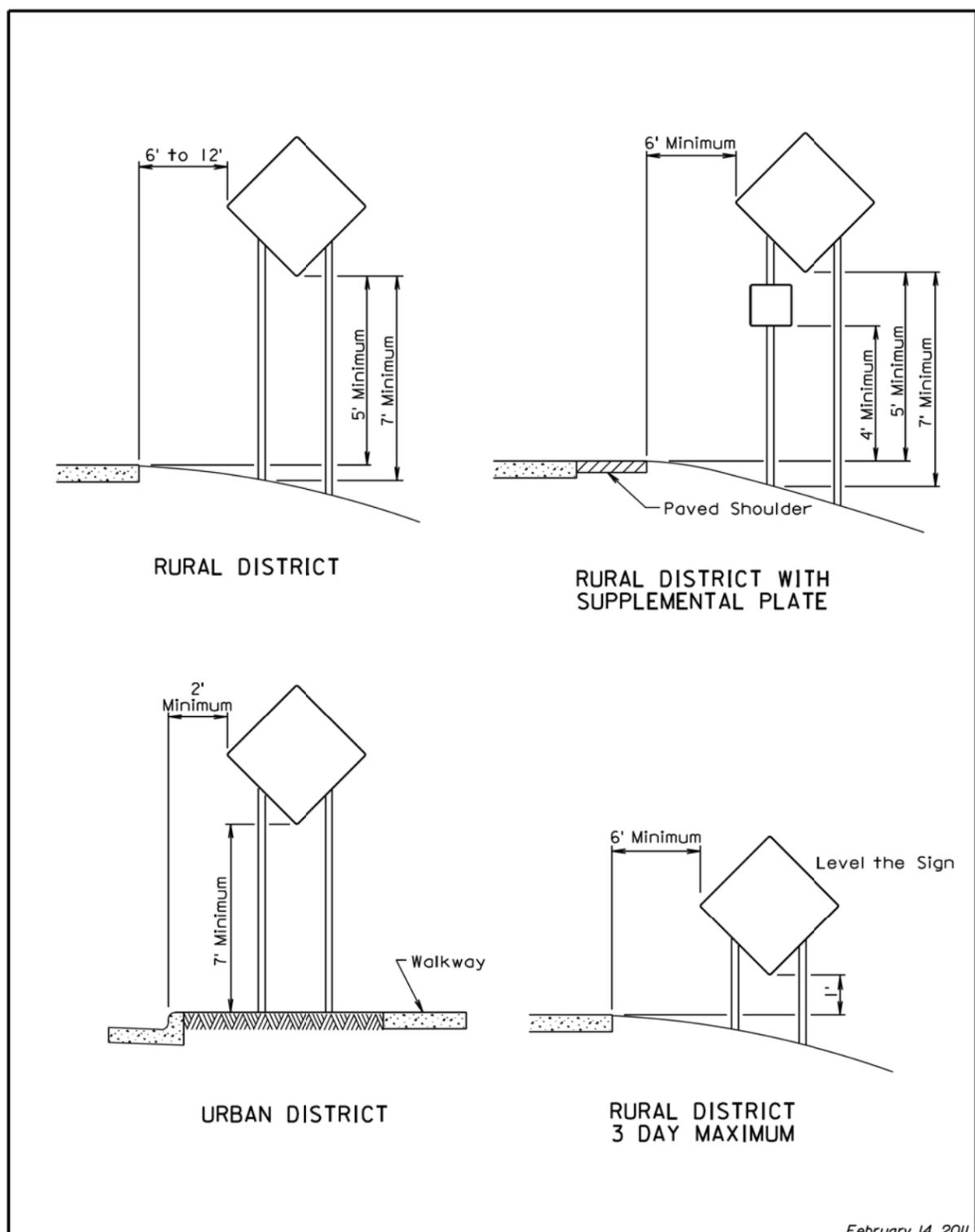
PLOT NAME - 2

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Plotting Date: 01/22/2014

PLOT SCALE - 1:200

PLOT NAME - 3



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE

