

# Section F: Surfacing Plans

|                             |                |       |                 |
|-----------------------------|----------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET | TOTAL<br>SHEETS |
|                             | P 0025(105)149 | F1    | F12             |

Plotting Date: 09/03/2026

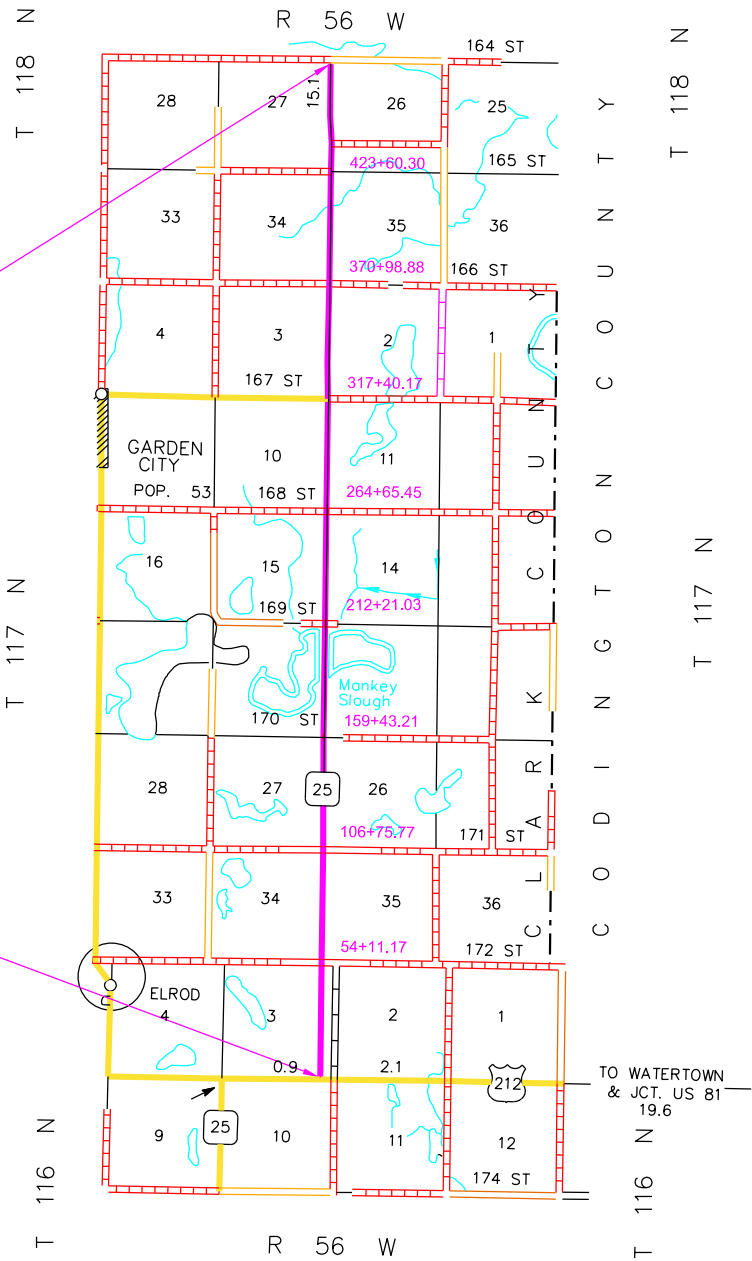
|          |                                                     |
|----------|-----------------------------------------------------|
| F1       | General Layout with Index                           |
| F2 - F7  | Estimate of Quantities,<br>Notes, Rates, and Tables |
| F8       | Typical Surfacing Sections                          |
| F9 - F12 | Standard Plates                                     |

## END P 0025(105)149

Station 476+13 = Station 210+92.60 on F 465(1)  
Located at northeast corner of Section 27 -  
Township 118 North - Range 56 West of the 5th PM  
MRM 158.00+0.834

## BEGIN P 0025(105)149

Station 0+86 = Station 687+52.30 on F 465(1)  
Located 654 feet West of the southeast corner of Section  
3 - Township 116 North - Range 56 West of the 5th PM  
MRM 149.80+0.000



