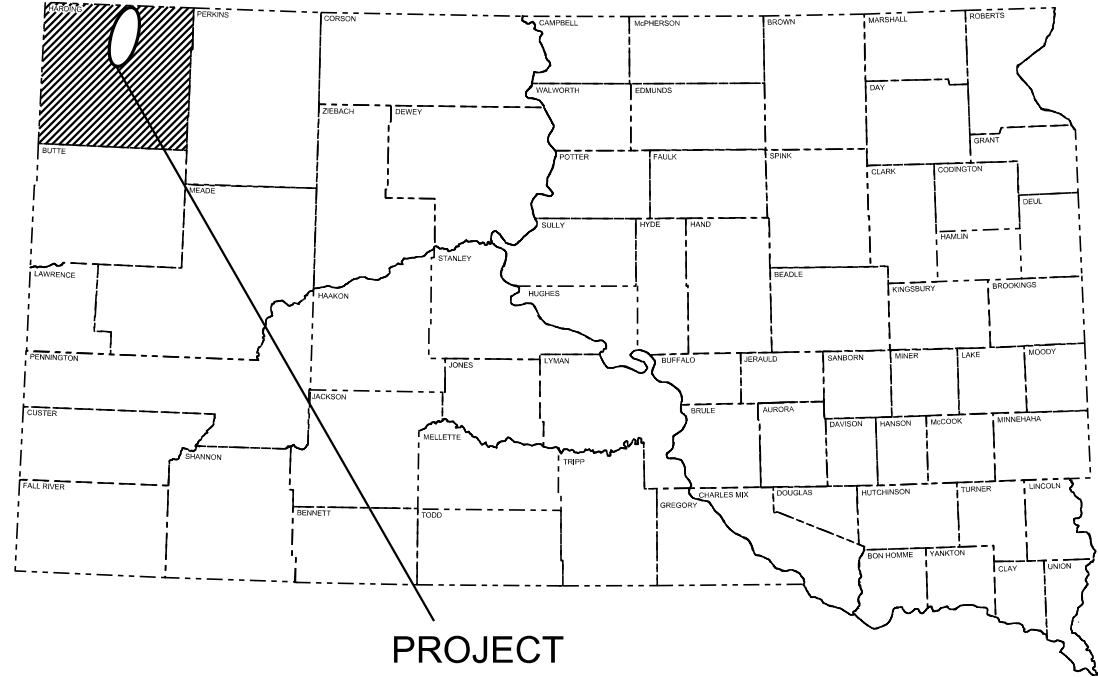


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PROJECT

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
PROJECT 085-471
SD Hwy 085
(From MRM 135.00 to 154.88)

Harding County

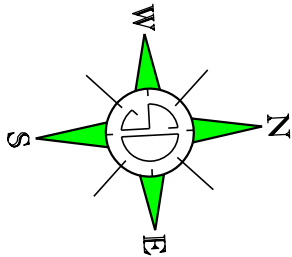
SINUSOIDAL CENTER LINE RUMBLE STRIPS
PCN i44q

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	1	6

Plotting Date: 04/04/2016

INDEX OF SHEETS

Sheet 1	Title Sheets
Sheet 2-3	Estimate of Quantities, Notes, and Tables
Sheet 4	Mobile Operations
Sheet 5-6	Standard Plates