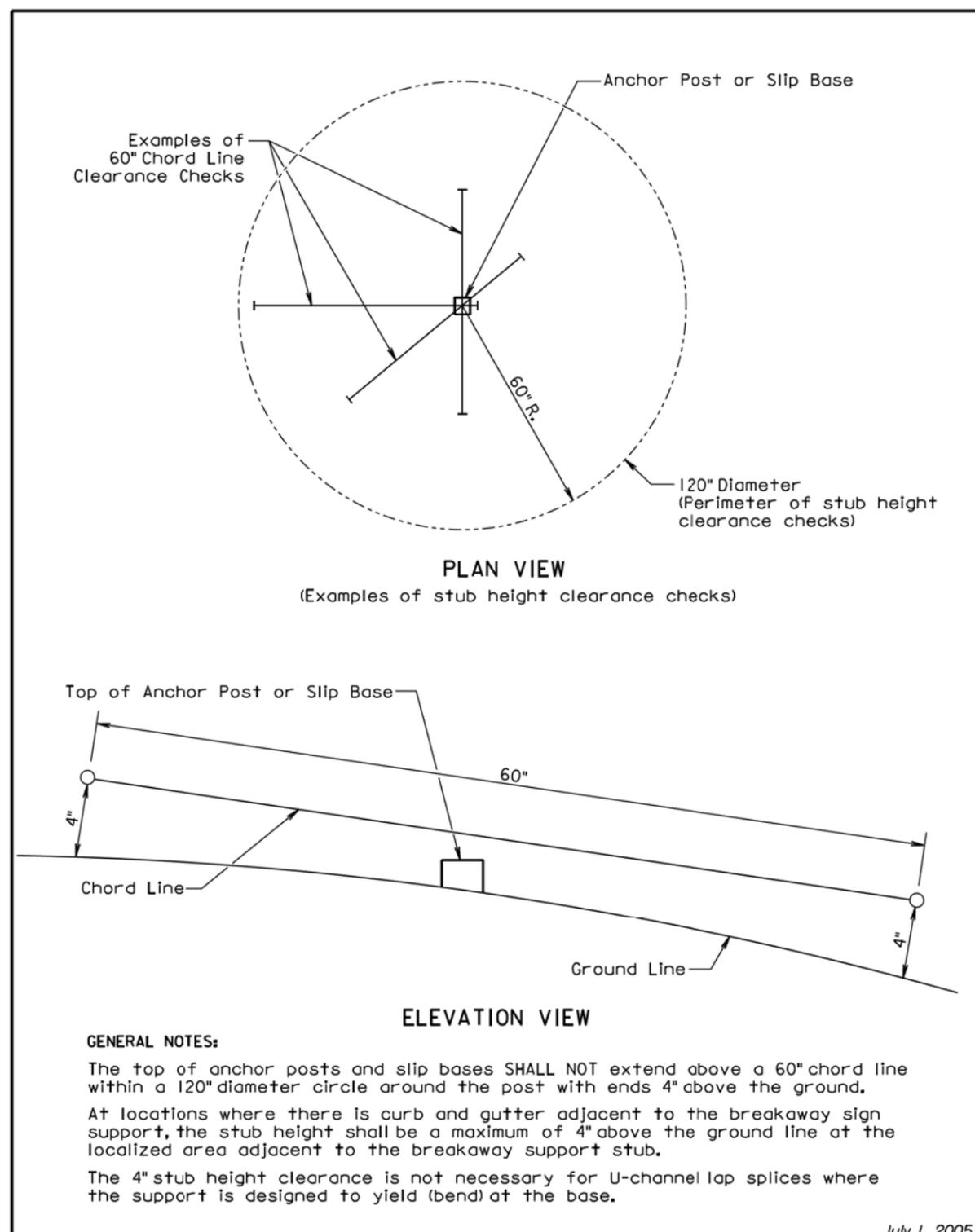
URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

February 14, 2011

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

Published Date: 1st Qtr. 2014



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.

