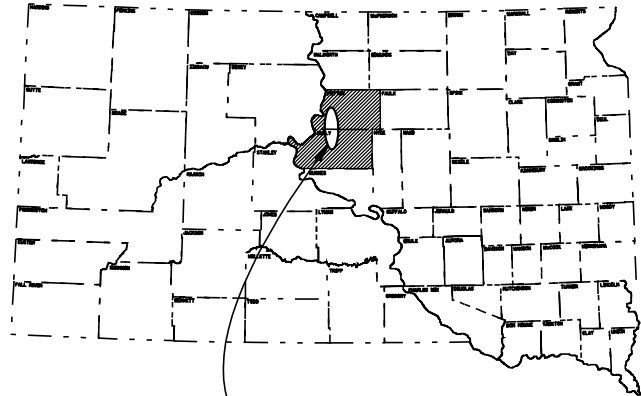


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT 083-351 & 212-351
US HIGHWAY 83 & 212
POTTER & SULLY COUNTIES



PROJECT

END PROJECT
US HIGHWAY 83
Station 444+57.60
MRM 175.14 + 0.112
Mileage 103.528

SHOULDER REHABILITATION

PCN I23Q & I23R

INDEX OF SHEETS

Sheet 1	Title Sheet
Sheet 2	Estimate of Quantities and Sign Tabulation
Sheet 3	Typical Sections
Sheet 4	Plan Notes and Rates of Materials
Sheet 5	Fixed Location Signs
Sheets 6-8	Standard Plates

DESIGN DESIGNATIONS

US HIGHWAY 83
MRM 165.00+0.686
to MRM 175.14+0.112
2009: 995
2028: 1415
DHV: 215
d: 50%
T DHV: 14.3%
T ADT: 31.4%

Begin Project
US HIGHWAY 212
Station 0+00.00
MRM 218.69 + 0.271
Mileage 217.956

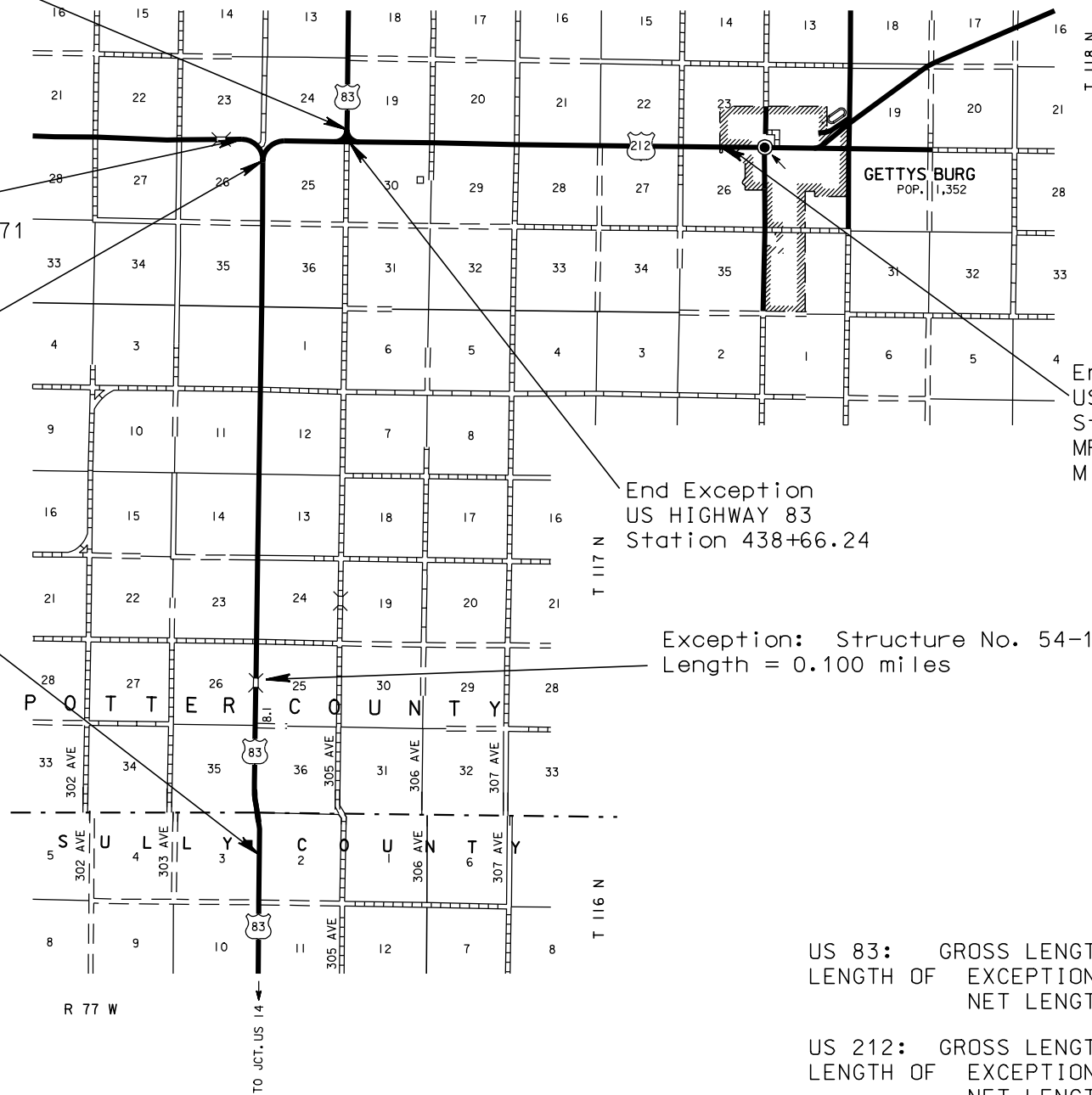
BEGIN EXCEPTION
US HIGHWAY 83
Station 438+66.24

