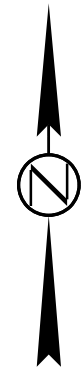


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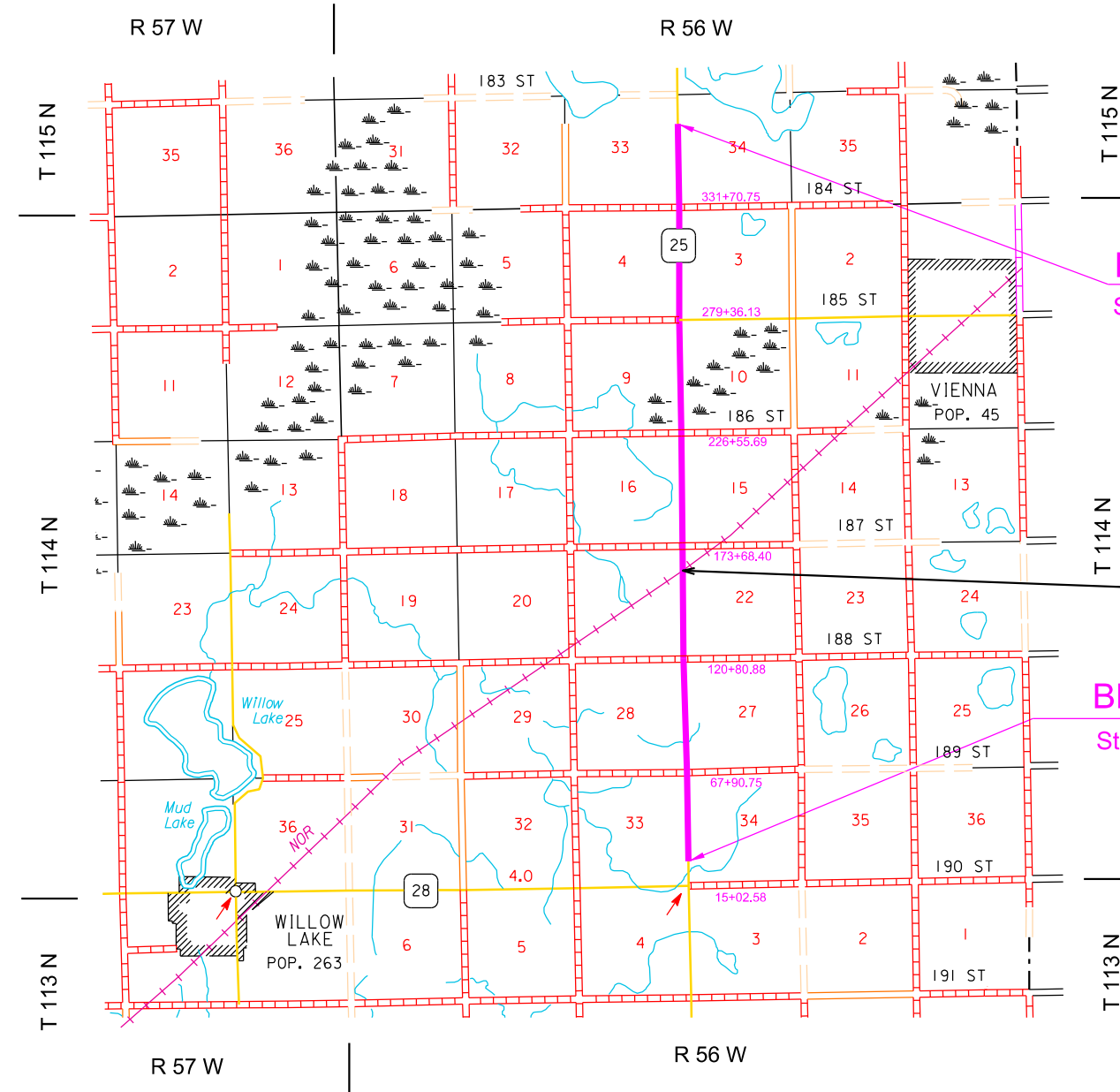
Plotting Date: 03/16/2024

# Section F: Surfacing Plans



## INDEX OF SHEETS

- F1 General Layout with Index
- F2 - F6 Estimate of Quantities, Notes, Rates, and Tables
- F7 - F8 Typical Surfacing Sections
- F9 - F13 Standard Plates



**END ASPHALT CONCRETE SURFACING**  
Sta. 364+00.0

Exception  
Sta. 162+61.3 to Sta. 162+73.2  
Railroad Crossing

**BEGIN ASPHALT CONCRETE SURFACING**  
Sta. 30+26.0

FILE: ... \PRJ\CLRK\06\W\TITLE F 06\WY.DGN PLOT NAME: - 1

**ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E1350	Restoration of Stockpile Site	Lump Sum	LS
009E3230	Grade Staking	2.000	Mile
009E3250	Miscellaneous Staking	6.319	Mile
009E3301	Engineer Directed Surveying/Staking	20.0	Hour
009E3320	Checker	Lump Sum	LS
120E0010	Unclassified Excavation	214	CuYd
120E0100	Unclassified Excavation, Digouts	316	CuYd
120E6200	Water for Granular Material	152.8	MGal
210E1005	Surface Preparation	2.000	Mile
260E1010	Base Course	1,157.4	Ton
260E1030	Base Course, Salvaged	404.2	Ton
270E0110	Salvage and Stockpile Granular Material	404.2	Ton
320E0005	PG 58-34 Asphalt Binder	1,962.5	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	42,206.4	Ton
320E4000	Hydrated Lime	421.9	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	12.6	Mile
320E7028	Grind Centerline Rumble Stripe in Asphalt Concrete	5.4	Mile
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	0.9	Mile
330E0010	MC-70 Asphalt for Prime	65.6	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	84.3	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	36.0	Ton
330E1000	Blotting Sand for Prime	150.8	Ton
330E2000	Sand for Flush Seal	338.9	Ton
600E0300	Type III Field Laboratory	1	Each
900E0022	Remove and Reset Mailbox	4	Each
900E1980	Storage Unit	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

**SURFACING THICKNESS DIMENSIONS**

The plans shown spread rates will be applied even though the thickness may vary from that shown in 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.

**UTILITIES**

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

**TYPE III FIELD LABORATORY**

The lab will be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection will be provided with a multi-port wireless router. The internet connection will be a minimum speed of 5 Mbps unless limited by job location and approved by the DOT. Prior to installing the wireless router, the Contractor will 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. These items will be incidental to the contract unit price per each for "Type III Field Laboratory".

**STORAGE UNIT**

The Contractor will provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit will be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit will be weather proof and will be set in a level position. The storage unit will be able to be locked with a padlock.

The storage unit will be placed adjacent to the QA lab, as approved by the Engineer.

The following will apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container will be constructed of steel.
2. The portable storage container will be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

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**STORAGE UNIT (CONTINUED)**

The following will apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings will be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing will be constructed at the exterior door. The minimum dimensions for the landing will be 4 feet by 5 feet. The top of the landing will be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway will be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway will be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction will be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails will be included in the contract unit price per each for "Storage Unit".

**SALVAGE AND STOCKPILE GRANULAR MATERIAL**

During salvage and stockpile operation of the granular material, care will be taken not to waste the in-place granular material. Salvaged granular material will be processed to meet the requirements of Section 884.2 D.8 prior to stockpiling. The Contractor will ensure that no vegetation, topsoil, subgrade, or other foreign material is incorporated into the salvaged granular material.

The salvaged granular material, estimated at approximately 404.2 tons (213.8 cubic yards) will be reused on the project as Base Course, Salvaged. The quantity of salvageable material is estimated from the in-place surfacing typical sections. This estimated quantity was included in the Unclassified Excavation quantities.

The quantity of salvaged material may vary from the plans. The Contractor will be required to use all of the salvaged material on this project by decreasing or increasing the quantity of virgin Base Course as necessary, or as directed by the Engineer.

**TABLE OF SALVAGED MATERIAL**

LOCATION	Salvaged Granular Material Tons	Unclassified Excavation Cu.Yds.
Stationing	Tons	Cu.Yds.
<b>SD25</b>		
30+26 to 31+86	88.3	46.7
161+01.3 to 162+61.3	113.8	60.2
162+73.2 to 164+33.2	113.8	60.2
362+40 to 364+00	88.3	46.7
<b>TOTAL</b>	<b>404.2</b>	<b>213.8</b>

**UNCLASSIFIED EXCAVATION, DIGOUTS**

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts will be Base Course.

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts per mile for the removal of unstable material on SD25.

Included in the Estimate of Quantities are 100 tons of Base Course per mile for backfill of Unclassified Excavation, Digouts. Included in the Estimate of Quantities is 1.20 MGal to Water for Granular Material per mile for backfill of Unclassified Excavation, Digouts.

The digouts will be extended through the shoulder and backfilled with granular material that will daylight to the inslope to allow water to escape the subsurface. Estimated roadway length for digouts = 6.319 miles

**SURFACE PREPARATION**

Prior to placement of the Class Q2R Hot Mixed Asphalt Concrete, the Contractor will be required to prepare the existing surface according to the Surface Preparation specifications provided in Section 210, at locations determined by the Engineer.