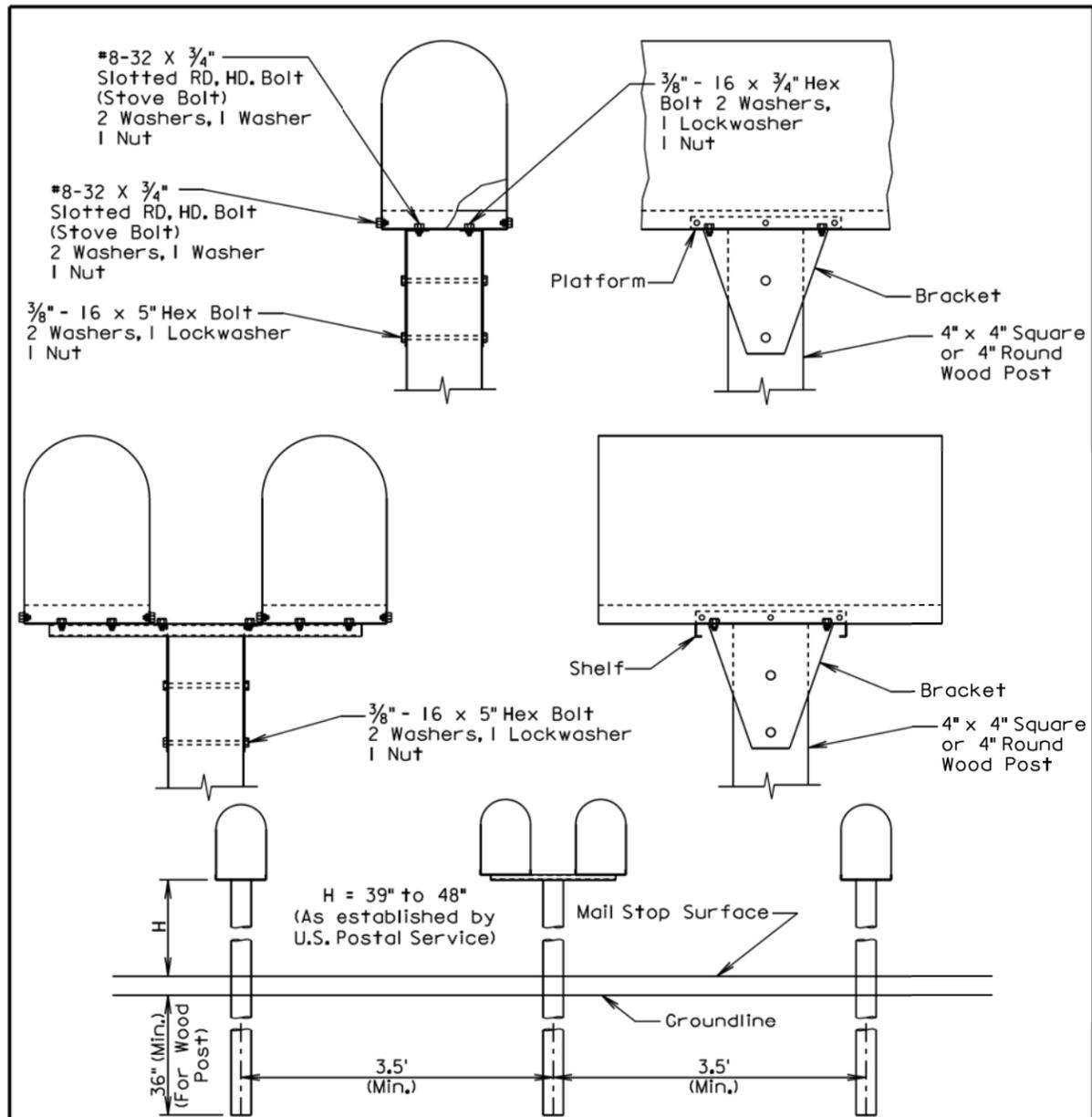
The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
		Sheet 1 of 1