Begin Project
US Highway 83
Station 0+00.00
MRM 165.00 + 0.686
Mileage 95.108

End Exception
US HIGHWAY 83
Station 438+66.24

End Project
US HIGHWAY 212
Station 308+51.04
MRM 224.00 + 0.683
Mileage 223.799

Exception: Structure No. 54-160-224
Length = 0.100 miles



STORM WATER PERMIT
None Required

US 83:	GROSS LENGTH	44,457.60 FT	8.420 MILES
	LENGTH OF EXCEPTIONS	528.00 FT	0.100 MILES
	NET LENGTH	43,929.60 FT	8.320 MILES
US 212:	GROSS LENGTH	30,851.04 FT	5.843 MILES
	LENGTH OF EXCEPTIONS	0.0 FT	0.000 MILES
	NET LENGTH	30,851.04 FT	5.843 MILES

ESTIMATE OF QUANTITIES & SIGN TABULATION

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	083-351 & 212-351	2	8

ESTIMATED QUANTITIES

The below quantities are based on the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined by field conditions and by the Manufacturer's recommendations. These rates may vary from the estimated rates stated in the Rates of Materials. The application rates may also be adjusted in the field. Pay quantities will be those actually used even though they may vary significantly from plans estimates.

083-351 POTTER COUNTY PCN I23Q

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E6200	Water for Granular Material	26.6	MGal
280E0020	Process In Place Surfacing, Shoulder	78,097	SqYd
330E0010	MC-70 Asphalt for Prime	81.5	Ton
360E0020	AE150S Asphalt for Surface Treatment	79.9	Ton
360E1200	Modified Cover Aggregate	615.7	Ton
634E0010	Flagging	80	Hour
634E0020	Pilot Car	20	Hour
634E0100	Traffic Control	323	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

212-351 POTTER COUNTY PCN I23R

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E6200	Water for Granular Material	18.7	MGal
280E0020	Process In Place Surfacing, Shoulder	54,846	SqYd
330E0010	MC-70 Asphalt for Prime	57.3	Ton
360E0020	AE150S Asphalt for Surface Treatment	56.1	Ton
360E1200	Modified Cover Aggregate	432.4	Ton
634E0010	Flagging	80	Hour
634E0020	Pilot Car	20	Hour
634E0100	Traffic Control	323	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

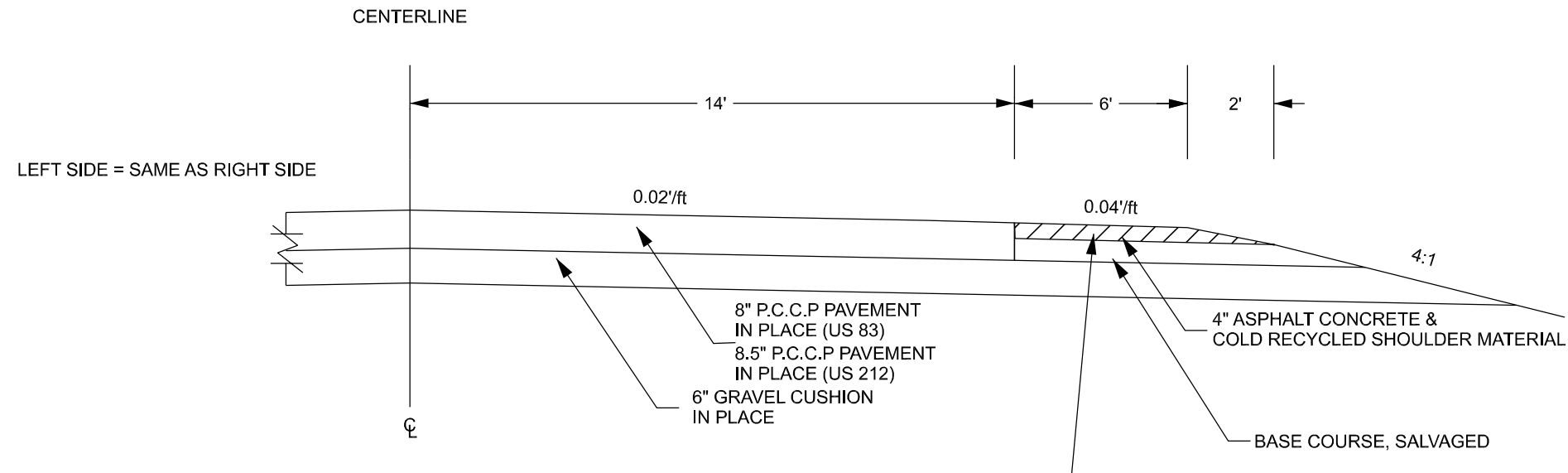
SIGN TABULATION

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	48" x 24"	ROAD WORK NEXT ## MILES	4	24	96
G20-2	36" x 18"	END ROAD WORK	6	17	102
W20-1	48" x 48"	ROAD WORK AHEAD	4	34	136
W20-4	48" x 48"	ONE LANE ROAD AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
W21-2	36" x 36"	FRESH OIL	4	27	108
W21-5	48" x 48"	SHOULDER WORK	2	34	68
TOTAL UNITS					646

