

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	1	21



**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

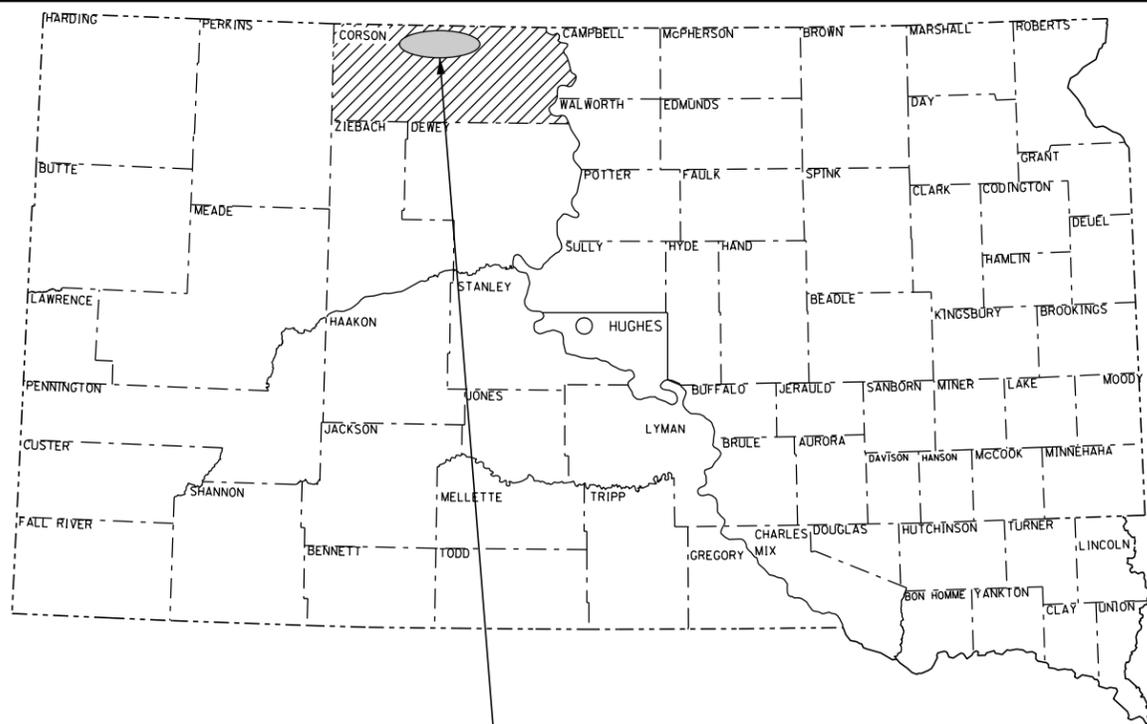
**PLANS FOR PROPOSED
PROJECT NH 0012(185)121
US HIGHWAY 12
CORSON COUNTY**

**COLD MILLING ASPHALT CONCRETE,
ASPHALT CONCRETE RESURFACING,
& RUMBLE STRIPS**

PCN 04E4

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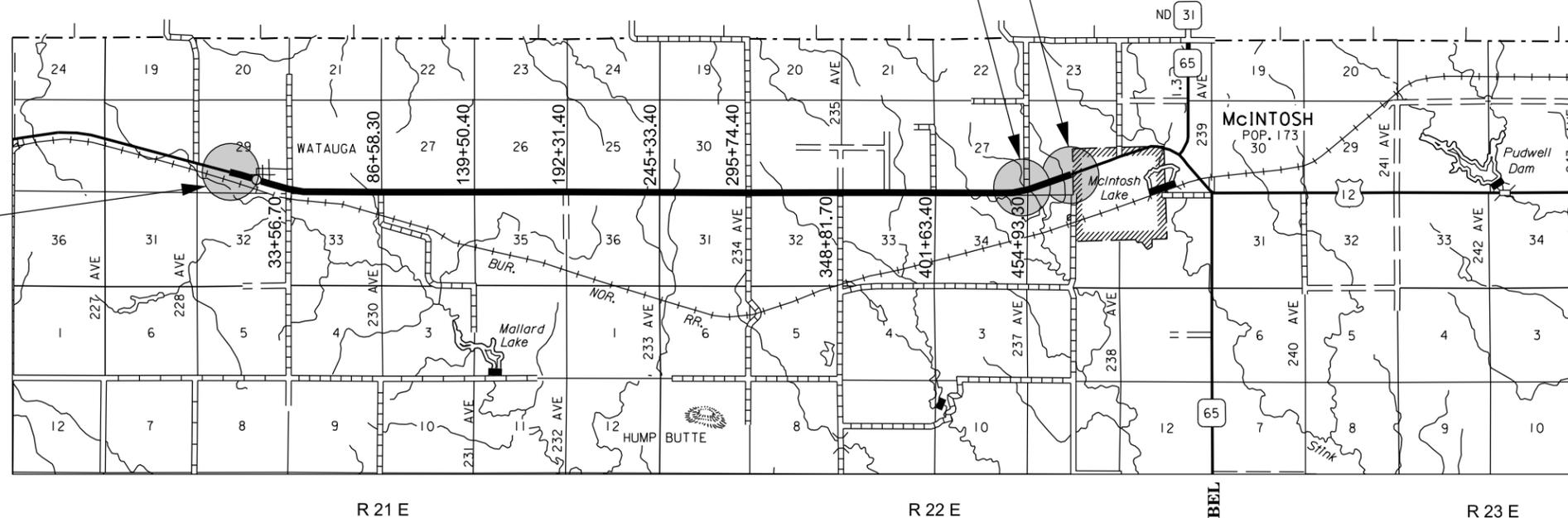


PROJECT

END PROJECT NH 0012(185)121
Station 466+00 on F 0012(22)123
MRM 130.00 + 0.750

EQUATION:
STA. 458+91.50 BACK =
STA. 459+23.80 AHEAD

BEGIN PROJECT NH 0012(185)121
Station 0+00.00 on F 0012(22)123
MRM 121.36 + 0.408



DESIGN DESIGNATION

(US HIGHWAY 12)

ADT (2013)	427
ADT (2033)	583
DHV	99.1
D	51%
T DHV	13.1%
T ADT	28.7%
V	65 MPH

STORM WATER PERMIT
NONE REQUIRED

US HIGHWAY 12 (ASPHALT WORK)

GROSS LENGTH	46,567.70 FEET	8.820 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.000 MILES
NET LENGTH	46,567.70 FEET	8.820 MILES

9

ESTIMATE OF QUANTITIES

Revised by JJR on 01/07/15

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NH 0012(185)121 PCN 04E4

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	441	CuYd
260E1010	Base Course	882.0	Ton
260E3010	Gravel Surfacing	697.0	Ton
* 260E6000	Granular Material, Furnish	3,635.0	Ton
* 270E0200	Blend, Haul, and Stockpile Granular Material	7,270.0	Ton
320E0005	PG 58-34 Asphalt Binder	1,151.2	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	22,617.2	Ton
320E1800	Asphalt Concrete Blade Laid	1,323.0	Ton
320E4000	Hydrated Lime	236.5	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	17.6	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	78.3	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	39.7	Ton
330E2000	Sand for Flush Seal	458.6	Ton
332E0010	Cold Milling Asphalt Concrete	188,351	SqYd
600E0300	Type III Field Laboratory	1	Each
633E1300	Pavement Marking Paint, White	297.5	Gal
633E1305	Pavement Marking Paint, Yellow	106.0	Gal
634E0010	Flagging	240	Hour
634E0020	Pilot Car	120	Hour
634E0100	Traffic Control	892	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	35.3	Mile
900E0012	Refurbish Double Mailbox	1	Each
900E1980	Storage Unit	1	Each

* - Denotes Non-Participating

SPECIFICATIONS

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

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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 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 less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor 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.

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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SCOPE OF WORK

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

1. Cold Milling Asphalt Concrete
2. Asphalt Concrete Blade Laid
3. Place Class Q2R Hot Mixed Asphalt Concrete
4. Refurbish Mailboxes
5. Rumble Strip Installation
6. Apply Permanent Pavement Markings

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 submit a proposed sequence of operations for the Engineer's review and approval at least two weeks prior to the preconstruction meeting.

Once work inconveniences traffic, it shall be pursued in a near continuous, expeditious manner to its completion. Any work that restricts the motorist from driving the posted speed limit, reduces existing roadway width, or causes a potentially unsafe condition due to Contractor operations such as frequent movement of equipment or materials on or through the project, is considered to be an inconvenience to traffic.

The Contractor shall maintain access on and off the highway for local residences and county roads.

PROJECT WORK HOURS

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.

SHOULDER PREPARATION

Prior to mainline and shoulder 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 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.

UTILITIES

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD Once 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.

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 Operation for Asphalt Coring" sheet.

GENERAL MAINTENANCE OF TRAFFIC

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

Certified flaggers properly attired and preceded by FLAGGER symbol signs, will be required where work activity and/or equipment present a hazard to the workers, a hazard to through traffic, or encroaches into a driving lane.

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 (30') 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.

All non-fixed location signs may be mounted on portable supports. The portable supports shall be constructed to yield upon impact to minimize hazards to motorists, and shall be of proper height. 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.

