

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PH 0030(25)	2	7
Printing Date: 6-Aug-14		Revised By:	Date:

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	31.1	Mile
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	51.2	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	13.5	Ton
633E1300	Pavement Marking Paint, White	526.0	Gal
633E1305	Pavement Marking Paint, Yellow	180.0	Gal
634E0100	Traffic Control	210	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

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 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.

Revised on 8/6/2014 by TJO.

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.

SPECIFICATIONS

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

RUMBLE STRIP/STRIPE ROADWAY CLEANING

The Contractor shall be required to remove loose material from the driving surface and/or asphalt shoulders of the roadway. Loose material may be broomed to the edge of shoulders and it shall be the Contractor's responsibility to ensure the loose material does not enter any vegetated areas and/or waterways.

All costs associated with this work shall be incidental to the contract unit price per mile for installing Rumble Strips or Stripes.

RUMBLE STRIPS/STRIPES

Rumble strips shall be installed in rural areas with posted speeds greater than 50 mph. Rumble strips will not be required in urban areas or where there is development in close proximity to the highway. The Engineer shall provide the exact start and stop locations for the rumble strip installation.

The gaps for the rumble strip or stripe installation as detailed on the standard plates shall be included with the measurement and payment.

Rumble strips and stripes shall not be placed on any bridge deck or within 25 feet of the approach slab, or within 50 feet of any railroad crossing.

The placement of rumble strips from the driving lane may vary depending on the existing typical section of the roadway as directed by the Engineer.

The Contractor is responsible to inspect project locations prior to letting to identify potential problems for installing rumble strips/stripes.

Any damage to the existing shoulders and/or roadway during construction of rumble strips/stripes shall be repaired by the Contractor at no cost to the State of South Dakota.

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	PH 0030(25)	3	7
Printing Date: 15-May-14		Revised By:	Date:

FLUSH SEAL

The distributor shall be equipped with guards to prevent any overspray of emulsified asphalt from coming in contact with the existing pavement marking. A guide installed on the distributor equipment shall be used to follow the alignment of the existing pavement marking. If there is any damage to the existing pavement marking, the Contractor shall replace in kind, at no additional cost to the State. Extra care shall be taken on routes with durable pavement markings.

SS-1h or CSS-1h Emulsified Asphalt for Flush Seal shall be applied 1.5 feet wide for 12" rumble strips and 1.0 feet wide for 8" rumble stripes at the rate of 0.05 gallons per square yard.

The seasonal restrictions of Section 330 of the Specifications shall be waived provided the temperature requirements are met.

TRAFFIC CONTROL

Traffic control shall be in accordance with MUTCD Standards, Specifications and the details provided in these plans.

Traffic shall be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment shall be repaired at no additional cost to the State.

Traffic approaching the project from intersecting roadways, streets, and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing and channelizing devices.

Storage of vehicles and equipment shall be as near the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

Indiscriminate driving of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

All Contractor's vehicles or equipment entering or leaving a work area shall display a flashing amber light.

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.

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 be on fixed location supports.

All breakaway sign supports shall comply with FHWA NCHRP 350 crash-worthy requirements. The Contractor shall provide post installation details at the preconstruction meeting for all steel post breakaway sign support assemblies.

Work shall be accomplished during daylight hours only.

The quantity of traffic control units paid shall be for the greatest number of signs in place at any one time, regardless of the number of set-ups on the project.

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.

PERMANENT PAVEMENT MARKING

Paint shall be applied on Segment 5 from beginning MRM to ending MRM. This shall include the bridges.

The application of permanent Pavement Marking paint may begin 2 calendar days following completion of the flush seal and shall be completed within 14 calendar days following completion of the flush seal.

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

For each working day the application of permanent pavement marking paint remains uncompleted after the 14 calendar days, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day.

This liquidated damage provision applies up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with Section 8.7 of the Specifications, until the permanent pavement marking is completed, even though the project may be open to traffic.