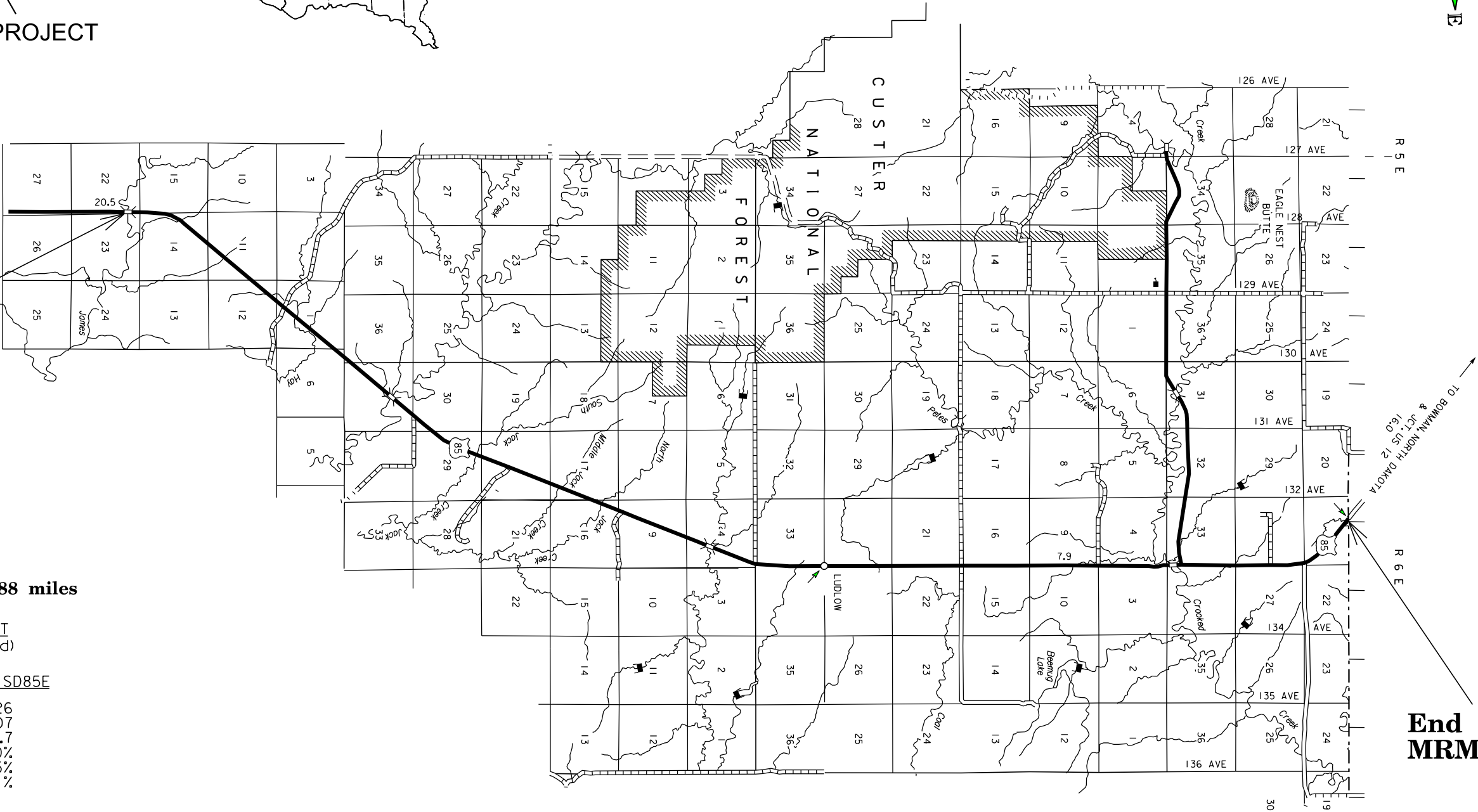
Begin Hwy 085
MRM 135.00

Total Length = 19.88 miles

STORM WATER PERMIT
(No Permit Required)

DESIGN DESIGNATION - SD85E

ADT (2015)	1526
ADT (2035)	2007
DHV	2870.7
d	50%
T DHV	15.5%
T ADT	34.1%



End Hwy 085
MRM 154.88

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	2	6

Plotting Date: 04/04/2016

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7030	Grind Sinusoidal Center Line Rumble Stripe in Asphalt Concrete	19.9	Mile
634E0110	Traffic Control Signs	58.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0560	Remove Pavement Marking, 4" or Equivalent	104,967	Ft

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 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 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 Public ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for 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 Public 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 Public 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 department designated sources and designated option material sources, stockpile sites, storage areas, and waste 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: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

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 Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas 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, 2015 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in this Proposal.

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WORK DESCRIPTION

Work on this project consists of grinding in Sinusoidal Center Line Rumble Stripes on the following route.

Hwy 85: From MRM 135 to MRM 154.88

SINUSOIDAL CENTER LINE RUMBLE STRIPES

The Contractor shall demonstrate to the Engineer on an initial 28’ foot test section that the equipment and method will provide the desired ground rumble strip and surface inside each depression. If the desired results are not being provided, as determined by the Engineer, the Contractor shall provide different equipment or methods until satisfactory installation is completed. Any damage to the asphalt concrete shall be replaced by the Contractor at no additional cost to the State.

Rumble stripes shall not be installed adjacent to intersecting roads and shall start and stop on the radius of the approach slab.

Rumble stripes shall not be installed on bridge decks and shall start and start a sufficient distance from the expansion joints so no damage occurs in these areas.

Rumble stripes shall not be installed within 50 feet of any railroad crossings.

SINUSOIDAL CENTER LINE RUMBLE STRIPE/ ROADWAY CLEANING

The Contractor shall remove loose material from the driving surface of the roadway on a daily basis. Loose material may be used as fillet material adjacent to the paved shoulder. 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 “Grind Sinusoidal Center Line Rumble Stripe in Asphalt”.