The locations provided on the typical sections for Asphalt Surface Treatment, In Place, represent the locations where an asphalt surface treatment is anticipated to be in place at the time of construction. The Contractor is advised that locations and dimensions of actual Asphalt Surface Treatment, In Place, may vary from that given on the typical sections. There will be no increase in the payment for Surface Preparation based on the actual surface treatment in place at the time of construction.

In areas designated by the Engineer, the Contractor will perform Surface Preparation operation to the satisfaction of the Engineer. Actual limits to receive Surface Preparation ahead of the asphalt concrete placement will be limited to particular project conditions and will be subject to approval by the Engineer. In no case will Surface Preparation operations ahead of asphalt concrete placement operations exceed fourteen calendar days. Included in the Estimate of Quantities is 67.02 MGal of Water for Granular Material per mile for compaction. Estimated Surface Preparation length = 2.000 miles.

MC-70 Asphalt for Prime and Blotting Sand for Prime will be applied at all Surface Preparation locations (estimated length = 2.0 miles). Rate for MC-70 Asphalt for Prime will be 0.30 gallons per square yard applied 45.0 feet wide (estimated quantity = 62.6 tons). Rate of Blotting Sand for Prime will be 10 pounds per square yard applied 24.0 feet wide (estimated quantity = 140.8 tons).

**BASE COURSE, SALVAGED**

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

All other requirements for Base Course, Salvaged will apply.

**CLASS Q2R HOT MIXED ASPHALT CONCRETE**

Mineral Aggregate:

Asphalt concrete aggregates will consist of reclaimed asphalt pavement (RAP) and virgin aggregate.

Virgin mineral aggregate for Class Q2R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q2.

The Class Q2R Hot Mixed Asphalt Concrete will include 20 percent RAP in the mixture. RAP will be obtained from the material stockpiled from the grading project, PCN 04KU. The RAP produced from PCN 04KU was planned to be removed and stockpiled the year prior to this project. The RAP was processed to meet the requirements of Section 884.2 D.6 prior to stockpiling. There is potential that some of the RAP has clumped or gummed together since the time it was processed and stockpiled. The Contractor may be required to re-process the material to meet the requirements of Section 884.2 C.1 prior to incorporating into the mixture. This determination will be made by the Engineer during construction. All costs to process the material will be incidental to "Class Q2R Hot Mixed Asphalt Concrete". An estimated 8,023.2 tons of RAP is needed for the Class Q2R Hot Mixed Asphalt Concrete mixture. An estimated 8,300 tons of RAP has been stockpiled from previous project.

Mix Design Criteria:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q2R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q2.

All remaining requirements for Class Q2 will apply.

**COMPACTION for CLASS Q2R HOT MIXED ASPHALT CONCRETE**

Location	Compaction With Specified Density	Compaction Without Specified Density
<b>SD25</b>	Ton/Lift	Ton/Lift
Sta. 30+26 to Sta. 161+61.3 24' Mainline Left Shoulder Right Shoulder	4,908.8 / 4,908.8	1,513.6 / 1,789.7 1,513.6 / 1,789.7
Sta. 161+61.3 to Sta. 162+61.3 24' Mainline Left Shoulder Right Shoulder	22.4 / 29.9 / 37.2	8.5 / 9.1 / 14.2 8.5 / 9.1 / 14.2
Sta. 162+73.2 to Sta. 163+73.2 24' Mainline Left Shoulder Right Shoulder	22.4 / 29.9 / 37.2	8.5 / 9.1 / 14.2 8.5 / 9.1 / 14.2
Sta. 163+73.2 to Sta. 364+00 24' Mainline Left Shoulder Right Shoulder	7,484.1 / 7,484.1	2,307.7 / 2,728.7 2,307.7 / 2,728.7
Miscellaneous Areas		
Intersecting Roads / Entrance		435.0
<b>TOTALS:</b>	24,964.8	17,241.6

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**FLEXIBLE PAVEMENT SMOOTHNESS PROVISION**

All sections, not excluded by the Special Provision for Flexible Pavement Smoothness will be evaluated as two opportunities.

**RESTORATION OF THE RAP STOCKPILE SITE**

The Contractor will be responsible for the removal of any remaining stockpiled RAP material.

The Contractor will remove the entrance (including pipe) used for access and clean up the stockpile site. The Contractor will scarify, replace and blade smooth the upper six inches of topsoil in the stockpile site upon completion of the project.

All costs associated with this work will be incidental to the lump sum unit price bid for "Restoration of Stockpile Site".

**FLUSH SEAL**

Application of flush seal will be completed within 10 working days following completion of the asphalt concrete surfacing.

Application of flush seal may be eliminated by the Engineer. If the paved surface remains tight, the Engineer will notify the Contractor as soon as possible that the flush seal is unnecessary.

**SAND FOR FLUSH SEAL**

The sand application will be placed 11' wide in each lane, leaving 12" on center line and 6" on each edge line free of sand.

**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)

**GRIND RUMBLE STRIPS IN ASPHALT CONCRETE**

Asphalt concrete rumble strips will be constructed on the shoulders. Rumble strips will be paid for at the contract unit price per mile for Grind 12" Rumble Strip or Stripe in Asphalt Concrete. It is estimated that 12.6 miles of asphalt concrete rumble strips will be required.

Rumble strip installation will be completed prior to application of the flush seal and permanent pavement markings. In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply a flush seal to the newly installed 12" rumble strips at a width of 18" and at the same rate as specified in this plan set. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

**GRIND CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE**

Rumble stripes will be constructed on the centerline, as detailed in the plan set. Rumble stripes will be paid for at the contract unit price per mile for Grind Centerline Rumble Stripe in Asphalt Concrete. It is estimated that 5.4 miles of rumble stripes will be required.

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed on SD25. The application width will extend 1 ft beyond the centerline of the roadway in each direction to create a total application rate of 0.10 gal./sq.yd on the centerline rumble stripes. All costs associated with placing the flush seal will be incidental to the contract unit price per ton for "SS-1h or CSS-1h Asphalt for Flush Seal".

**GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE**

Sinusoidal rumble stripes will be constructed on the centerline, as detailed in the plan set. Sinusoidal rumble stripes will be paid for at the contract unit price per mile for Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete. It is estimated that 0.9 miles of sinusoidal rumble stripes will be required.

Sinusoidal rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply a flush seal to the newly installed sinusoidal rumble stripes at a width of 24" and a rate of 0.10 gal./SqYd. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton. See below for location of Sinusoidal Centerline Rumble Strips:

Sta. 117+00 to Sta. 129+00  
Sta. 181+00 to Sta. 204+00  
Sta. 214+00 to Sta. 227+00

**REMOVE AND RESET MAILBOXES**

The Contractor will remove and reset the existing mailboxes for single mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor will coordinate with the Engineer on the proper postal representative to contact.

All costs for removing and resetting existing mailboxes and providing temporary mailboxes will be incidental to the contract unit price per each for "Remove and Reset Mailbox".

Four single mailboxes will be removed and reset.

**TABLE OF MAILBOXES**

Station	L/R	Single (each)
189+00	L	1
200+41	L	1
219+95	L	1
293+55	R	1
Total =		4

**CHECKING SPREAD RATES**

The Contractor will be responsible for checking the Class Q2R Hot Mixed Asphalt Concrete, Base Course, and Base Course, Salvaged spread rates and taking the weigh delivery tickets as the surfacing material arrives on the project and is placed onto the roadway.

The Contractor will compute the required spread rates for each typical surfacing section and create a spread chart prior to the start of material delivery and placement. The Engineer will review and check the Contractor's calculations and spread charts. The station to station spread will be written on each ticket as the surfacing material is delivered to the roadway.

At the end of each day's shift, the Contractor will verify the following:

- All tickets are present and accounted for,
- The quantity summary for each item is calculated,
- The amount of material wasted if any,
- Each day's ticket summary is marked with the corresponding 'computed by',
- The ticket summary is initialed and certified that the delivered and placed quantity is correct.

All daily tickets and the summary by item will be given to the Engineer no later than the following morning.

If the checker is not properly and accurately performing the required duties, the Contractor will correct the problem or replace the checker with an individual capable of performing the duties to the satisfaction of the Engineer. Failure to do so will result in suspension of the work.

The Department will perform depth checks. The Contractor will be responsible for placement of material to the correct depth unless otherwise directed by the Engineer. If the placed material is not within a tolerance of ±1/2 inch of the plan shown depth, the Contractor will correct the problem at no additional cost to the Department. Excess material above the tolerance will not be paid for. Achieving the correct depth may require picking up and moving material or other action as required by the Engineer. All costs for providing the Contractor furnished checker and performing all related duties will be incidental to the contract lump sum price for the "Checker". No allowances will be made to the contract lump sum price for Checker due to authorized quantity variations unless the quantities for the material being checked vary above or below the estimated quantities by more than 25 percent. Payment for the Checker will then be increased or decreased by the same proportion as the placed material quantity bears to the estimated material quantity.

**RATES OF MATERIALS**

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

**SD25 SURFACING SECTIONS (Rate 1)**

**Sta. 30+26.0 to Sta. 161+61.3**  
**Sta. 163+73.2 to Sta. 364+00.0**

SS-1h or CSS-1h Asphalt for Tack at the rate of 6.6 ton applied 44.0 feet wide (Rate = 0.06 gallon per square yard).

