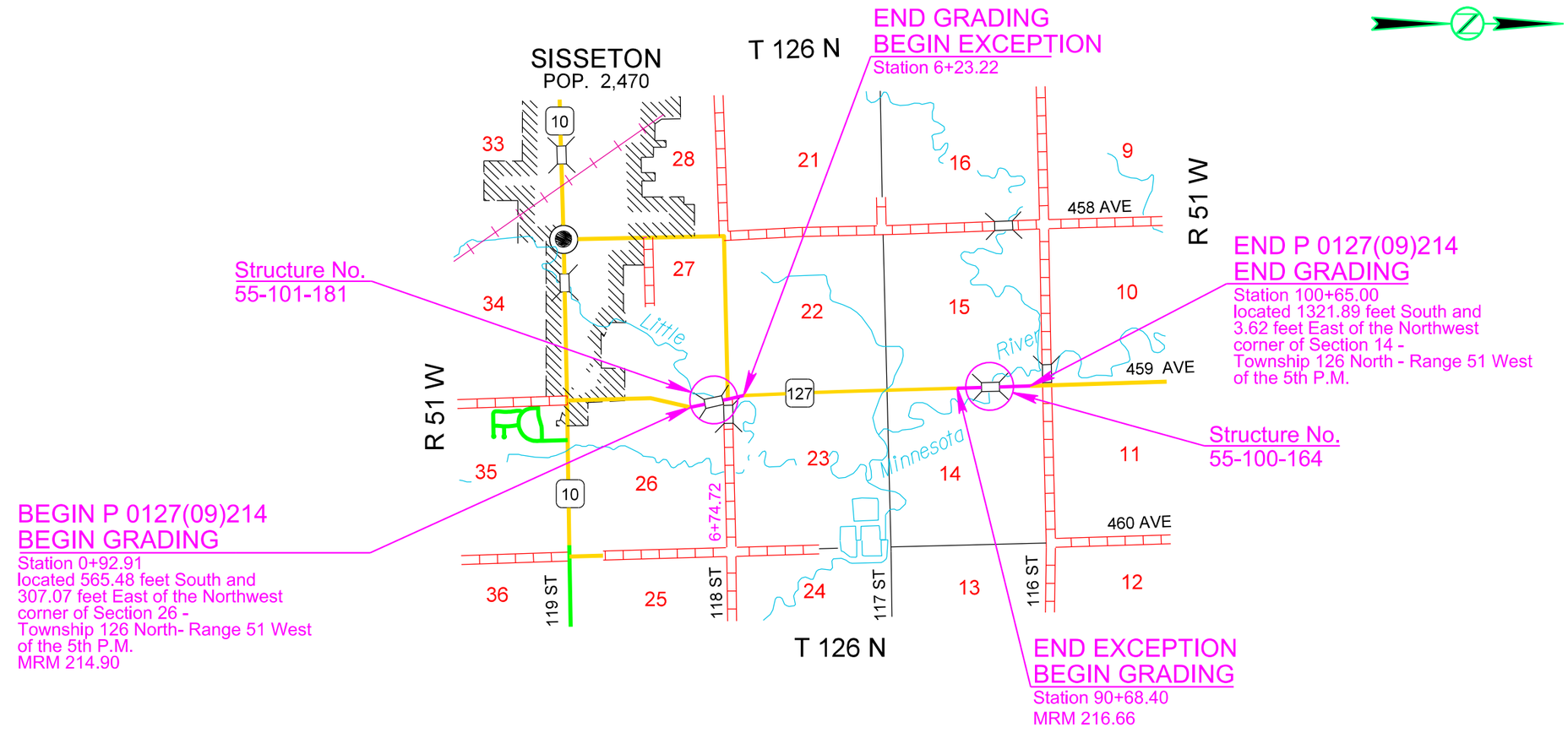
Section F: Surfacing Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F1	F10

Plotting Date: 09/04/2025
REVISED 9/4/2025 - BAH

INDEX OF SHEETS



REVISED 9/4/2025 - BAH

SECTION F ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3320	Checker	Lump Sum	LS
120E6200	Water for Granular Material	54.6	MGal
260E1010	Base Course	4,550.3	Ton
320E1200	Asphalt Concrete Composite	1,858.2	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	0.5	Mile

WATER FOR GRANULAR MATERIAL

Water for compaction of the granular material is estimated at 54.6 MGal. A minimum of 4% moisture will be required at the time of compaction unless otherwise directed by the Engineer.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite is estimated at a rate of 47.96 tons/sta for each 2” lift as shown in the typical section.

