

Section F: Surfacing Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-PT 0025(81)158	F1	F7

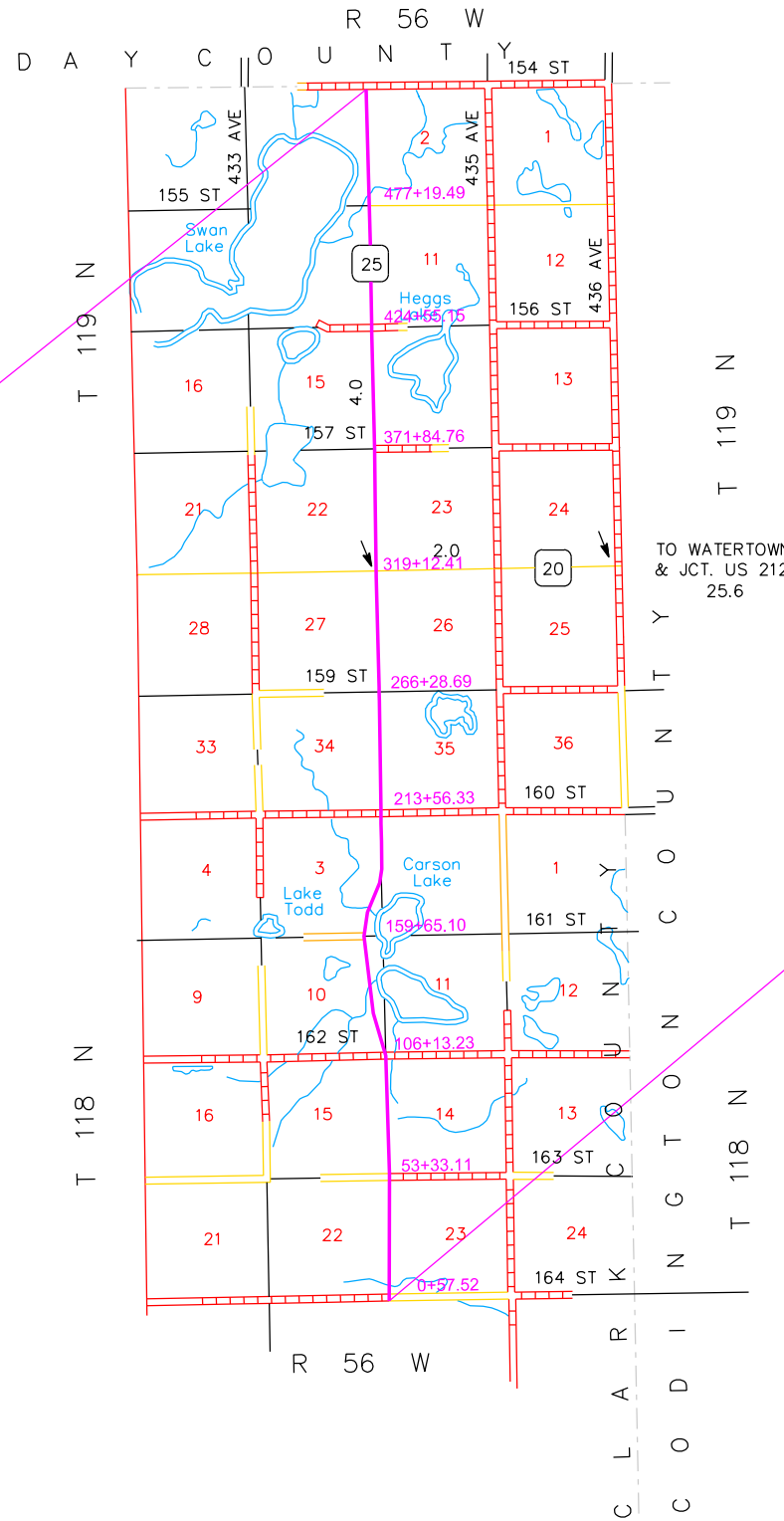
Plotting Date: 01/24/2025

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F2 - F4	Estimate of Quantities, Notes, Rates, and Tables
F5 - F6	Typical Surfacing Sections
F7	Intersecting Roads and Entrances Special Detail