**CLASS Q2R HOT MIXED ASPHALT CONCRETE – 1<sup>ST</sup> Lift**

Crushed Aggregate	2,408tons
Salvaged Asphalt Concrete	602 tons
PG 58-34 Asphalt Binder	148 tons
Hydrated Lime	<u>32 tons</u>
Total	3,190 tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 6.6 ton applied 44.0 feet wide (Rate = 0.06 gallon per square yard).

**CLASS Q2R HOT MIXED ASPHALT CONCRETE – 2<sup>ND</sup> Lift**

Crushed Aggregate	2,575 tons
Salvaged Asphalt Concrete	644 tons
PG 58-34 Asphalt Binder	159 tons
Hydrated Lime	<u>34 tons</u>
Total	3,412 tons

**FLUSH SEAL**

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 5.4 ton applied 43.0 feet wide (Rate = 0.05 gallon per square yard).

**ADDITIONAL FLUSH SEAL FOR CENTERLINE RUMBLE STRIPE**

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.2 ton applied 2.0 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 52 ton applied 22.0 feet wide (Rate = 8 lbs. per square yard).

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

**TABLE OF ADDITIONAL QUANTITIES**

LOCATION			WATER FOR GRANULAR MATERIAL (MGal)	BASE COURSE or BASE COURSE, SALVAGED (Ton)	CLASS Q2R ASPHALT CONCRETE			PG 58-34 ASPHALT BINDER			ASPHALT FOR PRIME (Ton)	HYDRATED LIME			ASPHALT FOR TACK			ASPHALT FOR FLUSH SEAL (Ton)	SAND FOR FLUSH SEAL (Ton)
Station	to	Station			1st Lift (Ton)	2nd Lift (Ton)	Top Lift (Ton)	1st Lift (Ton)	2nd Lift (Ton)	Top Lift (Ton)		1st Lift (Ton)	2nd Lift (Ton)	Top Lift (Ton)	1st Lift (Ton)	2nd Lift (Ton)	Top Lift (Ton)		
<b>Mainline @ RR Xing</b>																			
161+62.30	to	162+62.30			39.4	48.1	65.6	1.8	2.2	3.1		0.4	0.5	0.6	0.1	0.1	0.1	0.1	1.0
162+73.20	to	163+73.20			39.4	48.1	65.6	1.8	2.2	3.1		0.4	0.5	0.6	0.1	0.1	0.1	0.1	1.0
<b>Intersecting Roads</b>																			
32' Int. Rds. - 2 Each			0.5	40.0	106.1			4.9			0.7	1.1			0.2			0.1	2.5
28' Int. Rds. - 10 Each			2.4	200.0	281.3			13.1			2.0	2.8			0.4			0.4	6.7
<b>Entrances</b>																			
40' Entrance - 7 Each			1.7	140.0															
32' Entrance - 20 Each			4.8	400.0															
24' Entrance - 6 Each			1.4	120.0															
* 24' Entrance @ Sta. 393+33 Rt.			0.4	29.7	47.6			2.2			0.3	0.5			0.1			0.1	1.1
<b>TOTAL =</b>			11.2	929.7	741.2			34.4			3.0	7.4			1.3			0.8	12.3

\* Asphalt Concrete paving on entrance will be 24' wide with a 3" depth to a distance of 103' right of centerline.

**Intersecting Roads and Entrances**

Intersecting Roads		Entrances			
32' Int. Rds	28' Int. Rds	40' Ent.	32' Ent.		24' Ent.
Sta. 279+33 Lt Sta. 279+33 Rt.	Sta. 67+89 Lt. Sta. 67+89 Rt. Sta. 120+84 Lt. Sta. 120+84 Rt. Sta. 173+70 Lt. Sta. 173+70 Rt. Sta. 226+55 Lt. Sta. 226+55 Rt. Sta. 331+69 Lt. Sta. 331+69 Rt.	Sta. 94+39 Lt. Sta. 147+27 Lt. Sta. 147+27 Rt. Sta. 200+15 Rt. Sta. 325+42 Lt. Sta. 353+93 Lt. Sta. 358+18 Rt.	Sta. 38+39 Lt. Sta. 38+39 Rt. Sta. 56+66 Lt. Sta. 56+66 Rt. Sta. 67+89 - 125' Rt./Ah. Sta. 77+97 Rt. Sta. 120+84 - 130' Lt./Ah. Sta. 127+07 Rt. Sta. 170+14 Lt. Sta. 170+14 Rt.	Sta. 180+89 Lt. Sta. 180+89 Rt. Sta. 188+75 Lt. Sta. 200+15 Lt. Sta. 210+97 Lt. Sta. 210+97 Rt. Sta. 220+19 Rt. Sta. 266+14 Lt. Sta. 266+14 Rt. Sta. 299+89 Rt.	Sta. 89+21 Rt. Sta. 122+77 Rt. Sta. 220+19 Lt. Sta. 250+15 Lt. Sta. 250+15 Rt. * Sta. 293+33 Rt. Sta. 325+42 Rt.

\* Will include Asphalt Concrete pavement.

**TABLE OF CONSTRUCTION STAKING**

(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Grade Staking				Miscellaneous Staking Quantity (Mile)
					Length (Mile)	Lane Factor	* Sets of Stakes	** Grade Staking Quantity (Mile)	
SD25 (2 lane roadway)	30+26.0	161+62.3	2	13,136.3	2.488	1	1	0.787	2.488
SD25 (2 lane roadway)	161+62.3	162+62.3	2	100.0	0.019	1	1	0.006	0.019
SD25 (2 lane roadway)	162+73.2	163+73.2	2	100.0	0.019	1	1	0.006	0.019
SD25 (2 lane roadway)	163+73.2	364+00.0	2	20,026.8	3.793	1	1	1.201	3.793
<b>Totals:</b>								2.000	6.319

\* 1 = Blue Top Stakes Only (Asphalt Concrete Pavement)

\*\* Grade Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)

**TABLE OF MATERIAL QUANTITIES**

LOCATION	WATER FOR GRANULAR MATERIAL	BASE COURSE, or BASE COURSE, SALVAGED	CLASS Q2R ASPHALT CONCRETE	PG 58-34 ASPHALT BINDER	HYDRATED LIME	ASPHALT FOR PRIME	BLOTTING SAND FOR PRIME	ASPHALT FOR TACK	ASPHALT FOR FLUSH SEAL	SAND FOR FLUSH SEAL
	MGal	Ton	Ton/Lift	Ton/Lift	Ton/Lift	Ton	Ton	Ton/Lift	Ton	Ton
Rate 1			20,035.5 / 21,429.7	929.5 / 998.6	201.0 / 213.5			41.5 / 41.5	35.2	326.6
Additional Quantities Table	11.2	929.9	741.2	34.4		7.4		1.3	0.8	12.3
Notes										
Surface Preparation	134.0					62.6	140.8			
Unclassified Excavation, Digouts	7.6	631.9								
Maintenance of Traffic							10.0			
Total =	152.8	1,561.6	42,206.4	1,962.5	421.9	65.6	150.8	84.3	36.0	338.9

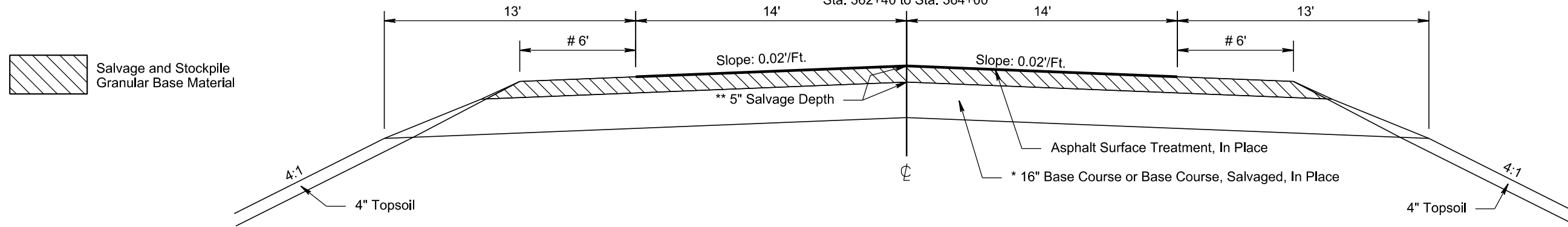
# IN PLACE SURFACING SECTION

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## Granular Material Salvage Location

Sta. 30+26 to Sta. 31+86  
 Sta. 161+01.3 to Sta. 162+61.3  
 Sta. 162+73.2 to Sta. 164+33.2  
 Sta. 362+40 to Sta. 364+00



## Transitions;

Sta. 30+26 to Sta. 31+86  
 \* 16" to 12"  
 \*\* 5" to 0"  
 # 6' to 7.5'

Sta. 161+01.3 to Sta. 161+61.3  
 \* 12" to 13.5"  
 \*\* 0" to 1.9"  
 # 7.5' to 6.9'

Sta. 161+61.3 to Sta. 162+61.3  
 \* 13.5" to 16"  
 \*\* 2.9" to 6"  
 # 6.9' to 6'

