

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F1	F18

Plotting Date: 01/28/2016

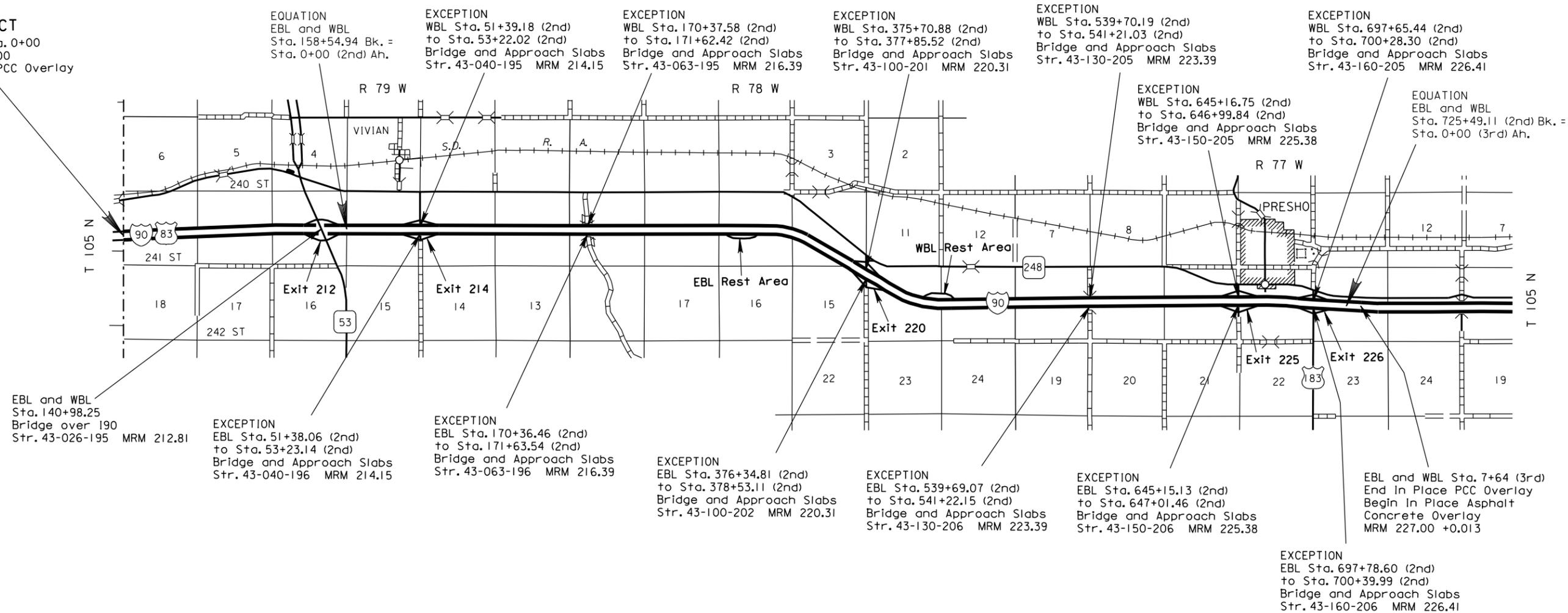
# SECTION F: SURFACING PLANS

## INDEX OF SHEETS

F1-F3	General Layout W/Index
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F17	Details for 12" Rumble Strip In Asphalt Concrete on Interstate Shoulders
F18	Standard Plates

### BEGIN PROJECT

EBL and WBL Sta. 0+00  
MRM 210.14 +0.000  
Begin in Place PCC Overlay



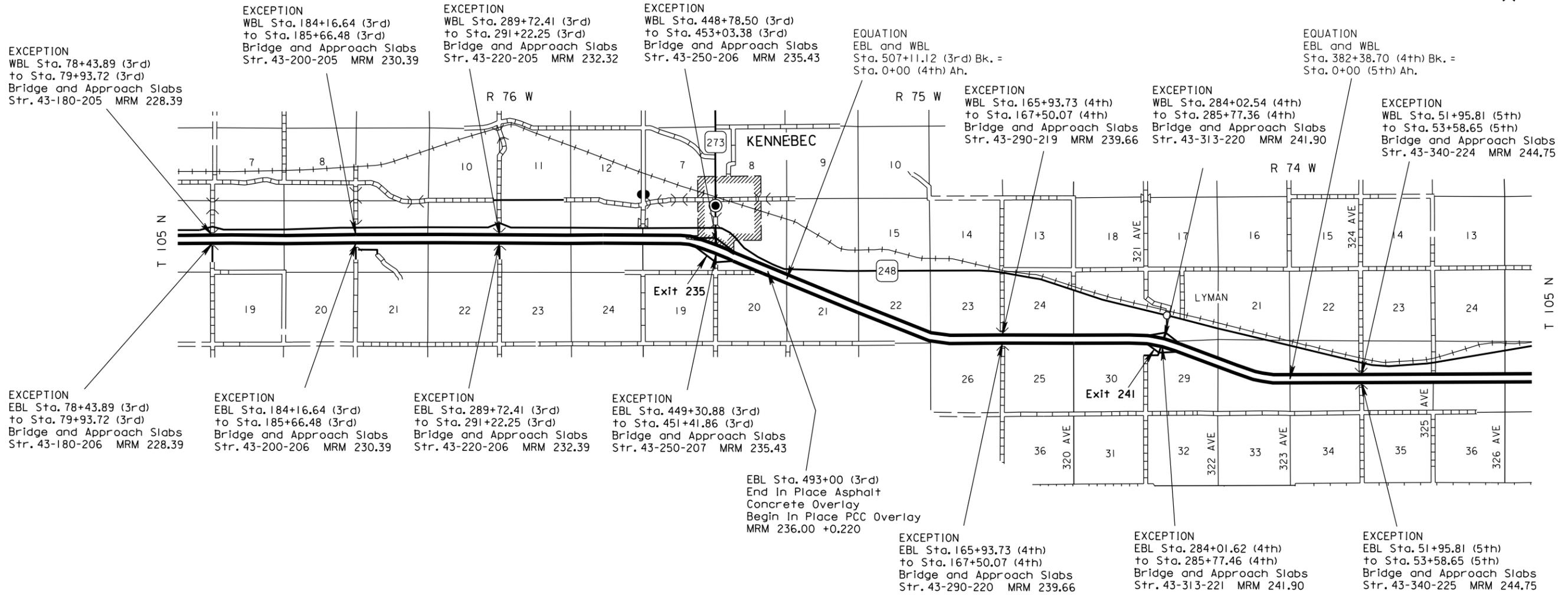
PLOT SCALE - 1:7920

PLOTTED FROM - TRPR18388

PLOT NAME - 1

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Plotting Date: 01/28/2016



EXCEPTION  
WBL Sta. 78+43.89 (3rd)  
to Sta. 79+93.72 (3rd)  
Bridge and Approach Slabs  
Str. 43-180-205 MRM 228.39

EXCEPTION  
WBL Sta. 184+16.64 (3rd)  
to Sta. 185+66.48 (3rd)  
Bridge and Approach Slabs  
Str. 43-200-205 MRM 230.39

EXCEPTION  
WBL Sta. 289+72.41 (3rd)  
to Sta. 291+22.25 (3rd)  
Bridge and Approach Slabs  
Str. 43-220-205 MRM 232.32

EXCEPTION  
WBL Sta. 448+78.50 (3rd)  
to Sta. 453+03.38 (3rd)  
Bridge and Approach Slabs  
Str. 43-250-206 MRM 235.43

EQUATION  
EBL and WBL  
Sta. 507+11.12 (3rd) Bk. =  
Sta. 0+00 (4th) Ah.

EQUATION  
EBL and WBL  
Sta. 382+38.70 (4th) Bk. =  
Sta. 0+00 (5th) Ah.

EXCEPTION  
WBL Sta. 165+93.73 (4th)  
to Sta. 167+50.07 (4th)  
Bridge and Approach Slabs  
Str. 43-290-219 MRM 239.66

EXCEPTION  
WBL Sta. 284+02.54 (4th)  
to Sta. 285+77.36 (4th)  
Bridge and Approach Slabs  
Str. 43-313-220 MRM 241.90

EXCEPTION  
WBL Sta. 51+95.81 (5th)  
to Sta. 53+58.65 (5th)  
Bridge and Approach Slabs  
Str. 43-340-224 MRM 244.75

EXCEPTION  
EBL Sta. 78+43.89 (3rd)  
to Sta. 79+93.72 (3rd)  
Bridge and Approach Slabs  
Str. 43-180-206 MRM 228.39

EXCEPTION  
EBL Sta. 184+16.64 (3rd)  
to Sta. 185+66.48 (3rd)  
Bridge and Approach Slabs  
Str. 43-200-206 MRM 230.39

EXCEPTION  
EBL Sta. 289+72.41 (3rd)  
to Sta. 291+22.25 (3rd)  
Bridge and Approach Slabs  
Str. 43-220-206 MRM 232.39

EXCEPTION  
EBL Sta. 449+30.88 (3rd)  
to Sta. 451+41.86 (3rd)  
Bridge and Approach Slabs  
Str. 43-250-207 MRM 235.43

EBL Sta. 493+00 (3rd)  
End In Place Asphalt  
Concrete Overlay  
Begin In Place PCC Overlay  
MRM 236.00 +0.220

EXCEPTION  
EBL Sta. 165+93.73 (4th)  
to Sta. 167+50.07 (4th)  
Bridge and Approach Slabs  
Str. 43-290-220 MRM 239.66

EXCEPTION  
EBL Sta. 284+01.62 (4th)  
to Sta. 285+77.46 (4th)  
Bridge and Approach Slabs  
Str. 43-313-221 MRM 241.90

EXCEPTION  
EBL Sta. 51+95.81 (5th)  
to Sta. 53+58.65 (5th)  
Bridge and Approach Slabs  
Str. 43-340-225 MRM 244.75

PLOT SCALE - 1:7920

PLOTTED FROM - TRPR18388

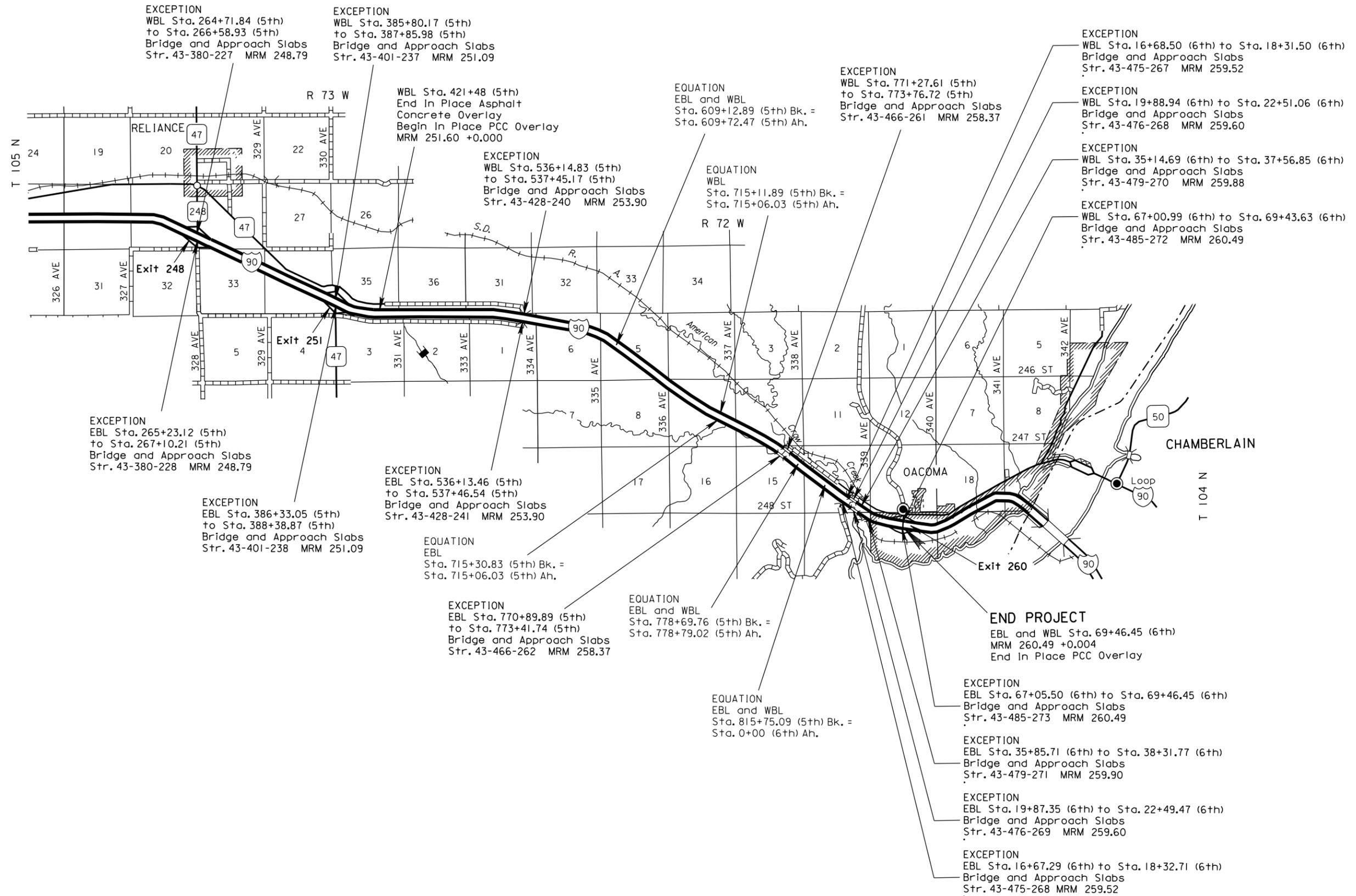
PLOT NAME - 2

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PLOT SCALE - 1:7920

PLOT NAME - 3

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EXCEPTION  
WBL Sta. 264+71.84 (5th)  
to Sta. 266+58.93 (5th)  
Bridge and Approach Slabs  
Str. 43-380-227 MRM 248.79

EXCEPTION  
WBL Sta. 385+80.17 (5th)  
to Sta. 387+85.98 (5th)  
Bridge and Approach Slabs  
Str. 43-401-237 MRM 251.09

WBL Sta. 421+48 (5th)  
End In Place Asphalt  
Concrete Overlay  
Begin In Place PCC Overlay  
MRM 251.60 +0.000

EXCEPTION  
WBL Sta. 536+14.83 (5th)  
to Sta. 537+45.17 (5th)  
Bridge and Approach Slabs  
Str. 43-428-240 MRM 253.90

EQUATION  
EBL and WBL  
Sta. 609+12.89 (5th) Bk. =  
Sta. 609+72.47 (5th) Ah.