Asphalt Concrete Composite will include MC-70 Asphalt for Prime placed at the rate of 0.30 gallons per square yard and Blotting Sand for Prime placed at the rate of 10 pounds per square yard. The Asphalt for Prime will be applied to the Base Course for the full width of the bottom layer of Asphalt Concrete Composite plus one foot additional on the outside shoulder.

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.

The binder used in the Asphalt Concrete Composite mix will be PG 58-34 or PG 64-34 Asphalt Binder.

SURFACING THICKNESS DIMENSIONS

At those locations where material must be placed to achieve a required elevation, the depth/quantity may be varied to achieve the required elevation.

CHECKING SPREAD RATES

The Contractor will be responsible for checking the Base Course and Asphalt Concrete Composite 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.

FLUSH SEAL

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

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.

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 0.5 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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F3	F10

TABLE OF QUANTITIES

REVISED 9/4/2025 - BAH

* Asterisk denotes NOT A BID ITEM. Columns included for information only. Quantities are incidental to various other contract items.

067D - Mainline SD127	Water for Granular Material (MGal)	Base Course (Ton)	Asphalt Concrete Composite, Lifts 1st (Ton)	Asphalt Concrete Composite, Lifts 2nd (Ton)	Asphalt Concrete Composite, Lifts 3rd (Ton)	* Asphalt Binder PG 58-34 or PG 64-34, Lifts 1st (Ton)	* Asphalt Binder PG 58-34 or PG 64-34, Lifts 2nd (Ton)	* Asphalt Binder PG 58-34 or PG 64-34, Lifts 3rd (Ton)	* MC-70 Asphalt for Prime (Ton)	* Hydrated Lime 1st (Ton)	* Hydrated Lime 2nd (Ton)	* Hydrated Lime 3rd (Ton)	* SS-1h or CSS-1h Asphalt for Tack, Lifts 1st (Ton)	* SS-1h or CSS-1h Asphalt for Tack, Lifts 2nd (Ton)	* SS-1h or CSS-1h Asphalt for Tack, Lifts 3rd (Ton)	* SS-1h or CSS-1h Asphalt for Flush Seal (Ton)	* Blotting Sand for Prime (Ton)	* Sand for Flush Seal (Ton)
Sta. 0+92.91 to Sta. 6+23.22	20.1	1,671.1	254.3	254.3	254.3	12.6	12.6	12.6	3.0	2.5	2.5	2.5	0.6	0.6	0.6	0.5	7.1	5.7
Sta. 90+68.40 to Sta. 94+36.72	13.9	1,160.6	176.6	176.6	176.6	8.7	8.7	8.7	2.1	1.7	1.7	1.7	0.4	0.4	0.4	0.4	4.9	3.9
Sta. 97+17.75 to Sta. 100+65.00	13.1	1,094.2	166.5	166.5	166.5	8.2	8.2	8.2	2.0	1.6	1.6	1.6	0.4	0.4	0.4	0.3	4.6	3.7
Structure # 55-100-164 Guardrail Areas																		
Sta. 90+95.79 to Sta. 94+53.42 Rt.	1.7	140.2			18.7			0.9	0.2			0.2			0.04	0.04		
Sta. 92+14.81 to Sta. 94+61.03 Lt.	1.2	102.6			13.7			0.7	0.1			0.1			0.03	0.03		
Sta. 96+93.45 to Sta. 99+40.25 Rt.	1.2	99.6			13.3			0.7	0.1			0.1			0.03	0.03		
Sta. 97+01.13 to Sta. 100+59.13 Lt.	1.8	152.0			20.3			1.0	0.2			0.2			0.05	0.04		
Field Entrances (2)	1.6	130.0																
TOTAL	54.6	4,550.3	1,858.2			* 91.8			* 7.7	* 18.0			* 4.4			* 1.3	* 16.6	* 13.3