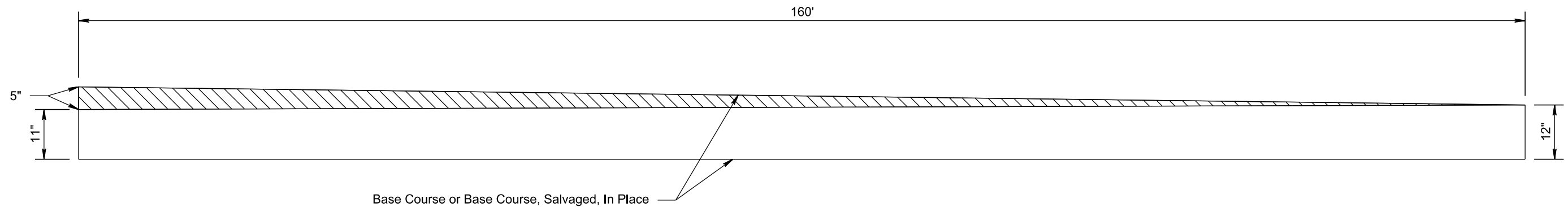
Sta. 162+73.2 to Sta. 163+73.2  
 \* 16" to 13.5"  
 \*\* 6" to 2.9"  
 # 6' to 6.9'

Sta. 163+73.2 to Sta. 164+33.2  
 \* 13.5" to 12"  
 \*\* 1.9" to 0"  
 # 6.9' to 7.5'

Sta. 362+40 to Sta. 364+00  
 \* 12" to 16"  
 \*\* 0" to 5"  
 # 7.5' to 6'

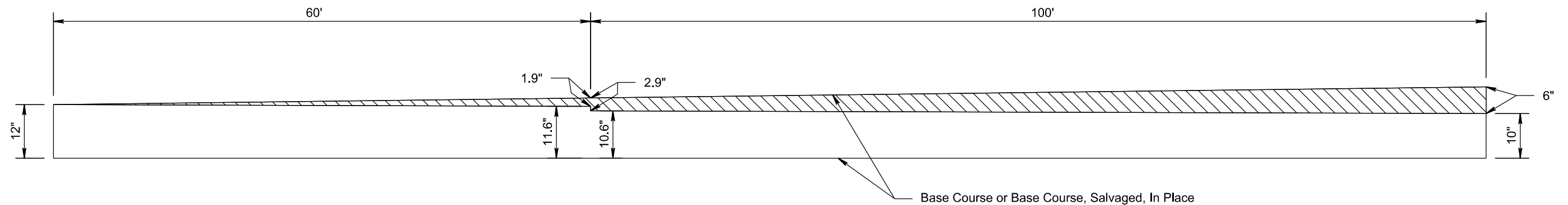
Begin / End of Project  
 Sta. 30+26  
 Sta. 364+00

Salvage Profile Begin / End of Project  
 Sta. 30+26 to Sta. 31+86  
 Sta. 362+40 to Sta. 364+00



Salvage Profile Adjacent to Railroad Crossing  
 Sta. 161+01.3 to Sta. 162+61.3  
 Sta. 162+73.2 to Sta. 164+33.2

Railroad Crossing  
 Sta. 162+61.3  
 Sta. 162+73.2



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR16032

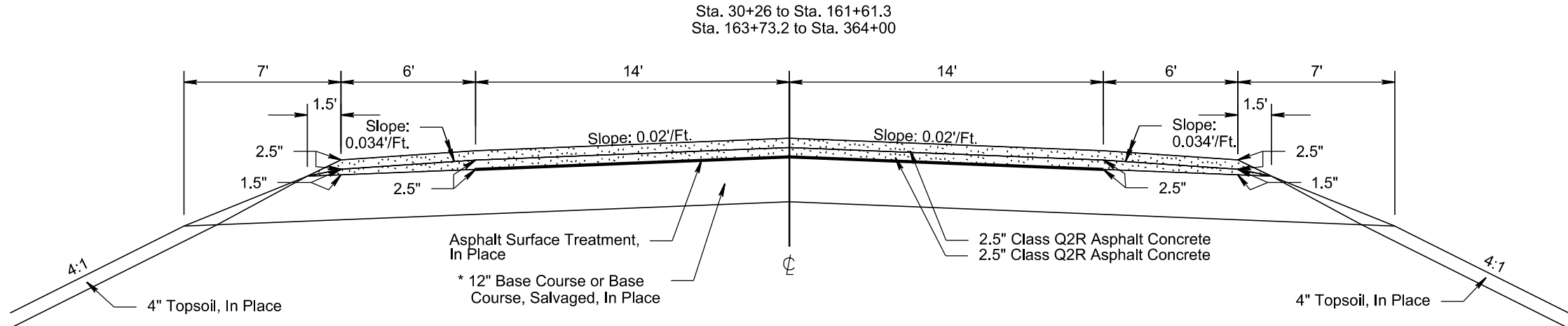
PLOT NAME - 2

FILE - ... \TYPICAL SECTIONS 06WY.DGN

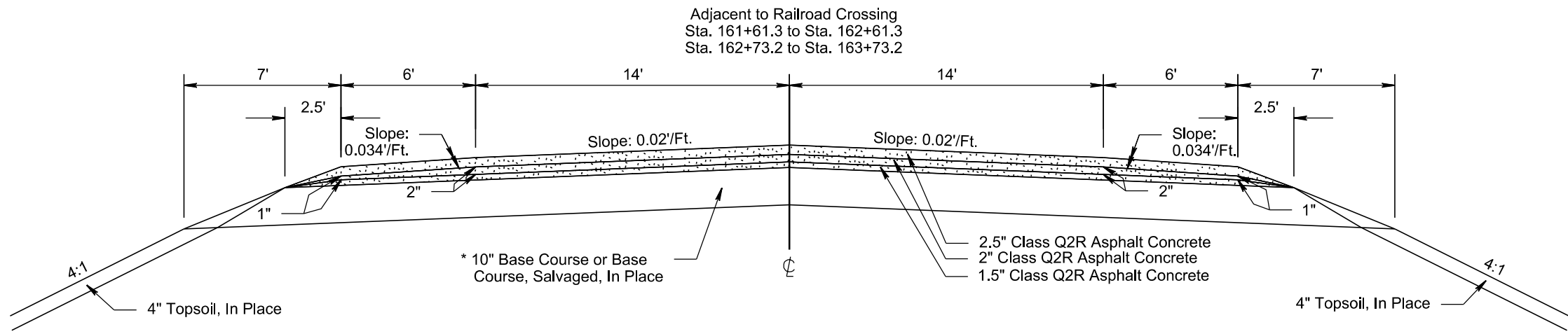
# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0025(90)132	F8	F13

Plotting Date: 03/16/2024



- Transitions;
- Sta. 30+26 to Sta. 31+86  
\* 11" to 12"
  - Sta. 161+01.3 to Sta. 161+61.3  
\* 12" to 11.6"
  - Sta. 163+73.2 to Sta. 164+33.2  
\* 11.6" to 12"
  - Sta. 362+40 to Sta. 364+00  
\* 12" to 11"



- Transitions;
- Sta. 161+61.3 to Sta. 162+61.3  
\* 10.6" to 10"
  - Sta. 162+73.2 to Sta. 163+73.2  
\* 10" to 10.6"

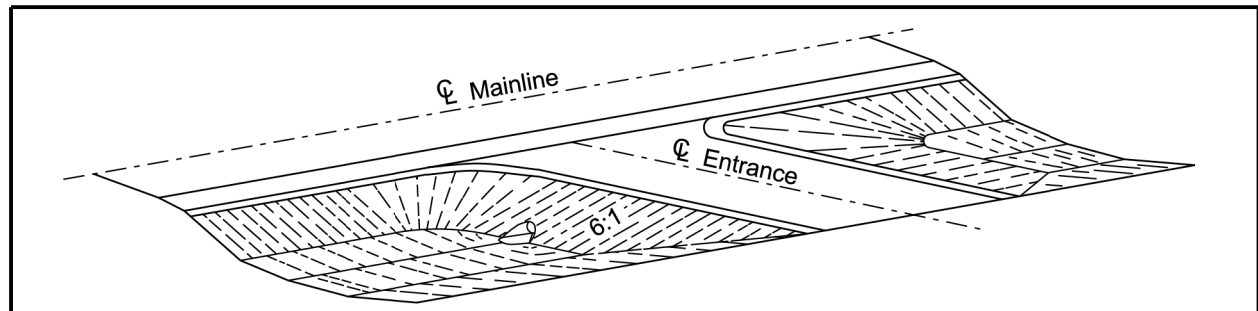
PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR16032