1:200  
Plot Scale -

Plotted From -  
TRPR13462

SECTION F ESTIMATE OF QUANTITIES

| BID ITEM NUMBER | ITEM                                                          | QUANTITY | UNIT |
|-----------------|---------------------------------------------------------------|----------|------|
| 009E0010        | Mobilization                                                  | Lump Sum | LS   |
| 009E1350        | Restoration of Stockpile Site                                 | Lump Sum | LS   |
| 009E3210        | Construction Staking                                          | 9.001    | Mile |
| 009E3250        | Miscellaneous Staking                                         | 9.001    | Mile |
| 009E3301        | Engineer Directed Surveying/Staking                           | 40.0     | Hour |
| 009E3320        | Checker                                                       | Lump Sum | LS   |
| 009E4200        | Construction Schedule, Category II                            | Lump Sum | LS   |
| 120E0100        | Unclassified Excavation, Digouts                              | 459      | CuYd |
| 120E6200        | Water for Granular Material                                   | 135.2    | MGal |
| 210E1005        | Surface Preparation                                           | 2.500    | Mile |
| 260E1010        | Base Course                                                   | 1,366.0  | Ton  |
| 260E2010        | Gravel Cushion                                                | 9,630.2  | Ton  |
| 260E2080        | Gravel Cushion, Salvaged, State Furnished                     | 250.0    | Ton  |
| 320E0032        | PG 58H-34 Asphalt Binder                                      | 1,966.4  | Ton  |
| 320E1202        | CLASS Q2R HOT MIXED ASPHALT CONCRETE                          | 42,274.2 | Ton  |
| 320E4000        | Hydrated Lime                                                 | 417.2    | Ton  |
| 320E7012        | Grind 12" Rumble Strip or Stripe in Asphalt Concrete          | 18.0     | Mile |
| 320E7028        | Grind Centerline Rumble Stripe in Asphalt Concrete            | 8.5      | Mile |
| 320E7030        | Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete | 0.5      | Mile |
| 330E0010        | MC-70 Asphalt for Prime                                       | 140.6    | Ton  |
| 330E0100        | SS-1h or CSS-1h Asphalt for Tack                              | 95.2     | Ton  |
| 330E0210        | SS-1h or CSS-1h Asphalt for Flush Seal                        | 37.8     | Ton  |
| 330E1000        | Blotting Sand for Prime                                       | 194.0    | Ton  |
| 330E2000        | Sand for Flush Seal                                           | 502.8    | Ton  |
| 600E0300        | Type III Field Laboratory                                     | 1        | Each |
| 900E0022        | Remove and Reset Mailbox                                      | 2        | Each |
| 900E1980        | Storage Unit                                                  | 1        | Each |

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 Contractor will provide high-speed broadband internet connection to the field lab. The multiport internet connection may be hardwired, through a cellular method, or other approved service that allows Wi-Fi connection. Prior to obtaining the internet connection, the Contractor will submit the internet connection's technical data to the Area Office to check for compatibility with the state's computer equipment. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. The internet service will be incidental to the contract unit price per each for "Type III Field Laboratory".

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.

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 asphalt and unstable material throughout the project.

Included in the Estimate of Quantities are 100 tons of Base Course 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.

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.

Quantities for Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime have been provided for 2.5 miles of the asphalt surfacing project. Actual limits to receive Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime ahead of Class Q2R Hot Mixed 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 Class Q2R Hot Mixed Asphalt Concrete placement operations exceed fourteen calendar days.

The Contractor will ensure excess in place granular material is removed at locations (end of project, bridges, intersecting roads and entrances) to achieve the required elevation for the placement of the asphalt concrete. Payment for the removal of excess in place granular material will be incidental to the contract unit price per mile for "Surface Preparation". This material may be reused as Gravel Cushion at the discretion of the Engineer. The salvaged granular material must meet the requirements of Gravel Cushion, Salvaged.

|                             |                |       |                 |
|-----------------------------|----------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET | TOTAL<br>SHEETS |
|                             | P 0025(105)149 | F2    | F12             |

Plotting Date: 09/03/2026

Revised: 09-03-2026 LLA

CHECKING SPREAD RATES

The Contractor will be responsible for checking the Class Q2R Asphalt Concrete and Gravel Cushion 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.

1:200  
Plot Scale -

Plotted From -  
TRPR13462

GRAVEL CUSHION, SALVAGED, STATE FURNISHED

Gravel Cushion, Salvaged, State Furnished estimated at 250 tons (for informational purposes only) of granular material will be obtained from the stockpile site located within 1 mile of the project that has been produced from PCN 069D.

No gradation testing will be required for the Gravel Cushion, Salvaged, State Furnished material.

The Gravel Cushion, Salvaged, State Furnished is royalty free to the Contractor.