EXCEPTION  
WBL Sta. 771+27.61 (5th)  
to Sta. 773+76.72 (5th)  
Bridge and Approach Slabs  
Str. 43-466-261 MRM 258.37

EXCEPTION  
WBL Sta. 16+68.50 (6th) to Sta. 18+31.50 (6th)  
Bridge and Approach Slabs  
Str. 43-475-267 MRM 259.52

EXCEPTION  
WBL Sta. 19+88.94 (6th) to Sta. 22+51.06 (6th)  
Bridge and Approach Slabs  
Str. 43-476-268 MRM 259.60

EXCEPTION  
WBL Sta. 35+14.69 (6th) to Sta. 37+56.85 (6th)  
Bridge and Approach Slabs  
Str. 43-479-270 MRM 259.88

EXCEPTION  
WBL Sta. 67+00.99 (6th) to Sta. 69+43.63 (6th)  
Bridge and Approach Slabs  
Str. 43-485-272 MRM 260.49

EXCEPTION  
EBL Sta. 265+23.12 (5th)  
to Sta. 267+10.21 (5th)  
Bridge and Approach Slabs  
Str. 43-380-228 MRM 248.79

EXCEPTION  
EBL Sta. 386+33.05 (5th)  
to Sta. 388+38.87 (5th)  
Bridge and Approach Slabs  
Str. 43-401-238 MRM 251.09

EXCEPTION  
EBL Sta. 536+13.46 (5th)  
to Sta. 537+46.54 (5th)  
Bridge and Approach Slabs  
Str. 43-428-241 MRM 253.90

EQUATION  
EBL  
Sta. 715+30.83 (5th) Bk. =  
Sta. 715+06.03 (5th) Ah.

EXCEPTION  
EBL Sta. 770+89.89 (5th)  
to Sta. 773+41.74 (5th)  
Bridge and Approach Slabs  
Str. 43-466-262 MRM 258.37

EQUATION  
EBL and WBL  
Sta. 778+69.76 (5th) Bk. =  
Sta. 778+79.02 (5th) Ah.

EQUATION  
EBL and WBL  
Sta. 815+75.09 (5th) Bk. =  
Sta. 0+00 (6th) Ah.

END PROJECT  
EBL and WBL Sta. 69+46.45 (6th)  
MRM 260.49 +0.004  
End In Place PCC Overlay

EXCEPTION  
EBL Sta. 67+05.50 (6th) to Sta. 69+46.45 (6th)  
Bridge and Approach Slabs  
Str. 43-485-273 MRM 260.49

EXCEPTION  
EBL Sta. 35+85.71 (6th) to Sta. 38+31.77 (6th)  
Bridge and Approach Slabs  
Str. 43-479-271 MRM 259.90

EXCEPTION  
EBL Sta. 19+87.35 (6th) to Sta. 22+49.47 (6th)  
Bridge and Approach Slabs  
Str. 43-476-269 MRM 259.60

EXCEPTION  
EBL Sta. 16+67.29 (6th) to Sta. 18+32.71 (6th)  
Bridge and Approach Slabs  
Str. 43-475-268 MRM 259.52

**SECTION F ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0010	Unclassified Excavation	748	CuYd
* 260E6000	Granular Material, Furnish	3,447.6	Ton
* 270E0200	Blend, Haul, and Stockpile Granular Material	6,895.2	Ton
320E0004	PG 58-28 Asphalt Binder	302.1	Ton
320E1070	Class HR Asphalt Concrete	7,574.0	Ton
320E3000	Compaction Sample	3	Each
320E5010	Saw and Seal Shoulder Joint	120,246	Ft
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	34.8	Mile
330E0010	MC-70 Asphalt for Prime	32.1	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	4.9	Ton
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	264.8	Ton
330E3000	Sand for Fog Seal	10.0	Ton
332E0010	Cold Milling Asphalt Concrete	40,181	SqYd
360E0042	CRS-2P Asphalt for Surface Treatment	764.9	Ton
360E1200	Modified Cover Aggregate	7,067.9	Ton
380E6300	Reseal PCC Pavement Joint - Silicone	5,493	Ft
380E6302	Reseal PCC Pavement Joint - Hot Pour	98,997	Ft
380E6310	Seal Random Cracks in PCC Pavement	40	Ft
600E0200	Type II Field Laboratory	1	Each

\* - Denotes Non-Participating

**SURFACING THICKNESS DIMENSIONS**

Plans tonnage will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans tonnage may be varied to achieve the required elevation.

**CONTROL OF ACCESS**

If a Contractor's operations would require access to the interstate ROW in any locations not currently designated as public access, prior approval must be obtained from the Department. All requests will be reviewed on the basis of safety and construction sequencing. A contractor shall not assume that all requests will be granted.

The Contractor shall be responsible for all safety control and signing measures.

The request for access shall be provided in writing to the Engineer two weeks in advance of any proposed break in control of access.

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**TYPE II 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 completion of the project. 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 II FIELD LABORATORY.

**ESTIMATED QUANTITIES FOR ASPHALT SURFACE TREATMENT**

The quantities of asphalt for surface treatment and cover aggregate 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 mix design as stated in the Special Provision for Asphalt Surface Treatment Design. The mix design rates may vary from the estimated rates stated in the Rates of Materials depending on the aggregate source and the variation in gradation and flakiness index. The application rates may also be adjusted in the field due to results of gradation, flakiness index, sweep tests and differing surface conditions as encountered. Pay quantities will be based on the actual target rates the inspectors use even though they may vary significantly from plans estimates.

**PERMANENT TRAFFIC COUNTERS**

There are Permanent Traffic Counters in the Eastbound and Westbound Lanes, located at approximate Sta. 539+50 (2<sup>nd</sup>)+/-, that were rebuilt in 2015, with wires that run under the shoulders. No work, other than Asphalt Surface Treatment operations, shall be performed within 20' back and ahead of the location of the buried wires.

The Contractor shall verify with the Engineer the location of the buried wires. Any damages to the wires due to carelessness of the Contractor's work forces shall be repaired, at the Contractor's expense, to the satisfaction of the Engineer.

**COLD MILLING ASPHALT CONCRETE**

Cold Milling Asphalt Concrete is estimated to produce 5,631.6 tons of salvaged asphalt concrete material (RAP). An estimated 2,184 tons of salvaged asphalt concrete (RAP) will be used on this project in the Class HR Asphalt Concrete mixture. The Contractor is responsible to assure enough RAP is available for the Class HR. An estimate 3,447.6 tons of salvaged asphalt concrete shall be hauled and stockpiled at the following location: Reliance Maintenance Yard located at the Junction of I-90 and SD47S in the SW1/4, Section 35, T105N, R73W. The Contractor shall contact the Engineer to establish a location to stockpile the material.

**TABLE OF COLD MILLING ASPHALT CONCRETE**

Location	Cold Milling Asphalt Concrete SqYd	Width of Cold Milling Asphalt Concrete Feet	Depth of Cold Milling Asphalt Concrete Inches
<b>Eastbound Lanes – Outside Shoulder</b>			
Sta. 16+20 (2 <sup>nd</sup> ) to Sta. 30+41.11 (2 <sup>nd</sup> )	631.6	4	3
Sta. 38+09.14 (2 <sup>nd</sup> ) to Sta. 51+38.06 (2 <sup>nd</sup> )	590.6	4	3
Sta. 53+23.14 (2 <sup>nd</sup> ) to Sta. 65+76.06 (2 <sup>nd</sup> )	556.9	4	3
Sta. 75+78.78 (2 <sup>nd</sup> ) to Sta. 170+36.46 (2 <sup>nd</sup> )	4,203.5	4	3
Sta. 171+63.54 (2 <sup>nd</sup> ) to Sta. 260+81.12 (2 <sup>nd</sup> )	3,963.5	4	3
Sta. 268+56.07 (2 <sup>nd</sup> ) to Sta. 291+73.10 (2 <sup>nd</sup> )	1,029.8	4	3
Sta. 305+84.80 (2 <sup>nd</sup> ) to Sta. 359+37.12 (2 <sup>nd</sup> )	2,378.8	4	3
Sta. 367+18.80 (2 <sup>nd</sup> ) to Sta. 376+34.81 (2 <sup>nd</sup> )	407.1	4	3
Sta. 378+53.11 (2 <sup>nd</sup> ) to Sta. 391+33.59 (2 <sup>nd</sup> )	569.1	4	3
Sta. 401+36.38 (2 <sup>nd</sup> ) to Sta. 539+30 (2 <sup>nd</sup> )	6,130.5	4	3
Sta. 541+22.15 (2 <sup>nd</sup> ) to Sta. 627+36.53 (2 <sup>nd</sup> )	3,828.7	4	3
Sta. 635+04.71 (2 <sup>nd</sup> ) to Sta. 645+15.13 (2 <sup>nd</sup> )	449.1	4	3
Sta. 647+01.48 (2 <sup>nd</sup> ) to Sta. 657+74.35 (2 <sup>nd</sup> )	476.8	4	3
Sta. 671+06.09 (2 <sup>nd</sup> ) to Sta. 680+37.35 (2 <sup>nd</sup> )	413.9	4	3
Sta. 688+03.19 (2 <sup>nd</sup> ) to Sta. 697+78.60 (2 <sup>nd</sup> )	433.5	4	3
Sta. 700+39.99 (2 <sup>nd</sup> ) to Sta. 710+52.38 (2 <sup>nd</sup> )	450.0	4	3
Sta. 724+01.19 (2 <sup>nd</sup> ) to Sta. 7+64 (3 <sup>rd</sup> )	405.3	4	3
Thru Equation			
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	2,547.9	2	2
Sta. 537+46.54 (5 <sup>th</sup> ) to Sta. 541+19.25 (5 <sup>th</sup> )	82.8	2	2
Sta. 768+21.94 (5 <sup>th</sup> ) to Sta. 769+27.54 (5 <sup>th</sup> )	23.5	2	2
Sta. 773+41.74 (5 <sup>th</sup> ) to Sta. 781+06.85 (5 <sup>th</sup> )	168.0	2	2
Thru Equation			
Sta. 13+81.69 (6 <sup>th</sup> ) to Sta. 19+87.35 (6 <sup>th</sup> )	134.6	2	2
Sta. 22+49.47 (6 <sup>th</sup> ) to Sta. 25+43.29 (6 <sup>th</sup> )	65.3	2	2
Sta. 32+82.47 (6 <sup>th</sup> ) to Sta. 35+46.49 (6 <sup>th</sup> )	58.7	2	2
Sta. 54+47.29 (6 <sup>th</sup> ) to Sta. 67+05.50 (6 <sup>th</sup> )	279.6	2	2
Thru Equation			
<b>Eastbound Lanes – Median Shoulder</b>			
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	2,547.9	2	2
Subtotal:	32,827.0		

**TABLE OF COLD MILLING ASPHALT CONCRETE - CONTINUED**

Location	Cold Milling Asphalt Concrete SqYd	Width of Cold Milling Asphalt Concrete Feet	Depth of Cold Milling Asphalt Concrete Inches
<b>Westbound Lanes – Outside Shoulder</b>			
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+14.83 (5 <sup>th</sup> )	2,548.2	2	2
Sta. 537+45.17 (5 <sup>th</sup> ) to Sta. 552+01.65 (5 <sup>th</sup> )	323.7	2	2
Sta. 576+93.25 (5 <sup>th</sup> ) to Sta. 577+98.85 (5 <sup>th</sup> )	23.5	2	2
Sta. 593+30.05 (5 <sup>th</sup> ) to Sta. 605+18.05 (5 <sup>th</sup> )	264.0	2	2
Sta. 611+84.83 (5 <sup>th</sup> ) to Sta. 612+64.03 (5 <sup>th</sup> )	17.6	2	2
Sta. 667+81.63 (5 <sup>th</sup> ) to Sta. 669+92.83 (5 <sup>th</sup> )	46.9	2	2
Sta. 682+60.03 (5 <sup>th</sup> ) to Sta. 717+38.67 (5 <sup>th</sup> )	774.4	2	2
Thru Equation		2	2
Sta. 745+51.54 (5 <sup>th</sup> ) to Sta. 753+43.54 (5 <sup>th</sup> )	176.0	2	2
Sta. 769+27.54 (5 <sup>th</sup> ) to Sta. 771+27.61 (5 <sup>th</sup> )	50.1	2	2
Sta. 775+56.36 (5 <sup>th</sup> ) to Sta. 784+10.42 (5 <sup>th</sup> )	187.7	2	2
Thru Equation			
Sta. 34+35.37 (6 <sup>th</sup> ) to Sta. 35+72.65 (6 <sup>th</sup> )	30.5	2	2
Sta. 38+57.77 (6 <sup>th</sup> ) to Sta. 45+33.61 (6 <sup>th</sup> )	150.2	2	2
Sta. 57+42.37 (6 <sup>th</sup> ) to Sta. 67+00.99 (6 <sup>th</sup> )	213.0	2	2
Thru Equation			
<b>Westbound Lanes – Median Shoulder</b>			
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+14.83 (5 <sup>th</sup> )	2,548.2	2	2
Grand Total:	40,181.0		

See Typical Surfacing Sections, as located elsewhere in these plans for additional details and limits.

**UNCLASSIFIED EXCAVATION**

An estimated 748 Cubic Yards of Unclassified Excavation consisting of granular base material shall be removed from the locations listed in the Table of Unclassified Excavation.