SIGN AND PAINT TABULATION

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

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 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:

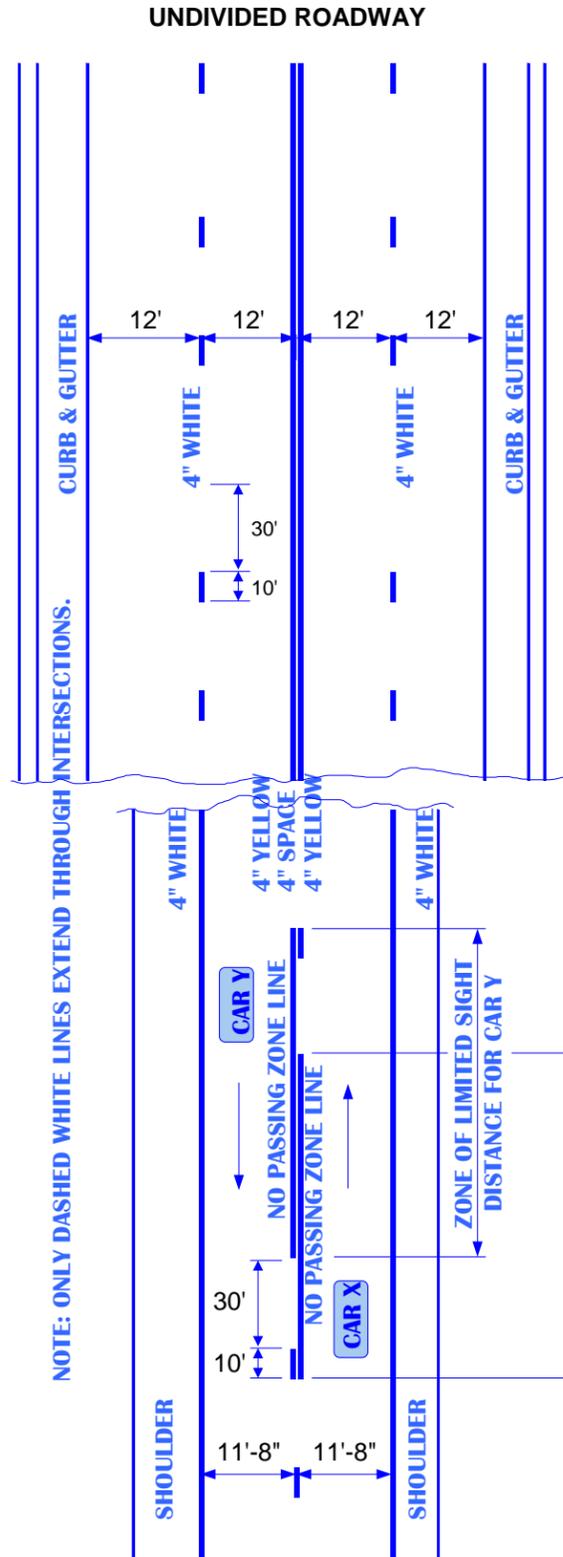
Four Lane Roadway (Rates for one line)	Two Lane Roadway
Solid Yellow Centerline Rate = 16.90 Gals./Pass-Mile	Yellow Centerline (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
Dashed White Lane Line Rate = 4.60 Gals./Pass-Mile	Solid White Edgeline (Rate for one line) Rate = 16.90 Gals./Pass-Mile
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	526.0 GALLONS
YELLOW	180.0 GALLONS
TOTAL	706.0 GALLONS

SIGN TABULATION

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	1	34	34
W21-2	36" x 36"	FRESH OIL	4	27	108
W21-3	48" x 48"	ROAD MACHINERY AHEAD	2	34	68
TOTAL UNITS				210	