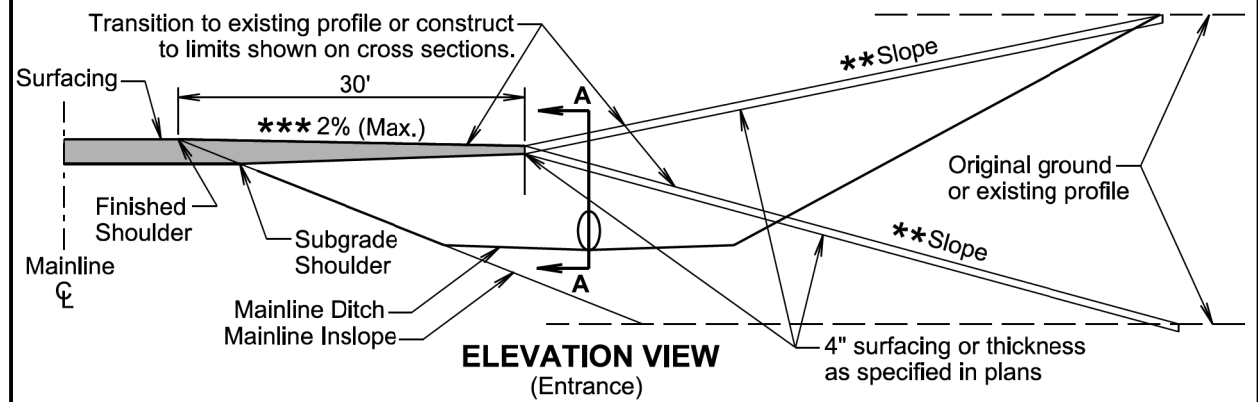
PLOT NAME - 3

FILE - ... \TYPICAL SECTIONS 06WY.DGN



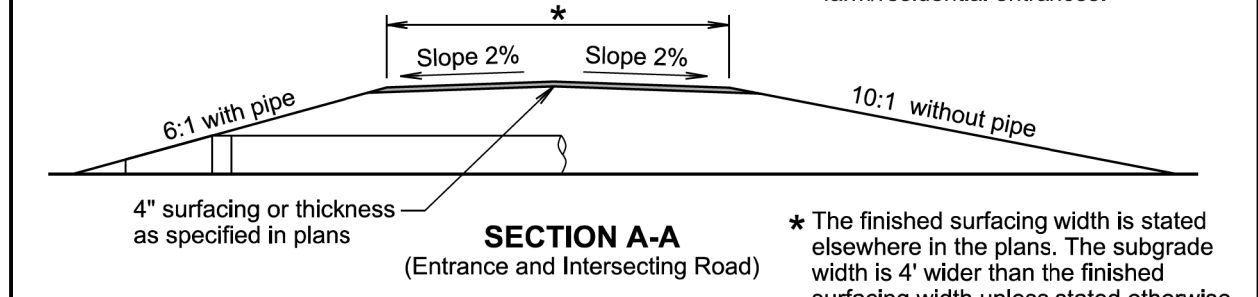


**PERSPECTIVE OF ENTRANCE**



\*\*\* 2% When on the inside of superelevation and 0% or flat when on outside of superelevation.

\*\* Entrance maximum slope is typically 10:1 for field entrances and 15:1 for farm/residential entrances.

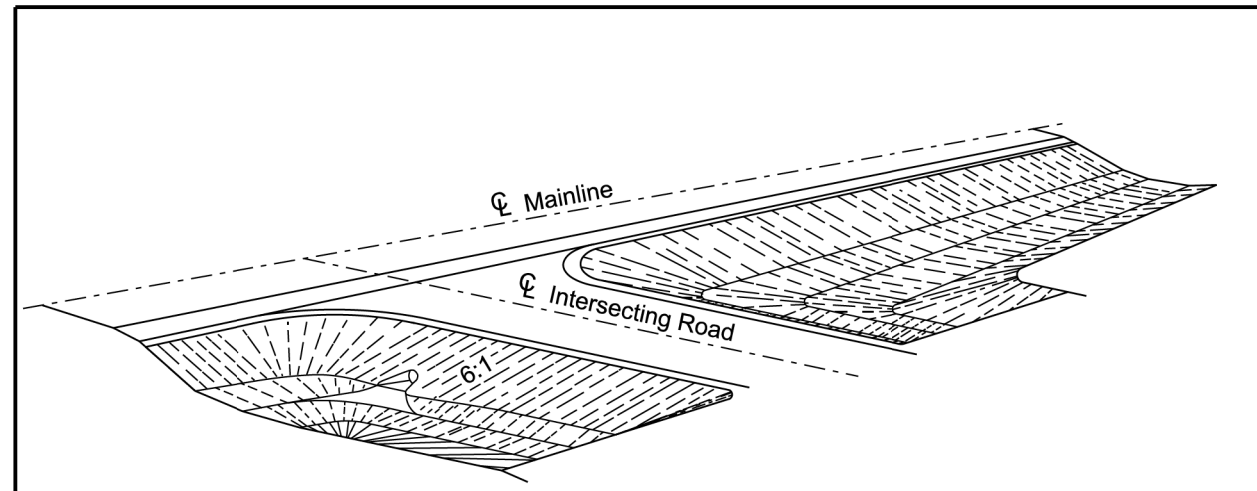


**GENERAL NOTES:**

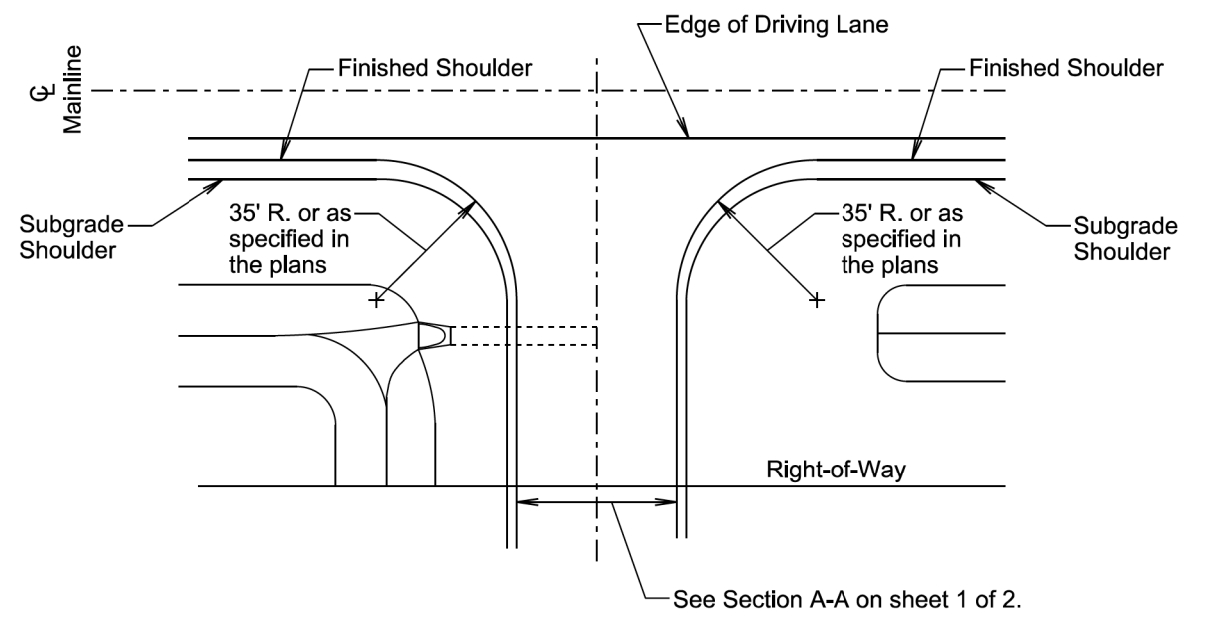
- The ditch section shown above in the perspective view is only for illustrative purpose.
- The elevation view above is typical for either a ditch cut or fill section. Entrances that vary from above should be specified in the plans.
- Pipe length will be adjusted if necessary during construction to obtain the 6:1 slope. For grading projects, the pipe length is estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.
- The transition area between the mainline inslope and the entrance or intersecting road inslope will be rounded to eliminate an abrupt transition.
- The turning radii will be 35' for intersecting roads and entrances unless stated otherwise in the plans.

November 19, 2021

Published Date: 2024	S D D O T	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 1 of 2



**PERSPECTIVE OF INTERSECTING ROAD**



**GENERAL NOTES:**

- The 6:1 or 10:1 intersecting road inslope will transition to the existing intersecting road inslope near the right-of-way or at a location as determined by the Engineer.