PAVEMENT MARKINGS

The centerline pavement markings will be painted by State Forces. The Contractor shall advise Steve Frost - (605) 381-0354 (2) weeks prior to beginning this project to coordinate the joint effort for grinding and painting on this project.

TRAFFIC CONTROL

Traffic control shall be in accordance with MUTCD Standards, Standard Specifications and 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 shall not be delayed for a period longer than 10 minutes.

Lane closure with flaggers shall be used if it is anticipated that the operation will occupy a location for more than one hour and/or is not moving intermittently or continuously.

All materials and equipment shall be moved to a minimum distance of 30 feet from the edge of the traveled lanes during nights, weekends, and other non-working hours.

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.

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 additional cost to the State, and to the satisfaction of the Engineer.

Work activities shall only be during daylight hours. Daylight hours are considered to be ½ hour before sunrise until ½ hour after sunset.

Any delineators and signs damaged or lost shall be replace 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, ground mounted, breakaway supports.

SURFACE PREPARATION FOR PAVEMENT MARKING

Centerline markings on this project shall require surface preparation prior to installation of the new markings. The Contractor shall remove all existing pavement marking by a method approved by the Engineer. It is recognized that there may be small remnants of marking paint left within the crevices of the road surface which is acceptable. Contractor shall remove the centerline marking during the mobile operation or after the new markings have been installed (not before). All Contractor costs for labor and equipment required for subject removal shall be incidental to the contract unit price per foot for Surface Preparation for Pavement Marking.

TABLE OF TRAFFIC CONTROL

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W7-3aP	NEXT __ MILES (plaque)	2	36" x 30"	8	16
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		58			

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	3	6

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	4	6

Plotting Date: 04/04/2016

Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies.

Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.

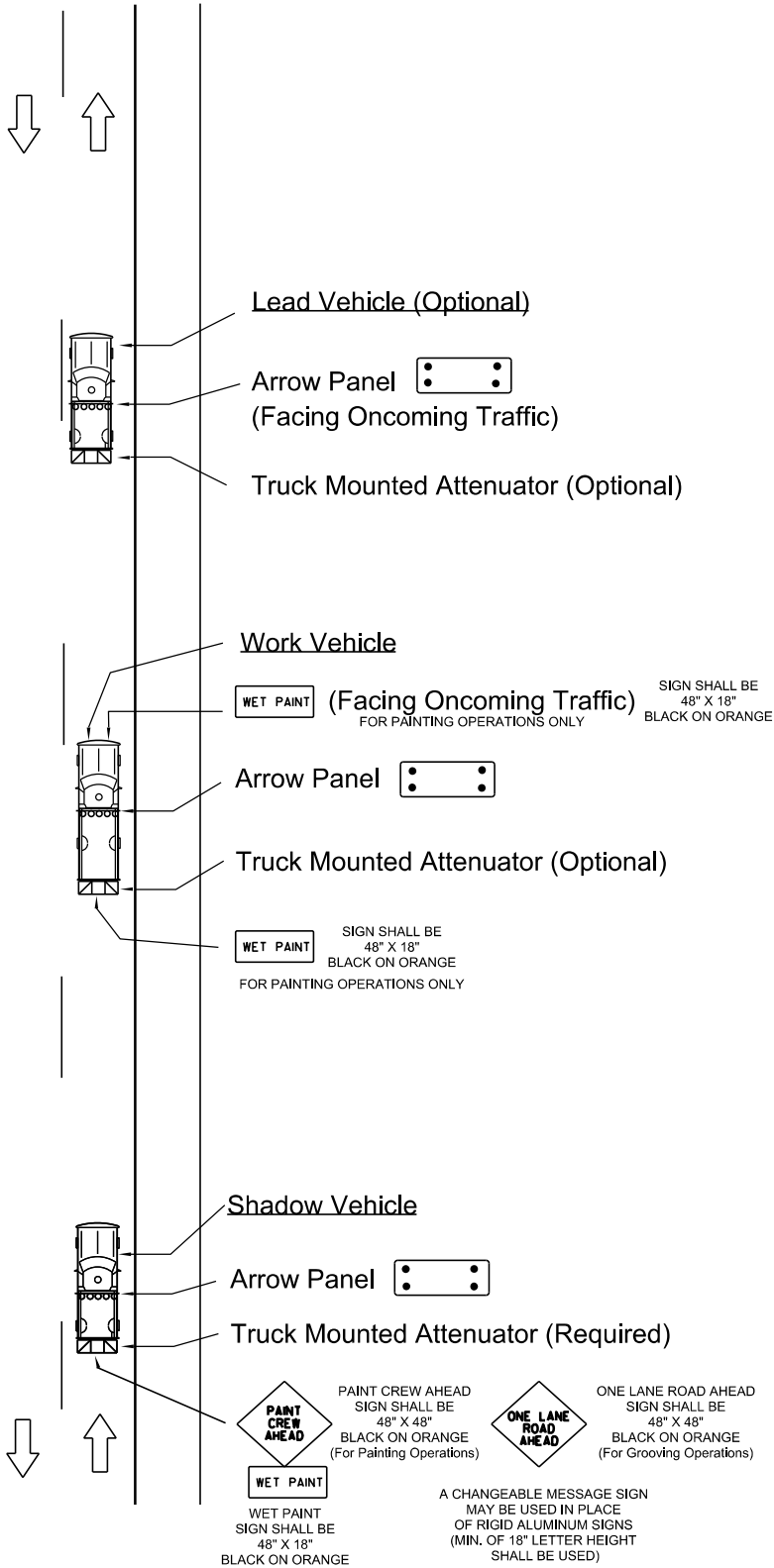
Shadow and Work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow panels.

Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights

Arrow panel shall be used in the caution mode.

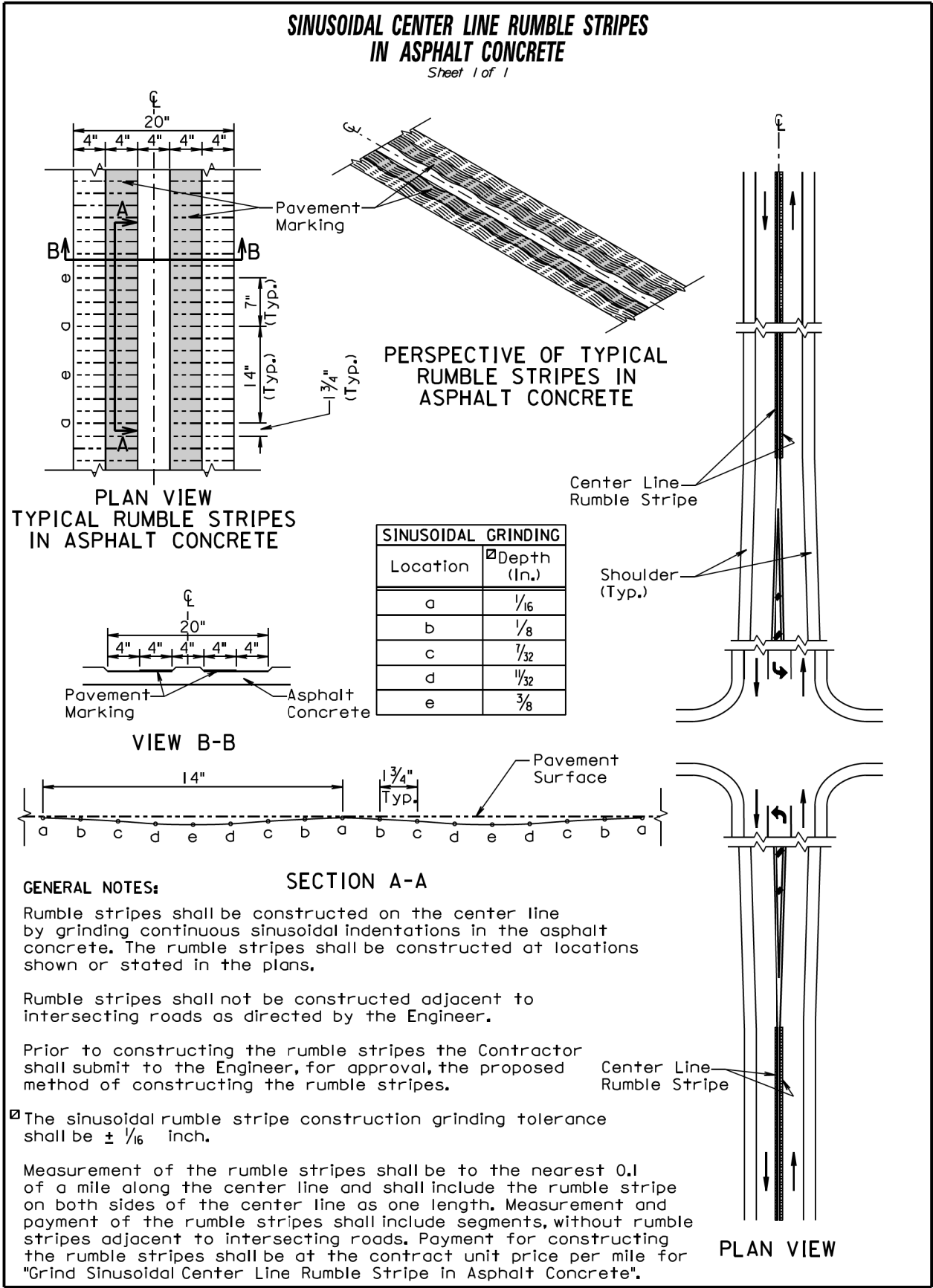
Flashing

Arrow panels shall, as a minimum, be Type B, with a size of 60" x 30".



GUIDES FOR TRAFFIC CONTROL DEVICES
MOBILE OPERATIONS ON 2-LANE ROAD

MOBILE: Intermittent & Continuous Moving



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