**END P-PH-PT 0025(81)158
END GRADING AND INTERIM SURFACING**

Station 529+20



**BEGIN P-PH-PT 0025(81)158
BEGIN GRADING AND INTERIM SURFACING**

Station 0+50

SECTION F ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-PT 0025(81)158	F2	F7

Plotting Date: 01/24/2025

Revised 01-24-2025 LLA

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	1,930.3	MGal
205E0010	Dust Control Chloride	33,792	Lb
260E1030	Base Course, Salvaged	160,281.4	Ton
260E3010	Gravel Surfacing	250.0	Ton
260E3500	Temporary Gravel Surfacing	400.0	Ton
320E1200	Asphalt Concrete Composite	3,200.0	Ton
330E0010	MC-70 Asphalt for Prime	301.6	Ton
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	40.6	Ton
330E1000	Blotting Sand for Prime	752.2	Ton
330E3000	Sand for Fog Seal	10.0	Ton
360E0020	AE150S Asphalt for Surface Treatment	256.3	Ton
360E1050	Type 3 Cover Aggregate	3,441.2	Ton

SURFACING THICKNESS DIMENSIONS

The plans shown spread rates 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, the depth quantity may be varied to achieve the required elevation.

SALVAGED MATERIAL

The quantity of salvaged asphalt mix and granular base material may vary from the plans. The Contractor will be required to use all of the salvaged material on this project, except for material stockpiled for use on a future surfacing project, or as directed by the Engineer.

TABLE OF SALVAGED MATERIAL
(For Informational Purposes Only, See Typical Sections & Section B)

Material Type	Salvaged Asphalt Mix Material (tons)	Salvaged Asphalt Mix and Granular Base Material (tons)
RAP for Class Q2R Asphalt Concrete for Future Projects(PCN 06DX) (tons)	*9,924.0	
Base Course, Salvaged, State Furnished (PCN 06DX) (tons)		*9,357.2
Base Course, Salvaged Needed (PCN 04EW) (tons)		160,416.8

*Non-Participating

BASE COURSE, SALVAGED

Base Course, Salvaged will be obtained from the stockpile site(s) provided by the Contractor and may be used without further gradation testing.

The Contractor will ensure the Base Course, Salvaged material contains no more than 50% salvaged asphalt mix material and at least 50% granular material (salvaged or virgin). Blended material will be to the satisfaction of the Engineer.

All other requirements for Base Course, Salvaged will apply.

FOG SEAL & SAND FOR FOG SEAL

The fog seal will be placed following the completion of the asphalt surface treatment. Prior to the application of the fog seal, the Contractor will be required to broom the asphalt surface treatment. A CSS-1h or SS-1h emulsion will be used for the fog seal application. A water-to-emulsion rate of 1:1 should be used for the Fog Seal application.

The Contractor will fog seal the entire asphalt surface treatment surface.

The Contractor will 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.

If adequate cure time for the Fog Seal is not available, to facilitate traffic, the Contractor will be allowed to place a minimum sufficient amount of blotting sand 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 accesses to businesses, intersection crossings, 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 that is applied will be broomed off the surface of the roadway once the fog seal has sufficiently cured as determined by the Engineer.

Sand for Fog Seal will conform to Section 879.1.B.

Prior to hauling, Sand for Fog Seal will 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 blotting sand will be incidental to the contract unit price per ton for "Sand for Fog Seal".

DUST CONTROL CHLORIDE

An estimated 2 miles of Dust Control Chloride may be required per the Special Provision for Contract Time due to seasonal limitations of Asphalt Surface Treatment.

Included in the Estimate of Surfacing Quantities are 33,792 lbs. of Dust Control Chloride to be applied as directed by the Engineer (Rate 1.2 lbs per square yard).

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite will include MC-70 Asphalt for Prime placed at the rate of 0.30 gallons per square yard. The Asphalt for Prime will be applied to the granular material for the full width of the bottom layer of Asphalt Concrete Composite plus one foot additional on the outside shoulder.

Flush Seal will not be required.

Asphalt for tack SS-1h or CSS-1h will be applied prior to each lift of Asphalt Concrete Composite. Asphalt for tack will be applied at a rate of 0.09 gallons per square yard on existing pavement or milled asphalt concrete surfaces and at a rate of 0.06 gallons per square yard on primed base course or new asphalt concrete pavement. The Asphalt for tack will be applied for the full width of the bottom layer of Asphalt Concrete Composite plus one-half foot additional on the outside shoulder. (See Section C 'Detour Maintenance' note for more information.)