November 19, 2021

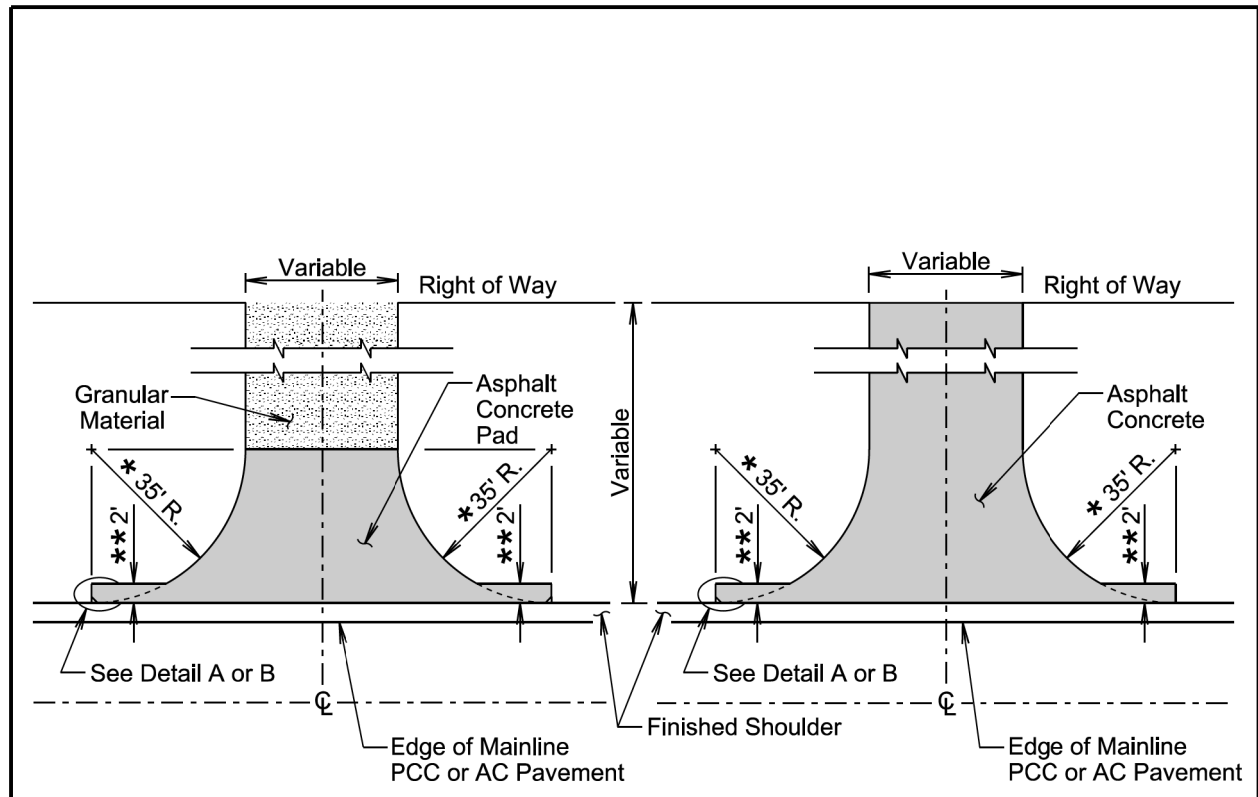
Published Date: 2024	S D D O T	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 2 of 2

Plot Scale - 1:200

Plotted From - TRPR16032

File - ...I:\K06WY\Std Plate 06WY.dgn

Plot Scale - 1:200



**PLAN VIEW**  
(Intersecting Road)  
(No Asphalt Concrete Surfacing  
Beyond Right of Way)

**PLAN VIEW**  
(Intersecting Road)  
(Asphalt Concrete Surfacing  
Beyond Right of Way)

**GENERAL NOTES:**

The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

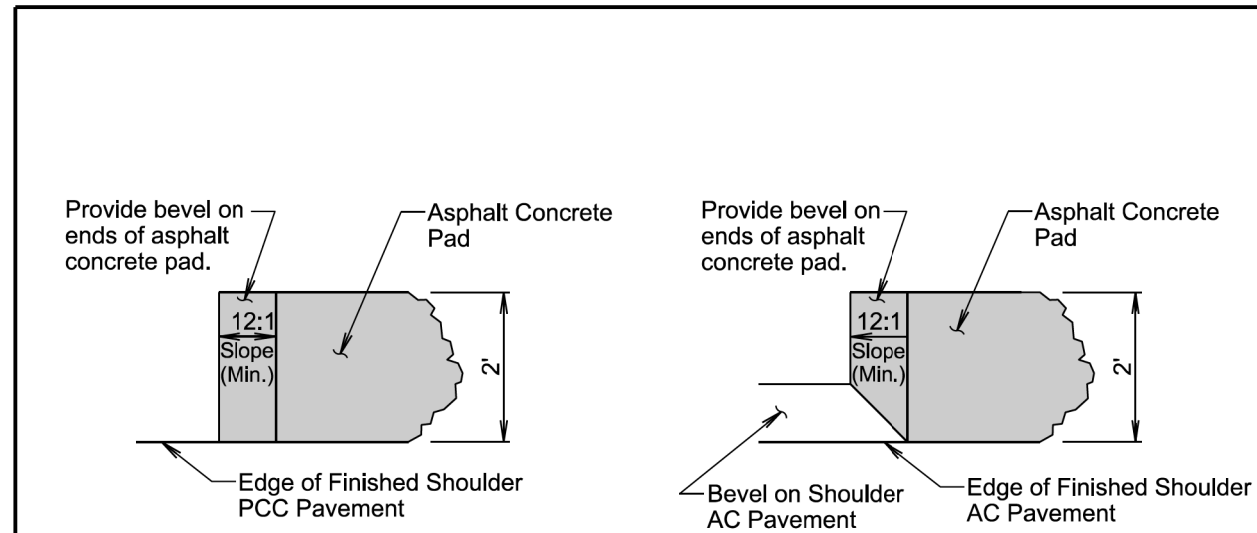
\* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

\*\* The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete pads if the Engineer, in the Engineer's sole discretion, determines the pads are infeasible to construct due to site specific reasons including, but not limited to; existing inslope configuration, borrow and material availability, and right-of-way constraints.

August 27, 2020

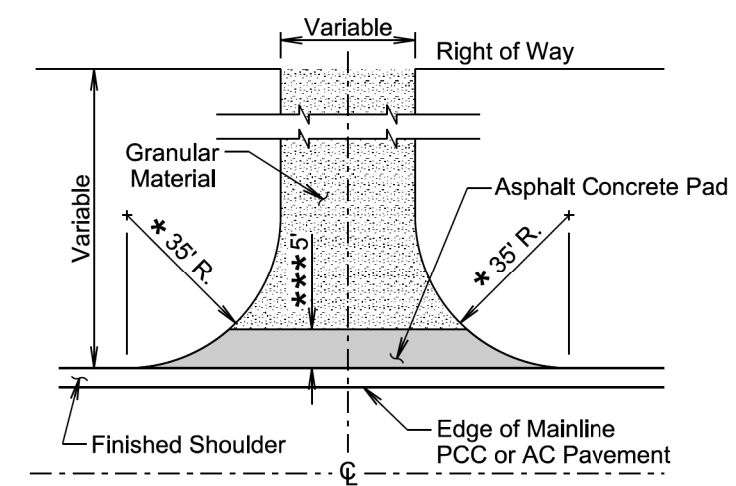
<b>S D D O T</b>	<b>SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)</b>	PLATE NUMBER 320.04
		Sheet 1 of 2

Published Date: 2024



**DETAIL A**  
(Typ. for Projects with PCC Pavement on Shoulder)

**DETAIL B**  
(Typ. for Projects with AC Pavement on Shoulder)



**PLAN VIEW**  
(Entrance)

\*\*\* Not required if finished shoulder width is 4' or greater.

August 27, 2020

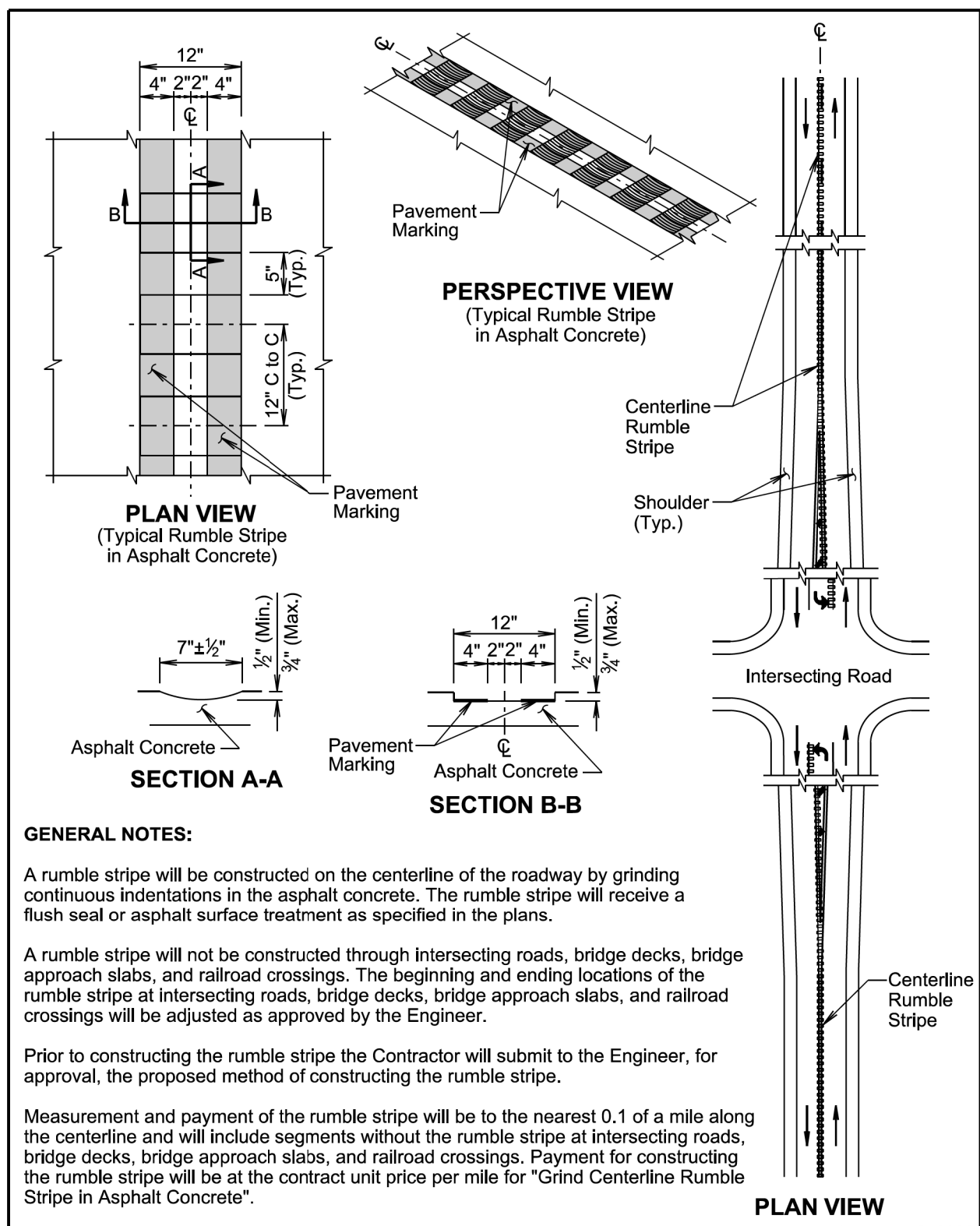
<b>S D D O T</b>	<b>SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)</b>	PLATE NUMBER 320.04
		Sheet 2 of 2