**TABLE OF UNCLASSIFIED EXCAVATION**

Location of Removal Areas	Waste Material CuYds
<b>Eastbound Lanes – Outside Shoulder</b>	
Sta. 16+20 (2 <sup>nd</sup> ) to Sta. 30+41.11 (2 <sup>nd</sup> )	17.5
Sta. 38+09.14 (2 <sup>nd</sup> ) to Sta. 51+38.06 (2 <sup>nd</sup> )	16.4
Sta. 53+23.14 (2 <sup>nd</sup> ) to Sta. 65+76.06 (2 <sup>nd</sup> )	15.5
Sta. 75+78.78 (2 <sup>nd</sup> ) to Sta. 170+36.46 (2 <sup>nd</sup> )	116.9
Sta. 171+63.54 (2 <sup>nd</sup> ) to Sta. 260+81.12 (2 <sup>nd</sup> )	110.2
Sta. 268+56.07 (2 <sup>nd</sup> ) to Sta. 291+73.10 (2 <sup>nd</sup> )	28.6
Sta. 305+84.80 (2 <sup>nd</sup> ) to Sta. 359+37.12 (2 <sup>nd</sup> )	66.1
Sta. 367+18.80 (2 <sup>nd</sup> ) to Sta. 376+34.81 (2 <sup>nd</sup> )	11.3
Sta. 378+53.11 (2 <sup>nd</sup> ) to Sta. 391+33.59 (2 <sup>nd</sup> )	15.8
Sta. 401+36.38 (2 <sup>nd</sup> ) to Sta. 539+30 (2 <sup>nd</sup> )	170.3
Sta. 541+22.15 (2 <sup>nd</sup> ) to Sta. 627+36.53 (2 <sup>nd</sup> )	106.4
Sta. 635+04.71 (2 <sup>nd</sup> ) to Sta. 645+15.13 (2 <sup>nd</sup> )	12.5
Sta. 647+01.48 (2 <sup>nd</sup> ) to Sta. 657+74.35 (2 <sup>nd</sup> )	13.2
Sta. 671+06.09 (2 <sup>nd</sup> ) to Sta. 680+37.35 (2 <sup>nd</sup> )	11.5
Sta. 688+03.19 (2 <sup>nd</sup> ) to Sta. 697+78.60 (2 <sup>nd</sup> )	12.0
Sta. 700+39.99 (2 <sup>nd</sup> ) to Sta. 710+52.38 (2 <sup>nd</sup> )	12.5
Sta. 724+01.19 (2 <sup>nd</sup> ) to Sta. 7+64 (3 <sup>rd</sup> ) Thru Eq.	11.3
Grand Total:	748.0

**CLASS HR ASPHALT CONCRETE**

Virgin mineral aggregate for Class HR Asphalt Concrete shall conform to the requirements for Class E, Type 1.

Virgin mineral aggregate shall be furnished by the Contractor.

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

All other requirements for Class HR shall apply.

The compacted lift thickness shall be 4" in the 4' shoulder removal and replacement portion of the project.

All remaining shoulder replacement areas shall be placed and compacted to the satisfaction of the Engineer. See Summary of Asphalt Concrete for limits of compaction.

**SUMMARY OF ASPHALT CONCRETE**

Location	Class HR Asphalt Concrete With Specified Density Ton	Class HR Asphalt Concrete Without Specified Density Ton
<b>Eastbound Lanes – Outside Shoulder</b>		
Sta. 16+20 (2 <sup>nd</sup> ) to Sta. 30+41.11 (2 <sup>nd</sup> )	140	---
Sta. 38+09.14 (2 <sup>nd</sup> ) to Sta. 51+38.06 (2 <sup>nd</sup> )	131	---
Sta. 53+23.14 (2 <sup>nd</sup> ) to Sta. 65+76.06 (2 <sup>nd</sup> )	124	---
Sta. 75+78.78 (2 <sup>nd</sup> ) to Sta. 170+36.46 (2 <sup>nd</sup> )	934	---
Sta. 171+63.54 (2 <sup>nd</sup> ) to Sta. 260+81.12 (2 <sup>nd</sup> )	880	---
Sta. 268+56.07 (2 <sup>nd</sup> ) to Sta. 291+73.10 (2 <sup>nd</sup> )	229	---
Sta. 305+84.80 (2 <sup>nd</sup> ) to Sta. 359+37.12 (2 <sup>nd</sup> )	528	---
Sta. 367+18.80 (2 <sup>nd</sup> ) to Sta. 376+34.81 (2 <sup>nd</sup> )	91	---
Sta. 378+53.11 (2 <sup>nd</sup> ) to Sta. 391+33.59 (2 <sup>nd</sup> )	126	---
Sta. 401+36.38 (2 <sup>nd</sup> ) to Sta. 539+30 (2 <sup>nd</sup> )	1,361	---
Sta. 541+22.15 (2 <sup>nd</sup> ) to Sta. 627+36.53 (2 <sup>nd</sup> )	850	---
Sta. 635+04.71 (2 <sup>nd</sup> ) to Sta. 645+15.13 (2 <sup>nd</sup> )	100	---
Sta. 647+01.48 (2 <sup>nd</sup> ) to Sta. 657+74.35 (2 <sup>nd</sup> )	105	---
Sta. 671+06.09 (2 <sup>nd</sup> ) to Sta. 680+37.35 (2 <sup>nd</sup> )	92	---
Sta. 688+03.19 (2 <sup>nd</sup> ) to Sta. 697+78.60 (2 <sup>nd</sup> )	97	---
Sta. 700+39.99 (2 <sup>nd</sup> ) to Sta. 710+52.38 (2 <sup>nd</sup> )	100	---
Sta. 724+01.19 (2 <sup>nd</sup> ) to Sta. 7+64 (3 <sup>rd</sup> ) Thru Equation	91	---
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	284	---
Sta. 537+46.54 (5 <sup>th</sup> ) to Sta. 541+19.25 (5 <sup>th</sup> )	9	---
Sta. 768+21.94 (5 <sup>th</sup> ) to Sta. 769+27.54 (5 <sup>th</sup> )	3	---
Sta. 773+41.74 (5 <sup>th</sup> ) to Sta. 781+06.85 (5 <sup>th</sup> ) Thru Equation	19	---
Sta. 13+81.69 (6 <sup>th</sup> ) to Sta. 19+87.35 (6 <sup>th</sup> )	15	---
Sta. 22+49.47 (6 <sup>th</sup> ) to Sta. 25+43.29 (6 <sup>th</sup> )	7	---
Sta. 32+82.47 (6 <sup>th</sup> ) to Sta. 35+46.49 (6 <sup>th</sup> )	6	---
Sta. 54+47.29 (6 <sup>th</sup> ) to Sta. 67+05.50 (6 <sup>th</sup> )	31	---
<b>Eastbound Lanes – Median Shoulder</b>		
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	---	284
Subtotals:	6,353	284

**SUMMARY OF ASPHALT CONCRETE - CONTINUED**

Location	Class HR Asphalt Concrete With Specified Density Ton	Class HR Asphalt Concrete Without Specified Density Ton
<b>Westbound Lanes – Outside Shoulder</b>		
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	---	285
Sta. 537+45.17 (5 <sup>th</sup> ) to Sta. 552+01.65 (5 <sup>th</sup> )	---	35
Sta. 576+93.25 (5 <sup>th</sup> ) to Sta. 577+98.85 (5 <sup>th</sup> )	---	3
Sta. 593+30.05 (5 <sup>th</sup> ) to Sta. 605+18.05 (5 <sup>th</sup> )	---	30
Sta. 611+84.83 (5 <sup>th</sup> ) to Sta. 612+64.03 (5 <sup>th</sup> )	---	2
Sta. 667+81.63 (5 <sup>th</sup> ) to Sta. 669+92.83 (5 <sup>th</sup> )	---	6
Sta. 682+60.03 (5 <sup>th</sup> ) to Sta. 717+38.67 (5 <sup>th</sup> ) Thru Equation	---	86
Sta. 745+51.54 (5 <sup>th</sup> ) to Sta. 753+43.54 (5 <sup>th</sup> )	---	20
Sta. 769+27.54 (5 <sup>th</sup> ) to Sta. 771+27.61 (5 <sup>th</sup> )	---	6
Sta. 775+56.36 (5 <sup>th</sup> ) to Sta. 784+10.42 (5 <sup>th</sup> ) Thru Equation	---	21
Sta. 34+35.37 (6 <sup>th</sup> ) to Sta. 35+72.65 (6 <sup>th</sup> )	---	3
Sta. 38+57.77 (6 <sup>th</sup> ) to Sta. 45+33.61 (6 <sup>th</sup> )	---	16
Sta. 57+42.37 (6 <sup>th</sup> ) to Sta. 67+00.99 (6 <sup>th</sup> )	---	24
<b>Westbound Lanes – Median Shoulder</b>		
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	---	284
<b>Shoulder Overlay Areas</b>		
Westbound Lanes – Outside Shoulder		
Sta. 549+72.45 (5 <sup>th</sup> ) to Sta. 554+07.25 (5 <sup>th</sup> )	---	28
Sta. 662+59.23 (5 <sup>th</sup> ) to Sta. 664+59.23 (5 <sup>th</sup> )	---	18
Eastbound Lanes – Outside Shoulder		
Sta. 552+07.25 (5 <sup>th</sup> ) to Sta. 554+07.25 (5 <sup>th</sup> )	---	18
Sta. 576+38.85 (5 <sup>th</sup> ) to Sta. 579+38.85 (5 <sup>th</sup> )	---	28
Sta. 615+96.05 (5 <sup>th</sup> ) to Sta. 617+96.05 (5 <sup>th</sup> )	---	18
<b>Areas of Depressed Edge Drain Outlets</b>		
	---	4
Grand Totals:	6,353	1,221

**EXISTING SHOULDERS IN AREAS OF EDGE DRAIN OUTLETS**

There are several locations in the median and outside shoulders, from WBL Sta. 421+48 (5<sup>th</sup>) to Sta. 536+13.46 (5<sup>th</sup>) and EBL Sta. 421+48 (5<sup>th</sup>) to Sta. 536+13.46 (5<sup>th</sup>), where the existing asphalt concrete is depressed 1" deep x 12" wide x width of the shoulder that should be filled with asphalt concrete prior to the asphalt surface treatment operations. Included the Estimate of Quantities are 4 tons of Class HR Asphalt Concrete and 0.1 ton of PG 58-28 Asphalt Binder for filling the depressed areas. Placement and compaction of the asphalt concrete shall be to the satisfaction of the Engineer.

**ASPHALT CONCRETE OVERLAY OF EXISTING SHOULDERS**

WBL Sta. 549+72.45 (5<sup>th</sup>) to Sta. 552+72.45 (5<sup>th</sup>) – Outside Shoulder  
WBL Sta. 662+59.23 (5<sup>th</sup>) to Sta. 664+59.23 (5<sup>th</sup>) – Outside Shoulder  
EBL Sta. 552+07.25 (5<sup>th</sup>) to Sta. 554+07.25 (5<sup>th</sup>) – Outside Shoulder  
EBL Sta. 576+38.85 (5<sup>th</sup>) to Sta. 579+38.85 (5<sup>th</sup>) – Outside Shoulder  
EBL Sta. 615+96.05 (5<sup>th</sup>) to Sta. 617+96.05 (5<sup>th</sup>) – Outside Shoulder

Included in the Estimate of Quantities are 110 tons of Class HR Asphalt Concrete, 4.3 tons of PG 58-28 Asphalt Binder and 0.2 tons of SS-1h or CSS-1h Asphalt for Tack for leveling, strengthening and repair of the existing shoulder. Placement and compaction of the asphalt concrete shall be to the satisfaction of the Engineer.

**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 operations.

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

**BLEND, HAUL AND STOCKPILE GRANULAR MATERIAL**

An estimate 3,447.6 tons of salvaged asphalt concrete shall be blended with 3,447.6 tons of Granular Material, Furnish and hauled and stockpiled at a site in the Reliance Maintenance Yard, located at the Junction of I-90 and SD47S in the SW1/4, Section 35, T105N, R73W Lyman County. The Contractor shall contact the Engineer to establish a location to stockpile the material

The Contractor shall use a portable platform scale, stationary commercial scale, stationary commercial plant, portable plant scale, or a belt scale to control the blending and weighing of the salvage material with Contractor furnished granular material.

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

Salvaged 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. The use of a pugmill to blend the materials will be accepted.

No further testing of the blended material will be required

All costs for crushing the salvaged asphalt mix material, hauling, stockpiling, and blending the materials shall be incidental to the contract unit price per ton for "Blend, Haul and Stockpile Granular Material".

**TABLE OF SAW AND SEAL SHOULDER JOINT**

Location	Saw and Seal Shoulder Joint Feet
<b>Eastbound Lanes – Outside Shoulder</b>	
Sta. 16+20 (2 <sup>nd</sup> ) to Sta. 30+41.11 (2 <sup>nd</sup> )	1,421.1
Sta. 38+09.14 (2 <sup>nd</sup> ) to Sta. 51+38.06 (2 <sup>nd</sup> )	1,328.9
Sta. 53+23.14 (2 <sup>nd</sup> ) to Sta. 65+76.06 (2 <sup>nd</sup> )	1,252.9
Sta. 75+78.78 (2 <sup>nd</sup> ) to Sta. 170+36.46 (2 <sup>nd</sup> )	9,457.7
Sta. 171+63.54 (2 <sup>nd</sup> ) to Sta. 260+81.12 (2 <sup>nd</sup> )	8,917.6
Sta. 268+56.07 (2 <sup>nd</sup> ) to Sta. 291+73.10 (2 <sup>nd</sup> )	2,317.0
Sta. 305+84.80 (2 <sup>nd</sup> ) to Sta. 359+37.12 (2 <sup>nd</sup> )	5,352.3
Sta. 367+18.80 (2 <sup>nd</sup> ) to Sta. 376+34.81 (2 <sup>nd</sup> )	916.0
Sta. 378+53.11 (2 <sup>nd</sup> ) to Sta. 391+33.59 (2 <sup>nd</sup> )	1,280.5
Sta. 401+36.38 (2 <sup>nd</sup> ) to Sta. 539+30 (2 <sup>nd</sup> )	13,793.6
Sta. 541+22.15 (2 <sup>nd</sup> ) to Sta. 627+36.53 (2 <sup>nd</sup> )	8,614.4
Sta. 635+04.71 (2 <sup>nd</sup> ) to Sta. 645+15.13 (2 <sup>nd</sup> )	1,010.4
Sta. 647+01.48 (2 <sup>nd</sup> ) to Sta. 657+74.35 (2 <sup>nd</sup> )	1,072.9
Sta. 671+06.09 (2 <sup>nd</sup> ) to Sta. 680+37.35 (2 <sup>nd</sup> )	931.3
Sta. 688+03.19 (2 <sup>nd</sup> ) to Sta. 697+78.60 (2 <sup>nd</sup> )	975.4
Sta. 700+39.99 (2 <sup>nd</sup> ) to Sta. 710+52.38 (2 <sup>nd</sup> )	1,012.4
Sta. 724+01.19 (2 <sup>nd</sup> ) to Sta. 7+64 (3 <sup>rd</sup> ) Thru Eq.	911.9
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	11,465.5
Sta. 537+46.54 (5 <sup>th</sup> ) to Sta. 541+19.25 (5 <sup>th</sup> )	372.7
Sta. 768+21.94 (5 <sup>th</sup> ) to Sta. 769+27.54 (5 <sup>th</sup> )	105.6
Sta. 773+41.74 (5 <sup>th</sup> ) to Sta. 781+06.85 (5 <sup>th</sup> ) Thru Equation	755.9
Sta. 13+81.69 (6 <sup>th</sup> ) to Sta. 19+87.35 (6 <sup>th</sup> )	605.7
Sta. 22+49.47 (6 <sup>th</sup> ) to Sta. 25+43.29 (6 <sup>th</sup> )	293.8
Sta. 32+82.47 (6 <sup>th</sup> ) to Sta. 35+46.49 (6 <sup>th</sup> )	264.0
Sta. 54+47.29 (6 <sup>th</sup> ) to Sta. 67+05.50 (6 <sup>th</sup> )	1,258.2
<b>Eastbound Lanes – Median Shoulder</b>	
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	11,465.5
<b>Westbound Lanes – Outside Shoulder</b>	
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+14.83 (5 <sup>th</sup> )	11,466.7
Sta. 537+45.17 (5 <sup>th</sup> ) to Sta. 552+01.65 (5 <sup>th</sup> )	1,456.5
Sta. 576+93.25 (5 <sup>th</sup> ) to Sta. 577+98.85 (5 <sup>th</sup> )	105.6
Sta. 593+30.05 (5 <sup>th</sup> ) to Sta. 605+18.05 (5 <sup>th</sup> )	1,188.0
Sta. 611+84.83 (5 <sup>th</sup> ) to Sta. 612+64.03 (5 <sup>th</sup> )	79.2
Sta. 667+81.63 (5 <sup>th</sup> ) to Sta. 669+92.83 (5 <sup>th</sup> )	211.2
Sta. 682+60.03 (5 <sup>th</sup> ) to Sta. 717+38.67 (5 <sup>th</sup> ) Thru Equation	3,484.8
Sta. 745+51.54 (5 <sup>th</sup> ) to Sta. 753+43.54 (5 <sup>th</sup> )	792.0
Sta. 769+27.54 (5 <sup>th</sup> ) to Sta. 771+27.61 (5 <sup>th</sup> )	225.6
Sta. 775+56.36 (5 <sup>th</sup> ) to Sta. 784+10.42 (5 <sup>th</sup> ) Thru Equation	844.8
Sta. 34+35.37 (6 <sup>th</sup> ) to Sta. 35+72.65 (6 <sup>th</sup> )	137.3
Sta. 38+57.77 (6 <sup>th</sup> ) to Sta. 45+33.61 (6 <sup>th</sup> )	675.8
Sta. 57+42.37 (6 <sup>th</sup> ) to Sta. 67+00.99 (6 <sup>th</sup> )	958.6
<b>Westbound Lanes – Median Shoulder</b>	
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+14.83 (5 <sup>th</sup> )	11,466.7
Grand Total:	120,246.0