TYPICAL SECTION

US 83 & US212 SHOULDERS

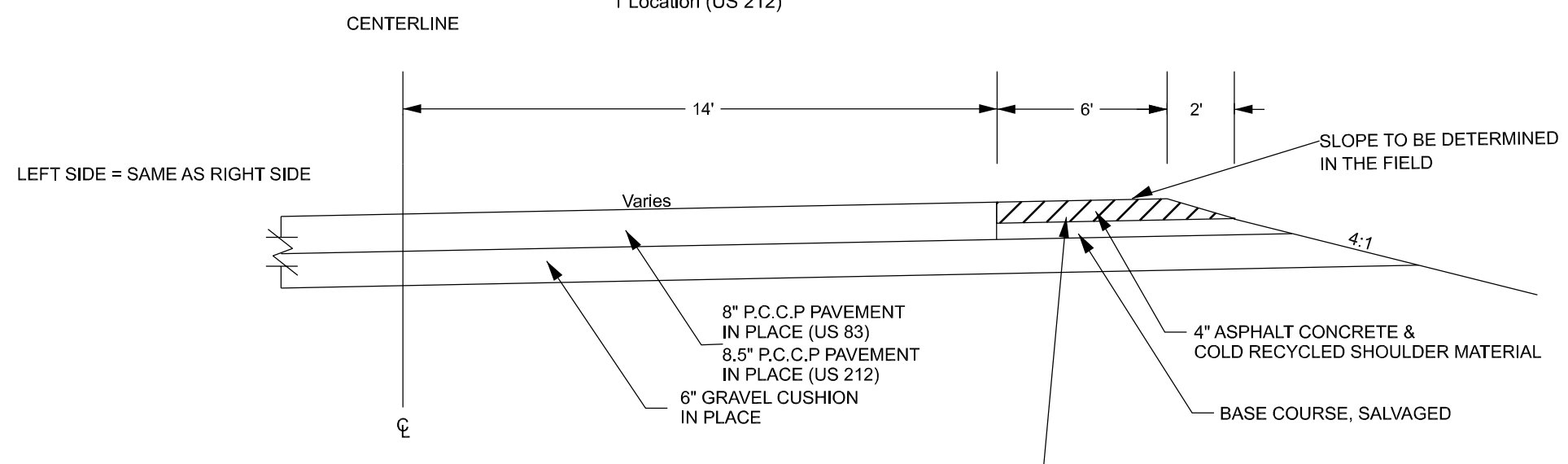
NORMAL CROWN



- 1) PROCESS IN PLACE AND RESHAPE SHOULDERS TO TYPICAL SECTION (4" Depth)
- 2) APPLY MC-70 ASPHALT FOR PRIME (7' WIDTH)
- 3) APPLY ASPHALT SURFACE TREATMENT (6' WIDTH)

SUPERELEVATED CURVES

3 Locations (US 83)
1 Location (US 212)



- 1) PROCESS IN PLACE AND RESHAPE SHOULDERS TO TYPICAL SECTION (4" Depth)
- 2) APPLY MC-70 ASPHALT FOR PRIME (7' WIDTH)
- 3) APPLY ASPHALT SURFACE TREATMENT (6' WIDTH)

PLAN NOTES & RATES OF MATERIALS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	083-351 & 212-351	4	8

SPECIFICATIONS

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

ENGINEER NOTIFICATION

The Contractor is required to notify the Area Engineer at least 10 days prior to beginning work.

PROCESS IN PLACE SURFACING, SHOULDERS

Prior to priming the shoulders, the upper 4 inches of existing shoulder material shall be processed in place, shaped, and recompact to the typical section.

The shoulder material shall be processed to a size of 100% passing a 1-1/2" sieve opening.

The shoulders in the normal crown typical sections shall be regraded with a cross slope of 0.04 foot per foot slope.

The shoulders in super elevated curves shall be regraded with a cross slope to match that of the in place shoulders. This slope shall be determined in the field by the Engineer.

Compaction and smoothness of the shoulder shall be to the satisfaction of the Engineer.

Included in the Estimate of Quantities are 1.6 MGAL of Water for Granular Material per shoulder per mile for compaction.

Process In Place Surfacing, Shoulder will be paid for at the contract unit price per Square Yard, inclusive of all costs for processing, reworking, shaping, compacting, equipment, labor, and incidentals necessary to satisfactorily complete the work.

The shoulders shall be primed after shaping is complete to the satisfaction of the Engineer. Any damage to the shoulders that result from delays between the shaping and priming operations shall be repaired by the Contractor at no cost to the State.

Shoulder drop-offs will not be allowed to remain overnight. Any shoulder drop-off present during daylight hours must be contained within the active work zone(s).

The Contractor shall not damage any existing concrete pavement or asphalt pavement for the guardrail at structure # 54-160-224 and intersecting roads. Any damage to the existing asphalt and concrete pavement mentioned above, or to any pavement markings, shall be repaired at no cost to the State.

The exceptions to this work are intersecting roads, mailbox turnouts, guardrail for structure #54-160-224 (Sta. 99+58 to 104+68) and any other areas as determined by the Engineer.

The shoulders shall be broomed prior to the application of the MC-70 Asphalt for Prime, and also prior to the application of the AE150S Asphalt for Surface Treatment. Final brooming of the asphalt surface treatment shall be as per the Standard Specifications.

MODIFIED COVER AGGREGATE

Aggregate for Modified Cover Aggregate shall conform to the following gradation requirements:

Passing a 3/8 Inch Sieve	100%
Passing a No. 4 Sieve	0-75%
Passing a No. 8 Sieve	0-30%
Passing a No. 40 Sieve	0-6%
Passing a No. 200 Sieve	0-3.0%

Aggregate may be crushed or uncrushed.