Published Date: 2024

Plotted From: - TRPR16032

File - ...I:\k06WY\Std Plate 06WY.dgn

Plot Scale - 1:200



**GENERAL NOTES:**

A rumble stripe will be constructed on the centerline of the roadway by grinding continuous indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

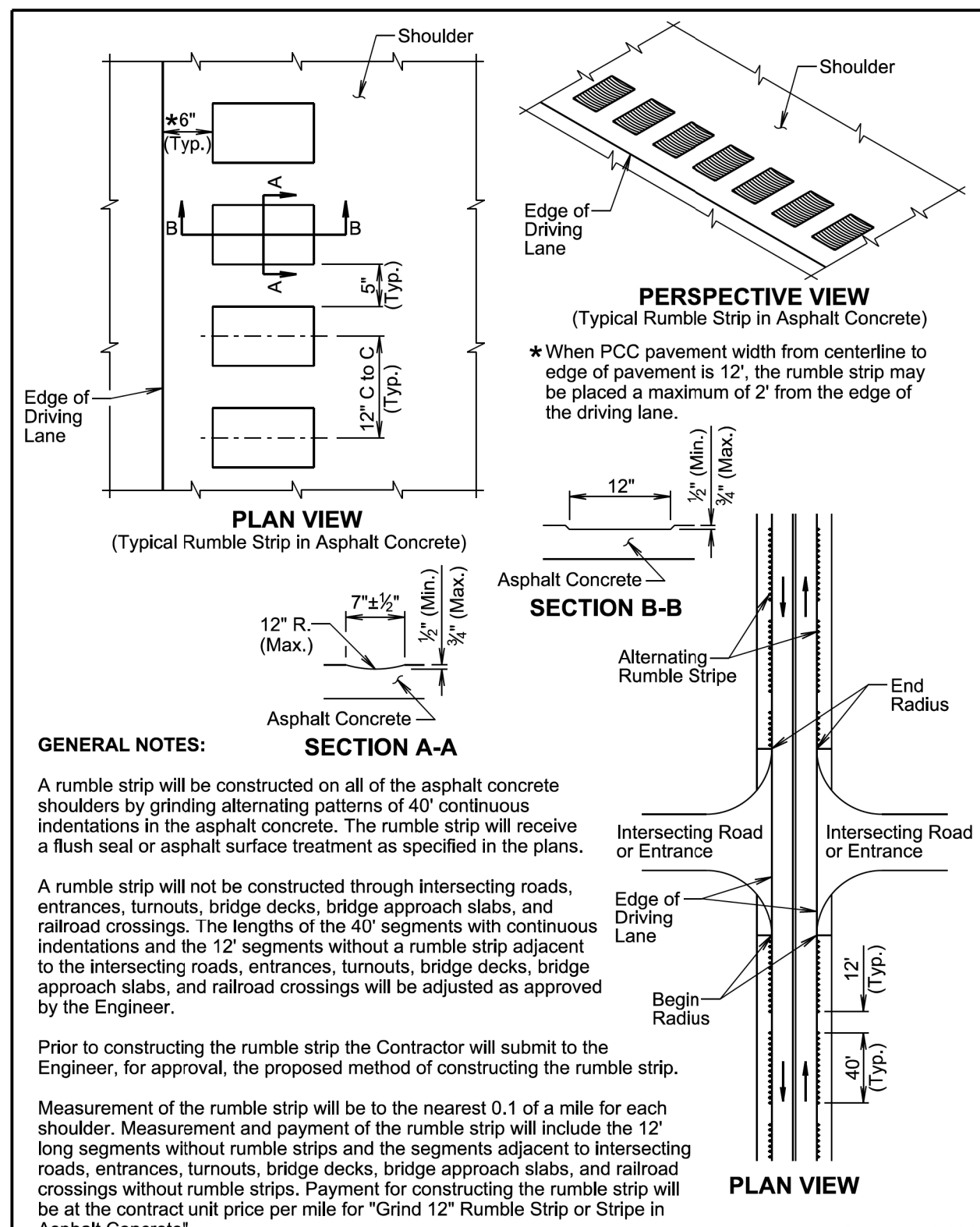
A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Centerline Rumble Stripe in Asphalt Concrete".

November 19, 2020

<b>S D D O T</b>	<b>12" CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE</b>	PLATE NUMBER <b>320.18</b>
	<i>Published Date: 2024</i>	Sheet 1 of 1



**GENERAL NOTES:**

A rumble stripe will be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble stripe adjacent to the intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

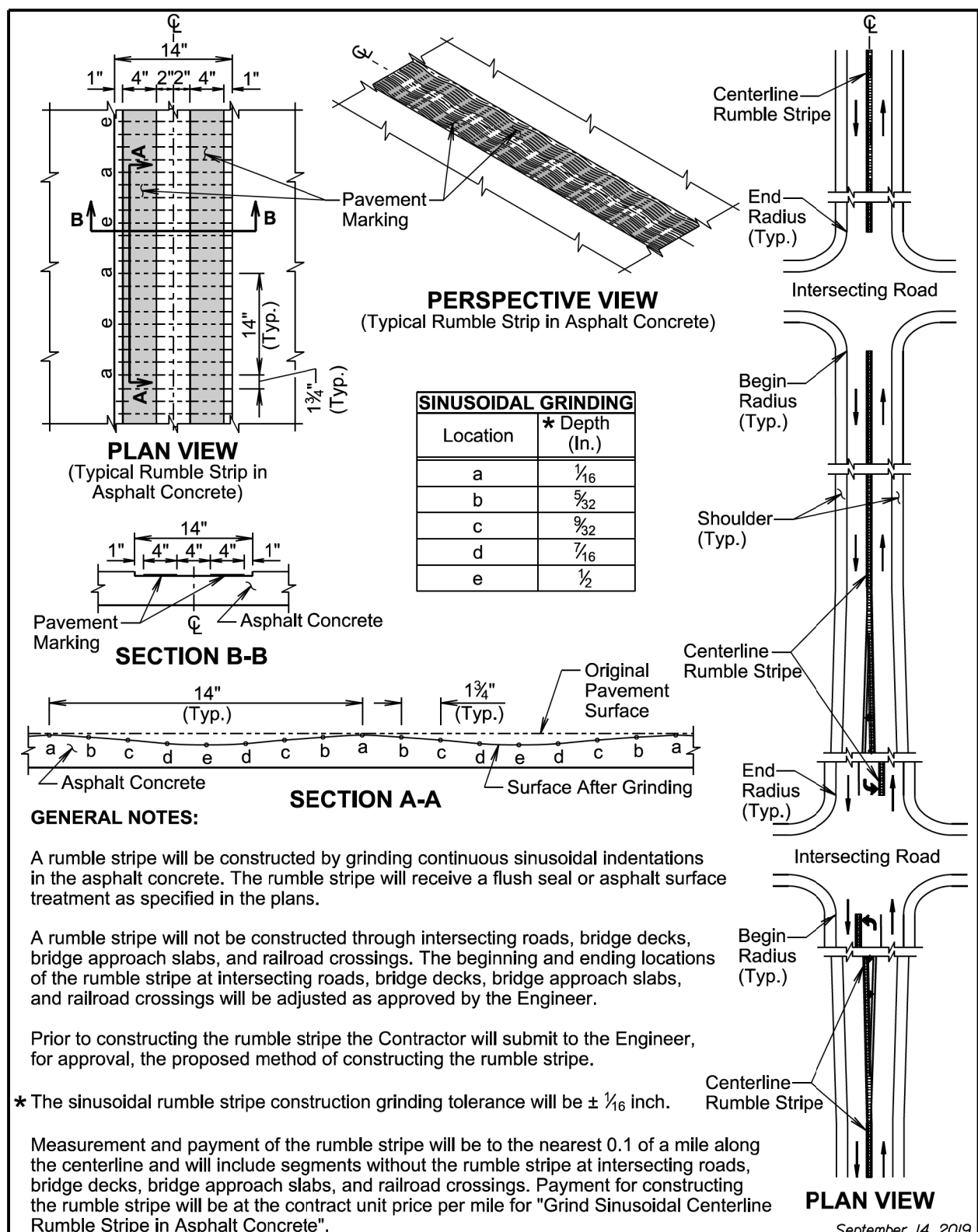
Measurement of the rumble stripe will be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble stripe will include the 12' long segments without rumble stripes and the segments adjacent to intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings without rumble stripes. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind 12" Rumble Strip or Stripe in Asphalt Concrete".