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

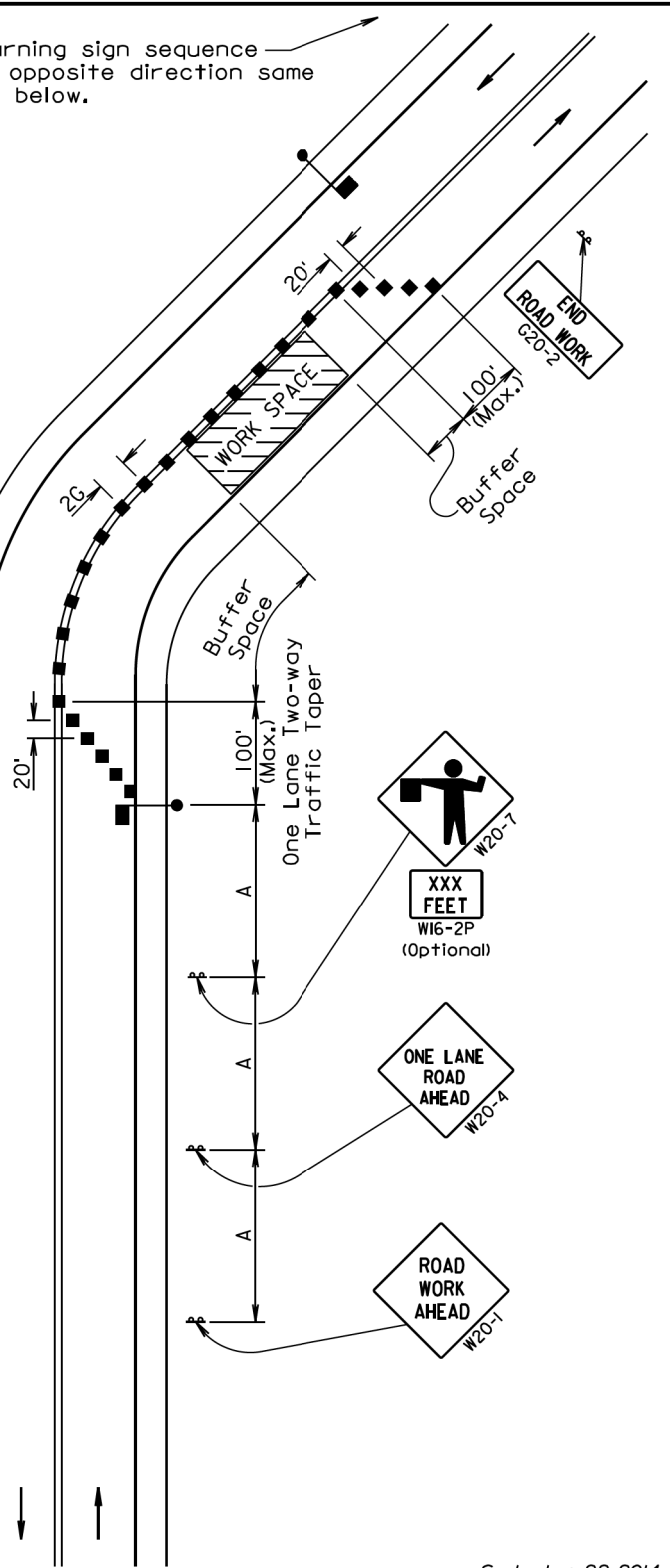
Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.

END ROAD WORK G20-2



September 22, 2014

Published Date: 1st Qtr. 2016

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**GUIDES FOR TRAFFIC CONTROL DEVICES
LANE CLOSURE WITH FLAGGER PROVIDED**

**PLATE NUMBER
634.23**

Sheet 1 of 1