See Standard Plate 320.15 "Asphalt Concrete Shoulder Joint Adjacent to PCC Pavement" for details, as located elsewhere in these plans.

**RUMBLE STRIPS**

Rumble Strips for the median and outside shoulders in the locations as shown in the Table of Rumble Strips shall be constructed as per Special Details for 12" Rumble Strip In Asphalt Concrete On Interstate Shoulders. Payment for grinding rumble strips, on the shoulder, including labor, materials and incidentals shall be at the contract unit price per mile for GRIND 12" RUMBLE STRIP OR STRIPE IN ASPHALT CONCRETE. It is estimated that 34.8 miles of asphalt concrete rumble strip will be required for the median and outside shoulders. Rumble Strips shall be installed prior to the asphalt surface treatment operations.

**TABLE OF RUMBLE STRIPS**

Location	Grind 12" Rumble Strip or Stripe in Asphalt Concrete Mile
<b>Eastbound Lanes – Outside Shoulder</b>	
Sta. 16+20 (2 <sup>nd</sup> ) to Sta. 51+38.06 (2 <sup>nd</sup> )	0.67
Sta. 53+23.14 (2 <sup>nd</sup> ) to Sta. 170+36.46 (2 <sup>nd</sup> )	2.23
Sta. 171+63.54 (2 <sup>nd</sup> ) to Sta. 376+34.81 (2 <sup>nd</sup> )	3.89
Sta. 378+53.11 (2 <sup>nd</sup> ) to Sta. 539+30 (2 <sup>nd</sup> )	3.05
Sta. 541+22.15 (2 <sup>nd</sup> ) to Sta. 645+15.13 (2 <sup>nd</sup> )	1.97
Sta. 647+01.48 (2 <sup>nd</sup> ) to Sta. 697+78.60 (2 <sup>nd</sup> )	0.96
Sta. 700+39.99 (2 <sup>nd</sup> ) to Sta. 7+64 (3 <sup>rd</sup> ) Thru Equation	0.62
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	2.17
Sta. 537+46.54 (5 <sup>th</sup> ) to Sta. 770+89.89 (5 <sup>th</sup> ) Thru Equations	4.42
Sta. 773+41.74 (5 <sup>th</sup> ) to Sta. 16+67.29 (6 <sup>th</sup> ) Thru Equations	1.12
Sta. 18+32.71 (6 <sup>th</sup> ) to Sta. 19+87.35 (6 <sup>th</sup> )	0.03
Sta. 22+49.47 (6 <sup>th</sup> ) to Sta. 35+85.71 (6 <sup>th</sup> )	0.25
Sta. 38+31.77 (6 <sup>th</sup> ) to Sta. 67+05.50 (6 <sup>th</sup> )	0.55
<b>Eastbound Lanes – Median Shoulder</b>	
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+13.46 (5 <sup>th</sup> )	2.17
<b>Westbound Lanes – Outside Shoulder</b>	
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+14.83 (5 <sup>th</sup> )	2.17
Sta. 537+45.17 (5 <sup>th</sup> ) to Sta. 771+27.61 (5 <sup>th</sup> ) Thru Equations	4.42
Sta. 773+76.72 (5 <sup>th</sup> ) to Sta. 16+68.50 (6 <sup>th</sup> ) Thru Equations	1.11
Sta. 18+31.50 (6 <sup>th</sup> ) to Sta. 19+88.94 (6 <sup>th</sup> )	0.03
Sta. 22+51.06 (6 <sup>th</sup> ) to Sta. 35+14.69 (6 <sup>th</sup> )	0.24
Sta. 37+56.85 (6 <sup>th</sup> ) to Sta. 67+00.99 (6 <sup>th</sup> )	0.56
<b>Westbound Lanes – Median Shoulder</b>	
Sta. 421+48 (5 <sup>th</sup> ) to Sta. 536+14.83 (5 <sup>th</sup> )	2.17
Grand Total:	34.80

**SHOULDER WORK**

Prior to construction, Department of Transportation Maintenance Forces will spray the shoulders to kill existing vegetation. It will be the Contractor's responsibility to notify the State a minimum of thirty days prior to starting work on the shoulders of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied.

Vegetation and accumulated material on or adjacent to the existing roadway edge shall be removed to the satisfaction of the Engineer prior to asphalt surface treatment.

Shoulder work shall be incidental to other contract items. Separate measurement and payment will not be made.

**ASPHALT FOR SURFACE TREATMENT**

The asphalt for surface treatment that is delivered for use on this contract shall be used in the order it is received. Storage of asphalt for surface treatment shall only be allowed at the end of the work day. The material that is placed in storage shall be the first material used the following day.

**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	0-1.3%

All other requirements of the Specifications Section 881.2 for Type 1B Cover Aggregate shall apply.

At least 50% of the aggregate shall be stockpiled at stockpile site, adjacent or near the routes on this contract, at least one week prior to work beginning on that route.

**FOG SEAL**

Fog Seal shall be placed on areas as shown in the Rates of Materials and Table of Additional Quantities.

The fog seal shall be placed following the completion of the asphalt surface treatment and prior to the placement of the permanent pavement marking.

Application of the fog seal shall begin no earlier than the morning following application of the chip seal but no later than four days after the application of each day's chip seal.

Immediately prior to the applications of the fog seal the Contractor will be required to broom the entire width of the chip seal. In addition, the rumble strips shall be thoroughly broomed clean prior to the application of fog seal.

A SS-1h or CSS-1h emulsion shall be used for the fog seal application. A emulsion-to-water rate of 3:1 should be used for the Fog Seal application.

**SAND FOR FOG SEAL**

The Contractor shall plan the fog seal operation to allow adequate cure time for the fog seal and to minimize/eliminate the need to apply sand for fog seal.

A small quantity of Sand for Fog Seal is set up to be used as directed by the Engineer at locations of high traffic volumes, such as ramps and crossroads, that traffic cannot be stopped from crossing. The Contractor will be required to keep traffic off all other areas until the Fog Seal has cured sufficiently as to not stick to tires.

If adequate cure time for the Fog Seal is not available, to facilitate traffic, the Contractor shall be allowed to place a minimum sufficient amount of Sand for Fog Seal on the fog seal to allow traffic to cross the uncured portion of the fog seal, as permitted by the Engineer.

Sand for Fog Seal is only intended to be placed for ramps, crossroads, and as determined by the Engineer to facilitate traffic movements. Sand for Fog Seal will not be placed to accelerate the Contractor's schedule.

Sand for Fog Seal that is applied shall be broomed off the surface of the roadway once the fog seal has sufficiently cured as determined by the Engineer.

Sand for Fog Seal shall conform to Section 879.1 B of the specifications.

Prior to hauling, Sand for Fog Seal shall be screened to minimize segregation, eliminate oversize, and effectively breakup or discard material bonded into chunks.

All costs for supplying, hauling, placing, and brooming the Sand for Fog Seal shall be incidental to the contract unit price per ton for SAND FOR FOG SEAL.

**RESEAL PCC PAVEMENT JOINT**

Existing transverse joints shall be cleaned and resealed with Low Modulus Silicone Sealant. See Standard Plate 380.13 "Reseal PCC Pavement Joint (Silicone)" for details, as located elsewhere in these plans.

Existing longitudinal joints shall be cleaned and resealed with Hot Poured Elastic Joint Sealer.

In certain areas the joint may be wider than the original construction. It may be necessary to provide backer rod in the wide areas. Any additional cost to perform this work shall be at no additional cost to the State. The Contractor shall be responsible to verify joint widths prior to establishing the contract unit price.

It is not essential that all of the sealant be removed. Remaining sealant adhering to the sides may remain in place if the Engineer determines that it is not detrimental to the joint.

Cost for cleaning and resealing transverse joints shall be included in the contract unit price per foot for Reseal PCC Pavement Joint – Silicone.

Cost for cleaning and resealing longitudinal joints shall be included in the contract unit price per foot for Reseal PCC Pavement Joint – Hot Pour.

**TABLE OF RESEAL PCC PAVEMENT JOINT**

Location	Reseal PCC Pavement Joint - Silicone Feet	Reseal PCC Pavement Joint - Hot Pour Feet
<b>Westbound Lanes – Centerline Joint</b>		
Sta. 0+00 to Sta. 51+39.18 (2 <sup>nd</sup> ) Thru Eq.	---	20,994.1
Sta. 53+22.02 (2 <sup>nd</sup> ) to Sta. 170+37.58 (2 <sup>nd</sup> )	---	11,715.6
Sta. 171+62.42 (2 <sup>nd</sup> ) to Sta. 375+70.88 (2 <sup>nd</sup> )	---	20,408.5
Sta. 377+85.52 (2 <sup>nd</sup> ) to Sta. 539+70.19 (2 <sup>nd</sup> )	---	16,184.7
Sta. 541+21.03 (2 <sup>nd</sup> ) to Sta. 645+16.75 (2 <sup>nd</sup> )	---	10,395.7
Sta. 646+99.84 (2 <sup>nd</sup> ) to Sta. 697+65.44 (2 <sup>nd</sup> )	---	5,065.6
Sta. 700+28.30 (2 <sup>nd</sup> ) to Sta. 7+64 (3 <sup>rd</sup> ) Thru Eq.	---	3,284.8
<b>Exit 212 NW Ramp Gore Area</b>		
WBL Sta. 113+83.28 L. to Sta. 127+88.87 L. (Longitudinal Joint next to ML Driving Lane)	---	1,405.6
<b>Rest Area NW Ramp Gore Area</b>		
WBL Sta. 403+46.06 (2 <sup>nd</sup> ) L. to Sta. 419+48.67 (2 <sup>nd</sup> ) L.	1,366.6	2,857.5
<b>Rest Area NW Ramp</b>		
Sta. 25+80.09 to Sta. 32+02.40	804.4	575.1
<b>Rest Area NE Ramp</b>		
Sta. 43+20 to Sta. 50+48.04	925.4	729.5
<b>Rest Area NE Ramp Gore Area</b>		
WBL Sta. 444+21.61 (2 <sup>nd</sup> ) L. to 451+64.79 (2 <sup>nd</sup> ) L.	793.2	1,544.6
<b>Exit 226 NW Ramp Gore Area</b>		
WBL Sta. 674+07.18 (2 <sup>nd</sup> ) L. to Sta. 687+66.67 (2 <sup>nd</sup> ) L.	896.6	2,347.4
<b>Exit 226 NE Ramp Gore</b>		
WBL Sta. 710+05.46 (2 <sup>nd</sup> ) L. to Sta. 717+73.62 (2 <sup>nd</sup> ) L.	706.8	1,488.0
Grand Totals:	5,493.0	98,997.0

**SEAL RANDOM CRACKS IN PCC PAVEMENT**

There is a major longitudinal crack in the WBL Passing Lane, approximately 40' long, east of the Exit 220 Bridge.

Random cracks shall be repaired in accordance with the detail for Sealing Random Cracks. Reservoir dimensions may vary slightly from the details, due to the nature of this operation. However, any variance due to Contractor negligence will be repaired at the Contractor's expense.

Only those random cracks in the existing concrete pavement that are open and accept water and incompressible materials as selected by the Engineer shall be prepared and sealed with Hot Poured Elastic Joint Sealer.

Prior to sealing, each random crack shall be routed and thoroughly cleaned with compressed air or by other methods satisfactory to the Engineer. Routing shall be performed with a saw designed for that purpose.

Random cracks narrower than 1/2 inch shall be routed and sealed 1/2 inch wide by 1/2 inch deep.