Erect only those signs that are applicable to the work in progress. When the Contractor is working at specific work spaces within the project, only those traffic control devices applicable to that operation should be displayed. Non-applicable signs and/or devices shall be removed from view by the Contractor and stored a minimum of 30 feet from the driving lanes during periods of in-activity. All costs to do this work shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

A shadow vehicle, equipped with flashing amber light and a ROAD MACHINERY AHEAD sign prominently displayed, shall be used in advance of landscaping, clean up, and other mobile work activities. Highway equipment working within traffic or adjacent to traffic shall, at all times, display a flashing or revolving amber light to warn the traveling public. The Contractor shall maintain the driving surface on the project to eliminate hazards to the traveling public. The driving surface is defined as both driving lanes along with both outside shoulders on the project.

The cost for additional signs shall be paid for at the contract unit price per unit for "Traffic Control". Additional Flagger hours shall be paid for at the contract unit price per hour for "Flagging". The cost of additional channeling devices shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

"Grooved Pavement" signs shall be placed at each end of the project until all cold milled areas are covered with asphalt concrete. Attached to each sign shall be a "Next xx Miles" sign. These signs are included in the Traffic Control Devices Inventory sheet.

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 the person(s) shall be provided to the SD Department of Transportation (605-845-3844), SD Highway Patrol State Radio (email to Jason.Husby@state.sd.us), and the Corson County Sheriff Department (605-273-4210).

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 MARKING

Flagger symbol signs (W20-7) 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 pavement 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 (W21-1) 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.

Temporary pavement markings shall be as per the Specifications.

The total length of no passing zone is estimated to be **2.191** miles.

No Passing Zones shall be identified using DO NOT PASS and PASS WITH CARE signs in addition to dashed centerline pavement markings. It is estimated that 8 DO NOT PASS and 8 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 fully 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 Milled Asphalt Surface
- 2) One pass on top of the Asphalt Concrete Blade Laid
- 3) One pass on top of the Asphalt Concrete
- 4) ** 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.

** Multiple applications may be needed if plastic covers are lost and the tabs are not functioning. No extra payment will be made.

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 Contactor 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 inventory and mark, and/or offset the extent and location of the existing turn arrows, etc. before the markings are obliterated.

The Contractor will be required to repaint all existing pavement marking including centerline, edge line, lane lines, turn arrows, etc. This list is approximate. 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.

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 441 cubic yards of Unclassified Excavation – Digouts for the removal of unstable material throughout the project.

REFURBISH MAILBOXES

The Contractor shall reset the existing mailboxes on new posts with the necessary support hardware for single or double mailbox assemblies. 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.

There are two existing mailboxes on individual posts. The Contractor shall combine these separate mailboxes into one double mailbox.

If large mailboxes are located at double mailbox installations, a single post may need to be used for the large mailbox.

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 Double Mailbox".

TABLE OF REFURBISH MAILBOX

Station	L/R	Single (Each)	Double (Each)
60+13	R	-	1
Totals:		-	1

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.

WATER FOR GRANULAR MATERIAL

The moisture content for compaction of the Base Course and Gravel Surfacing 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.

BASE COURSE

Base Course shall be furnished by the Contractor.

Base Course shall be needed for digouts throughout the project areas as detailed in the plans.

Compaction shall be to the satisfaction of the Engineer.

882.0 tons of base course material has been included for use as backfill for digouts. All costs associated with the aforementioned work shall be incidental to the contract unit price per ton for "Base Course".

GRAVEL SURFACING

Gravel Surfacing shall be furnished by the Contractor.

Compaction shall be to the satisfaction of the Engineer.

Included in the Estimate of Quantities is 697.0 tons of Gravel Surfacing for intersecting roads and farm and field entrances throughout the project.

All other requirements for Gravel Surfacing shall apply.

GRANULAR MATERIAL, FURNISH

Granular Material shall be furnished by the Contractor for use in blending with the salvaged asphalt mix material generated from the cold milling asphalt concrete.

The Granular Material shall be Base Course meeting the requirements of Section 882.

COLD MILLING ASPHALT CONCRETE

Cold milling asphalt concrete shall be done according to the typical sections. The depth of cold milling may vary from that shown on the plans in areas where the existing surface is distorted and/or in areas where maintenance patches have raised and/or widened the road. Additional asphalt concrete shall be milled in these areas to provide a uniform typical section from centerline to the edge of the finished shoulder. These areas also include farm & field entrances and intersecting roads. Any additional costs associated with this additional cold milling to have the surface conform to the typical section shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

The Contractor shall schedule the cold milling asphalt concrete operations so that there are no drop offs, uneven lanes, or windrows of milled material remaining on the roadway overnight. These areas may include farm and field entrances and intersecting roads.

The Los Angeles Abrasion Loss value on the aggregate used for the in place asphalt concrete was 21 percent. These values were obtained from testing during construction of the in place asphalt concrete.

The Contractor shall utilize some of the generated cold milled material to construct a 20:1 temporary on/off transition. This material shall be removed once paving commences. The material shall become the property of the Contractor once it is determined by the Engineer that it is no longer needed on the project. All costs associated constructing and removing the transitions shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

All cold milled material generated within this Contract, except for the material utilized for constructing the aforementioned transitions, shall be hauled and stockpiled at a location determined by the Engineer.

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.

It is anticipated that some of the gravel surfacing shoulder will be milled when obtaining a 2% cross slope. This material will be stored in a separate stockpile and will not be allowed to be used as RAP material. The material will then be blended, hauled, and stockpiled.

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 cold milling asphalt concrete shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

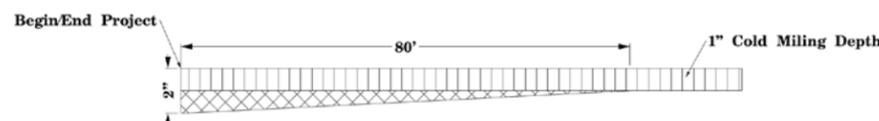
Cold Milling is estimated to produce 7,740.4 tons of salvaged asphalt concrete material. It has been estimated that 4,105.4 tons of salvaged asphalt concrete will be used in the Class Q2R Hot Mixed Asphalt Concrete Mix. An estimated 3,635.0 tons of salvaged asphalt concrete shall be stockpiled. The Contractor is responsible to assure enough asphalt concrete salvage is available for the Class Q2R Hot Mixed Asphalt Concrete.

COLD MILLING ASPHALT CONCRETE 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 surface shall be cold milled full roadway width.

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



BLEND, HAUL & STOCKPILE GRANULAR MATERIAL

Excess asphalt mix material estimated at 3,635.0 tons (for informational purposes only) shall be blended with 3,635.0 tons of Granular Material, Furnish and shall be hauled, blended and stockpiled at a location determined by the Engineer located at 1 Mile East of McIntosh and 0.5 Miles North on SD 65 (NE1/4 SEC 25 T23N R22E). A computerized scale along with a scale operator shall be provided by the Contractor at the stockpile site to weigh the salvaged material prior to blending.

Asphalt mix material shall be blended with Granular Material, Furnished at a rate of 50% salvaged asphalt mix material and 50% Granular Material, Furnished to obtain stockpile material. Prior to incorporation into the stockpile, cold milled asphalt material shall be run over a 1 1/2" screen to remove large chunks. No further testing of the material will be required. The use of a pugmill to blend the materials will be accepted.

Calibrated conveyor(s) shall be used to provide a uniform blending of the materials. Material shall be blended prior to incorporation into the pile.

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Asphalt concrete aggregates shall consist of salvaged asphalt concrete mix material (RAP) and virgin aggregate.

Virgin mineral aggregate shall be furnished by the Contractor.

Virgin mineral aggregate for Class Q2R Hot Mixed Asphalt Concrete shall conform to the requirements of the Special Provision for Gyratory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement for a Class Q2 except for the following:

Mix Design Criteria:

Gyratory Compactive Effort:

	N _{initial}	N _{design}	N _{maximum}
Class Q2R	6	50	75

Salvaged asphalt concrete material shall be obtained from the material produced by cold milling on this project and may be used without further testing. The salvaged asphalt concrete mix material shall be crushed so that the maximum particle size in the cold feed will not exceed 1-1/2 inches.

Screening or scalping of the RAP stockpile(s) will not be allowed.

The Class Q2R Asphalt Concrete shall include 20 percent salvaged asphalt concrete (RAP) in the mixture. Job mix formula tolerances for the RAP shall be ± 5 % from the target value.

All remaining requirements of the Special Provision for Class Q2 Hot Mixed Asphalt Concrete shall apply.

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.

ASPHALT CONCRETE BLADE LAID

Included in the Estimate of Surfacing Quantities are 150 tons of Asphalt Concrete Blade Laid, 1.5 tons of Hydrated Lime, and 11.3 tons of PG 58-34 Asphalt Binder per mile and shall be tight bladed on the existing surface 24 feet wide prior to the overlay. A sufficient amount of material shall be kept in front of the blade to fill and level all joints, cracks and other surface irregularities.

The blade used to tight blade the material shall be equipped with gates, wings or other devices approved by the Engineer to prevent the material from windrowing at the edges of the blade.

Mineral Aggregate for tight bladed material shall use only the fine aggregate components combined in the same proportions as the Class Q2R Hot Mixed Asphalt Concrete mix. The asphalt binder content shall be determined so that the air voids of Asphalt Concrete Blade Laid Lift are between 3.0% and 5.0%. No quality testing will be done on any of the coarse aggregate (+No. 4 sieve) in this mix.

The tight bladed material shall be compacted by at least 2 complete coverages with pneumatic tired rollers.