BLOTTING SAND FOR PRIME

Included in the Estimate of Quantities are 10 tons of Blotting Sand for Prime to be used where necessary for maintenance of traffic as directed by the Engineer. (Rate = 10 pounds per square yard)

SAND FOR FOG SEAL

Included in the Estimate of Quantities are 10 tons of Sand for Fog Seal to be used where necessary for maintenance of traffic as directed by the Engineer.

COVER AGGREGATE

Cover Aggregate will conform to the requirements of the Specifications for Type 3 and will be furnished by the Contractor.

Plot Scale - 1:200

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LOCATION OF FARM ENTRANCES

FARM ENTRANCES			
24' Farm Entrance (39 each)		32' Farm Entrance (1 each)	40' Farm Entrance (12 each)
Sta. 11+87 Lt.& Rt.	Sta. 273+40 Rt.	Sta. 486+13 Lt.	Sta. 79+67 Lt.& Rt.
Sta. 18+72 Lt.	Sta. 275+58 Lt.		Sta. 119+85 Lt.
Sta. 20+58 Rt.	Sta. 283+09 Lt.		Sta. 239+81 Lt.
Sta. 32+55 Lt.	Sta. 292+69 Lt.		Sta. 292+69 Rt.
Sta. 40+29 Lt.& Rt.	Sta. 301+11 Lt.& Rt.		Sta. 298+23 Rt.
Sta. 65+53 Lt.& Rt.	Sta. 316+62 Rt.		Sta. 345+50 Lt.& Rt.
Sta. 90+00 Lt.& Rt.	Sta. 354+00 Lt.		Sta. 411+37 Lt.& Rt.
Sta. 114+27 Rt.	Sta. 379+91 Lt.		Sta. 503+57 Lt.& Rt.
Sta. 152+57 Lt.& Rt.	Sta. 388+35 Rt.		
Sta. 186+61 Lt.& Rt.	Sta. 388+49 Lt.		
Sta. 194+65 Lt.& Rt.	Sta. 440+66 Rt.		
Sta. 213+56-230' Lt & Bk	Sta. 456+63 Rt.		
Sta. 226+75 Lt.& Rt.	Sta. 468+00 Lt.& Rt.		
Sta. 256+00 Lt.	Sta. 515+83 Rt.		

LOCATION OF INTERSECTING ROADS

INTERSECTING ROADS
28' Intersecting Roads (19 each)
Sta. 00+67 Lt.& Rt.
Sta. 53+33 Lt.& Rt.
Sta. 106+11 Lt.& Rt.
Sta. 159+65 Lt.
Sta. 213+56 Lt & Rt.
Sta. 266+29 Lt & Rt.
Sta. 319+12 Lt & Rt.- 100' Rad Ah& Bk
Sta. 371+85 Lt & Rt.- 35' Rad
Sta. 424+55 Lt & Rt.
Sta. 450+87 Lt.
Sta. 477+20 Rt.

TEMPORARY GRAVEL SURFACING

An estimated 400 tons of Temporary Gravel Surfacing may be used on this project on the finished subgrade surface or prior to the completion of the finished subgrade surface as determined necessary by the Engineer. The Engineer will only give permission to use the Temporary Gravel Surfacing if adverse weather is imminent and the usage of the material will help prevent road closures or will ensure the safety and wellbeing of the travelling public.

The Temporary Gravel Surfacing will be obtained from the stockpile site(s) provided by the Contractor from the blended and salvaged granular material produced on this project and may be used without further gradation testing.

The Contractor will be required to salvage as much of the Temporary Gravel Surfacing as possible prior to resuming construction of the subgrade. The salvaged Temporary Gravel Surfacing may be used again on the project as Temporary Gravel Surfacing and will be paid for per ton.

Compaction to a specified density is not required.

Temporary gravel surfacing will be paid for at the contract unit price per ton for Temporary Gravel Surfacing. Measurement of the Temporary Gravel Surfacing will be by use of scale, loader scale, or as approved by the Engineer. The contract unit price will include all costs associated with hauling, placing, compacting, maintaining, salvaging and stockpiling the material. (See Section C plans for more information.)