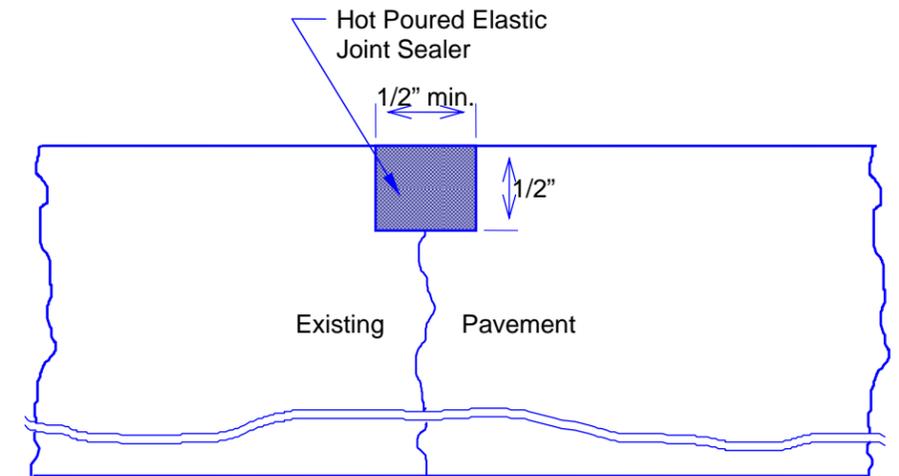
Random cracks wider than 1/2 inch may require the placement of a backer rod prior to sealing. Use of backer rod should be limited to locations where, once placed, the top of the backer rod will be a minimum of 2 1/4 inches below the top surface of the pavement. The hot pour in cracks wider than 1/2" should be placed 2 inch thick with the final surface of the hot pour remaining recessed 1/4 inch below the top surface of the pavement.

Sealant shall be placed in the routed reservoir with equipment and by methods that insure complete and uniform filling. Hot Poured Elastic Joint Sealer shall be placed level with the driving surface of the concrete for cracks 1/2" or narrower. Any excess or overrun of sealant shall be removed by the Contractor at no additional cost to the state.

Acceptance of the Hot Poured Elastic Joint Sealer will be based on visual inspection by the Engineer.

Seal Random Cracks in PCC Pavement will be measured by the foot to the nearest 0.1 foot of random cracks sealed and accepted on the project and will be paid for at the contract unit price per foot measured for payment. Payment shall be full compensation for all labor, equipment, material and incidentals required for crack routing, cleaning, furnishing and installing backer rod when necessary, furnishing and placing sealant and removing routed and foreign material from the roadway.

**SEALING RANDOM CRACKS**



**RATES OF MATERIALS**

The Estimate of Surfacing Quantities is based on the following quantities of materials per mile.

**EASTBOUND LANES – OUTSIDE SHOULDER (4' WIDE)**

- Sta. 16+20 (2<sup>nd</sup>) to Sta. 30+41.11 (2<sup>nd</sup>)
- Sta. 38+09.14 (2<sup>nd</sup>) to Sta. 51+38.06 (2<sup>nd</sup>)
- Sta. 53+23.14 (2<sup>nd</sup>) to Sta. 65+76.06 (2<sup>nd</sup>)
- Sta. 75+78.78 (2<sup>nd</sup>) to Sta. 170+36.46 (2<sup>nd</sup>)
- Sta. 171+63.54 (2<sup>nd</sup>) to Sta. 260+81.12 (2<sup>nd</sup>)
- Sta. 268+56.07 (2<sup>nd</sup>) to Sta. 291+73.10 (2<sup>nd</sup>)
- Sta. 305+84.80 (2<sup>nd</sup>) to Sta. 359+37.12 (2<sup>nd</sup>)
- Sta. 367+18.80 (2<sup>nd</sup>) to Sta. 376+34.81 (2<sup>nd</sup>)
- Sta. 378+53.11 (2<sup>nd</sup>) to Sta. 391+33.59 (2<sup>nd</sup>)
- Sta. 401+36.38 (2<sup>nd</sup>) to Sta. 539+30 (2<sup>nd</sup>)
- Sta. 541+22.15 (2<sup>nd</sup>) to Sta. 627+36.53 (2<sup>nd</sup>)
- Sta. 635+04.71 (2<sup>nd</sup>) to Sta. 645+15.13 (2<sup>nd</sup>)
- Sta. 647+01.46 (2<sup>nd</sup>) to Sta. 657+74.35 (2<sup>nd</sup>)
- Sta. 671+06.09 (2<sup>nd</sup>) to Sta. 680+37.35 (2<sup>nd</sup>)
- Sta. 688+03.19 (2<sup>nd</sup>) to Sta. 697+78.60 (2<sup>nd</sup>)
- Sta. 700+39.99 (2<sup>nd</sup>) to Sta. 710+52.38 (2<sup>nd</sup>)
- Sta. 724+01.19 (2<sup>nd</sup>) to Sta. 7+64 (3<sup>rd</sup>) Thru Equation

MC-70 Asphalt for Prime at the Rate of 2.8 ton applied 4 feet wide (Rate = 0.30 gallon per square yard).

**CLASS HR ASPHALT CONCRETE**

Crushed Aggregate	350 tons
Salvaged Asphalt Concrete	150 tons
PG 58-28 Asphalt Binder	<u>21 tons</u>
Total	521 tons

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

**EASTBOUND LANES – OUTSIDE SHOULDER (2' WIDE)**

- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+13.46 (5<sup>th</sup>)
- Sta. 537+46.54 (5<sup>th</sup>) to Sta. 541+19.25 (5<sup>th</sup>)
- Sta. 768+21.94 (5<sup>th</sup>) to Sta. 769+27.54 (5<sup>th</sup>)
- Sta. 773+41.74 (5<sup>th</sup>) to Sta. 781+06.85 (5<sup>th</sup>) Thru Equation
- Sta. 13+81.69 (6<sup>th</sup>) to Sta. 19+87.35 (6<sup>th</sup>)
- Sta. 22+49.47 (6<sup>th</sup>) to Sta. 25+43.29 (6<sup>th</sup>)
- Sta. 32+82.47 (6<sup>th</sup>) to Sta. 35+46.49 (6<sup>th</sup>)
- Sta. 54+47.29 (6<sup>th</sup>) to Sta. 67+05.50 (6<sup>th</sup>)

**EASTBOUND LANES – MEDIAN SHOULDER (2' WIDE)**

- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+13.46 (5<sup>th</sup>)

**WESTBOUND LANES – OUTSIDE SHOULDERS (2' WIDE)**

- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+36.75 (5<sup>th</sup>)
- Sta. 537+45.17 (5<sup>th</sup>) to Sta. 552+01.65 (5<sup>th</sup>)
- Sta. 576+93.25 (5<sup>th</sup>) to Sta. 577+98.85 (5<sup>th</sup>)
- Sta. 593+30.05 (5<sup>th</sup>) to Sta. 605+18.05 (5<sup>th</sup>)
- Sta. 611+84.83 (5<sup>th</sup>) to Sta. 612+64.03 (5<sup>th</sup>)
- Sta. 667+81.63 (5<sup>th</sup>) to Sta. 669+92.83 (5<sup>th</sup>)
- Sta. 682+60.03 (5<sup>th</sup>) to Sta. 717+38.67 (5<sup>th</sup>) Thru Equation
- Sta. 745+51.54 (5<sup>th</sup>) to Sta. 753+43.54 (5<sup>th</sup>)
- Sta. 769+27.54 (5<sup>th</sup>) to Sta. 771+27.61 (5<sup>th</sup>)
- Sta. 775+56.36 (5<sup>th</sup>) to Sta. 784+10.42 (5<sup>th</sup>) Thru Equation
- Sta. 34+35.37 (6<sup>th</sup>) to Sta. 35+72.65 (6<sup>th</sup>)
- Sta. 38+57.77 (6<sup>th</sup>) to Sta. 45+33.61 (6<sup>th</sup>)
- Sta. 57+42.37 (6<sup>th</sup>) to Sta. 67+00.99 (6<sup>th</sup>)

**WESTBOUND LANES – MEDIAN SHOULDER (2' WIDE)**

- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+14.83 (5<sup>th</sup>)

**CLASS HR ASPHALT CONCRETE**

Crushed Aggregate	88 tons
Salvaged Asphalt Concrete	38 tons
PG 58-28 Asphalt Binder	<u>5 tons</u>
Total	131 tons

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.4 ton applied 3 feet wide (Rate = 0.05 gallon per square yard).

**EASTBOUND LANES – OUTSIDE SHOULDER**

- Sta. 0+00 to Sta. 119+14.15
- Sta. 128+20.64 to Sta. 154+12.14
- Sta. 9+63.52 (2<sup>nd</sup>) to Sta. 16+20 (2<sup>nd</sup>)
- Sta. 493+00 (3<sup>rd</sup>) to Sta. 165+93.73 (4<sup>th</sup>) Thru Equation
- Sta. 167+50.07 (4<sup>th</sup>) to Sta. 266+14.60 (4<sup>th</sup>)
- Sta. 274+87.70 (4<sup>th</sup>) to Sta. 284+01.62 (4<sup>th</sup>)
- Sta. 285+77.46 (4<sup>th</sup>) to Sta. 294+69.80 (4<sup>th</sup>)
- Sta. 308+17.70 (4<sup>th</sup>) to Sta. 51+95.81 (5<sup>th</sup>) Thru Equation
- Sta. 53+58.65 (5<sup>th</sup>) to Sta. 248+13.50 (5<sup>th</sup>)
- Sta. 255+81.60 (5<sup>th</sup>) to Sta. 265+23.12 (5<sup>th</sup>)
- Sta. 267+10.21 (5<sup>th</sup>) to Sta. 275+15.70 (5<sup>th</sup>)
- Sta. 288+64.50 (5<sup>th</sup>) to Sta. 369+95.60 (5<sup>th</sup>)
- Sta. 377+64 (5<sup>th</sup>) to Sta. 386+33.05 (5<sup>th</sup>)
- Sta. 388+38.87 (5<sup>th</sup>) to Sta. 396+59.30 (5<sup>th</sup>)
- Sta. 410+05 (5<sup>th</sup>) to Sta. 421+48 (5<sup>th</sup>)

**WESTBOUND LANES – OUTSIDE SHOULDER**

- Sta. 0+00 to Sta. 113+83.28
- Sta. 127+88.87 to Sta. 153+75.41
- Sta. 4+24.91 (2<sup>nd</sup>) to Sta. 16+20 (2<sup>nd</sup>)

CRS-2P Asphalt for Surface Treatment at the Rate of 5.6 tons applied 8 feet wide (Rate = 0.28 gallon per square yard).

Modified Cover Aggregate at the rate of 51.6 tons applied 8 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.8 ton applied 9.5 feet wide (Rate = 0.075 gallon per square yard).

**RATES OF MATERIALS - CONTINUED**

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F11	F18

The Estimate of Surfacing Quantities is based on the following quantities of materials per mile.

**EASTBOUND LANES – OUTSIDE SHOULDER**

- Sta. 16+20 (2<sup>nd</sup>) to Sta. 30+41.11 (2<sup>nd</sup>)
- Sta. 38+09.14 (2<sup>nd</sup>) to Sta. 51+38.06 (2<sup>nd</sup>)
- Sta. 53+23.14 (2<sup>nd</sup>) to Sta. 65+76.06 (2<sup>nd</sup>)
- Sta. 75+78.78 (2<sup>nd</sup>) to Sta. 170+36.46 (2<sup>nd</sup>)
- Sta. 171+63.54 (2<sup>nd</sup>) to Sta. 260+81.12 (2<sup>nd</sup>)
- Sta. 268+56.07 (2<sup>nd</sup>) to Sta. 291+73.10 (2<sup>nd</sup>)
- Sta. 305+84.80 (2<sup>nd</sup>) to Sta. 359+37.12 (2<sup>nd</sup>)
- Sta. 367+18.80 (2<sup>nd</sup>) to Sta. 376+34.81 (2<sup>nd</sup>)
- Sta. 378+53.11 (2<sup>nd</sup>) to Sta. 391+33.59 (2<sup>nd</sup>)
- Sta. 401+36.38 (2<sup>nd</sup>) to Sta. 539+69.07 (2<sup>nd</sup>)
- Sta. 541+22.15 (2<sup>nd</sup>) to Sta. 627+36.53 (2<sup>nd</sup>)
- Sta. 635+04.71 (2<sup>nd</sup>) to Sta. 645+15.13 (2<sup>nd</sup>)
- Sta. 647+01.46 (2<sup>nd</sup>) to Sta. 657+74.35 (2<sup>nd</sup>)
- Sta. 671+06.09 (2<sup>nd</sup>) to Sta. 680+37.35 (2<sup>nd</sup>)
- Sta. 688+03.19 (2<sup>nd</sup>) to Sta. 697+78.60 (2<sup>nd</sup>)
- Sta. 700+39.99 (2<sup>nd</sup>) to Sta. 710+52.38 (2<sup>nd</sup>)
- Sta. 724+01.19 (2<sup>nd</sup>) to Sta. 7+64 (3<sup>rd</sup>) Thru Equation
- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+13.46 (5<sup>th</sup>)
- Sta. 537+46.54 (5<sup>th</sup>) to Sta. 770+89.89 (5<sup>th</sup>) Thru Equations
- Sta. 773+41.74 (5<sup>th</sup>) to Sta. 16+67.29 (6<sup>th</sup>) Thru Equations
- Sta. 18+32.71 (6<sup>th</sup>) to Sta. 19+87.35 (6<sup>th</sup>)
- Sta. 22+49.47 (6<sup>th</sup>) to Sta. 35+85.71 (6<sup>th</sup>)
- Sta. 38+31.77 (6<sup>th</sup>) to Sta. 50+38.09 (6<sup>th</sup>)
- Sta. 57+49.80 (6<sup>th</sup>) to Sta. 67+05.50 (6<sup>th</sup>)

**WESTBOUND LANES – OUTSIDE SHOULDER**

- Sta. 16+20 (2<sup>nd</sup>) to Sta. 27+82.77 (2<sup>nd</sup>)
- Sta. 37+85.48 (2<sup>nd</sup>) to Sta. 51+39.18 (2<sup>nd</sup>)
- Sta. 53+22.02 (2<sup>nd</sup>) to Sta. 65+51.70 (2<sup>nd</sup>)
- Sta. 73+19.74 (2<sup>nd</sup>) to Sta. 170+37.58 (2<sup>nd</sup>)
- Sta. 171+62.42 (2<sup>nd</sup>) to Sta. 352+86.04 (2<sup>nd</sup>)
- Sta. 362+88.62 (2<sup>nd</sup>) to Sta. 375+70.88 (2<sup>nd</sup>)
- Sta. 377+85.52 (2<sup>nd</sup>) to Sta. 387+17.16 (2<sup>nd</sup>)
- Sta. 394+85.30 (2<sup>nd</sup>) to Sta. 403+46.06 (2<sup>nd</sup>)
- Sta. 419+48.67 (2<sup>nd</sup>) to Sta. 444+21.61 (2<sup>nd</sup>)
- Sta. 451+64.79 (2<sup>nd</sup>) to Sta. 539+70.19 (2<sup>nd</sup>)
- Sta. 541+21.03 (2<sup>nd</sup>) to Sta. 621+40.61 (2<sup>nd</sup>)
- Sta. 634+73.48 (2<sup>nd</sup>) to Sta. 645+16.75 (2<sup>nd</sup>)
- Sta. 646+99.84 (2<sup>nd</sup>) to Sta. 657+29.73 (2<sup>nd</sup>)
- Sta. 664+78.59 (2<sup>nd</sup>) to Sta. 674+07.18 (2<sup>nd</sup>)
- Sta. 687+66.67 (2<sup>nd</sup>) to Sta. 697+65.44 (2<sup>nd</sup>)
- Sta. 700+28.30 (2<sup>nd</sup>) to Sta. 710+05.46 (2<sup>nd</sup>)
- Sta. 717+73.62 (2<sup>nd</sup>) to Sta. 7+64 (3<sup>rd</sup>) Thru Equation
- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+14.83 (5<sup>th</sup>)
- Sta. 537+45.17 (5<sup>th</sup>) to Sta. 771+27.61 (5<sup>th</sup>) Thru Equations
- Sta. 773+76.72 (5<sup>th</sup>) to Sta. 16+68.50 (6<sup>th</sup>) Thru Equations
- Sta. 18+31.50 (6<sup>th</sup>) to Sta. 19+88.94 (6<sup>th</sup>)
- Sta. 22+51.06 (6<sup>th</sup>) to Sta. 35+14.69 (6<sup>th</sup>)
- Sta. 37+56.85 (6<sup>th</sup>) to Sta. 45+91 (6<sup>th</sup>)
- Sta. 57+42.37 (6<sup>th</sup>) to Sta. 67+00.99 (6<sup>th</sup>)

CRS-2P Asphalt for Surface Treatment at the Rate of 7.0 tons applied 10 feet wide (Rate = 0.28 gallon per square yard).