All other requirements of the Standard Specifications for Type 1B shall apply.

After the aggregate stockpile has been produced, the Contractor shall submit an aggregate sample to the asphalt supplier a minimum of 14 days prior to starting the project to allow time to evaluate the compatibility and design of the surface treatment. A copy of the test results shall be submitted to the Engineer and Bituminous Engineer for approval prior to starting the asphalt surface treatment work.

Quality tests on the Cover Aggregate for abrasion and soundness are required by specification. The Contractor shall notify the Pierre Area Office prior to sampling and a representative from the Area Office shall witness all sampling of aggregates to be submitted to the Central Testing Laboratory for quality testing. Satisfactory test results for the Cover Aggregate shall be obtained prior to its use on the project.

MAINTENANCE OF TRAFFIC

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

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

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

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

TRAFFIC CONTROL

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

Fixed location signing placed more than two days prior to the start of construction shall be covered until the time of construction. The cost of materials, labor and equipment necessary to complete this work shall be incidental to the other contract items. No separate payment will be made.

RATES OF MATERIALS

The Estimate of Quantities is based on the following quantities of material per mile on US 83 from MRM 165.00+0.686 to MRM 175.14+0.112 (Station 0+00 to Station 444+57.60).

Rates are for one shoulder only.

MC-70 Asphalt for Prime at the rate of 4.9 tons applied 7 feet wide (Rate = 0.30 gallon per square yard).

AE150S Asphalt for Surface Treatment at the rate of 4.8 tons applied 6 feet wide (Rate = 0.32 gallon per square yard).

Modified Cover Aggregate at the rate of 37 tons applied 6 feet wide (Rate = 21 pounds per square yard).

The Estimate of Quantities is based on the following quantities of material per mile on US 212 from MRM 218.69 + 0.271 to MRM 224.00 + 0.683 (Station 0+00 to Station 308+51.04).

Rates are for one shoulder only.

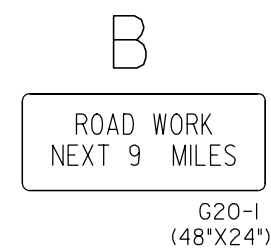
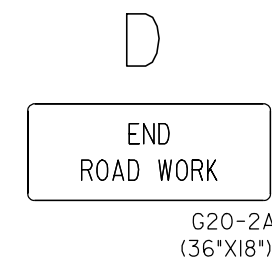
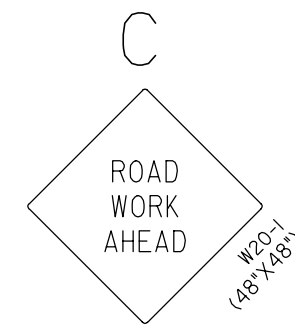
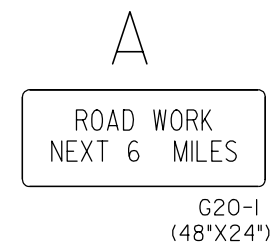
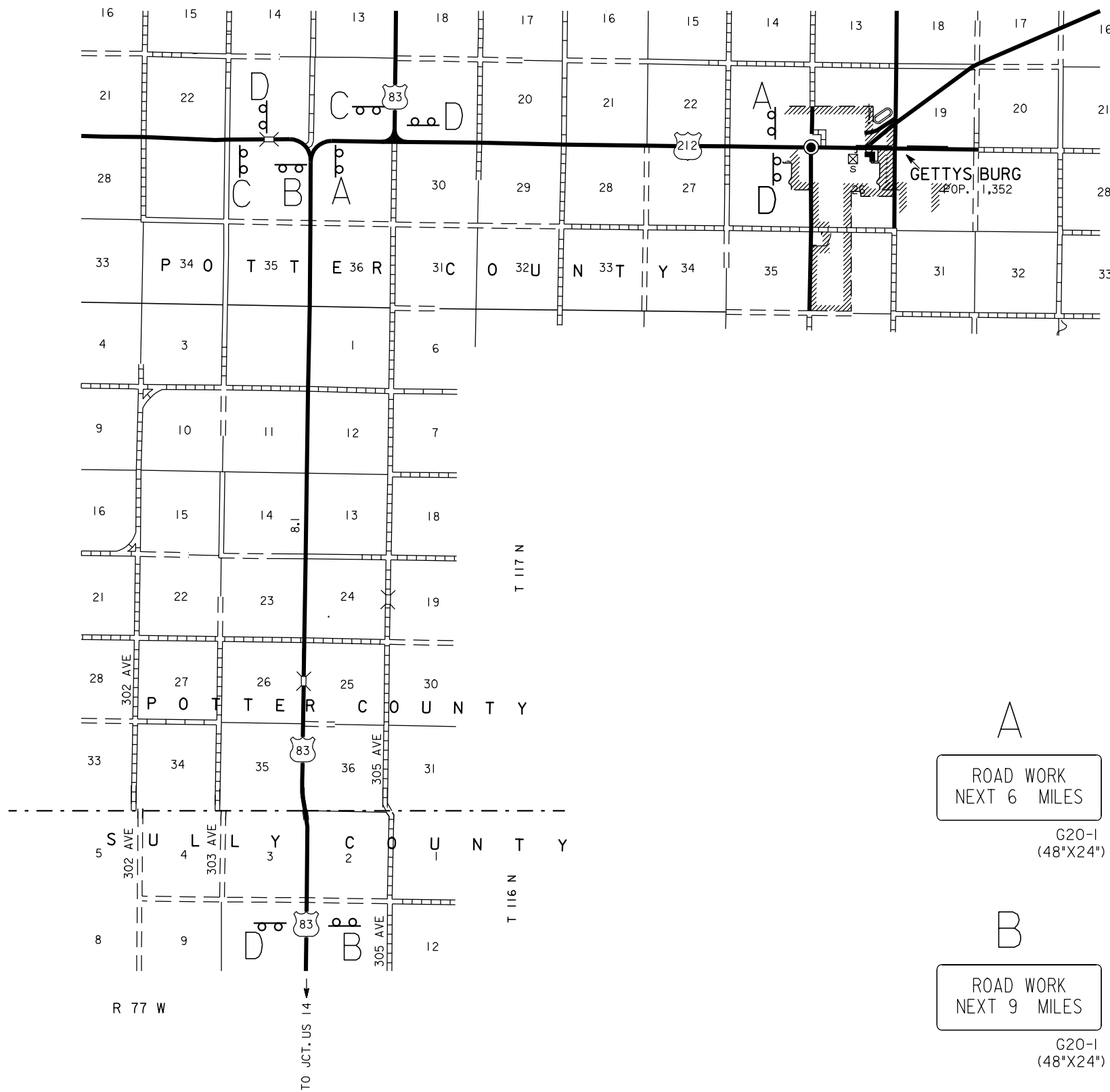
MC-70 Asphalt for Prime at the rate of 4.9 tons applied 7 feet wide (Rate = 0.30 gallon per square yard).