All loose existing joint material shall be removed and the surface shall be thoroughly swept with a rotary broom to remove all loose asphalt concrete and joint material from cracks and spall areas prior to placing the Blade Laid Mix. Cost for removing the material and brooming shall be included in the contract unit price per ton for "Asphalt Concrete Blade Laid".

ADDITIONAL QUANTITIES

Included in the Table of Additional Quantities are 100.0 tons of Class Q2R Hot Mixed Asphalt Concrete, 4.7 tons of PG 58-34 Asphalt Binder, and 1.0 ton of Hydrated Lime per mile for spot leveling, strengthening and repair of the existing surface and shoulders throughout the project. Also included in the Table of Additional Quantities are 8.0 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.

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.

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 Gyrotory 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".

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 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 STRIPS

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

If the flush seal is eliminated from the contract, the rumble strips still shall be flush sealed.

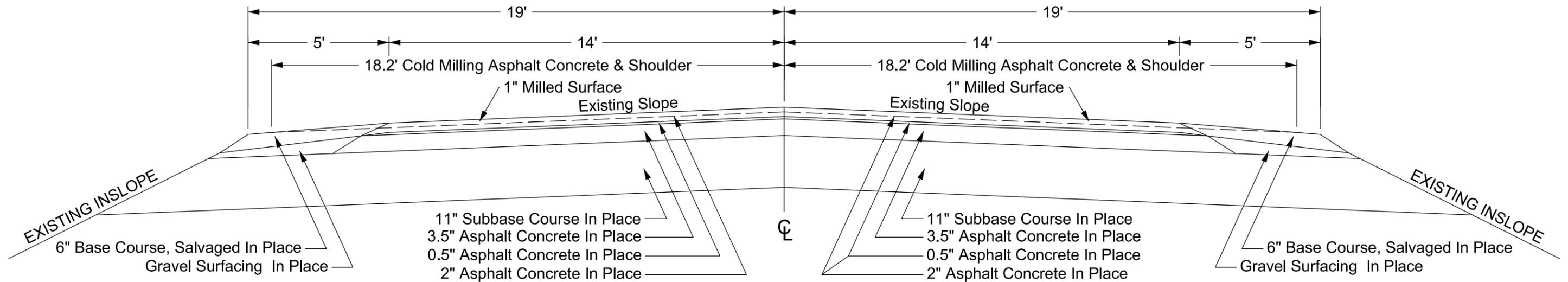
All costs for installing the rumble strips shall be paid for at the contract unit price per mile for "Grind 12" Rumble Strip or Stripe in Asphalt Concrete".

TYPICAL SECTION

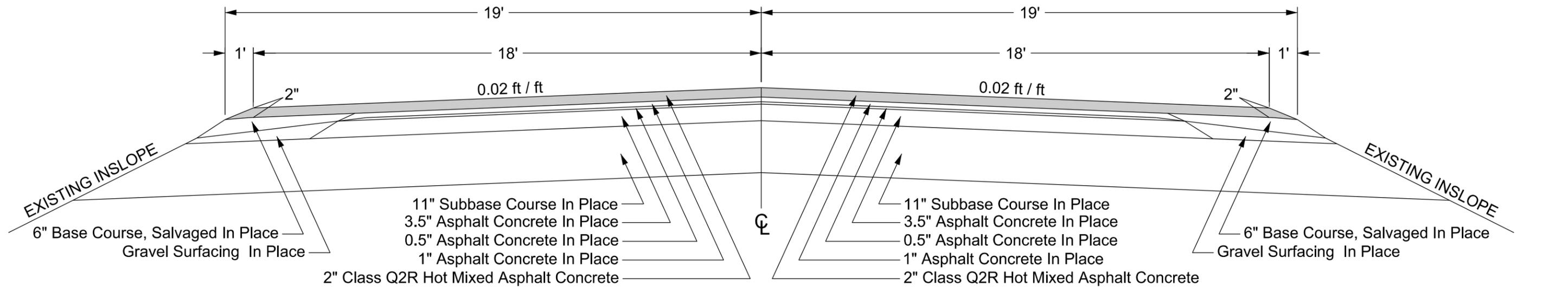
SECTION 1

Sta. 0+00.00 to Sta. 466+00 (Thru Equation)

IN PLACE SECTION



RESURFACING SECTION



DRAWING NOT TO SCALE

RATES OF MATERIALS

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	9	21

Note: The Estimate of Quantities is based on the following quantities of material per mile for Section 1

Section 1

Station 0+00.00 to Station 466+00 (Thru Equation)

Cold Milling Asphalt Concrete

Cold Milling Asphalt Concrete is computed at 21,355 Square Yards, applied 36.4 feet wide.

Class Q2R Hot Mixed Asphalt Concrete (2" Lift)

Aggregate (80% Contractor Furnished)	1,836 Tons
Salvaged Asphalt Concrete (20%)	459 Tons
PG 58-34 Asphalt Binder	113 Tons
TOTAL MIX	2,408 Tons
Hydrated Lime	24 Tons
TOTAL MIX WITH HYDRATED LIME	2,432 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 3.0 tons applied 24 feet wide (Rate = 0.05 gallon per square yard), prior to application of Asphalt Concrete Blade Laid.

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 4.9 tons applied 39 feet wide for Section 1 (Rate = 0.05 gallon per square yard), prior to application of 2" Class Q2R Hot Mixed Asphalt Concrete.

Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 4.5 ton applied 36 feet wide for Section 1 (Rate = 0.05 gallon per square yard).

Provide Sand for Flush Seal at the rate of 52 ton applied 22 feet wide for Section 1 (Rate = 8 pounds per square yard).

TABLE OF PROJECT STATIONING AND MATERIAL QUANTITIES

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	10	21

PROJECT STATIONING

SECTION	STATION	TO	STATION	DESCRIPTION	PROJECT GROSS LENGTHS	EXCEPTION LENGTH	PROJECT NET LENGTHS
1	Begin Project 0+00.00	to	458+91.50	US 12 ~ Rural 2 Lane	45891.50'	-	45891.50'
Equation	458+91.50	to	459+23.80	Equation	-	-	-
1	459+23.80	to	466+00.00 End Project	US 12 ~ Rural 2 Lane	676.20'	-	676.20'
TOTALS =					46567.70' 8.820 Miles	0.00' 0.000 Miles	46567.70' 8.820 Miles

MATERIAL QUANTITIES

Description	(For Info Only) Water For Granular Material (MGal)	Cold Milling Asphalt Concrete (SqYd)	Base Course (Ton)	Gravel Surfacing (Ton)	Granular Material, Furnished (Ton)	Blend, Haul, & Stockpile Granular Material (Ton)	Asphalt Concrete Blaid Laid (Ton)	Class Q2R Hot Mixed Asphalt Concrete (Ton)	PG 58-34 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	-	188,351	-	-	-	-	-	21,450.2	996.7	211.7	43.2	39.7	458.6
Asphalt Concrete Blaid Laid =	-	-	-	-	-	-	1,323.0	-	99.7	13.2	26.5	-	-
Table of Additional Quantities Totals =	15.2	-	882.0	697.0	3,635.0	7,270.0	-	1,167.0	54.8	11.6	8.6	-	-
TOTALS =	15.2	188,351	882.0	697.0	3,635.0	7,270.0	1,323.0	22,617.2	1,151.2	236.5	78.3	39.7	458.6

TABLE OF ADDITIONAL QUANTITIES

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	11	21

Description	(For Info Only) Water For Granular Material (MGal)	Base Course (Ton)	Granular Material, Furnished (Ton)	Blend, Haul, & Stockpile Granular Material (Ton)	Gravel Surfacing (Ton)	Class Q2R Hot Mixed Asphalt Concrete (Ton)	PG 58-34 Asphalt Binder (Ton)	Hydrated Lime (Ton)	SS-1h or CSS-1h Asphalt For Tack (Ton)
Asphalt to End of ROW									
1 Intersecting Road Entrances Sta. 20+17 Lt	-	-	-	-	-	25.0	1.2	0.2	0.1
3 Farm & Field Entrances Sta. 22+81 Rt, Sta. 23+87 Rt, Sta. 25+71 Lt	-	-	-	-	-	66.9	3.1	0.7	0.1
Asphalt to End of Radius/Gravel Surfacing to ROW									
12 Driveways Sta. 15+95 Lt, Sta. 23+87 Lt, Sta. 35+48 Lt & Rt, Sta. 88+81 Rt, Sta. 249+80 Rt, Sta. 301+54 Lt & Rt, Sta. 354+97 Rt, Sta. 408+57 Lt, Sta. 463+37 Lt & Rt	0.4	-	-	-	37.0	193.1	9.0	1.9	0.4
Farm & Field Entrances									
44 Farm & Field Entrances	6.3	-	-	-	660.0	-	-	-	-
Spot Leveling, Strengthening, & Repair	-	-	-	-	-	882.0	41.5	8.8	8.0
Blend, Haul, & Stockpile Cold Milled Asphalt	-	-	3635.0	7270.0	-	-	-	-	-
Backfill for Digouts	8.5	882.0	-	-	-	-	-	-	-
TOTALS =	15.2	882.0	3,635.0	7,270.0	697.0	1,167.0	54.8	11.6	8.6

Quantities for Gravel Surfacing to be placed on farm & field entrances were calculated using 15 tons per entrance.
Tonnage shown in the tables above for Class Q2R 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.	NH 0012(185)121	12	21