Modified Cover Aggregate at the rate of 64.5 tons applied 10 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 2.2 ton applied 11.5 feet wide (Rate = 0.075 gallon per square yard).

**EASTBOUND LANES – OUTSIDE SHOULDER**

- Sta. 7+64 (3<sup>rd</sup>) to Sta. 78+43.89 (3<sup>rd</sup>)
- Sta. 79+93.72 (3<sup>rd</sup>) to Sta. 184+16.64 (3<sup>rd</sup>)
- Sta. 185+66.48 (3<sup>rd</sup>) to Sta. 289+72.41 (3<sup>rd</sup>)
- Sta. 291+22.25 (3<sup>rd</sup>) to Sta. 429+95.40 (3<sup>rd</sup>)
- Sta. 438+63.60 (3<sup>rd</sup>) to Sta. 449+30.88 (3<sup>rd</sup>)
- Sta. 451+41.86 (3<sup>rd</sup>) to Sta. 463+62.70 (3<sup>rd</sup>)
- Sta. 477+24.60 (3<sup>rd</sup>) to Sta. 493+00 (3<sup>rd</sup>)

**WESTBOUND LANES – OUTSIDE SHOULDER**

- Sta. 7+64 (3<sup>rd</sup>) to Sta. 78+43.89 (3<sup>rd</sup>)
- Sta. 79+93.72 (3<sup>rd</sup>) to Sta. 184+16.64 (3<sup>rd</sup>)
- Sta. 185+66.48 (3<sup>rd</sup>) to Sta. 289+72.41 (3<sup>rd</sup>)
- Sta. 291+22.25 (3<sup>rd</sup>) to Sta. 420+67.50 (3<sup>rd</sup>)
- Sta. 436+54.50 (3<sup>rd</sup>) to Sta. 448+78.50 (3<sup>rd</sup>)
- Sta. 453+03.38 (3<sup>rd</sup>) to Sta. 461+03.50 (3<sup>rd</sup>)
- Sta. 468+52.50 (3<sup>rd</sup>) to Sta. 165+93.73 (4<sup>th</sup>) Thru Equation
- Sta. 167+50.07 (4<sup>th</sup>) to Sta. 262+62.30 (4<sup>th</sup>)
- Sta. 276+32.20 (4<sup>th</sup>) to Sta. 284+02.54 (4<sup>th</sup>)
- Sta. 285+77.38 (4<sup>th</sup>) to Sta. 293+56.20 (4<sup>th</sup>)
- Sta. 301+73.10 (4<sup>th</sup>) to Sta. 51+95.81 (5<sup>th</sup>) Thru Equation
- Sta. 53+58.65 (5<sup>th</sup>) to Sta. 243+17.60 (5<sup>th</sup>)
- Sta. 256+66.40 (5<sup>th</sup>) to Sta. 264+71.84 (5<sup>th</sup>)
- Sta. 266+58.93 (5<sup>th</sup>) to Sta. 276+00.50 (5<sup>th</sup>)
- Sta. 283+68.60 (5<sup>th</sup>) to Sta. 364+44.60 (5<sup>th</sup>)
- Sta. 377+93.40 (5<sup>th</sup>) to Sta. 385+80.17 (5<sup>th</sup>)
- Sta. 387+85.98 (5<sup>th</sup>) to Sta. 397+10.80 (5<sup>th</sup>)
- Sta. 406+06.10 (5<sup>th</sup>) to Sta. 421+48 (5<sup>th</sup>)

CRS-2P Asphalt for Surface Treatment at the Rate of 3.8 tons applied 5.5 feet wide (Rate = 0.28 gallon per square yard).

Modified Cover Aggregate at the rate of 35.5 tons applied 5.5 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.8 ton applied 9.5 feet wide (Rate = 0.075 gallon per square yard).

**EASTBOUND LANES – MEDIAN SHOULDER**

- Sta. 0+00 to Sta. 51+38.06 (2<sup>nd</sup>) Thru Equation
- Sta. 53+23.14 (2<sup>nd</sup>) to Sta. 170+36.46 (2<sup>nd</sup>)
- Sta. 171+63.54 (2<sup>nd</sup>) to Sta. 376+34.81 (2<sup>nd</sup>)
- Sta. 378+53.11 (2<sup>nd</sup>) to Sta. 539+69.07 (2<sup>nd</sup>)
- Sta. 541+22.15 (2<sup>nd</sup>) to Sta. 697+78.60 (2<sup>nd</sup>)
- Sta. 700+39.99 (2<sup>nd</sup>) to Sta. 7+64 (3<sup>rd</sup>) Thru Equation
- Sta. 493+00 (3<sup>rd</sup>) to Sta. 165+93.73 (4<sup>th</sup>) Thru Equation
- Sta. 167+50.07 (4<sup>th</sup>) to Sta. 284+01.62 (4<sup>th</sup>)
- Sta. 285+77.46 (4<sup>th</sup>) to Sta. 51+95.81 (5<sup>th</sup>) Thru Equation
- Sta. 53+58.65 (5<sup>th</sup>) to Sta. 265+23.12 (5<sup>th</sup>)
- Sta. 267+10.21 (5<sup>th</sup>) to Sta. 386+33.05 (5<sup>th</sup>)
- Sta. 388+38.87 (5<sup>th</sup>) to Sta. 536+13.46 (5<sup>th</sup>)

**WESTBOUND LANES – MEDIAN SHOULDER**

- Sta. 0+00 to Sta. 51+39.18 (2<sup>nd</sup>) Thru Equation
- Sta. 53+22.02 (2<sup>nd</sup>) to Sta. 170+37.58 (2<sup>nd</sup>)
- Sta. 171+62.42 (2<sup>nd</sup>) to Sta. 375+70.88 (2<sup>nd</sup>)
- Sta. 377+85.52 (2<sup>nd</sup>) to Sta. 539+70.19 (2<sup>nd</sup>)
- Sta. 541+21.03 (2<sup>nd</sup>) to Sta. 645+16.75 (2<sup>nd</sup>)
- Sta. 646+99.84 (2<sup>nd</sup>) to Sta. 697+65.44 (2<sup>nd</sup>)
- Sta. 700+28.30 (2<sup>nd</sup>) to Sta. 7+64 (3<sup>rd</sup>) Thru Equation

**WESTBOUND LANES – MEDIAN SHOULDER (2' WIDE)**

- Sta. 421+48 (5<sup>th</sup>) to Sta. 536+14.83 (5<sup>th</sup>)

CRS-2P Asphalt for Surface Treatment at the Rate of 2.8 tons applied 4 feet wide (Rate = 0.28 gallon per square yard).

Modified Cover Aggregate at the rate of 25.8 tons applied 4 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 1.1 ton applied 6 feet wide (Rate = 0.075 gallon per square yard).

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F12	F18

**RATES OF MATERIALS - CONTINUED**

The Estimate of Surfacing Quantities is based on the following quantities of materials per station.

**EXIT 214 CROSSROAD**

Sta. 19+68.93 to Sta. 33+88.93

**EXIT 220 CROSSROAD**

Sta. 8+16.50 to Sta. 20+25.90

**EXIT 225 CROSSROAD**

Sta. 4+50 to Sta. 19+50

**EXIT 241 CROSSROAD**

Sta. 5+00 to Sta. 20+00

**EXIT 248 CROSSROAD**

Sta. 12+80.78 to Sta. 27+18.78

CRS-2P Asphalt for Surface Treatment at the Rate of 0.32 tons applied 24 feet wide (Rate = 0.28 gallon per square yard).

Modified Cover Aggregate at the rate of 2.93 tons applied 24 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 0.09 ton applied 24 feet wide (Rate = 0.075 gallon per square yard).

**EXIT 214 RAMPS**

NW Ramp - Sta. 2+50.74 to Sta. 17+14.18

NE Ramp - Sta. 0+12 to Sta. 13+53.44

SE Ramp - Sta. 0+12 to Sta. 13+76.36

SW Ramp - Sta. 2+65.01 to Sta. 17+06.40

**EXIT 220 RAMPS**

NW Ramp - Sta. 10+00.81 to Sta. 22+47.92

NE Ramp - Sta. 0+13.97 to Sta. 12+29.92

SE Ramp - Sta. 0+13.97 to Sta. 12+61.27

SW Ramp - Sta. 7+76.17 to Sta. 19+80.99

**EXIT 225 RAMPS**

NW Ramp - Sta. 10+00.81 to Sta. 21+68.72

NE Ramp - Sta. 0+12.42 to Sta. 11+37.09

SE Ramp - Sta. 0+12.44 to Sta. 12+11.06

SW Ramp - Sta. 7+65.16 to Sta. 18+98.45

**EXIT 235 RAMPS**

NW Ramp - Sta. 11+63.81 to Sta. 24+34.01

NE Ramp - Sta. 0+12.97 to Sta. 12+54.76

SE Ramp - Sta. 0+12.99 to Sta. 12+46.87

SW Ramp - Sta. 8+57.63 to Sta. 21+41.06

**EXIT 241 RAMPS**

NW Ramp - Sta. 10+40.54 to Sta. 19+49.44

NE Ramp - Sta. 0+12.77 to Sta. 9+65.10

SE Ramp - Sta. 0+12.31 to Sta. 9+93.03

SW Ramp - Sta. 8+61.71 to Sta. 18+58.49

**EXIT 248 RAMPS**

NW Ramp - Sta. 10+13.67 to Sta. 17+97.53

NE Ramp - Sta. 0+13.28 to Sta. 12+07.81

SE Ramp - Sta. 0+12.11 to Sta. 8+09.11

SW Ramp - Sta. 7+65.09 to Sta. 19+41.24

**EXIT 260 RAMPS**

NW Ramp - Sta. 11+40 to Sta. 22+00.64

NE Ramp - Sta. 0+12.37 to Sta. 10+96.98

SE Ramp - Sta. 0+12.07 to Sta. 10+89.135

SW Ramp - Sta. 7+19.71 to Sta. 18+26.82

CRS-2P Asphalt for Surface Treatment at the Rate of 0.24 tons applied 18 feet wide (Rate = 0.28 gallon per square yard).

Modified Cover Aggregate at the rate of 2.2 tons applied 18 feet wide (Rate = 22 pounds per square yard).

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 0.06 ton applied 18 feet wide (Rate = 0.075 gallon per square yard).

**TABLE OF ADDITIONAL QUANTITIES**

Location	CRS-2P Asphalt for Surface Treatment  Ton	Modified Cover Aggregate  Ton	SS-1h or CSS-1hl Asphalt for Fog Seal  Ton
<b>Exit 214</b>			
NW Ramp Radius – Sta. 17+14.18 L.	0.10	0.88	0.03
NW Ramp Radius – Sta. 17+14.18 R.	0.05	0.42	0.01
NE Ramp Radius – Sta. 0+12 L.	0.10	0.88	0.03
NE Ramp Radius – Sta. 0+12 R.	0.04	0.41	0.01
SE Ramp Radius – Sta. 0+12 L.	0.04	0.41	0.01
SE Ramp Radius – Sta. 0+12 R.	0.10	0.96	0.03
SW Ramp Radius – Sta. 17+06.40 L.	0.05	0.42	0.01
SW Ramp Radius – Sta. 17+06.40 R.	0.10	0.94	0.03
<b>Exit 220</b>			
NW Ramp Radius – Sta. 22+47.92 L.	0.48	4.43	0.13
NW Ramp Radius – Sta. 22+47.92 R.	0.07	0.63	0.02
NE Ramp Radius – Sta. 0+13.97 L.	0.07	0.63	0.02
NE Ramp Radius – Sta. 0+13.97 R.	0.53	4.86	0.14
SE Ramp Radius – Sta. 0+13.97 L.	0.07	0.63	0.02
SE Ramp Radius – Sta. 0+13.97 R.	0.48	4.43	0.13
SW Ramp Radius – Sta. 19+80.99 L.	0.53	4.85	0.14
SW Ramp Radius – Sta. 19+80.99 R.	0.07	0.63	0.02
<b>Exit 225</b>			
NW Ramp Radius – Sta. 21+68.72 L.	0.08	0.74	0.02
NW Ramp Radius – Sta. 21+68.72 R.	0.07	0.60	0.02
NE Ramp Radius – Sta. 0+12.42 L.	0.08	0.77	0.02
NE Ramp Radius – Sta. 0+12.42 R.	0.06	0.58	0.02
SE Ramp Radius – Sta. 0+12.44 L.	0.06	0.59	0.02
SE Ramp Radius – Sta. 0+12.44 R.	0.06	0.54	0.02
SW Ramp Radius – Sta. 18+98.45 L.	0.06	0.59	0.02
SW Ramp Radius – Sta. 18+98.45 R.	0.06	0.54	0.02
<b>Exit 235</b>			
NW Ramp Radius – Sta. 24+34.01 L.	0.38	3.53	0.10
NW Ramp Radius – Sta. 24+34.01 R.	0.05	0.42	0.01
NE Ramp Radius – Sta. 0+12.97 L.	0.07	0.66	0.02
NE Ramp Radius – Sta. 0+12.97 R.	0.25	2.33	0.07
SE Ramp Radius – Sta. 0+12.99 L.	0.05	0.42	0.01
SE Ramp Radius – Sta. 0+12.99 R.	0.38	3.54	0.10
SW Ramp Radius – Sta. 21+41.06 L.	0.25	2.33	0.07
SW Ramp Radius – Sta. 21+41.06 R.	0.10	0.97	0.03
Subtotals	4.94	45.56	1.35