IN PLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F4	F10

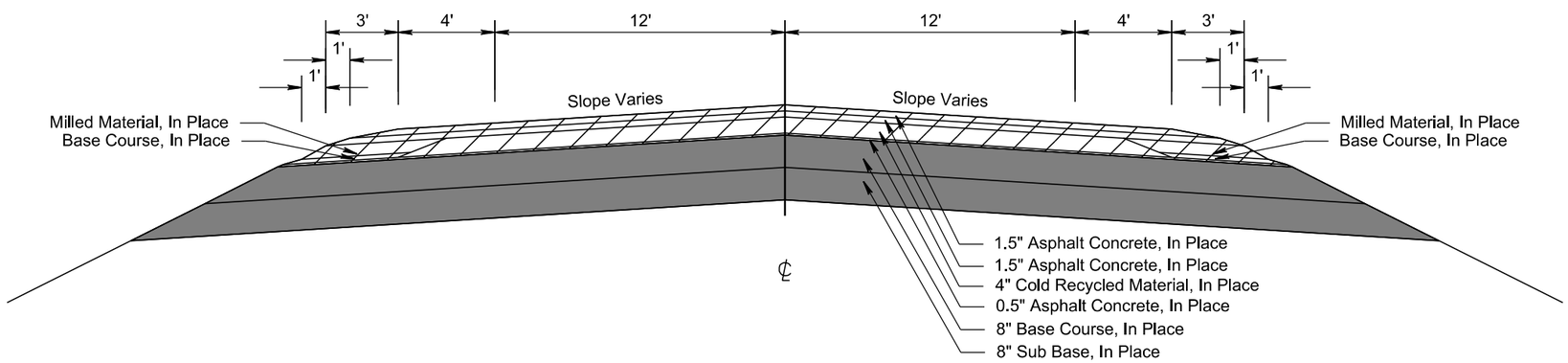
Plotting Date: 08/06/2025

Remove Asphalt Concrete Pavement

Unclassified Excavation

Bridge Exception:
Sta. 94+81 to Sta. 96+84

SD 127
Sta. 0+92.91 to Sta. 6+23.22
Sta. 90+68.40 to Sta. 100+65



PLOT SCALE - 1:6.00001

PLOT NAME - 2

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PLOTTED FROM - TRPR18388A

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F5	F10

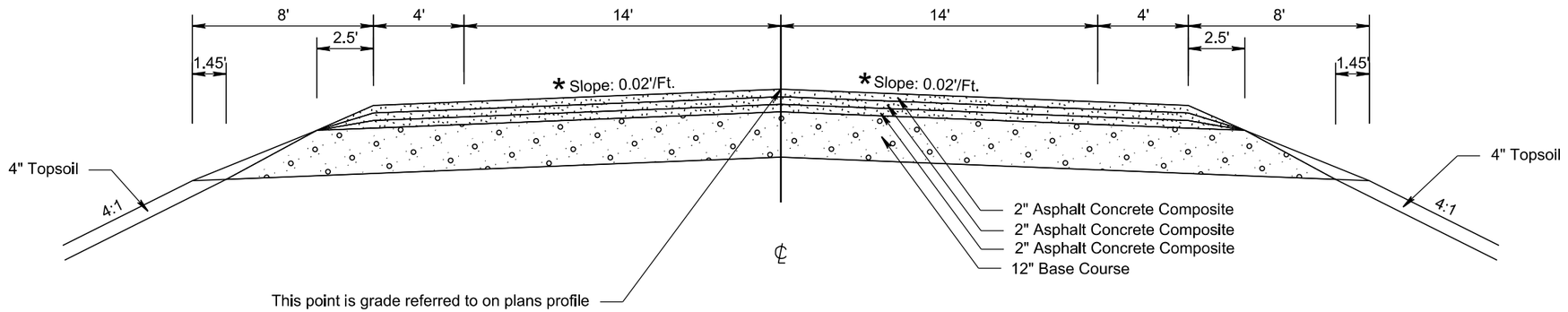
Plotting Date: 08/06/2025

* Slope Transitions:
Sta. 0+92.91 to Sta 1+92.00 - See superelevation table elsewhere in the plans
Sta. 5+73.22 to Sta. 6+23.22 - 0.02'/Ft. to match existing
Sta. 90+68.40 to Sta. 91+58.40 - Match existing to 0.02'/Ft.
Sta. 100+45.00 to Sta. 100+65.00 - 0.02'/Ft. to match existing