Location	Class Q2R Hot Mixed Asphalt Concrete With Specified Density Compaction (Ton)	Class Q2R Hot Mixed Asphalt Concrete Without Specified Density Compaction (Ton)
Section 1 24' Finished Roadway Width 6' Finished Shoulder w/ 1' Bevel	13,921.9	-
Section 1 Totals =	-	7,528.3
Table of Additional Quantities Totals =	13,921.9	7,528.3
TOTALS =	-	1,167.0
	13,921.9	8,695.3

TABLE OF SUPERELEVATED CURVES

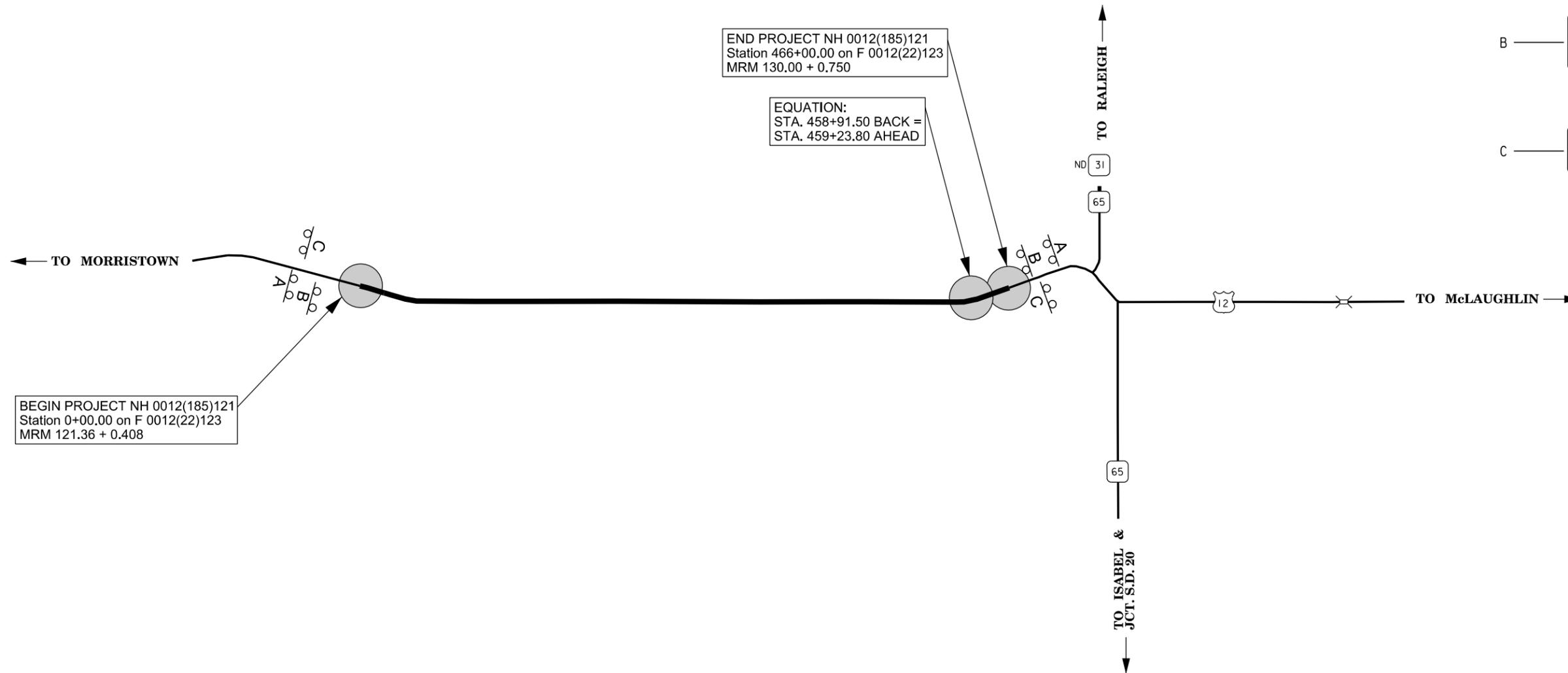
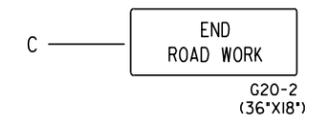
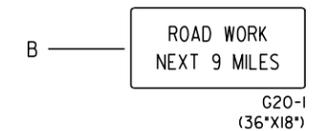
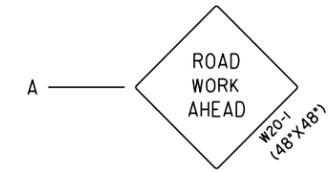
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	13	21

<u>Station</u>	<u>To</u>	<u>Station</u>	<u>Remarks</u>
Begin Project			
0+00		0+10.40	Normal Crown Section
0+10.40		1+22.40	Superelevation Transition
1+22.40		**4+77.52	0° 30' 00" Curve Rt. 0.020 Superelevation Rate Point of Rotation – 12' Rt. of Centerline
**4+77.52		**5+89.52	Superelevation Transition
**4+10.40		**5+22.40	Superelevation Transition
**5+22.40		8+77.60	0° 30' 00" Curve Lt. 0.020 Superelevation Rate Point of Rotation – 12' Lt. of Centerline
8+77.60		9+89.60	Superelevation Transition
9+89.60		29+26.79	Normal Crown Section
29+26.79		30+66.79	Superelevation Transition
30+66.79		45+84.12	1° 00' 00" Curve Lt. 0.030 Superelevation Rate Point of Rotation – 12' Lt. of Centerline
45+84.12		47+24.12	Superelevation Transition
47+24.12		437+60.33	Normal Crown Section
437+60.33		439+00.33	Superelevation Transition
439+00.33		458+95.80	1° 00' 00" Curve Lt. 0.030 Superelevation Rate Point of Rotation – 12' Lt. of Centerline
Equation: Station 458+91.50 Back = Station 459+23.80 Ahead			
458+95.80		460+35.80	Superelevation Transition
460+35.80		466+00.00	Normal Crown Section
End Project			

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

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	14	21

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.

DRAWING NOT TO SCALE

PROJECT SIGN AND PAINT TABULATION

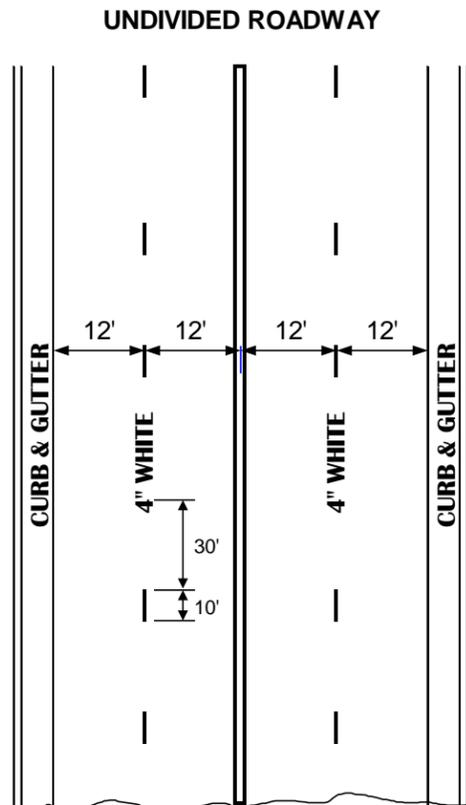
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0012(185)121	15	21

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

SIGN TABULATION

ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	UNITS PER SIGN	UNITS
W8-11	UNEVEN LANES	6	48" x 48"	34	204
W8-15	GROOVED PAVEMENT	2	48" x 48"	34	68
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	21	42
W20-1	ROAD WORK AHEAD	4	48" x 48"	34	136
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	34	68
W20-7	FLAGGER (symbol)	2	48" x 48"	34	68
W21-2	FRESH OIL	2	48" x 48"	34	68
W21-5	SHOULDER WORK	4	48" x 48"	34	136
G20-1	ROAD WORK NEXT __ MILES	2	36" x 18"	17	34
G20-2	END ROAD WORK	4	36" x 18"	17	68
TOTAL UNITS					892

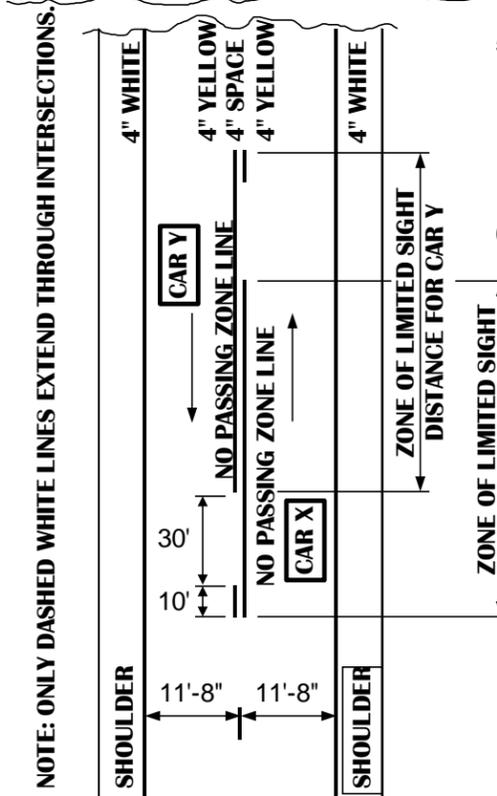


- Pavement marking paint and glass beads will be furnished and applied by the Contractor. Material shall meet the requirements of Section 980 and 981 of the Specifications. The bead application rate shall be 8 pounds/gallon of paint.
- Construction requirements, methods of measurement and basis of payment shall conform to the requirements of Section 633 of the Specifications.