All other requirements for Gravel Cushion, Salvaged will apply.

PERFORMANCE GRADED ASPHALT BINDER

Performance Graded Asphalt Binder will conform to Section 890, AASHTO M 332, and the Combined State Binder Group Method of Acceptance for Asphalt Binders, available from the Department’s Bituminous Engineer.

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 stockpiled salvaged asphalt mix material produced from project PCN 069D, estimated at 9,300 tons, located within 1 mile of the project limits. The RAP produced from PCN 069D 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 C.1 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”.

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.

SUMMARY OF CLASS Q2R HOT MIXED ASPHALT CONCRETE COMPACTION

| Location                                            | With Specified Density Compaction | Without Specified Density Compaction |
|-----------------------------------------------------|-----------------------------------|--------------------------------------|
|                                                     | Ton                               | Ton                                  |
| SD25 - Mainline - Section 1                         |                                   |                                      |
| Sta. 0+85.92 to Sta. 476+13.02                      | 40,001.8                          | ---                                  |
|                                                     |                                   |                                      |
| County Road 29 - Section 2                          |                                   |                                      |
| Sta. 6+50.10 to Sta. 15+75.00                       | 691.4                             | ---                                  |
|                                                     |                                   |                                      |
| Intersecting Roads - (14 each)                      | ---                               | 644.0                                |
|                                                     |                                   |                                      |
| AC Shoulder Tie In - Intersecting Roads - (14 each) |                                   | 167.0                                |
|                                                     |                                   |                                      |
| AC Shoulder Tie In - Entrances - (54 each)          |                                   | 686.0                                |
|                                                     |                                   |                                      |
| Mailbox Turnouts - (2 each)                         |                                   | 84.0                                 |
| Total:                                              | 42,274.2                          |                                      |

BLOTTING SAND FOR PRIME

Included in the Estimate of Quantities are 5 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 18.0 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 0025(105)149 | F3    | F12          |

Plotting Date: 09/03/2026

TABLE OF SHOULDER RUMBLE STRIPS

| Sta     | to | Sta.      | Length (Mile) |
|---------|----|-----------|---------------|
| 0+85.92 | to | 476+13.02 | 9.0           |
|         |    | Total:    | *9.0          |

\*Single Shoulder length – Both Shoulders = 18.0 miles

GRIND CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Rumble stripes will be constructed on the centerline, as detailed in the plans. Centerline rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. 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 8.5 miles of centerline rumble stripes will be required.

Centerline rumble stripes will be constructed according to the details of Standard Plate 320.18 outside the limits shown in the Table of Sinusoidal Centerline Rumble Stripes.

TABLE OF CENTERLINE RUMBLE STRIPES

| Sta       | to | Sta.      | Length (Mile) |
|-----------|----|-----------|---------------|
| 0+85.92   | to | 329+75.00 | 6.2           |
| 342+60.00 | to | 348+20.00 | 0.1           |
| 360+40.00 | to | 476+13.02 | 2.2           |
|           |    | Total:    | 8.5           |

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 0.5 miles of sinusoidal rumble stripes will be required.

TABLE OF SINUSOIDAL CENTERLINE RUMBLE STRIPES

| Sta       | to | Sta.      | Length (Mile) |
|-----------|----|-----------|---------------|
| 329+75.00 | to | 342+60.00 | 0.2           |
| 348+20.00 | to | 360+40.00 | 0.2           |
|           |    | Total:    | 0.5           |

File - ...p\jcdk06DX\Notes\SectionF.dgn

CENTERLINE RUMBLE STRIPES – ASPHALT FOR FLUSH SEAL

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed. 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. That width will be 2 ft more than the application width shown above.

In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply asphalt for flush seal to the newly installed centerline 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.

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<br>Asphalt Concrete<br>Tonnage | Minimum<br>Internal Size<br>(Cu Ft) | Minimum<br>External Size<br>(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<br>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.

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”.

FLEXIBLE PAVEMENT SMOOTHNESS

IRI & ALR pavement smoothness will be tested in accordance with Section 320.3.H.3 and will be evaluated as 3 opportunity.

INTERSECTING ROADS AND ENTRANCES

Intersecting roads and entrances will be satisfactorily cleared of vegetation, shaped and compacted prior to placement of mainline surfacing. This work will be considered incidental to other contract items. Separate measurement and payment will not be made.