Bridge and Approach Slabs:
Sta. 94+36.72 to Sta. 97+17.76

Section 1

Sta. 0+92.91 to Sta. 6+23.22
Sta. 90+68.40 to Sta. 100+65.00



GUARDRAIL EMBANKMENT LAYOUTS

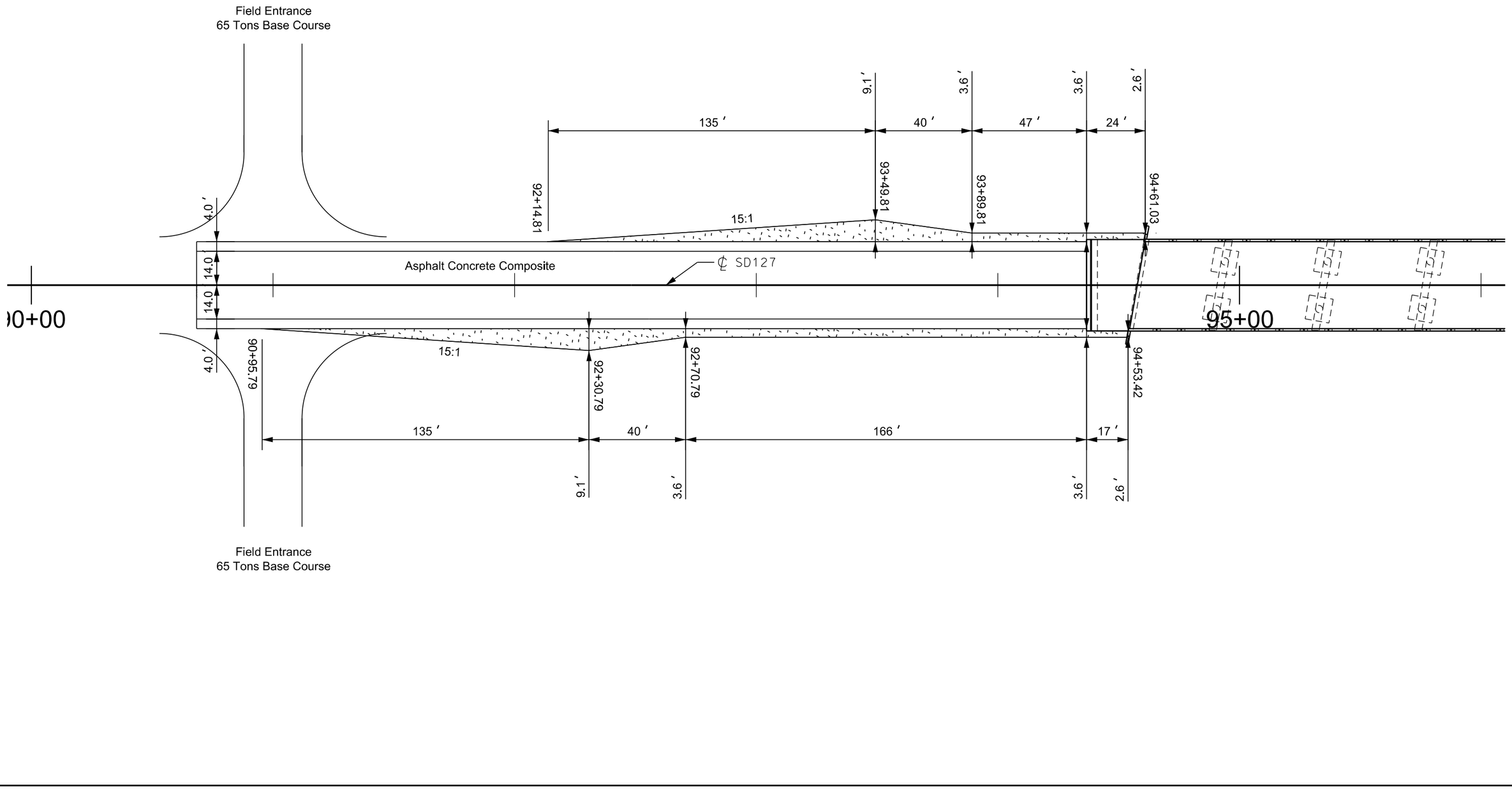
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F6	F10