RATES OF MATERIALS

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

US 25 MAINLINE – Section 2

Sta. 000+50.00 to Sta. 306+15.00
Sta. 332+13.00 to Sta. 529+20.00

Base Course, Salvaged 15,344 tons.

Water for Granular Material at the rate of 184.1 M Gallons.

MC-70 Asphalt for Prime at the Rate of 29.2 tons applied 42 feet wide (Rate = 0.30 gallon per square yard).

Blotting Sand for Prime at the rate of 70.4 tons applied 24 feet wide (Rate = 10 lbs. per square yard).

ASPHALT SURFACE TREATMENT

AE 150S Asphalt for Surface Treatment at the rate of 24.4 tons applied 28 feet wide (Rate = 0.35 gallon per square yard).

Type 3 Cover Aggregate at the rate of 329 Tons applied 28 feet wide (Rate = 40 lbs. per square yard).

FOG SEAL

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 3.5 ton applied 28 feet wide (Rate = 0.05 gallon per square yard).

US 25 MAINLINE – Section 3

Sta. 310+34.95 to Sta. 327+92.97

Base Course, Salvaged 20,265 tons.

Water for Granular Material at the rate of 243.2 M Gallons.

MC-70 Asphalt for Prime at the Rate of 37.5 tons applied 54 feet wide (Rate = 0.30 gallon per square yard).

Blotting Sand for Prime at the rate of 105.6 tons applied 36 feet wide (Rate = 10 lbs. per square yard).

ASPHALT SURFACE TREATMENT

AE 150S Asphalt for Surface Treatment at the rate of 34.9 tons applied 40 feet wide (Rate = 0.35 gallon per square yard).

Type 3 Cover Aggregate at the rate of 469 Tons applied 40 feet wide (Rate = 40 lbs. per square yard).

FOG SEAL

SS-1h or CSS-1h Asphalt for Fog Seal at the rate of 5.0 ton applied 40 feet wide (Rate = 0.05 gallon per square yard).

TABLE OF MATERIALS

LOCATION				WATER FOR GRANULAR MATERIAL (MGal)	BASE COURSE, SALVAGED (Ton)	TEMPORARY GRAVEL SURFACING (Ton)	GRAVEL SURFACING (Ton)	ASPHALT CONCRETE COMPOSITE (Ton)	ASPHALT FOR PRIME (Ton)	BLOTTING SAND FOR PRIME (Ton)	ASPHALT FOR SURFACE TREATMENT (Ton)	COVER AGGREGATE FOR AST (Ton)	ASPHALT FOR FOG SEAL (Ton)	SAND FOR FOG SEAL (Ton)
Station	to	Station												
Mainline														
0 +	50.00 to	306 +	15.00 - Rate	1,065.7	88,823.3				169.0	407.5	141.2	1,904.5	20.3	
306 +	15.00 to	310 +	34.95	17.0	1,415.4				2.7	7.0	2.4	31.7	0.3	
310 +	34.95 to	327 +	92.97 - Rate	81.0	6,748.2				12.5	35.2	11.6	156.2	1.7	
327 +	92.97 to	332 +	13.00	17.0	1,417.2				2.7	7.0	2.4	31.8	3.3	
332 +	13.00 to	529 +	15.90 - Rate	687.0	57,257.7				109.0	262.7	91.1	1,227.7	13.1	
Intersecting Roads & Entrances														
28' Int. Rds. - 19 each				15.2	1,235.0				5.7	22.8	7.6	89.3	1.9	
24' Entrances - 39 each				27.3	2,340.0									
32' Entrances - 1 each				0.7	60.0									
40' Entrances - 12 each				8.4	720.0									
Mainline Vertical Transitions														
0 +	50.00 to	2 +	30.00	1.6	132.3									
527 +	40.00 to	529 +	20.00	1.6	132.3									
<i>(Notes in Section C Plans)</i>														
Temporary Gravel Surfacing				4.8		400.0								
Asphalt Concrete Composite for Detour Maintenance								3,200.0						
Gravel Surfacing for Detour Maintenance				3.0			250.0							
Blotting Sand for Prime for Maintenance of Traffic										10.0				
Sand for Fog Seal for Maintenance of Traffic														10.0
See Rates of Materials				Totals	1,930.3	160,281.4	400.0	250.0	3,200.0	301.6	752.2	256.3	3,441.2	40.6

Application Rates: MC-70 Asphalt for Prime rate = 0.30 gallon per square yard
 Blotting Sand for Prime rate = 10 lbs. per square yard.
 AE 150S Asphalt for Surface Treatment rate = 0.35 gallon per square yard.