**TABLE OF ADDITIONAL QUANTITIES - CONTINUED**

Location	CRS-2P Asphalt for Surface Treatment  Ton	Modified Cover Aggregate  Ton	SS-1h or CSS-1hl Asphalt for Fog Seal  Ton
<b>Exit 241</b>			
NW Ramp Radius – Sta. 19+49.44 L.	0.08	0.72	0.02
NW Ramp Radius – Sta. 19+49.44 R.	0.35	3.22	0.09
NE Ramp Radius – Sta. 0+12.77 L.	0.12	1.09	0.03
NE Ramp Radius – Sta. 0+12.77 R.	0.35	3.22	0.09
SE Ramp Radius – Sta. 0+12.31 L.	0.27	2.46	0.07
SE Ramp Radius – Sta. 0+12.31 R.	0.10	0.89	0.03
SW Ramp Radius – Sta. 18+58.49 L.	0.27	2.47	0.07
SW Ramp Radius – Sta. 18+58.49 R.	0.21	1.93	0.07
<b>Exit 248</b>			
NW Ramp Radius – Sta. 17+97.53 L.	0.21	1.98	0.06
NW Ramp Radius – Sta. 17+97.53 R.	0.19	1.73	0.05
NE Ramp Radius – Sta. 0+13.28 L.	0.09	0.79	0.02
NE Ramp Radius – Sta. 0+13.28 R.	0.41	3.80	0.11
SE Ramp Radius – Sta. 0+12.11 L.	0.19	1.73	0.05
SE Ramp Radius – Sta. 0+12.11 R.	0.21	1.98	0.06
SW Ramp Radius – Sta. 19+41.24 L.	0.41	3.81	0.11
SW Ramp Radius – Sta. 19+41.24 R.	0.09	0.81	0.02
<b>Exit 260</b>			
NW Ramp Radius – Sta. 22+00.64 L.	0.12	1.08	0.03
NW Ramp Radius – Sta. 22+00.64 R.	0.12	1.15	0.03
NE Ramp Radius – Sta. 0+12.37 L.	0.09	0.80	0.02
NE Ramp Radius – Sta. 0+12.37 R.	0.17	1.60	0.05
SE Ramp Radius – Sta. 0+12.07 L.	0.12	1.10	0.03
SE Ramp Radius – Sta. 0+12.07 R.	0.12	1.14	0.03
SW Ramp Radius – Sta. 18+26.82 L.	0.18	1.66	0.05
SW Ramp Radius – Sta. 18+26.82 R.	0.08	0.76	0.02
Grand Totals	9.49	86.48	2.56

# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F14	F18

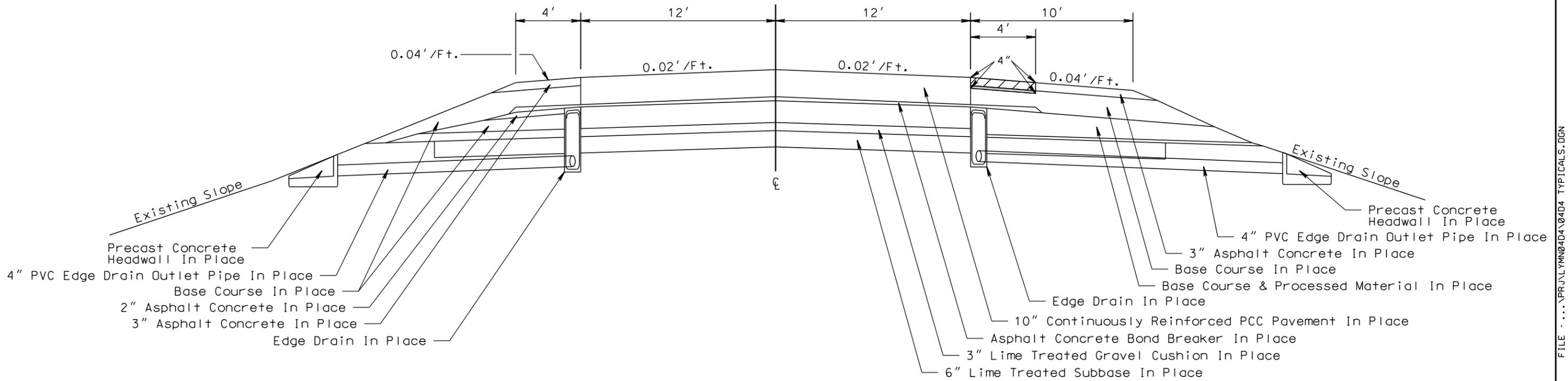
Plotting Date: 01/28/2016

## EASTBOUND LANES - OUTSIDE SHOULDER

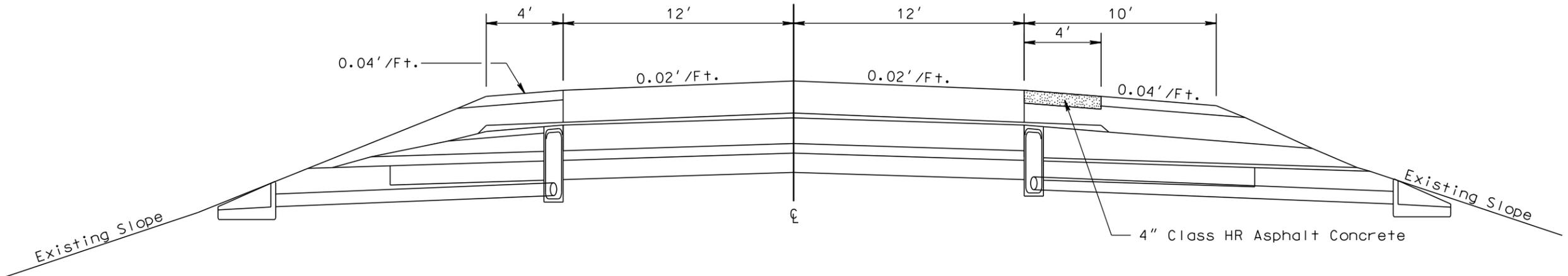
Sta. 16+20 (2nd) to Sta. 30+41.11 (2nd)  
 Sta. 38+09.14 (2nd) to Sta. 51+38.06 (2nd)  
 Sta. 53+23.14 (2nd) to Sta. 65+76.06 (2nd)  
 Sta. 75+78.78 (2nd) to Sta. 170+36.46 (2nd)  
 Sta. 171+63.54 (2nd) to Sta. 260+81.12 (2nd)  
 Sta. 268+56.07 (2nd) to Sta. 291+73.10 (2nd)  
 Sta. 305+84.80 (2nd) to Sta. 359+37.12 (2nd)  
 Sta. 367+18.80 (2nd) to Sta. 376+34.81 (2nd)  
 Sta. 378+53.11 (2nd) to Sta. 391+33.59 (2nd)  
 Sta. 401+36.38 (2nd) to Sta. 539+30 (2nd)  
 Sta. 541+22.15 (2nd) to Sta. 627+36.53 (2nd)  
 Sta. 635+04.71 (2nd) to Sta. 645+15.13 (2nd)  
 Sta. 647+01.46 (2nd) to Sta. 657+74.35 (2nd)  
 Sta. 671+06.09 (2nd) to Sta. 680+37.35 (2nd)  
 Sta. 688+03.19 (2nd) to Sta. 697+78.60 (2nd)  
 Sta. 700+39.99 (2nd) to Sta. 710+52.38 (2nd)  
 Sta. 724+01.19 (2nd) to Sta. 7+64 (3rd) Thru Equation

In Place Section Showing Material to be Removed

-  Cold Milling Asphalt Concrete (3" Depth)
-  Unclassified Excavation - Waste Material (1" Depth)



Surfacing Section



PLOT SCALE - 1:6,000

PLOTTED FROM - TRPR18388

PLOT NAME - 4

FILE - ... \PRJ\LYM\0404\0404 TYPICAL.S.DGN

# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F15	F18

Plotting Date: 01/28/2016

 Cold Milling Asphalt Concrete (2" Depth)

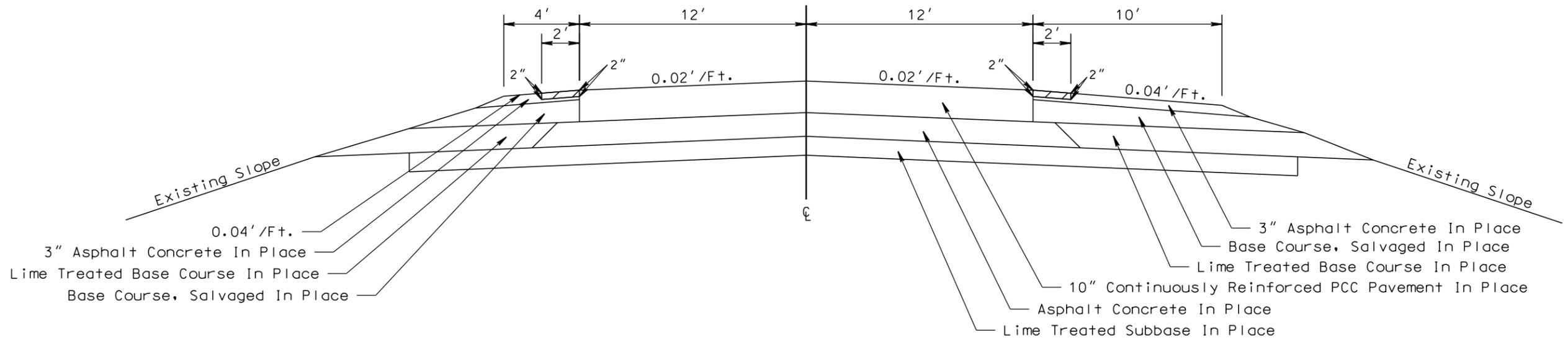
## EASTBOUND LANES - OUTSIDE SHOULDER

Sta. 421+48 (5th) to Sta. 536+13.46 (5th)  
 Sta. 537+46.54 (5th) to Sta. 541+19.25 (5th)  
 Sta. 768+21.94 (5th) to 769+27.54 (5th)  
 773+41.74 (5th) to Sta. 781+06.85 (5th) Thru Equation  
 Sta. 13+81.69 (6th) to Sta. 19+87.35 (6th)  
 Sta. 22+49.47 (6th) to Sta. 25+43.29 (6th)  
 Sta. 32+82.47 (6th) to Sta. 35+46.49 (6th)  
 Sta. 54+47.29 (6th) to Sta. 67+05.50 (6th)

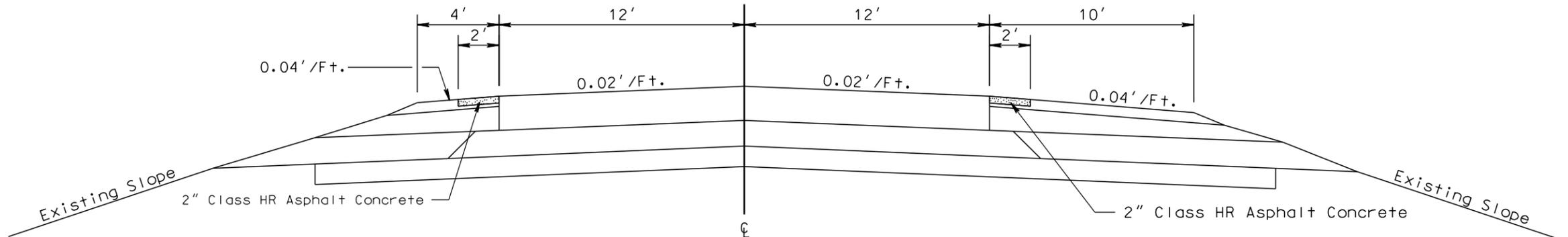
## EASTBOUND LANES - MEDIAN SHOULDER

Sta. 421+48 (5th) to Sta. 536+13.46 (5th)

In Place Section Showing Material to be Removed



Surfacing Section



PLOT SCALE - 1:6,000

PLOTTED FROM - TRP18388

PLOT NAME - 5

FILE - ... \PRJ\LM0404\0404 TYPICALS.DGN

# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F16	F18

Plotting Date: 01/28/2016

## WESTBOUND LANES - OUTSIDE SHOULDER

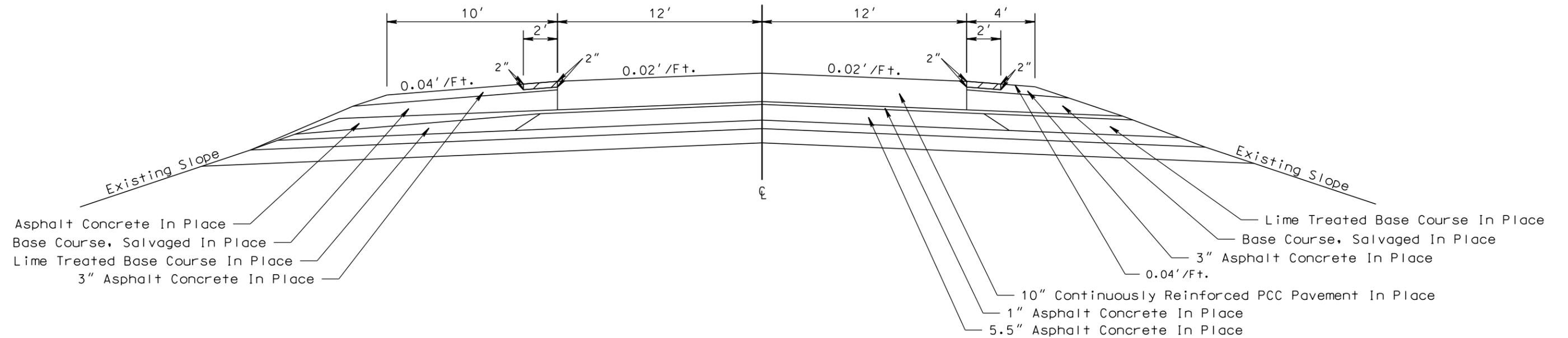
Sta. 421+48 (5th) to Sta. 536+14.83 (5th)  
 Sta. 537+45.17 (5th) to Sta. 552+01.65 (5th)  
 Sta. 576+93.25 (5th) to Sta. 577+98.85 (5th)  
 Sta. 593+30.05 (5th) to Sta. 605+18.05 (5th)  
 Sta. 611+84.83 (5th) to Sta. 612+64.03 (5th)  
 Sta. 667+81.63 (5th) to Sta. 669+92.83 (5th)  
 Sta. 682+60.03 (5th) to Sta. 717+38.67 (5th) Thru Equation  
 Sta. 745+51.54 (5th) to Sta. 753+43.54 (5th)  
 Sta. 769+27.54 (5th) to Sta. 771+27.61 (5th)  
 Sta. 775+56.36 (5th) to Sta. 784+10.42 (5th) Thru Equation  
 Sta. 34+35.37 (6th) to Sta. 35+72.65 (6th)  
 Sta. 38+57.77 (6th) to Sta. 45+33.61 (6th)  
 Sta. 57+42.37 (6th) to Sta. 67+00.99 (6th)