Plotting Date: 09/04/2025
REVISED 9/4/2025 - BAH

Scale 1 Inch = 40 Feet
Sheet 1 of 2 Sheets

Limits of embankment to be surfaced with 2" Asphalt Concrete Composite over variable depth Base Course

Str. No. 55-100-164 over Little Minnesota River



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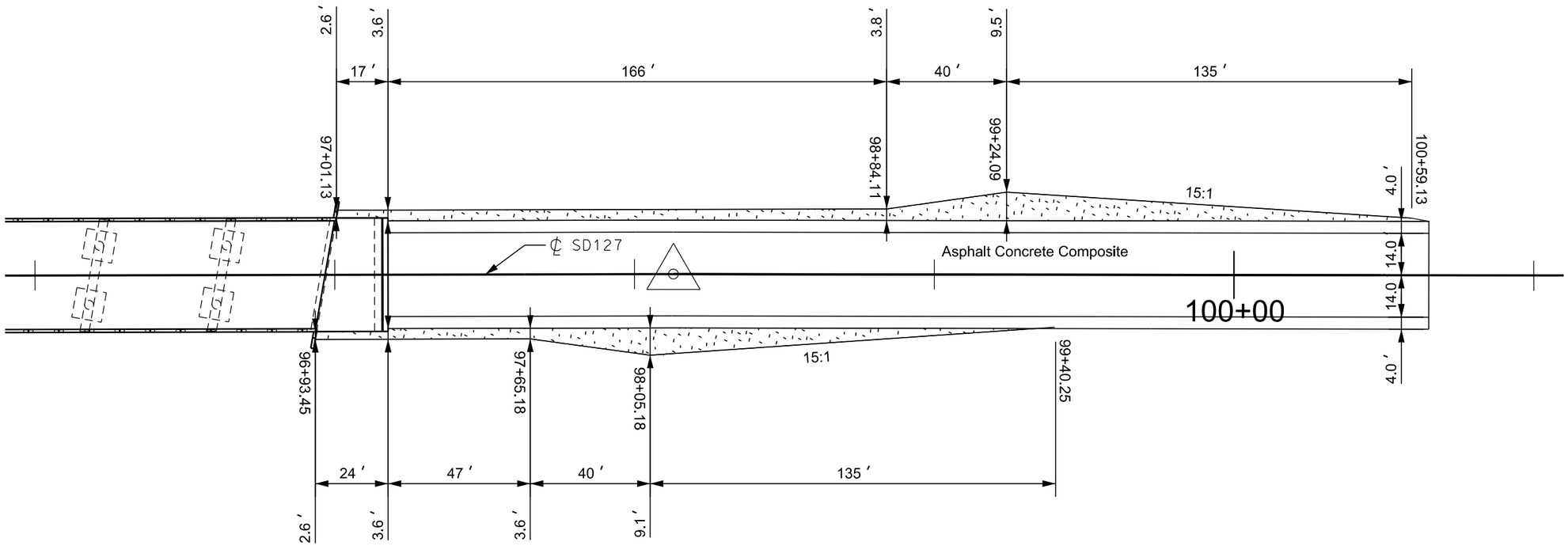
GUARDRAIL EMBANKMENT LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F7	F10

Plotting Date: 09/04/2025
REVISED 9/4/2025 - BAH

Scale 1 Inch = 40 Feet
Sheet 2 of 2 Sheets

Limits of embankment to be surfaced with 2" Asphalt Concrete Composite over variable depth Base Course