MAILBOXES

Mailboxes will be moved and adjusted to the correct height and location by resetting the posts in accordance with Standard Plate 900.01 and 900.02. The local Postmaster will determine the recommended mounting height. The Contractor will coordinate with the Engineer on the proper postal representative to contact. The cost of removing and resetting existing mailboxes will be paid for at the contract unit price per each for “Remove and Reset Mailbox”.

TABLE OF REMOVE & RESET MAILBOX

| Station | L/R | Single<br>(Each) | Double<br>(Each) |
|---------|-----|------------------|------------------|
| 335+30  | R   | 1                |                  |
| 353+30  | L   | 1                |                  |
| Totals: |     | 2                | 0                |

RESTORATION OF STOCKPILE SITE

The Contractor will be responsible for the removal of any remaining stockpiled material at the state furnished stockpile site.

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”.

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET      | TOTAL<br>SHEETS |
|-----------------------------|----------------|------------|-----------------|
|                             | P 0025(105)149 | F4         | F12             |
| Plotting Date:              |                | 09/03/2026 |                 |

1:200  
Plot Scale -  
Plotted From -  
TRPR13462

**RATES OF MATERIALS**  
Rates quantities are included in the Table of Materials Quantities

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

**MAINLINE – Section 1**

**Sta. 0+85.92 to Sta. 476+13.02**

MC-70 Asphalt for Prime at the Rate of 11.8 ton applied 34 feet wide after surface preparation  
(Rate = 0.15 gallon per square yard).

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 4.94 tons applied 33 feet wide (Rate = 0.06 gallon per square yard).

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

|                                 |                 |
|---------------------------------|-----------------|
| Crushed Aggregate               | 1863 tons       |
| Salvaged Asphalt Concrete       | 466 tons        |
| PG 58H-34 Asphalt Binder        | <u>115 tons</u> |
| Total Mix without Hydrated Lime | 2444 tons       |
| Hydrated Lime                   | <u>24 tons</u>  |
| Total Mix with Hydrated Lime    | 2468 tons       |

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

**MAINLINE– Section 1**

**Sta. 0+85.92 to Sta. 476+13.02**

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 4.94 tons applied 33 feet wide (Rate = 0.06 gallon per square yard).

**CLASS Q2R HOT MIXED ASPHALT CONCRETE – TOP LIFT**

|                                 |                |
|---------------------------------|----------------|
| Crushed Aggregate               | 1491 tons      |
| Salvaged Asphalt Concrete       | 373 tons       |
| PG 58H-34 Asphalt Binder        | <u>92 tons</u> |
| Total Mix without Hydrated Lime | 1956 tons      |
| Hydrated Lime                   | <u>20 tons</u> |
| Total Mix with Hydrated Lime    | 1976 tons      |

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

**FLUSH SEAL**

SS-1h or CSS-1h Emulsified Asphalt for Flush Seal at the rate of 3.99 tons/mile applied 32 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 51.63 ton/mile applied 22 feet wide (Rate = 8 lbs. per square yard).

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

**COUNTY ROAD 29 – Section 2**

**Sta. 6+50.10 to Sta. 15+75**

MC-70 Asphalt for Prime at the Rate of 11.8 ton applied 34 feet wide after surface preparation  
(Rate = 0.15 gallon per square yard).

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 0.09 tons applied 33 feet wide (Rate = 0.06 gallon per square yard).

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

|                                 |                  |
|---------------------------------|------------------|
| Crushed Aggregate               | 28.21 tons       |
| Salvaged Asphalt Concrete       | 7.05 tons        |
| PG 58H-34 Asphalt Binder        | <u>1.74 tons</u> |
| Total Mix without Hydrated Lime | 37.00 tons       |
| Hydrated Lime                   | <u>0.37 tons</u> |
| Total Mix with Hydrated Lime    | 37.37 tons       |

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

**COUNTY ROAD 29 – Section 2**

**Sta. 6+50.10 to Sta. 15+75**

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 0.09 tons applied 33 feet wide (Rate = 0.06 gallon per square yard).