Type 3 Cover Aggregate rate = 40 lbs. per square yard.
 SS-1h or CSS-1h Asphalt for Fog Seal rate = 0.05 gallon per square yard.

 1:200
 Plot Scale -



Plotted From - TRPR13462

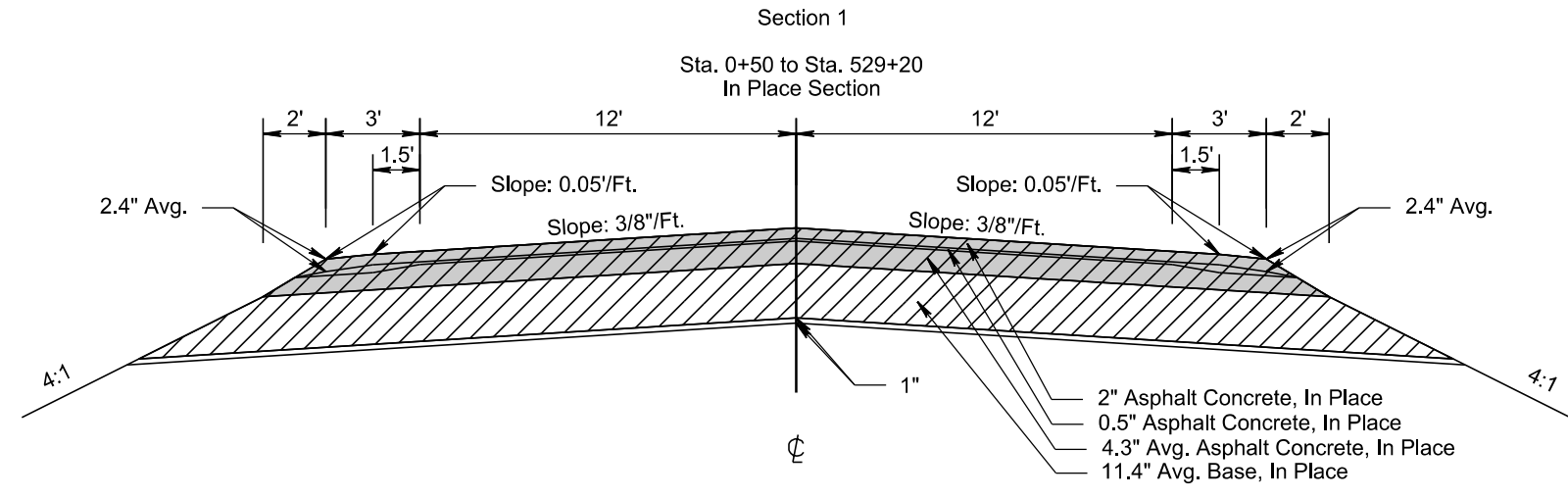
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TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-PT 0025(81)158	F5	F7