AE150S Asphalt for Surface Treatment at the rate of 4.8 tons applied 6 feet wide (Rate = 0.32 gallon per square yard).

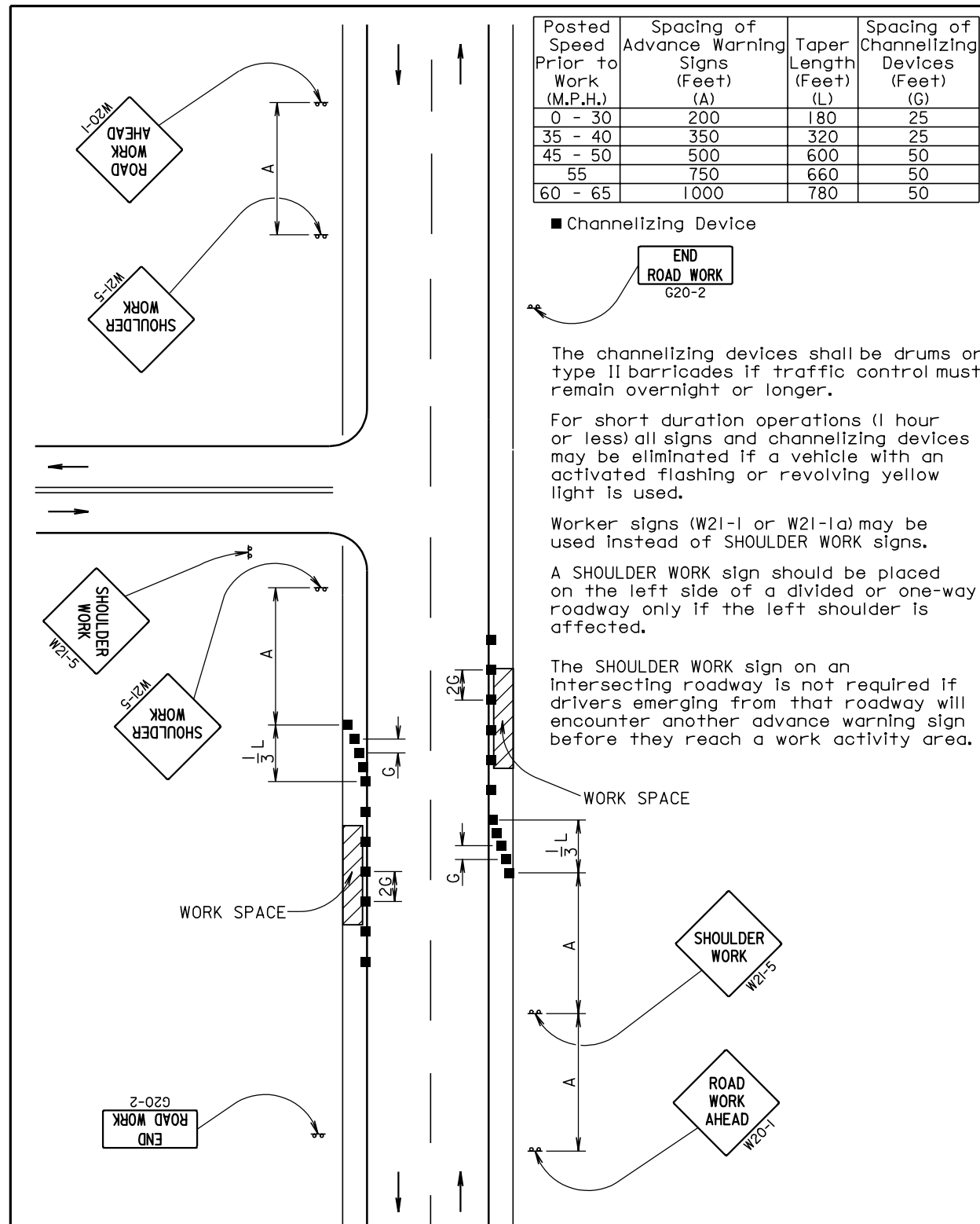
Modified Cover Aggregate at the rate of 37 tons applied 6 feet wide (Rate = 21 pounds per square yard).