3. Approximate paint application rates shall be as follows:

Four Lane Roadway (Rates for one line)	Two Lane Roadway
Solid Yellow Centerline Rate = 16.90 Gals./Pass-Mile	Yellow Centerline (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
Dashed White Laneline Rate = 4.60 Gals./Pass-Mile	Solid White Edgeline (Rate for one line) Rate = 16.90 Gals./Pass-Mile
Solid White Edgeline (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.



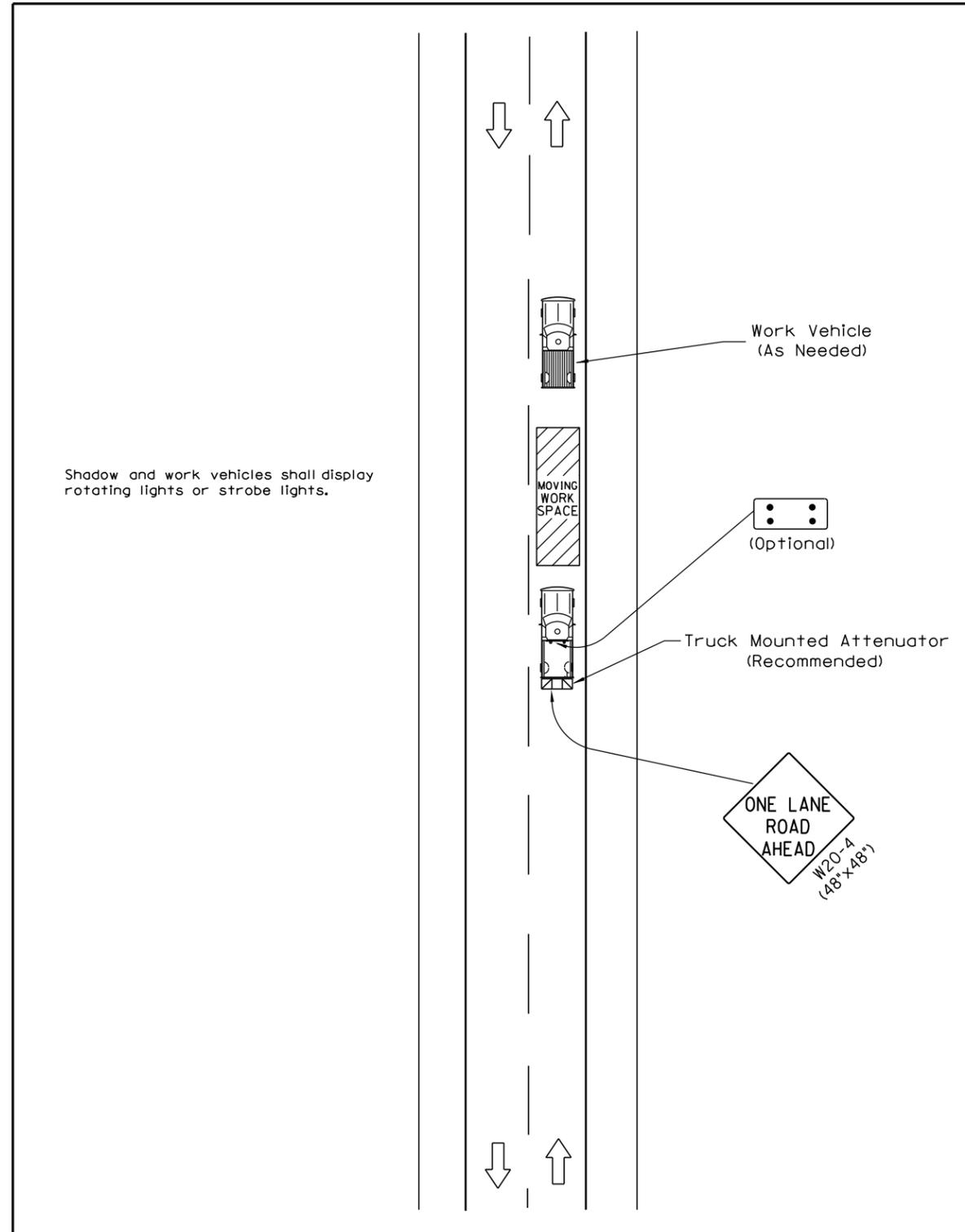
5. Exact location of NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending of NO PASSING ZONE lines.

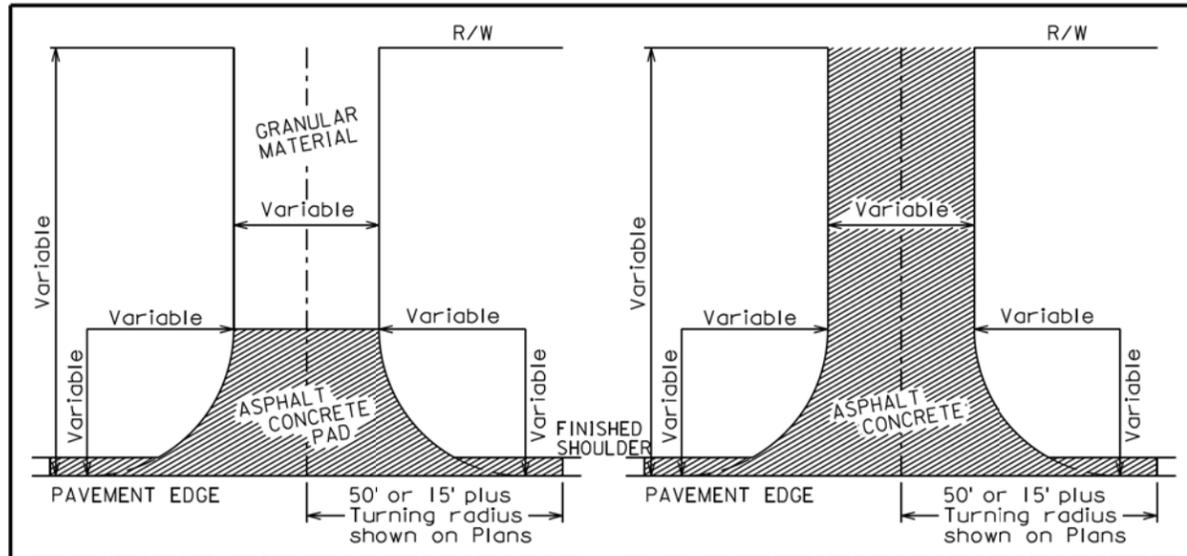
6. Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

ESTIMATED QUANTITIES	
PAVEMENT MARKING PAINT	QUANTITY
WHITE	297.5 GALLONS
YELLOW	106.0 GALLONS
TOTAL	403.5 GALLONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH 0012(185)121	16	21