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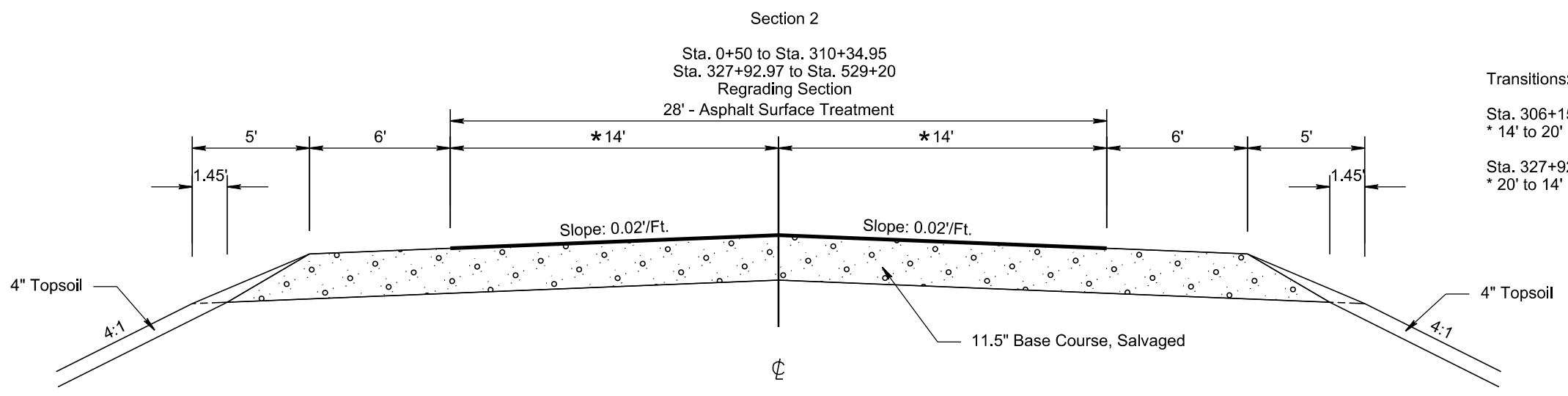
-  Salvage Asphalt Mix Material (9,924.0 tons) Non-Participating (See Section B Notes)
-  Salvage & Stockpile Asphalt Mix & Granular Base Material (160,416.8 tons) (See Section B Notes)



Mainline Vertical Transitions:

Sta. 0+50.00 to Sta. 2+30.00
4" to 0" Base Course, Salvaged

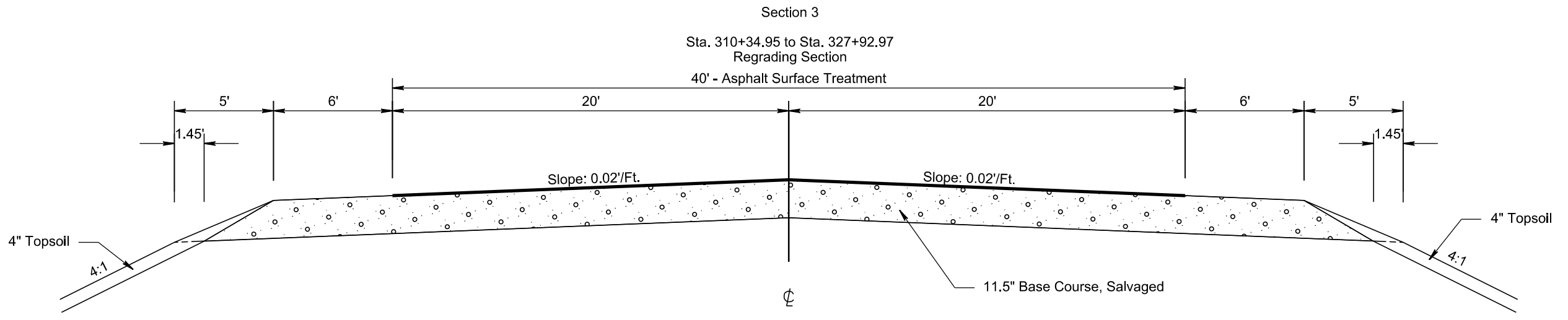
Sta. 527+40.00 to Sta. 529+20.00
0" to 4" Base Course, Salvaged



Transitions:

Sta. 306+15.00 to Sta. 310+34.95
* 14' to 20'

Sta. 327+92.97 to Sta. 332+13.00
* 20' to 14'



PLOT SCALE - 1/8" = 1'-0"