FIXED LOCATION SIGNS

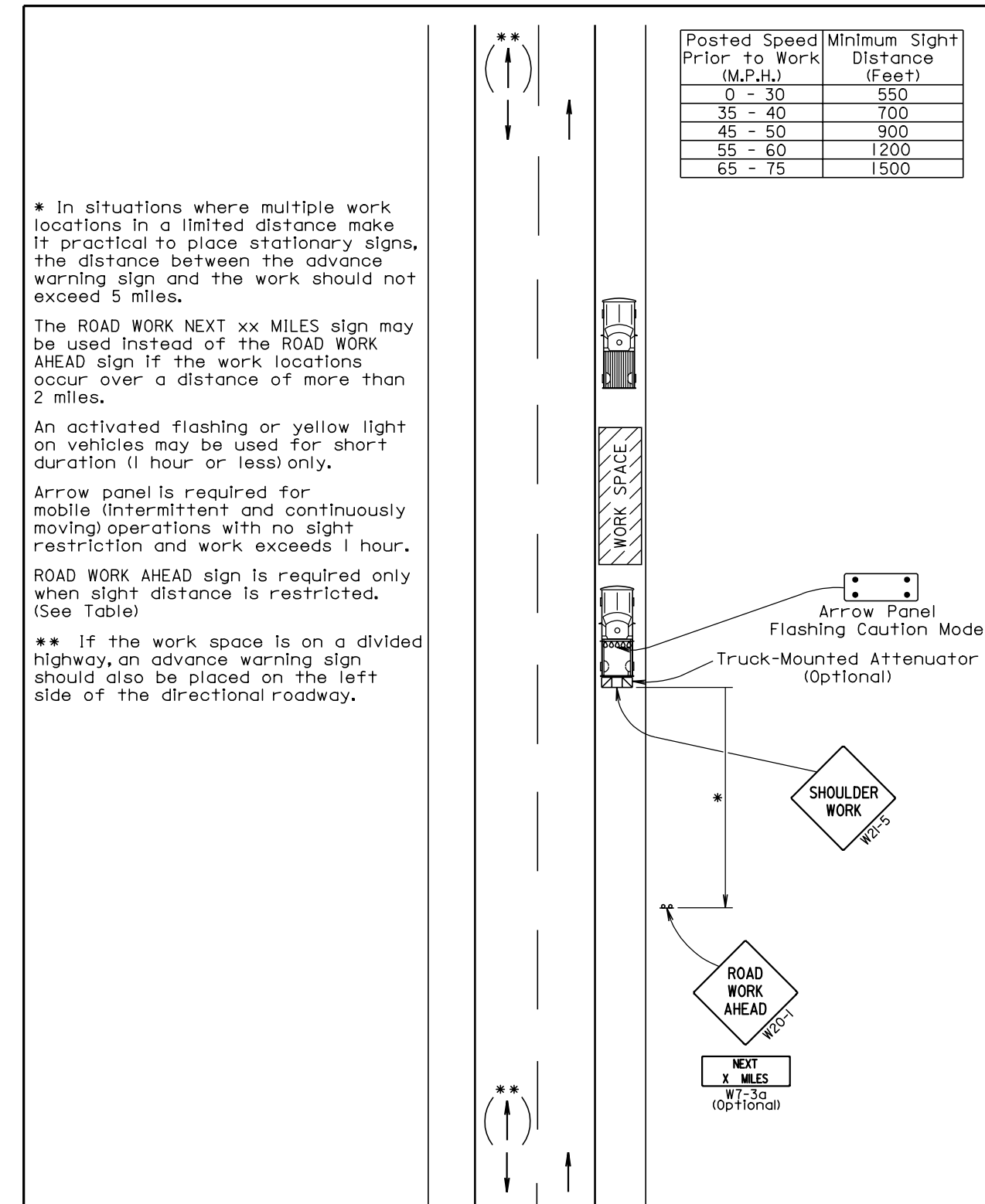
PCN I23Q & I23R



NOTES:
SIGN LOCATIONS WILL BE SET BY THE CONTRACTOR
AND VERIFIED IN THE FIELD BY THE ENGINEER PRIOR
TO INSTALLATION



July 1, 2005



July 1, 2005

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 type II barricades if traffic control must remain overnight or longer. During daylight hours, 42" cones may be used in lieu of drums or type II barricades along the centerline.