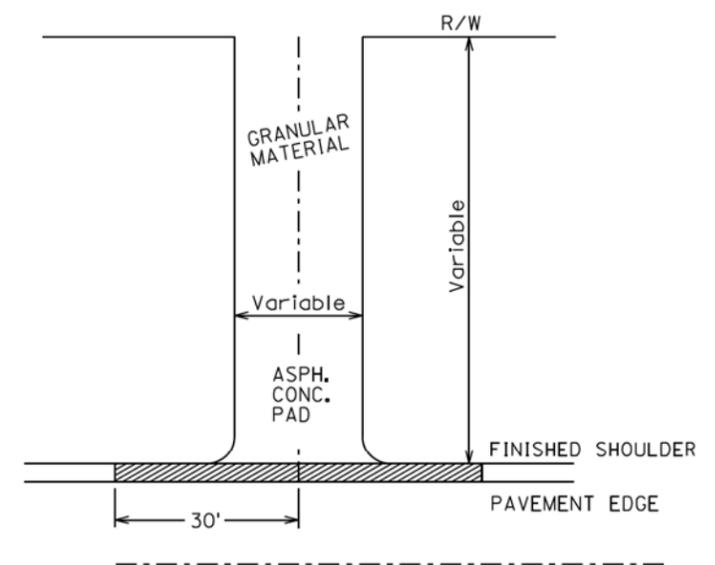
SPECIAL DETAIL FOR MOBILE OPERATION FOR ASPHALT CORING





INTERSECTING ROAD NO ASPHALT CONCRETE SURFACING BEYOND R/W

INTERSECTING ROAD ASPHALT CONCRETE SURFACING BEYOND R/W



ENTRANCE

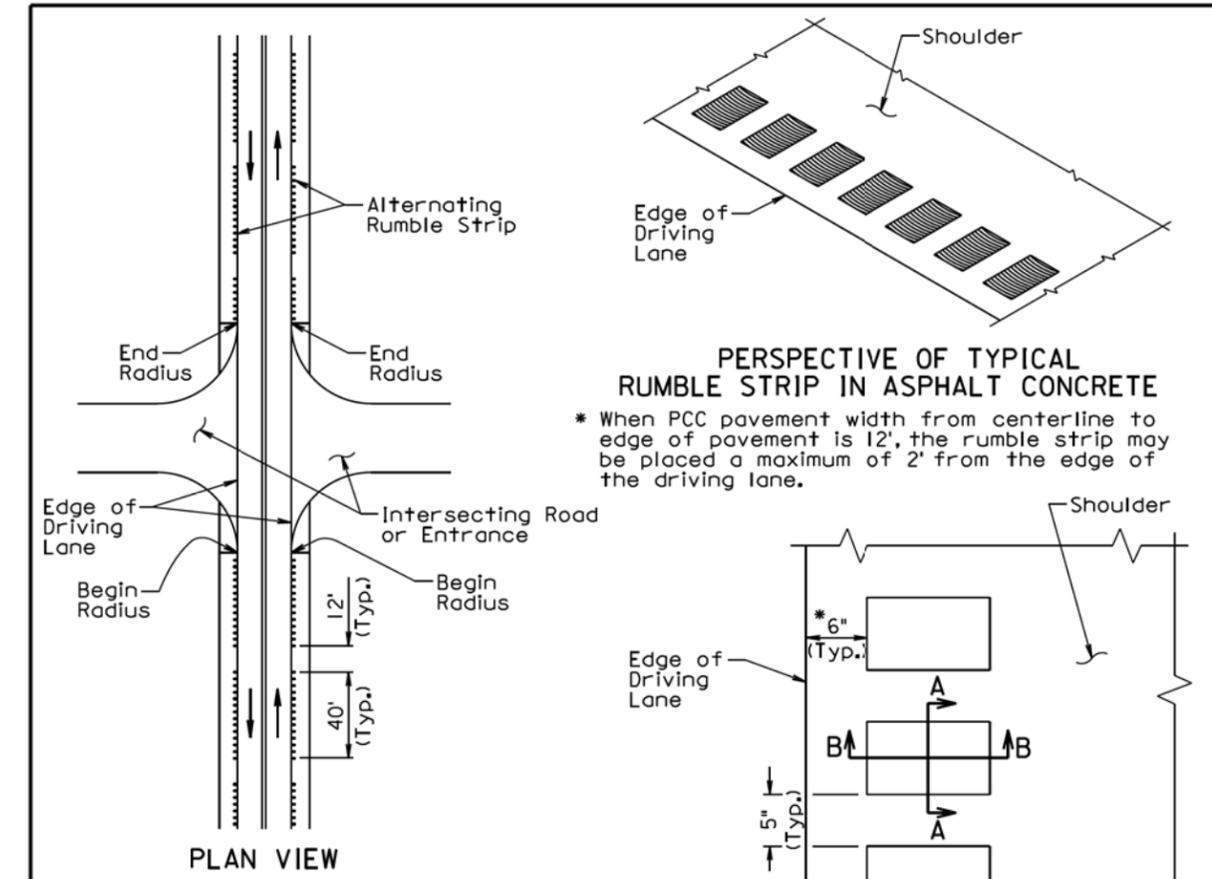
The surfacing details shown on this sheet are provided as a guide for surfacing these facilities. The precise construction limits for situations other than the standards shown will be determined by the Engineer, at the time of construction.

ROADWAY WITH SHOULDER

March 31, 2000

S D D O T	RESURFACING OF INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 320.12
		Sheet 1 of 1

Published Date: 4th Qtr. 2014



PERSPECTIVE OF TYPICAL RUMBLE STRIP IN ASPHALT CONCRETE

* When PCC pavement width from centerline to edge of pavement is 12', the rumble strip may be placed a maximum of 2' from the edge of the driving lane.

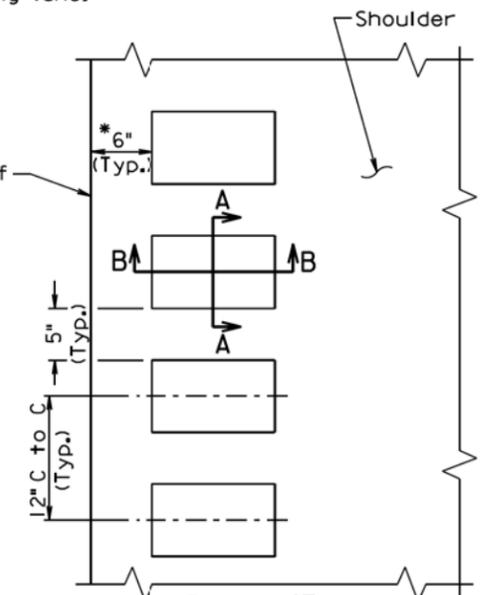
GENERAL NOTES:

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

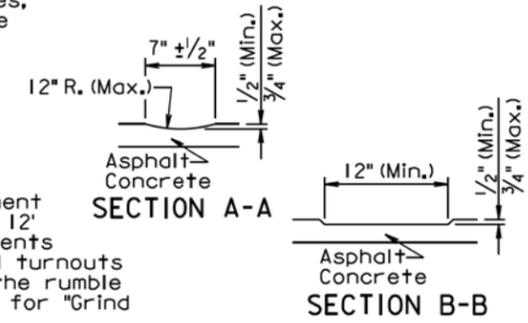
A rumble strip shall not be constructed through intersecting roads, entrances, and turnouts. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble strip adjacent to the intersecting roads, entrances, and turnouts shall be adjusted as approved by the Engineer.

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

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



PLAN VIEW TYPICAL RUMBLE STRIP IN ASPHALT CONCRETE



SECTION A-A

SECTION B-B

June 26, 2011

S D D O T	12" RUMBLE STRIP IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.24
		Sheet 1 of 1

Published Date: 4th Qtr. 2014

Plot Scale - 1:200

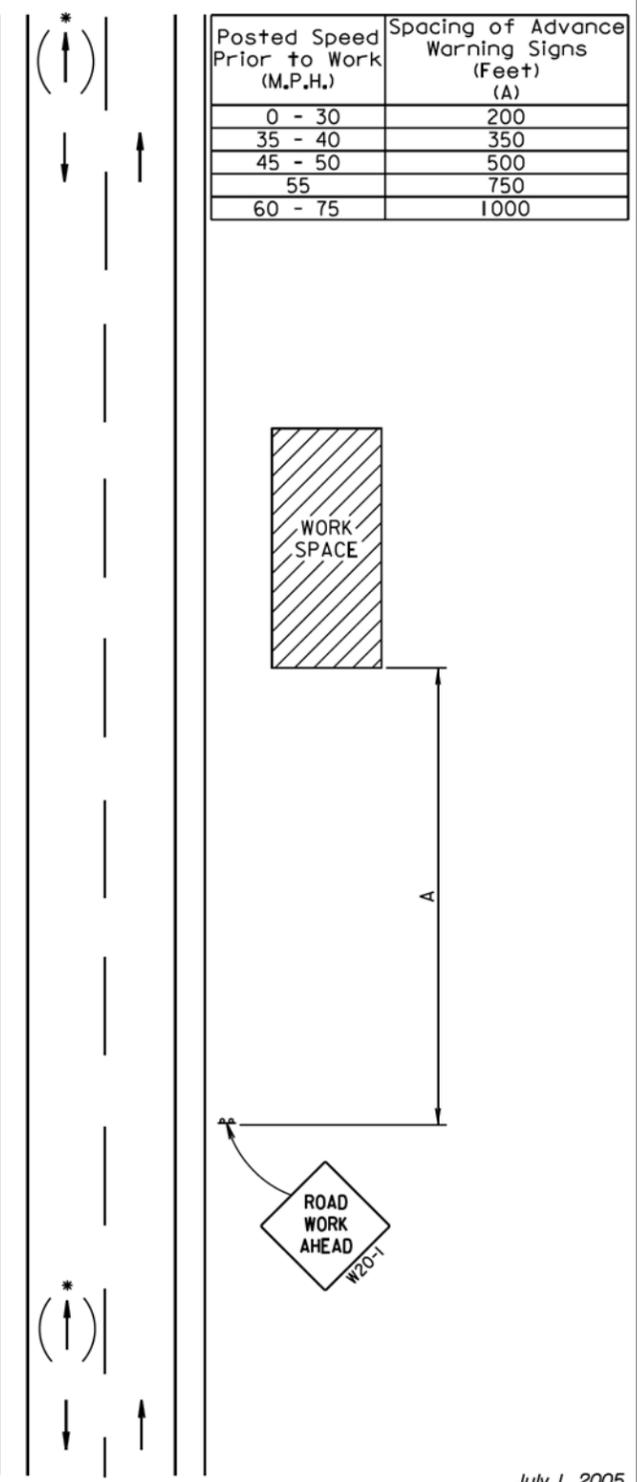
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

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.