## WESTBOUND LANES - MEDIAN SHOULDER

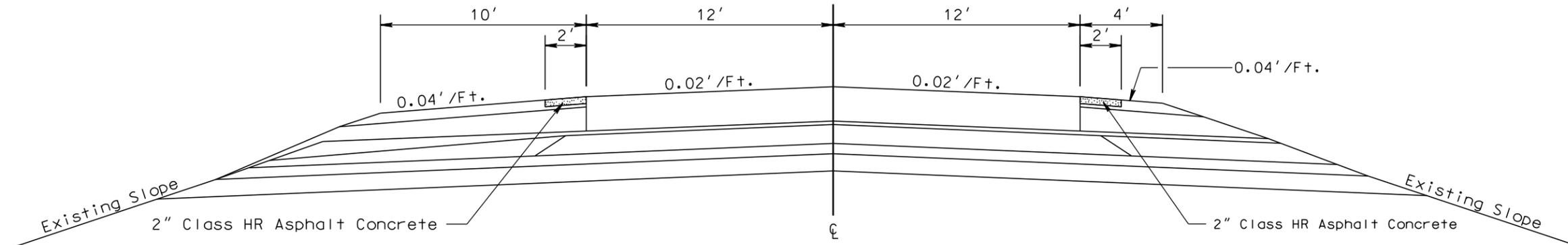
Sta. 421+48 (5th) to Sta. 536+14.83 (5th)

In Place Section Showing Material to be Removed

 Cold Milling Asphalt Concrete (2" Depth)



Surfacing Section



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR18388

PLOT NAME - 6

FILE - ... \PRJ\YMN0404\0404 TYPICAL.S.DGN

# SPECIAL DETAILS

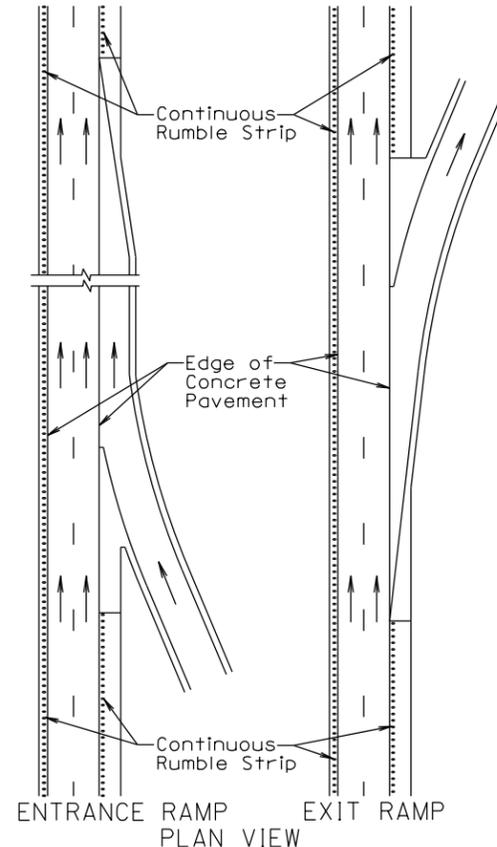
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(59)210	F17	F18

Plotting Date: 01/28/2016

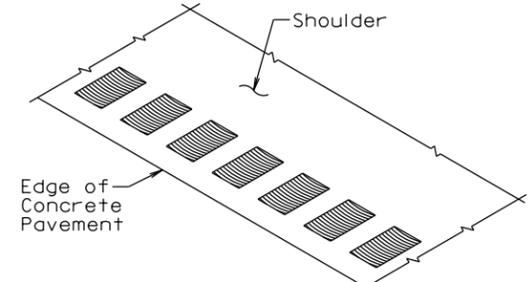
Plot Scale - 1:212.56

Plotted From - tpr18388

## 12" RUMBLE STRIP IN ASPHALT CONCRETE ON INTERSTATE SHOULDERS

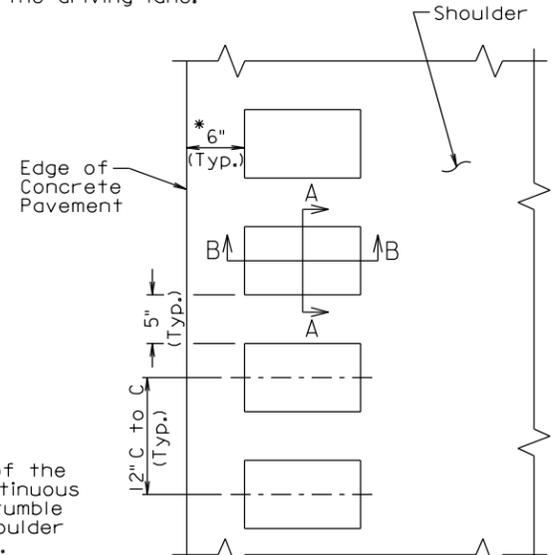


ENTRANCE RAMP  
EXIT RAMP  
PLAN VIEW



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.



PLAN VIEW  
TYPICAL RUMBLE STRIP  
IN ASPHALT CONCRETE

**GENERAL NOTES:**

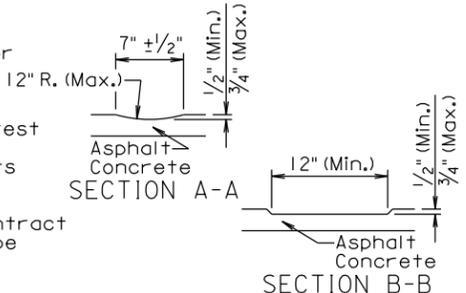
A rumble strip shall be constructed on all of the asphalt concrete shoulders by grinding continuous indentations in the asphalt concrete. The rumble strip shall receive a flush seal with the shoulder flush sealing or asphalt surface treatment.

A rumble strip should be placed through median crossovers as directed by the Engineer.

A rumble strip shall not be constructed through entrance ramps, exit ramps, and gore areas.

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 segments adjacent to median crossovers, entrance ramps, exit ramps, 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".

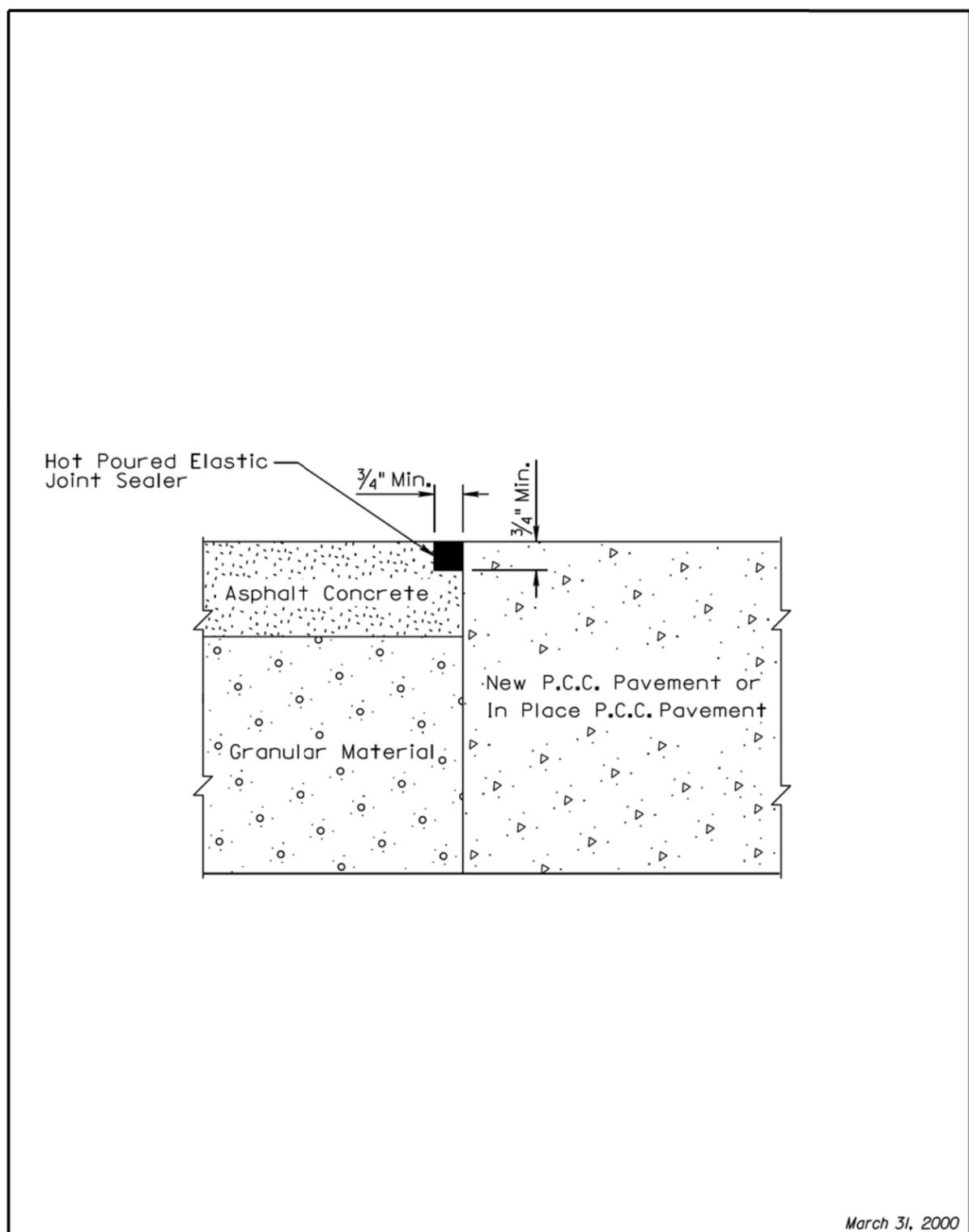


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PLOT SCALE - 1:200

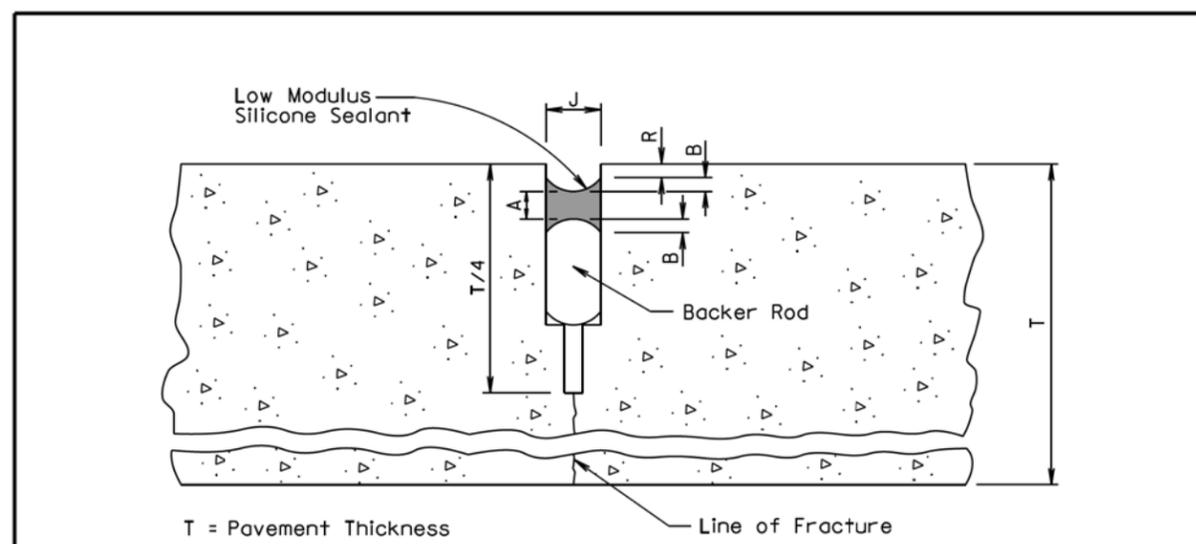
PLOT NAME - 8

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March 31, 2000

<b>S D D O T</b>	<b>ASPHALT CONCRETE SHOULDER JOINT ADJACENT TO PCC PAVEMENT</b>	PLATE NUMBER <b>320.15</b>
	<i>Published Date: 1st Qtr. 2016</i>	Sheet 1 of 1



**LOW MODULUS SILICONE SEALANT  
ALLOWABLE CONSTRUCTION TOLERANCES**

J = 3/8"				
A (Min.) (In)	A (Max.) (In)	B (Min.) (In)	B (Max.) (In)	R (In)
3/16	5/16	1/8	1/4	1/4
J = 1/2"				
A (Min.) (In)	A (Max.) (In)	B (Min.) (In)	B (Max.) (In)	R (In)
3/16	3/8	1/8	1/4	1/4
J = 5/8"				
A (Min.) (In)	A (Max.) (In)	B (Min.) (In)	B (Max.) (In)	R (In)
1/4	7/16	1/8	5/16	1/4
J = 3/4"				
A (Min.) (In)	A (Max.) (In)	B (Min.) (In)	B (Max.) (In)	R (In)
5/16	1/2	3/16	3/8	5/16
J = 1"				
A (Min.) (In)	A (Max.) (In)	B (Min.) (In)	B (Max.) (In)	R (In)
3/8	5/8	3/16	1/2	5/16

**GENERAL NOTE:**

The backer rod shall be a nonmoisture absorbing resilient material approximately 25% larger in diameter than the width of the joint to be sealed.

February 14, 2011

<b>S D D O T</b>	<b>RESEAL PCC PAVEMENT JOINT (SILICONE)</b>	PLATE NUMBER <b>380.13</b>
	<i>Published Date: 1st Qtr. 2016</i>	Sheet 1 of 1