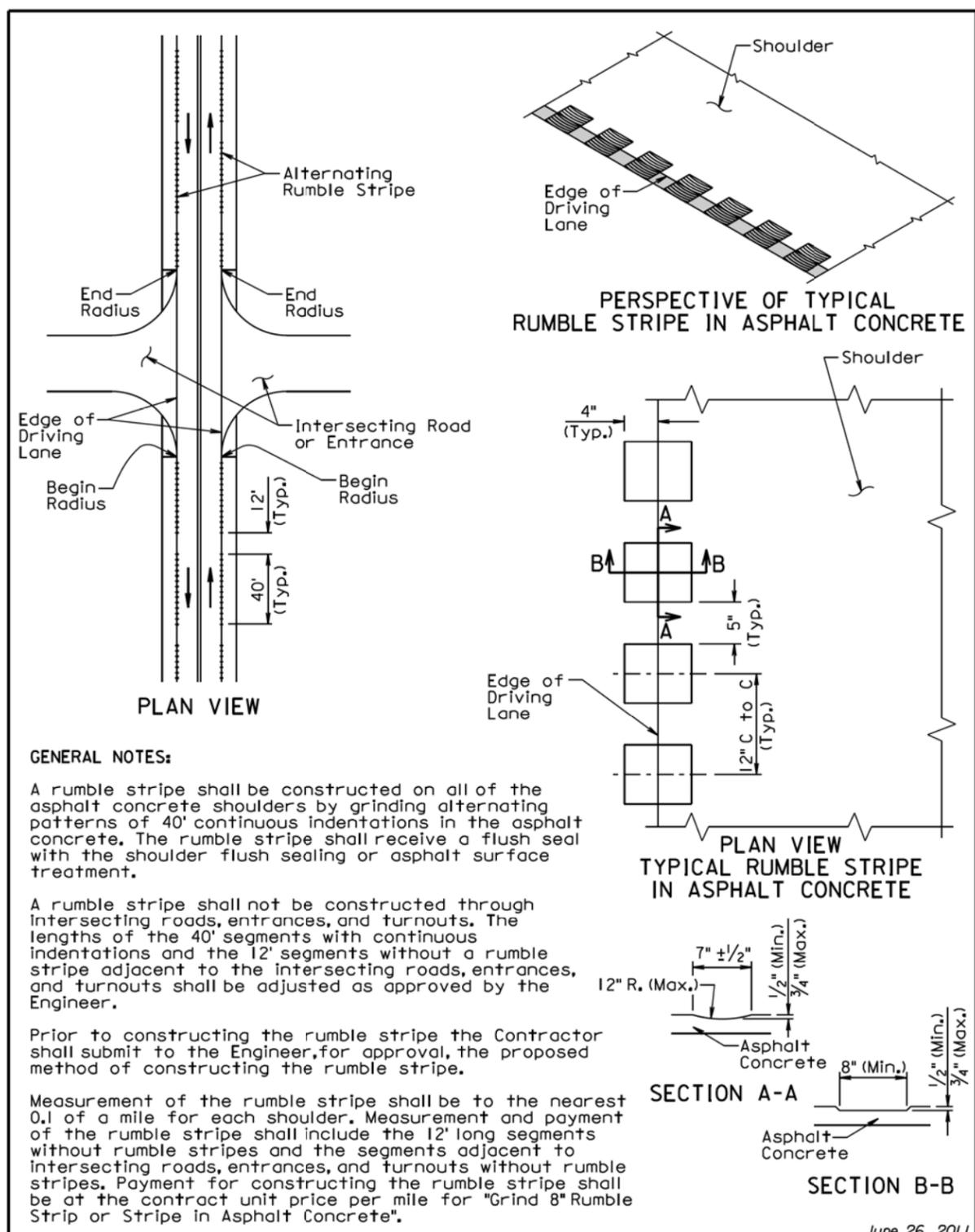
Plotting Date: 08/06/2014

PLOT SCALE - 1:200

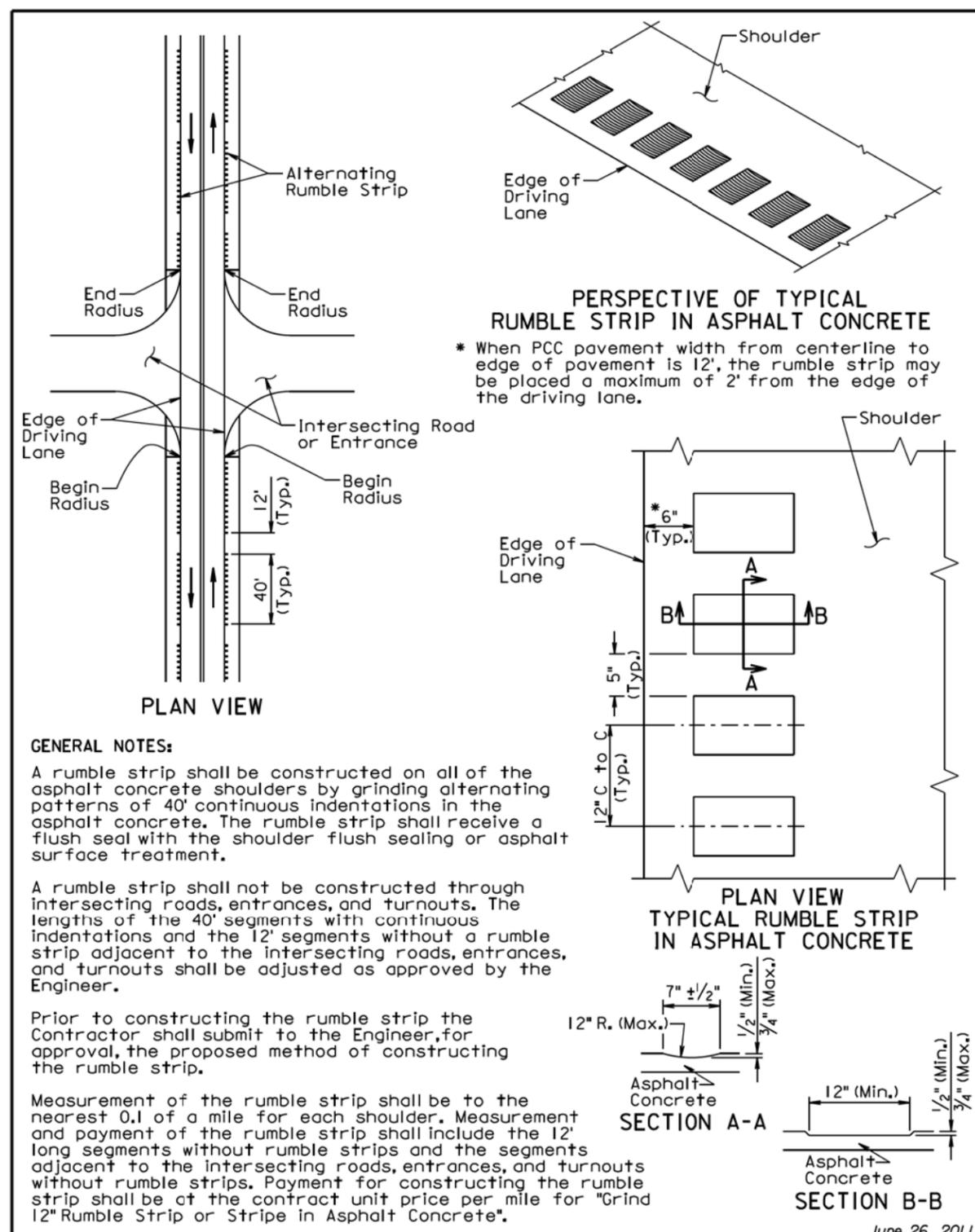
PLOT NAME - 1

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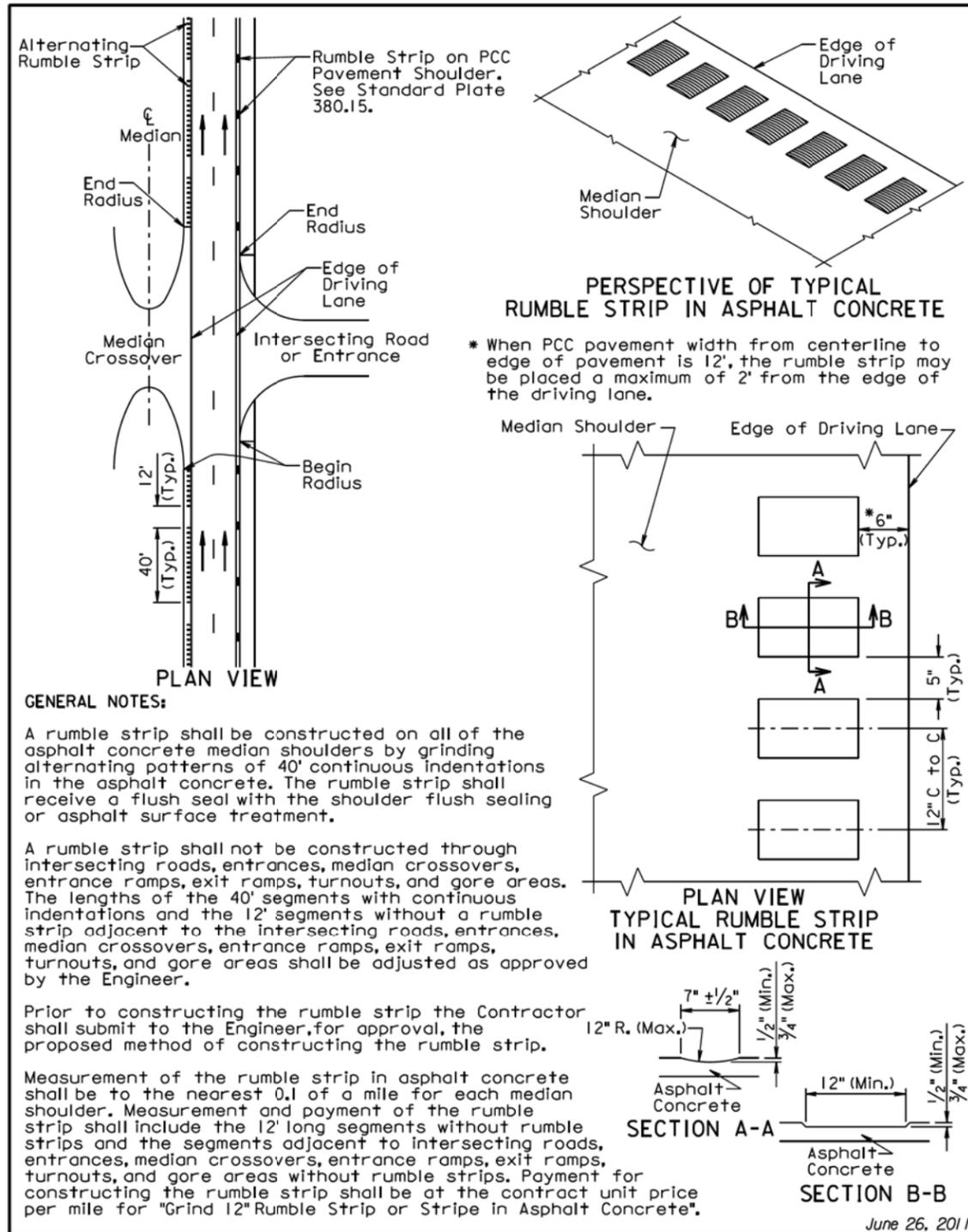


S D D O T	8" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.20
	Published Date: 3rd Qtr. 2014	Sheet 1 of 1



S D D O T	12" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.24
	Published Date: 3rd Qtr. 2014	Sheet 1 of 1

DETAIL FOR TRAFFIC CONTROL MOBILE OPERATIONS INSTALL RUMBLE STRIPS ON SHOULDER



GENERAL NOTES:

A rumble strip shall be constructed on all of the asphalt concrete median 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, median crossovers, entrance ramps, exit ramps, turnouts, and gore areas. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble strip adjacent to the intersecting roads, entrances, median crossovers, entrance ramps, exit ramps, turnouts, and gore areas 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 in asphalt concrete shall be to the nearest 0.1 of a mile for each median shoulder. Measurement and payment of the rumble strip shall include the 12' long segments without rumble strips and the segments adjacent to intersecting roads, entrances, median crossovers, entrance ramps, exit ramps, turnouts, and gore areas 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".