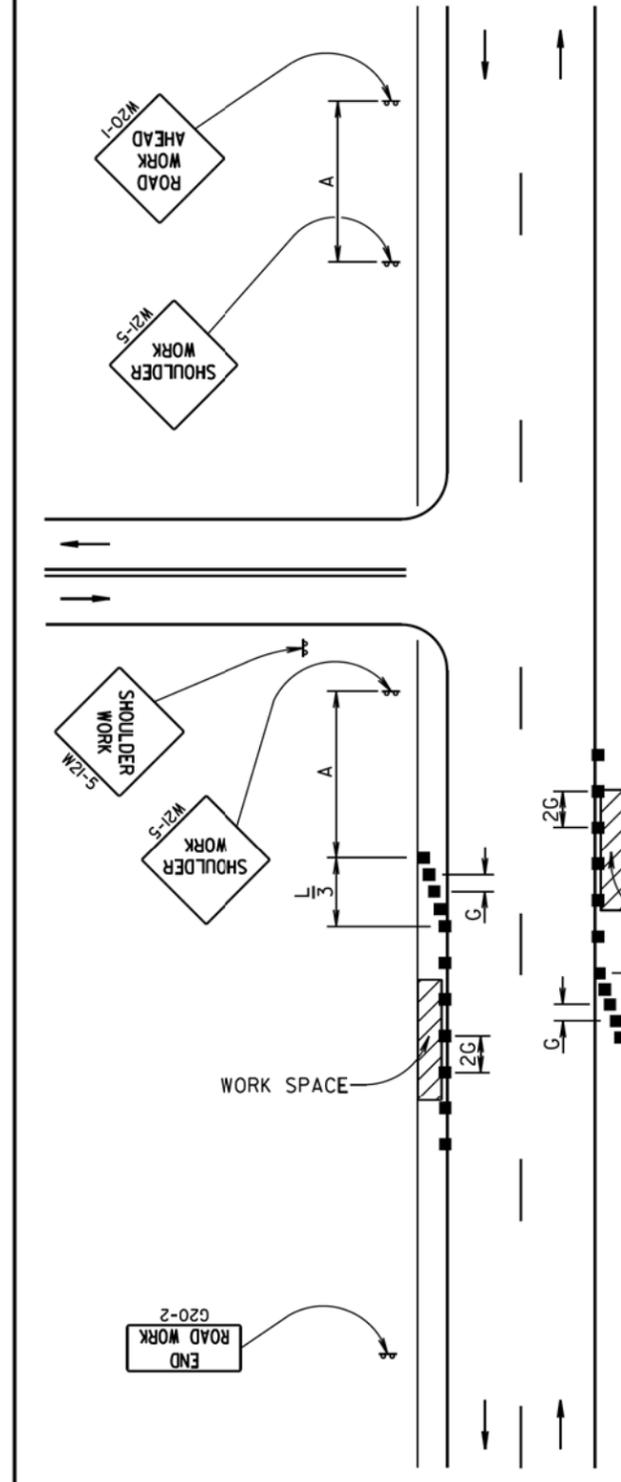
* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

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

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
	Published Date: 4th Qtr. 2014	Sheet 1 of 1



Channelizing Device

END ROAD WORK G20-2

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

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

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

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

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

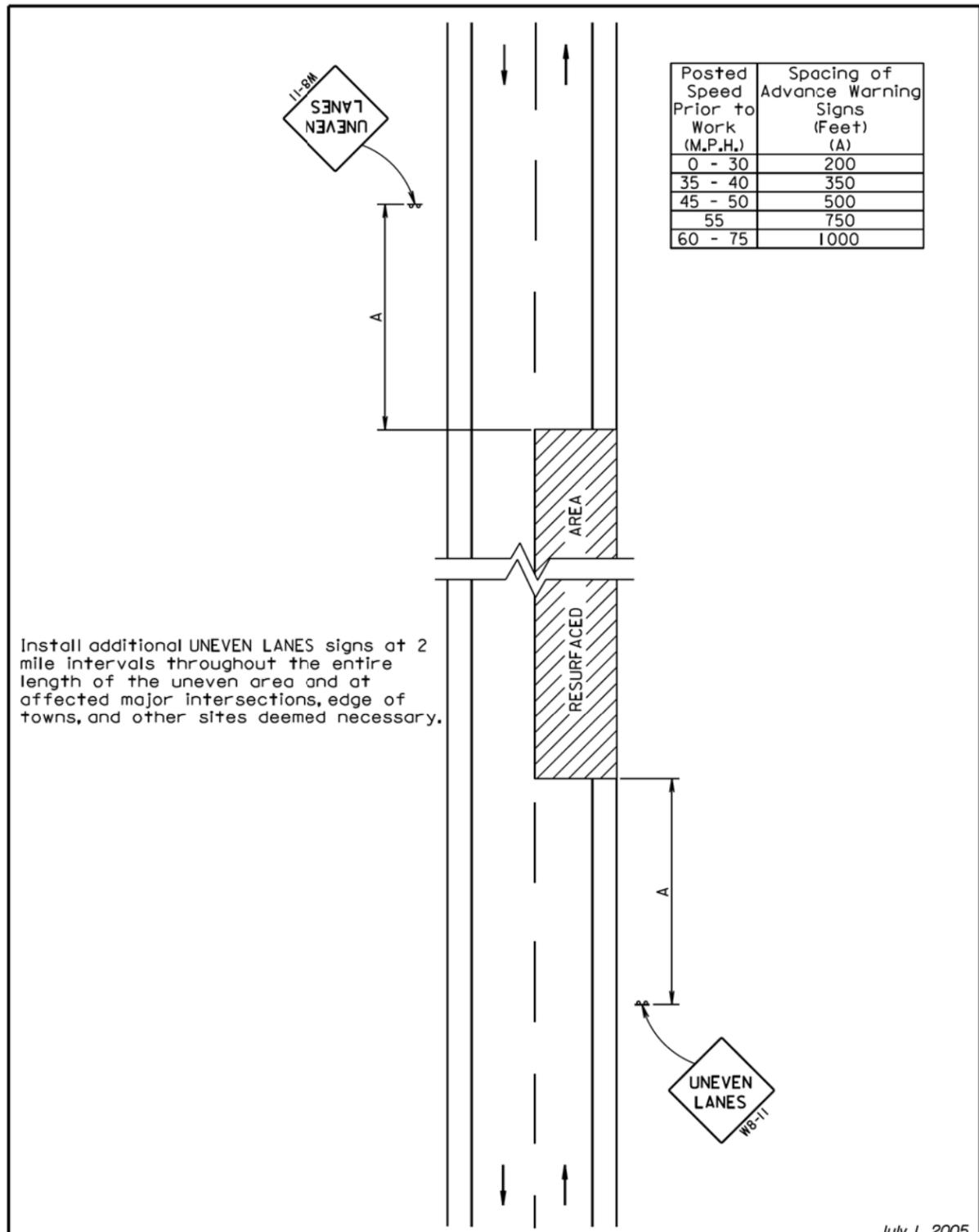
September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER 634.03
	Published Date: 4th Qtr. 2014	Sheet 1 of 1

-Plotted From - tpr25584

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Plot Scale - 1:200

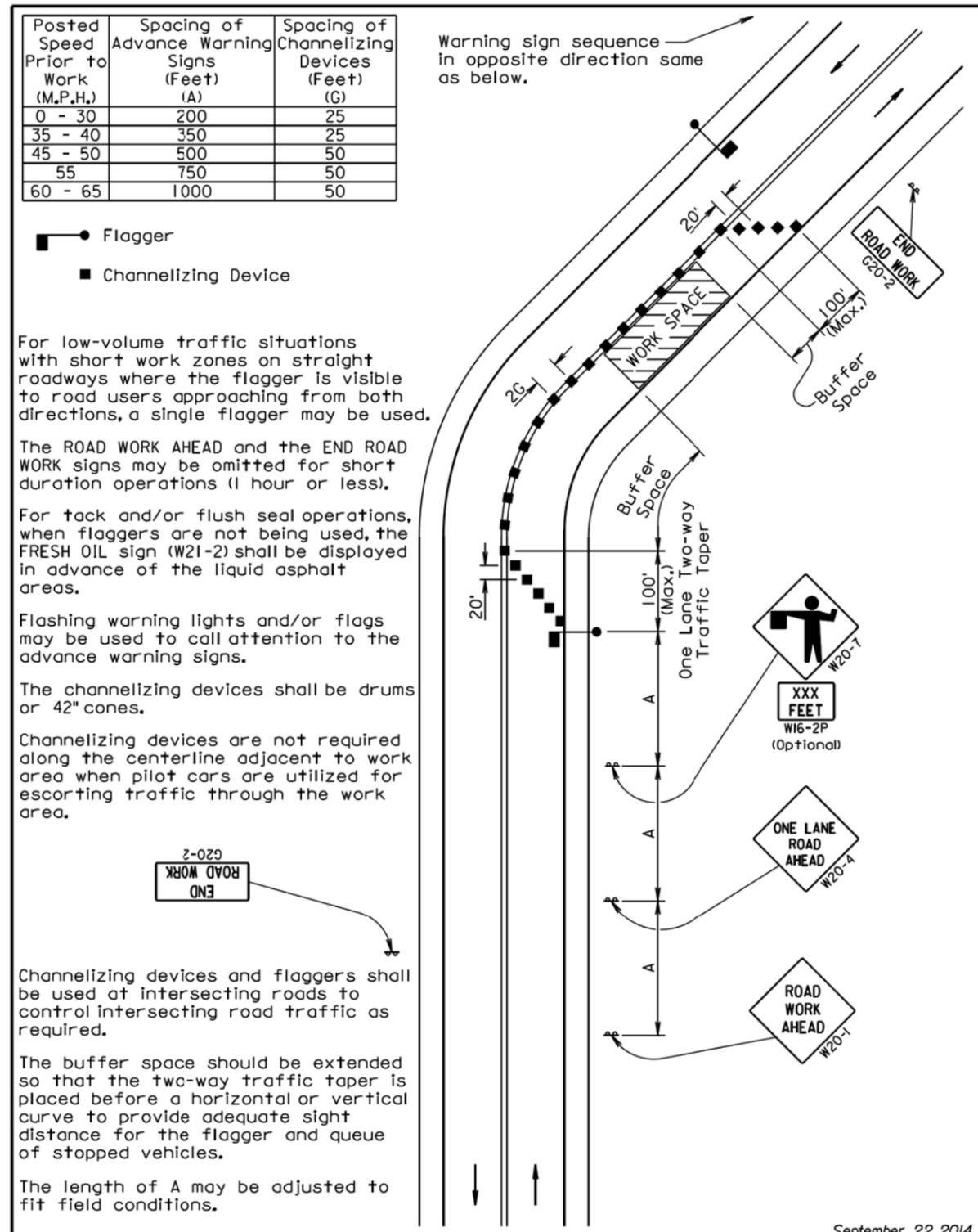


Install additional UNEVEN LANES signs at 2 mile intervals throughout the entire length of the uneven area and at affected major intersections, edge of towns, and other sites deemed necessary.