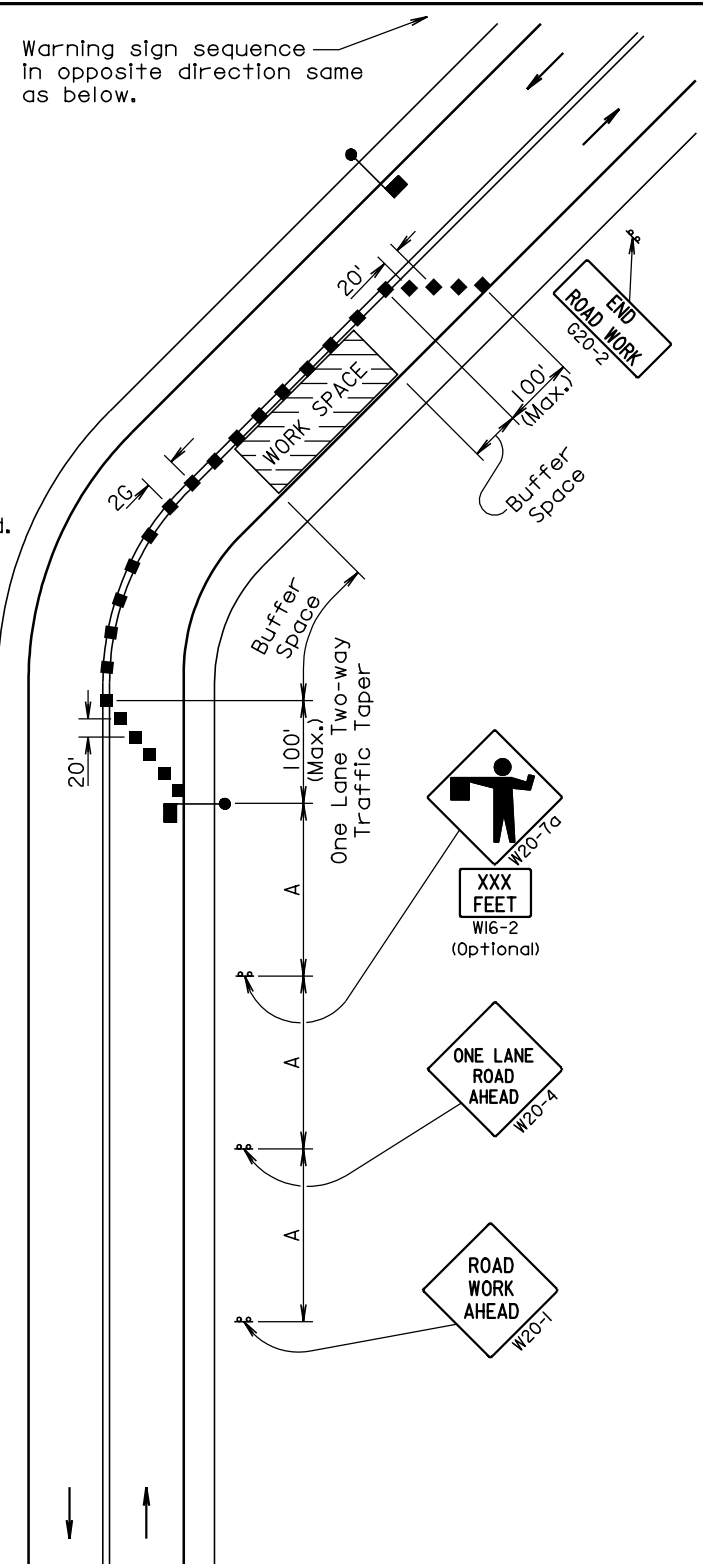
END ROAD WORK
G20-2

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.

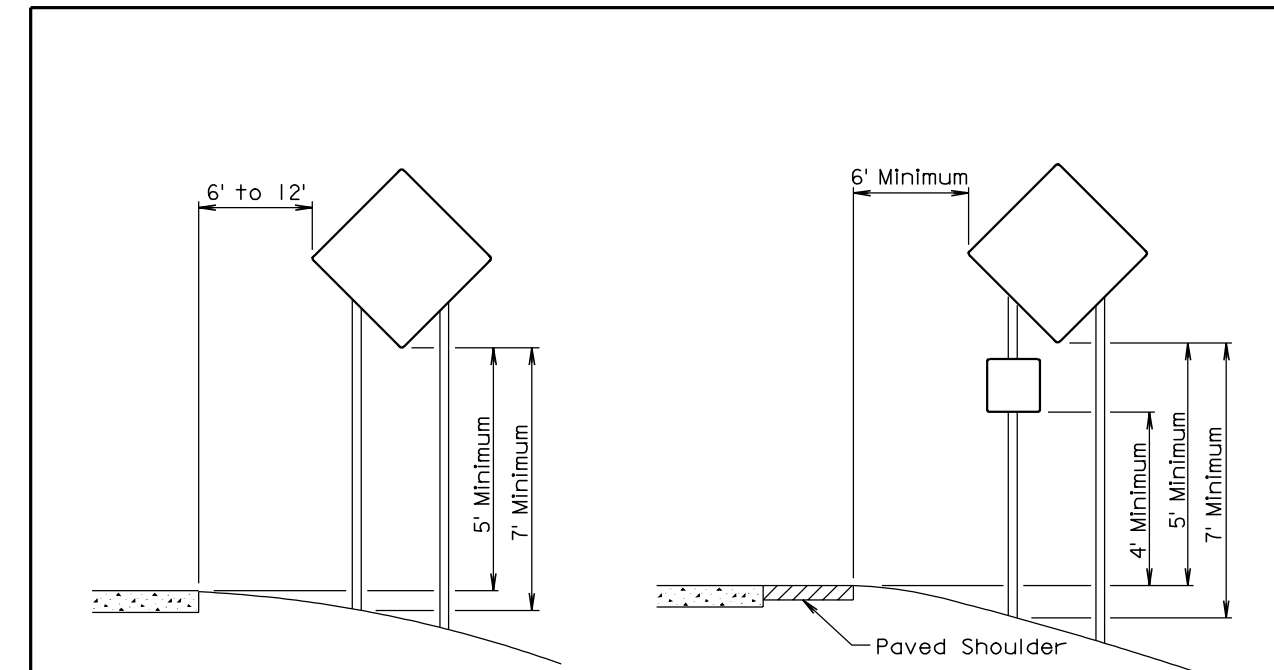
The buffer space shall be a sufficient length so that the channelizing devices are visible to approaching traffic.

Warning sign sequence
In opposite direction same
as below.