PLOTTED FROM - TRPR13462

PLOT NAME - 5

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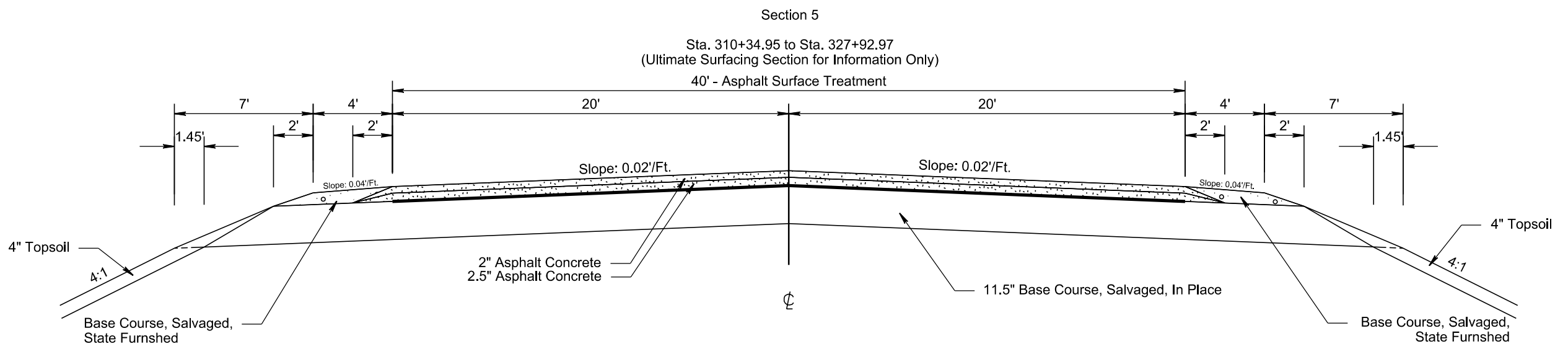
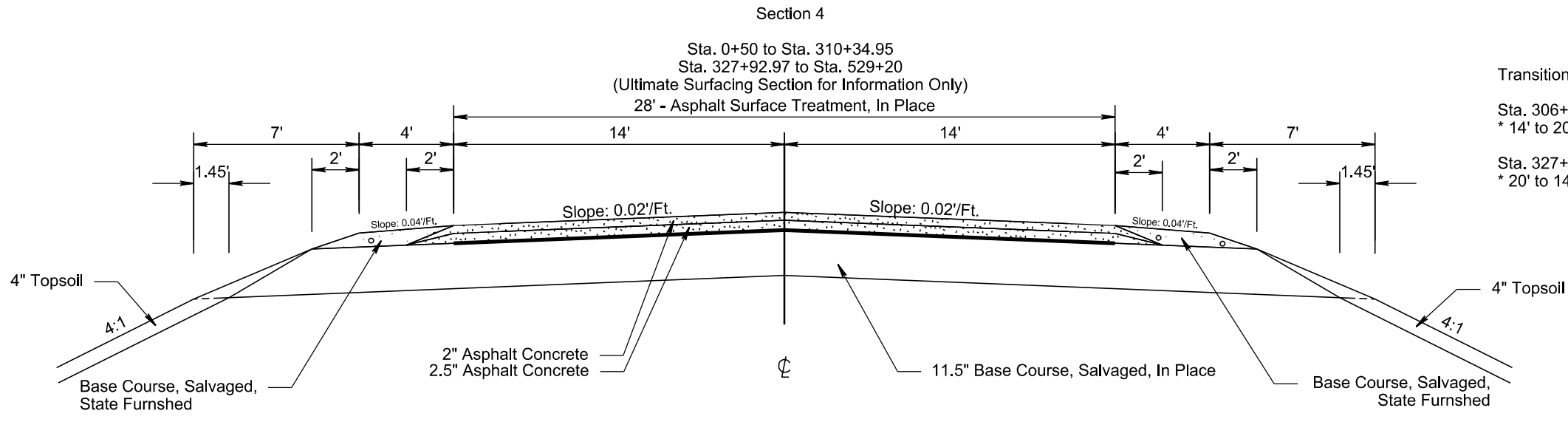
ULTIMATE SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-PT 0025(81)158	F6	F7