September 14, 2019

<b>S D D O T</b>	<b>12" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS</b>	PLATE NUMBER <b>320.24</b>
	<i>Published Date: 2024</i>	Sheet 1 of 1

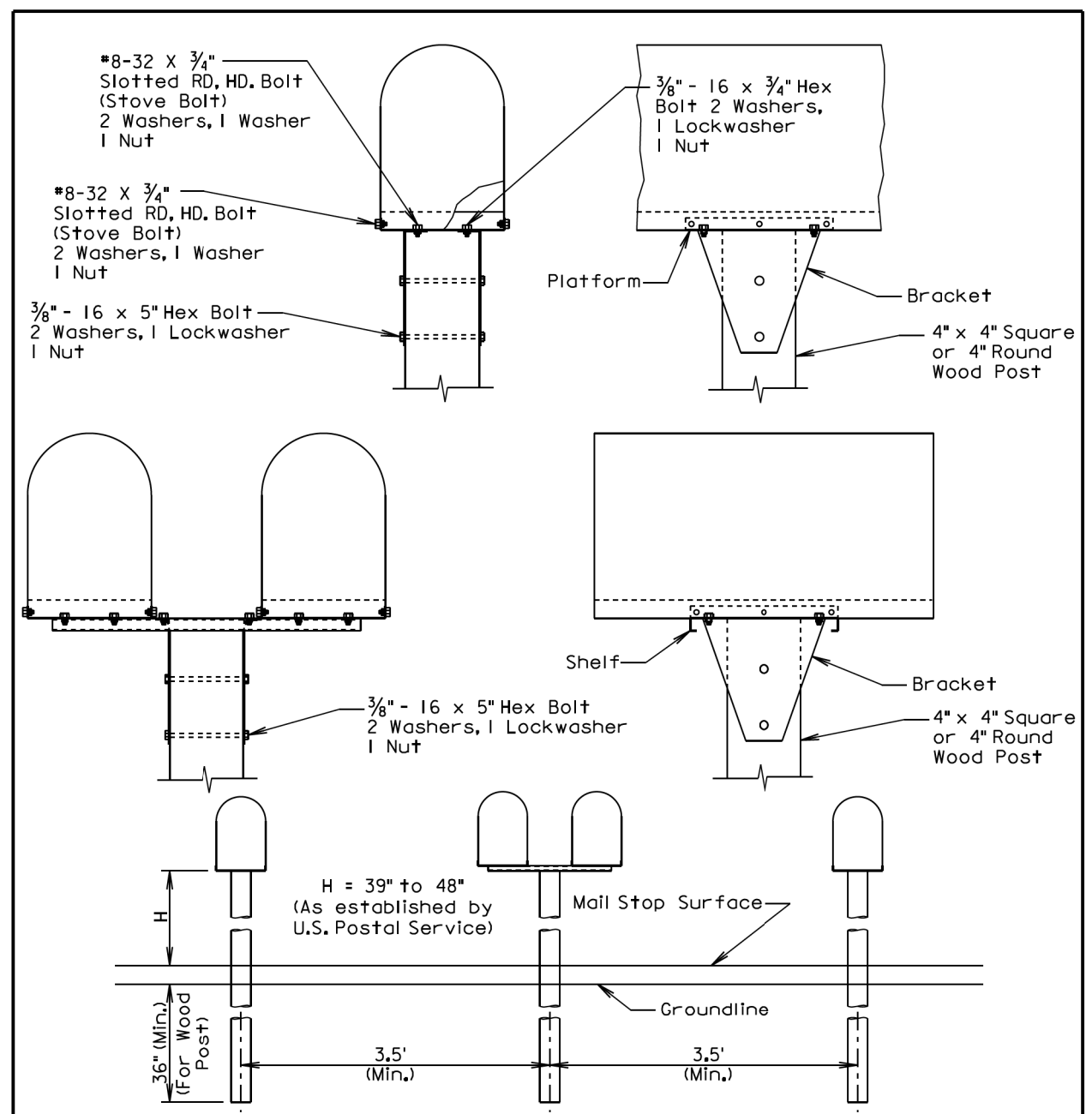
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Plotted From - TRPR16032



September 14, 2019

<b>S D D O T</b>	<b>SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE</b>	PLATE NUMBER <b>320.40</b>
	Published Date: 2024	Sheet 1 of 1



September 6, 2013

<b>S D D O T</b>	<b>SINGLE AND DOUBLE MAILBOX ASSEMBLIES</b>	PLATE NUMBER <b>900.02</b>
	Published Date: 2024	Sheet 1 of 1

Plot Scale - 1:200

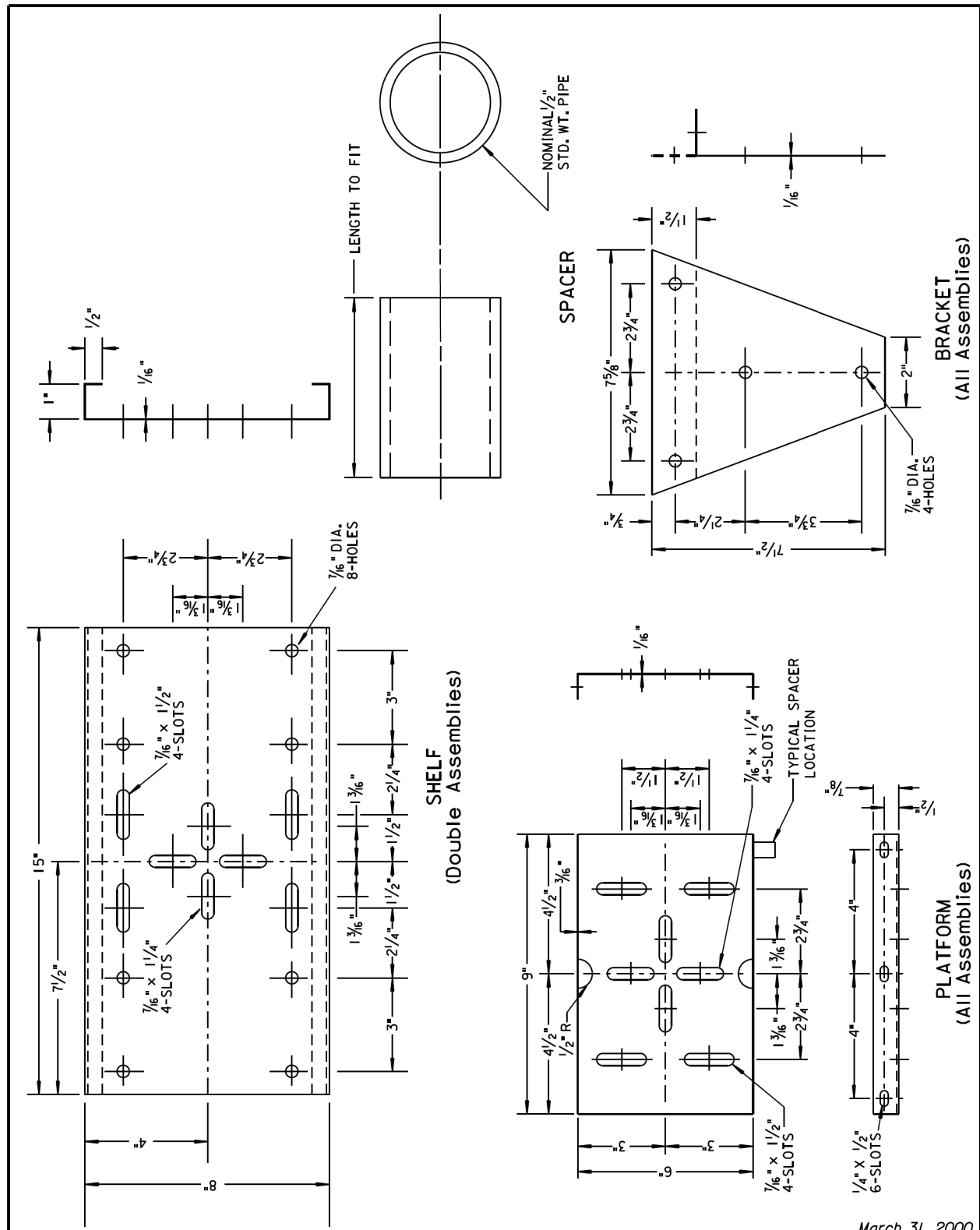
Plotted From - TRPR16032

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0025(90)132	F13	F13

Plotting Date: 03/16/2024

Revised: 16Mar24, RML



March 31, 2000

<b>Published Date: 2024</b>	<b>S D D O T</b>	<b>MAILBOX SUPPORT HARDWARE</b>	<b>PLATE NUMBER</b> 900.03
			Sheet 1 of 1