July 1, 2005

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES UNEVEN ROAD SURFACE	PLATE NUMBER 634.22
		Sheet 1 of 1

Published Date: 4th Qtr. 2014



September 22, 2014

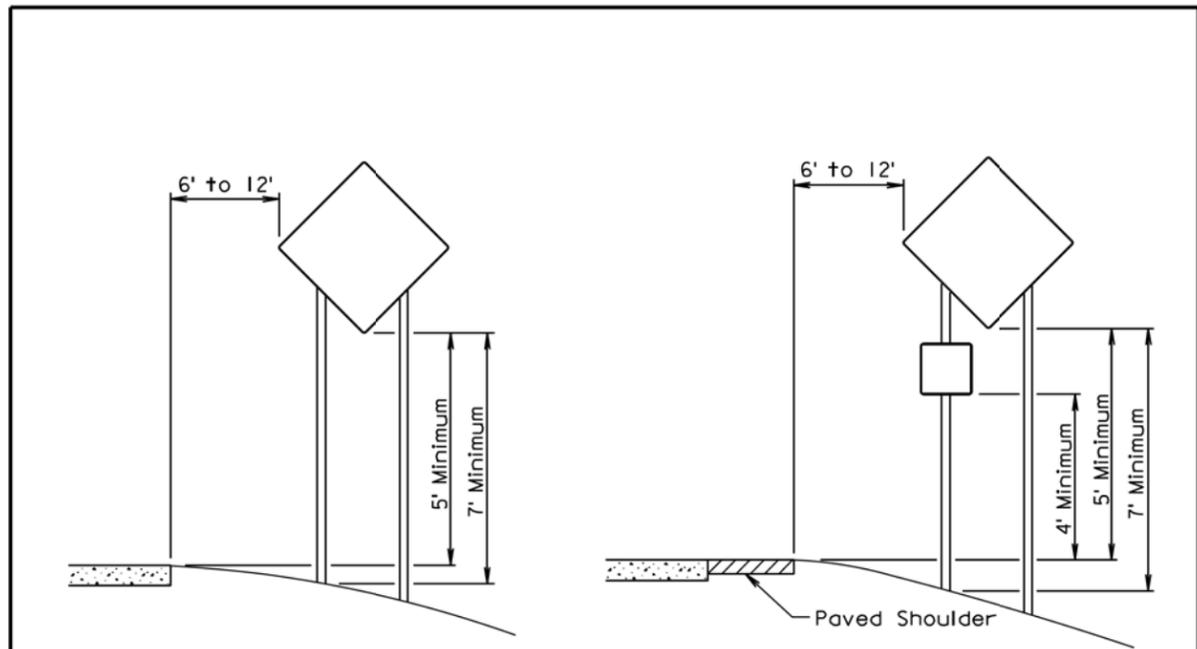
S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
		Sheet 1 of 1

Published Date: 4th Qtr. 2014

- Plotted From - tpr25584

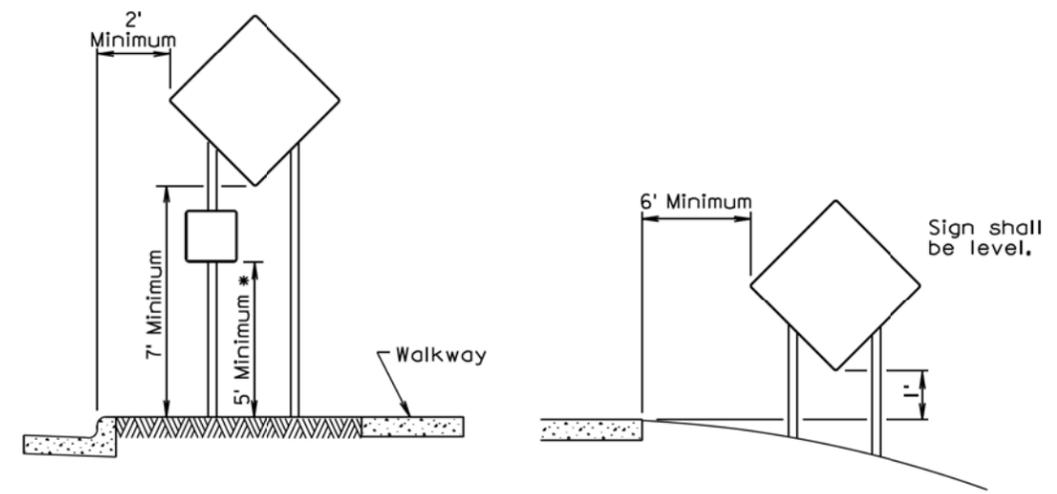
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RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

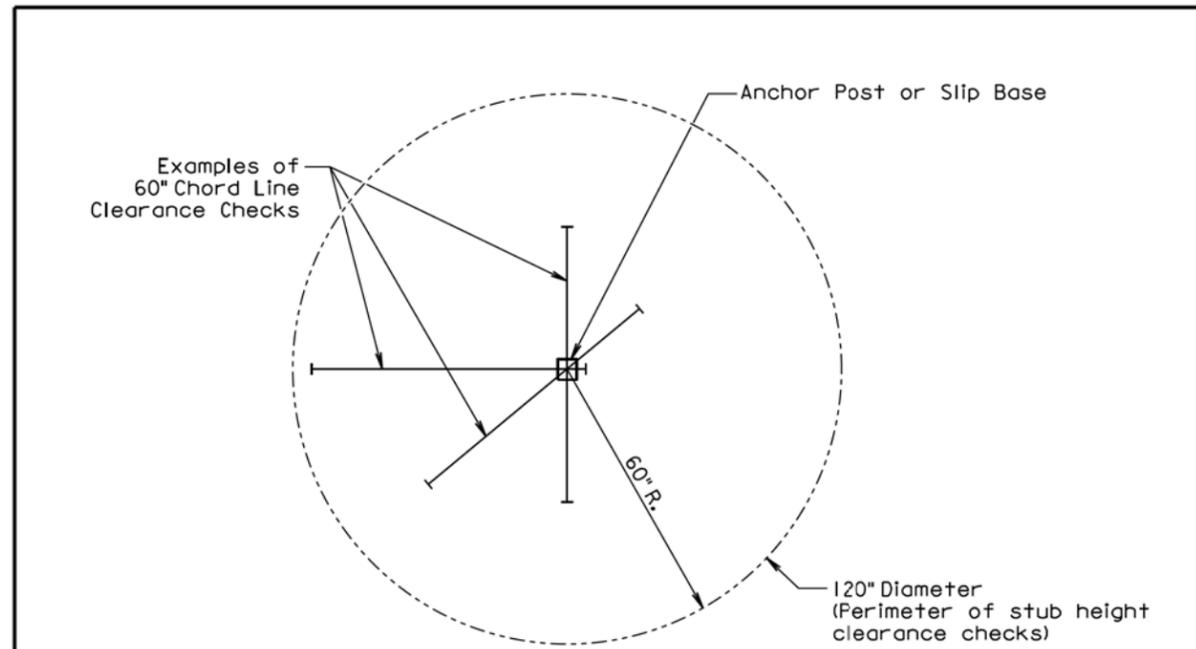
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

(Not applicable to regulatory signs)

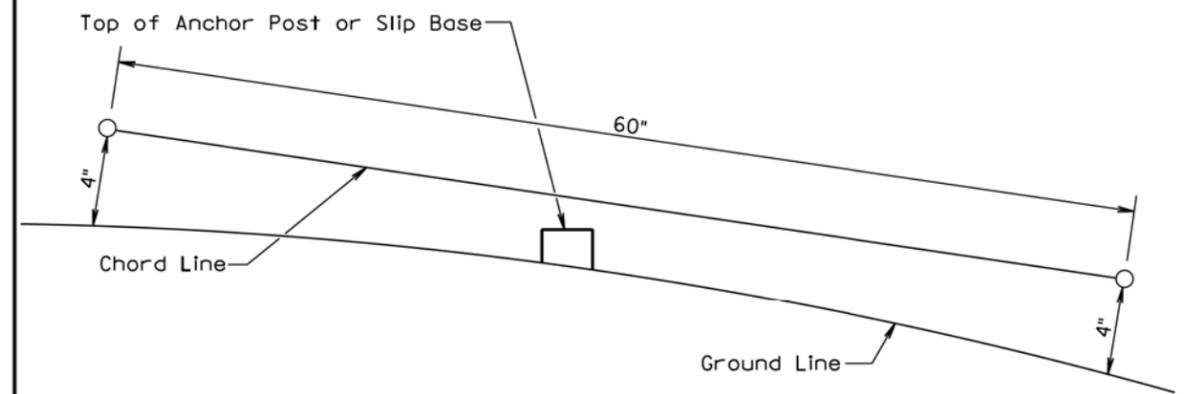
September 22, 2014

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

Published Date: 4th 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

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- Plotted From - tpr25584

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