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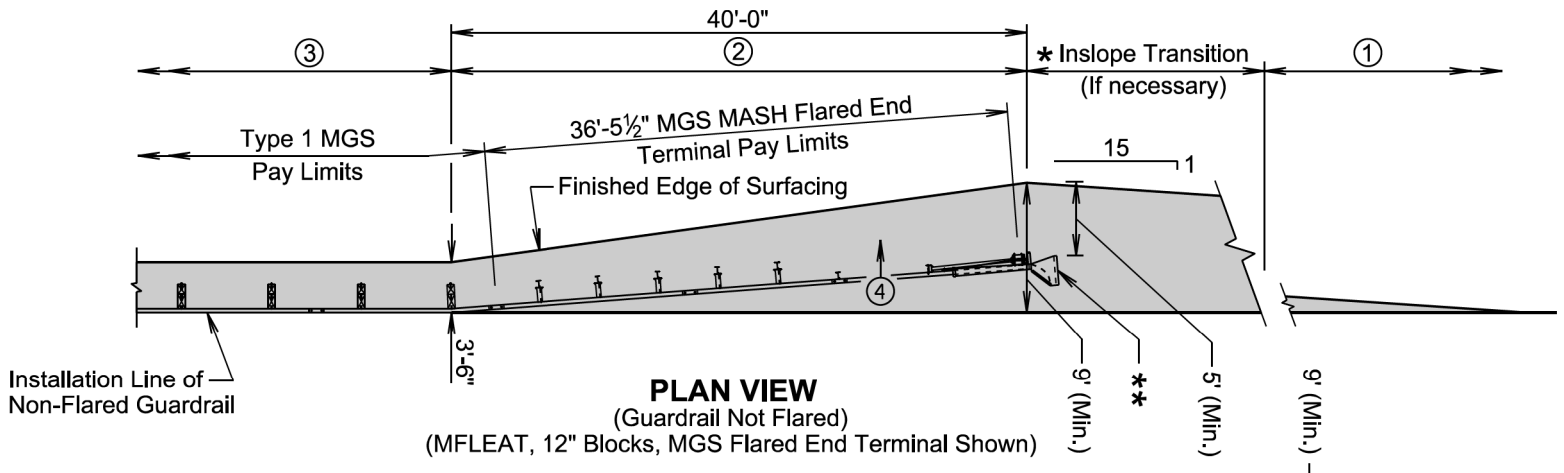
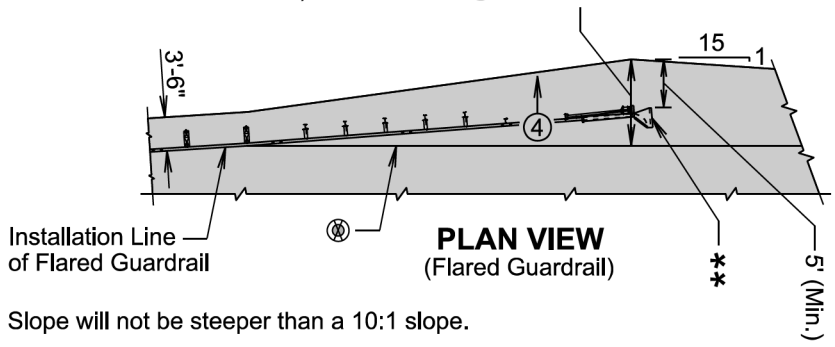
EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH FLARED END TERMINAL

Sheet 1 of 2



PLAN VIEW
(Guardrail Not Flared)
(MFLEAT, 12" Blocks, MGS Flared End Terminal Shown)



PLAN VIEW
(Flared Guardrail)

** See standard plate 632.40 for delineation.

▭ 2" Asphalt concrete surfacing with variable thickness granular material or as specified in the plans.

① Same inslope as mainline inslope or as specified in the plans.

② 4:1 inslope or as specified in the plans.

③ Inslope as specified in the plans.

④ Same slope as roadway cross slope or as specified in the plans. Slope will not be steeper than a 10:1 slope.

GENERAL NOTES:

The flared guardrail end terminals above are for illustrative purpose only.

* The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100 feet for every whole number change in the inslope. For Example: If the inslope changes from a 5:1 to a 4:1 the length of the inslope transition would be 100 feet. If the inslope changes from a 6:1 to a 4:1 the length of the inslope transition would be 200 feet.