June 26, 2011

S D D O T	12" RUMBLE STRIP IN ASPHALT CONCRETE ON DIVIDED HIGHWAY MEDIAN SHOULDER	PLATE NUMBER 320.26
	Published Date: 3rd Qtr. 2014	Sheet 1 of 1

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

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

An activated flashing yellow light shall be used on all vehicles and equipment.

Arrow panel is required for mobile (intermittent and continuously moving) operations with no sight restriction and work exceeds 1 hour.

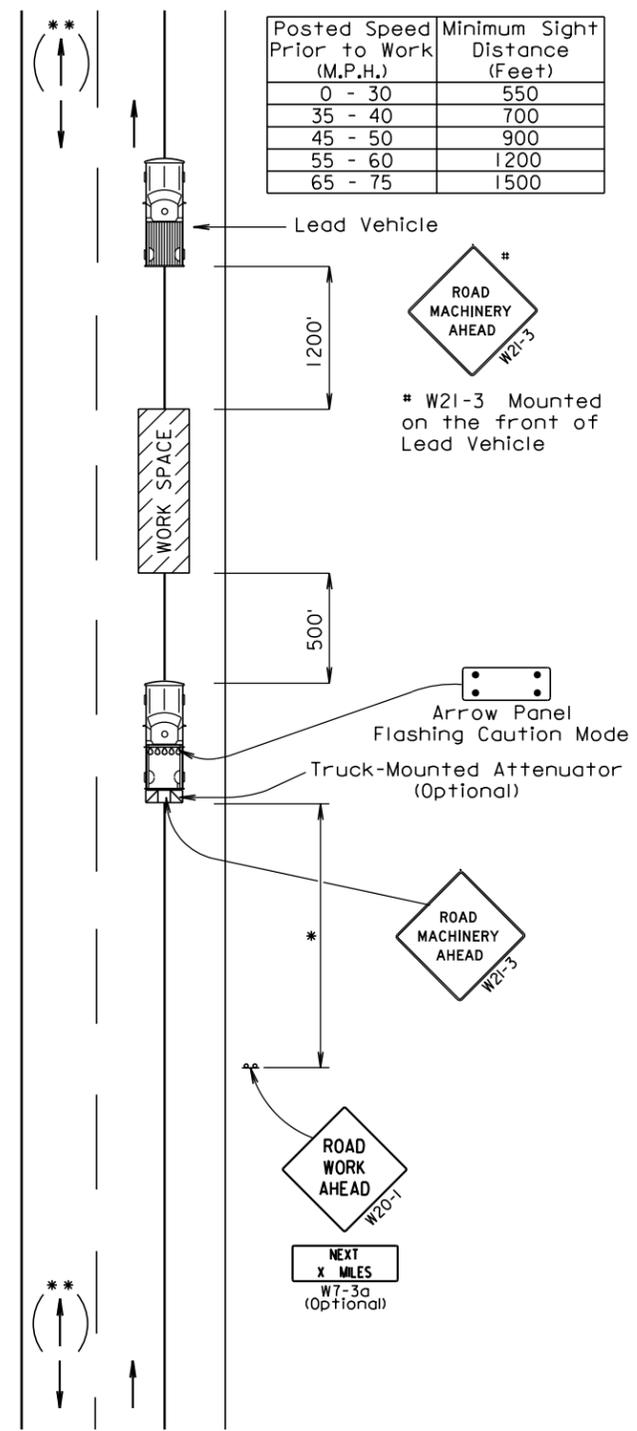
ROAD WORK AHEAD sign is required only when sight distance is restricted. (See Table)

** 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.

** Lead Vehicle not required on a 4-Lane divided or undivided highway.

* Slow Moving Vehicle Emblem displayed on rear of Lead Vehicle when speed is less than 25 M.P.H.

For tack and/or flush seal operations, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.



PLOT SCALE - 1:176.405

PLOTTED FROM - IRPR25289

PLOT NAME - 1

FILE - ... \TONY\2014 RUMBLE STRIP .DGN