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PLOT SCALE - 1+6.00001

PLOT NAME - 6



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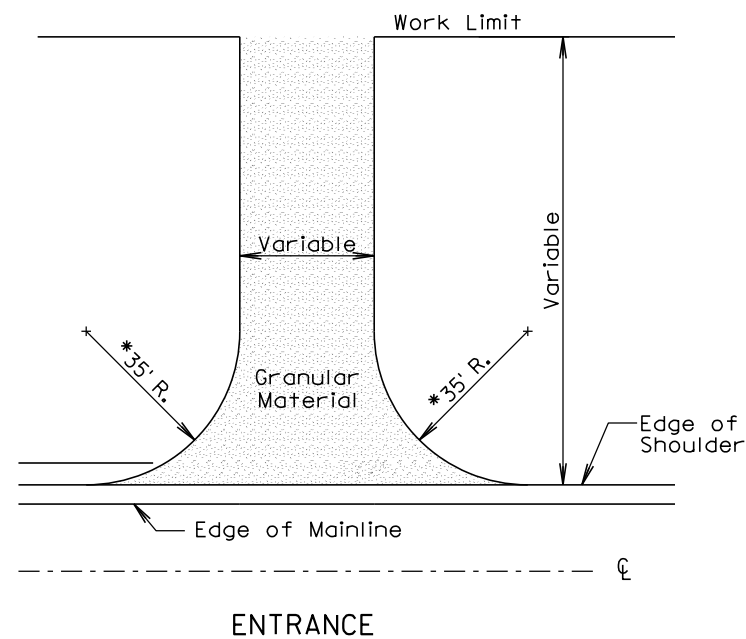
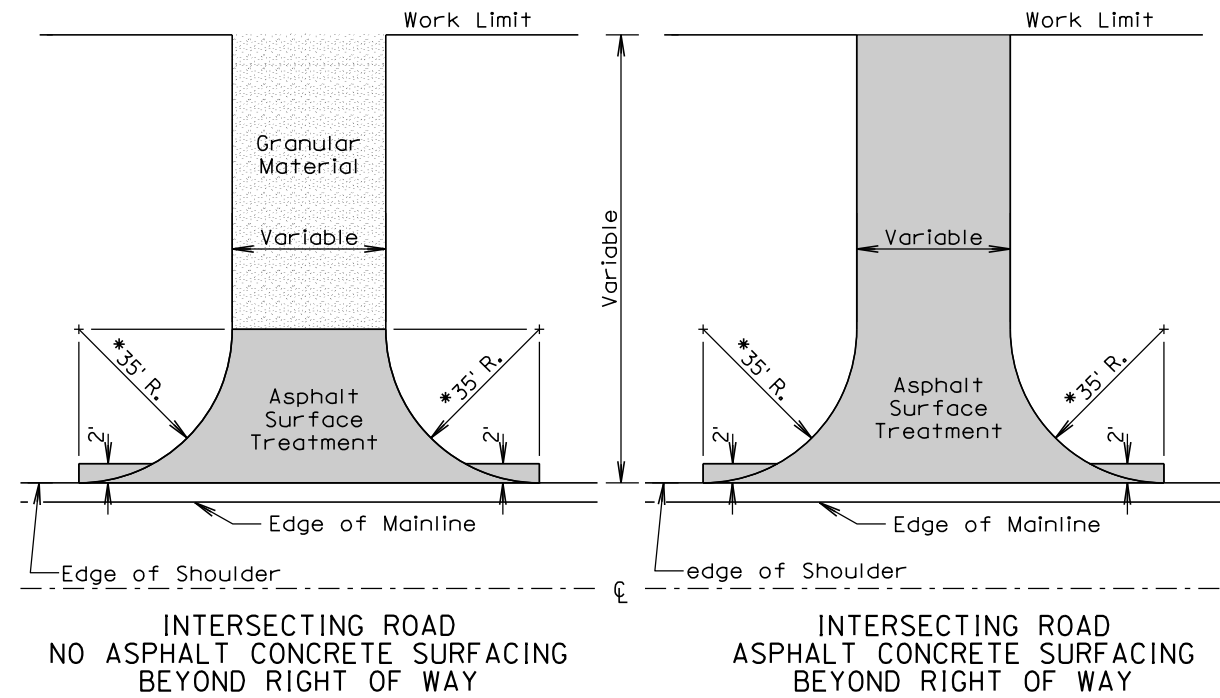
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SPECIAL DETAILS

STATE OF SOUTH DAKOTA	PROJECT P-PH-PT 0025(81)158	SHEET F7	TOTAL SHEETS F7
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INTERIM SURFACING OF INTERSECTING ROADS AND ENTRANCES



GENERAL NOTES:

The details shown are provided as a guide for surfacing. The precise construction limits for situations other than the standards shown will be determined by the Engineer during construction.

*35' Radius except as noted elsewhere in plans.

PLOT SCALE - 1:200

-PLOTTED FROM - TRPR13462

PLOT NAME - 7

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