Published Date: 1st Qtr. 2014

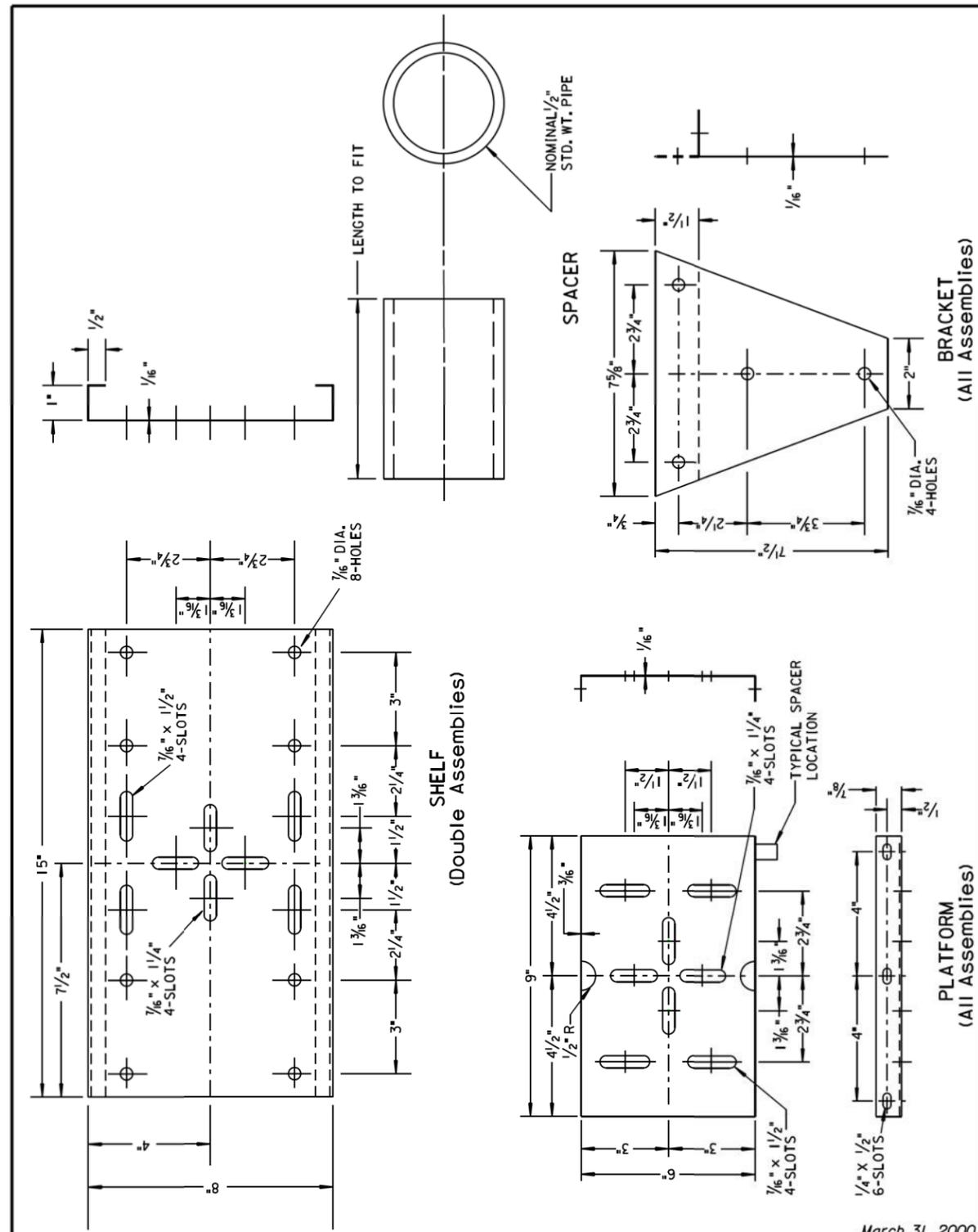
Plotting Date: 01/22/2014



GENERAL NOTES: **SPACING FOR MULTIPLE POST INSTALLATION**
 The post support assemblies provided should be consistent throughout the project. Single and double mailboxes may be in any sequence.
 Post support assemblies shall be one from the approved products list, a 4"x4" or 4" round wood post, or an alternate post support assembly that meets the test level 3 crash testing requirements of NCHRP 350 or MASH.
 Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation instructions.

September 6, 2013

S D D O T	SINGLE AND DOUBLE MAILBOX ASSEMBLIES	PLATE NUMBER 900.02
	<i>Published Date: 1st Qtr. 2014</i>	Sheet 1 of 1



March 31, 2000

S D D O T	MAILBOX SUPPORT HARDWARE	PLATE NUMBER 900.03
	<i>Published Date: 1st Qtr. 2014</i>	Sheet 1 of 1

PLOT SCALE - 1:200

PLOT NAME - 4
FILE - ... \CAMB038U\90002, 90003, DON