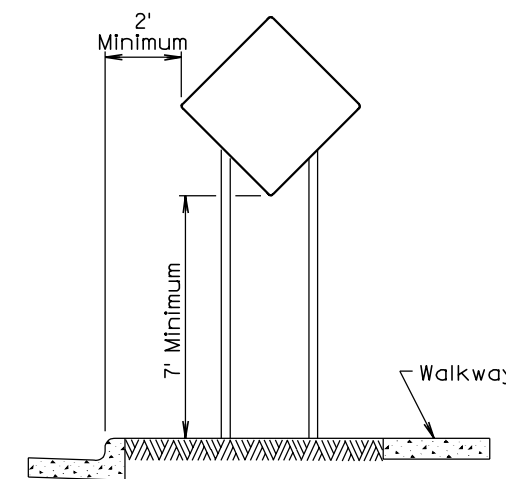
June 26, 2006

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	<i>Published Date: 1st Qtr. 2011</i>	Sheet 1 of 1

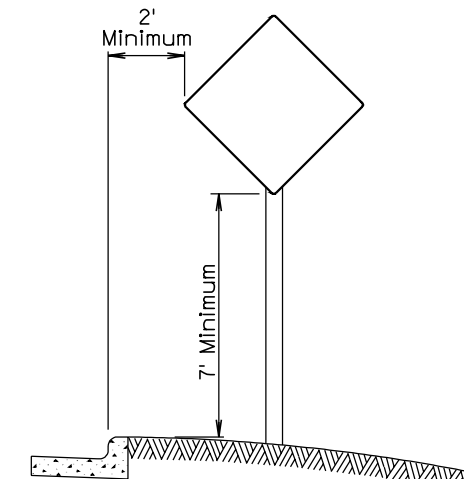


RURAL DISTRICT

RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



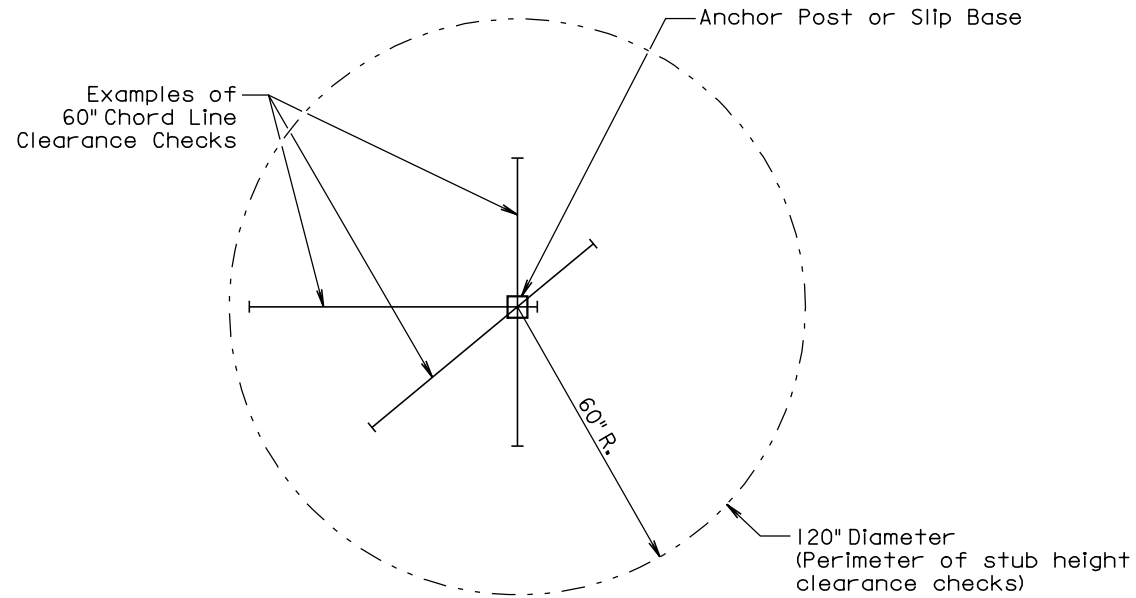
URBAN DISTRICT



URBAN DISTRICT

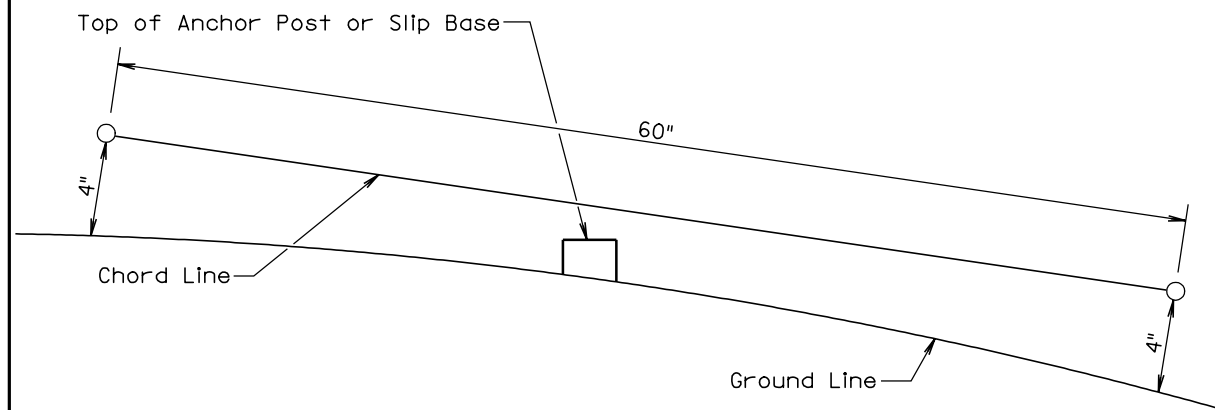
December 23, 2003

S D D O T	BREAKAWAY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
	<i>Published Date: 1st Qtr. 2011</i>	Sheet 1 of 1



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

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

July 1, 2005

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

Published Date: 1st Qtr. 2011