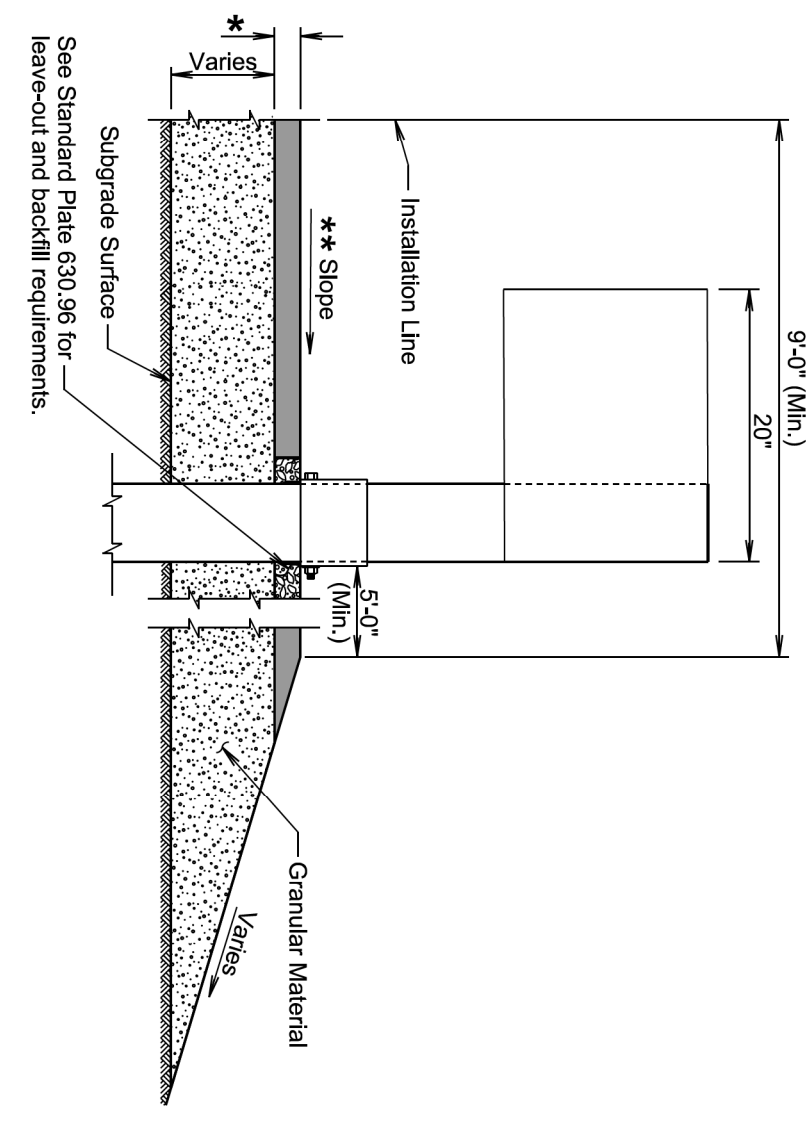
Ⓜ The installation reference line for flared guardrail end terminals will always be parallel to the roadway.

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite."

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH FLARED END TERMINAL

Sheet 2 of 2



TRANSVERSE SECTION
(MFLEAT MGS Flared End Terminal Shown)

* 2" asphalt concrete or as specified in the plans.

** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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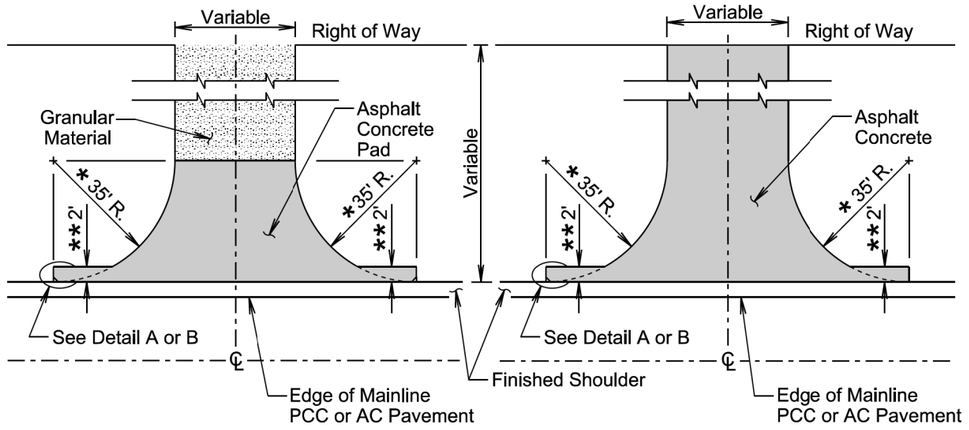


PLAN VIEW
(Intersecting Road)
(No Asphalt Concrete Surfacing Beyond Right of Way)

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

GENERAL NOTES:

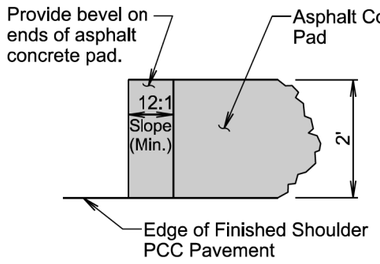
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

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

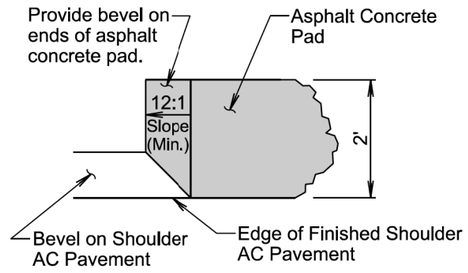
** The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete 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

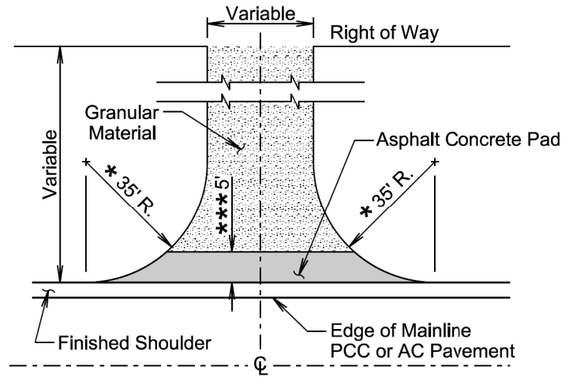
Published Date: 2026	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 1 of 2



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.

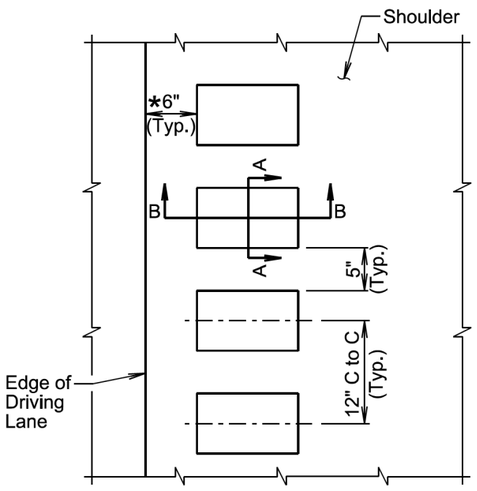
August 27, 2020

Published Date: 2026	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 2 of 2

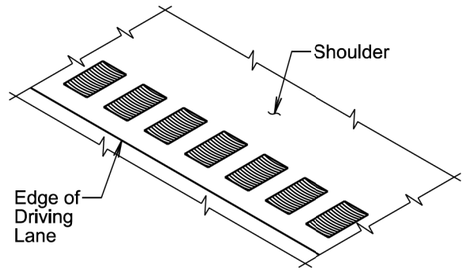
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0127(09)214	F10	F10

Plotting Date: 09/04/2025

REVISED 9/4/2025 - BAH

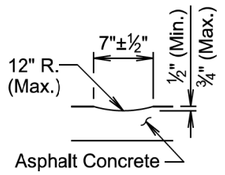


PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)

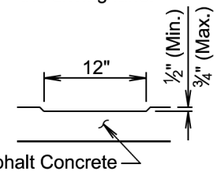


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

*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.



SECTION A-A



SECTION B-B

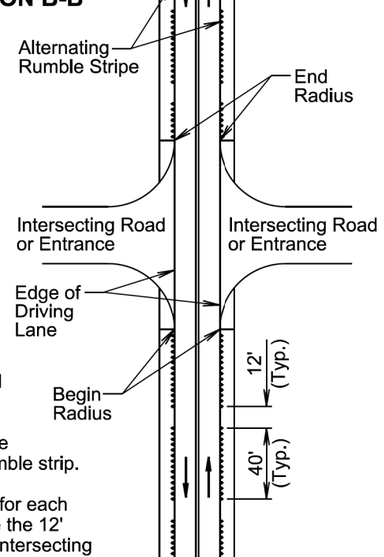
GENERAL NOTES:

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

A rumble strip 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 strip 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 strip the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble strip.

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



PLAN VIEW

September 14, 2019

Published Date: 2026	SDDOT	***12" RUMBLE STRIP IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS***	*PLATE NUMBER* 320.24
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRPR18388A

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