**CLASS Q2R HOT MIXED ASPHALT CONCRETE – TOP LIFT**

|                                 |                  |
|---------------------------------|------------------|
| Crushed Aggregate               | 28.21 tons       |
| Salvaged Asphalt Concrete       | 7.05 tons        |
| PG 58H-34 Asphalt Binder        | <u>1.74 tons</u> |
| Total Mix without Hydrated Lime | 37.00 tons       |
| Hydrated Lime                   | <u>0.37 tons</u> |
| Total Mix with Hydrated Lime    | 37.37 tons       |

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

**FLUSH SEAL**

SS-1h or CSS-1h Emulsified Asphalt for Flush Seal at the rate of 0.08 tons/sta applied 32 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 0.98 tons/sta applied 22 feet wide (Rate = 8 lbs. per square yard).

|                             |                |       |                 |
|-----------------------------|----------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET | TOTAL<br>SHEETS |
|                             | P 0025(105)149 | F5    | F12             |

Plotting Date: 09/03/2026

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

**MAINLINE SHOULDERS (Each)**

**Sta. 0+85.92 to Sta. 476+13.02**

**Each Shoulder**  
Gravel Cushion, Salvaged, State Furnished/ Gravel Cushion  
466 tons

Water for Granular Material at the rate of 5.6 Mgal

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

File - ...lpj\ok06DX\Notes\SectionF.dgn

Plot Scale - 1:200

Plotted From - TRPR13462

|                             |                |       |                 |
|-----------------------------|----------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET | TOTAL<br>SHEETS |
|                             | P 0025(105)149 | F6    | F12             |

Plotting Date: 09/03/2026

TABLE OF MATERIALS QUANTITIES

Revised: 04-30-2026 LLA

| LOCATION<br><br>Station      to      Station        | WATER<br>FOR<br>GRANULAR<br>MATERIAL<br><br>(MGal) | GRAVEL<br>CUSHION/<br>GRAVEL<br>CUSHION,<br>SALVAGED,<br>STATE<br>FURNISHED<br><br>(Ton) | BASE<br>COURSE<br><br>(Ton) | CLASS Q2R HOT<br>MIXED ASPHALT<br>CONCRETE |          | PG 58H-34<br>ASPHALT<br>BINDER |          | ASPHALT<br>FOR<br>PRIME<br><br>(Ton) | BLOTTING<br>SAND<br>FOR<br>PRIME<br><br>(Ton) | HYDRATED LIME |          | ASPHALT FOR TACK |          | ASPHALT<br>FOR<br>FLUSH<br>SEAL<br><br>(Ton) | SAND<br>FOR<br>FLUSH<br>SEAL<br><br>(Ton) |       |
|-----------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------|----------|--------------------------------|----------|--------------------------------------|-----------------------------------------------|---------------|----------|------------------|----------|----------------------------------------------|-------------------------------------------|-------|
|                                                     |                                                    |                                                                                          |                             | 1st Lift                                   | Top Lift | 1st Lift                       | Top Lift |                                      |                                               | 1st Lift      | Top Lift | 1st Lift         | Top Lift |                                              |                                           |       |
|                                                     |                                                    |                                                                                          |                             | (Ton)                                      | (Ton)    | (Ton)                          | (Ton)    |                                      |                                               | (Ton)         | (Ton)    | (Ton)            | (Ton)    |                                              |                                           |       |
| <b>Mainline - Section 1</b>                         |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| 0+85.92    to    476+13.02                          |                                                    |                                                                                          |                             | 22,215.2                                   | 17,786.6 | 1,035.1                        | 828.1    | 106.2                                |                                               | 216.0         | 180.0    | 44.5             | 44.5     | 35.9                                         | 464.7                                     |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Mainline Shoulders (both) - Section 1</b>        |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| 0+85.92    to    476+13.02                          | 100.8                                              | 8,389.2                                                                                  |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>County Road 29 - Section 2</b>                   |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| 6+50.10    to    15+75.00                           |                                                    |                                                                                          |                             | 345.7                                      | 345.7    | 16.1                           | 16.1     | 2.1                                  |                                               | 3.4           | 3.4      | 0.8              | 0.8      | 0.7                                          | 9.1                                       |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Intersecting Roads and Entrances</b>             |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| 28' Intersecting Roads - 14 Each                    | 5.6                                                |                                                                                          | 448.0                       | 322.0                                      | 322.0    | 14.0                           | 14.0     | 2.8                                  | 14.0                                          | 2.8           | 2.8      | 1.4              | 1.4      | 0.6                                          | 14.0                                      |       |
| 24' Farm Entrances - 39 Each                        | 11.7                                               | 936.0                                                                                    |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| 32' Farm Entrances - 7 Each                         | 2.1                                                | 203.0                                                                                    |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| 40' Farm Entrances - 8 Each                         | 4.0                                                | 352.0                                                                                    |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>AC Shoulder Tie In - Intersecting Roads - 14</b> |                                                    |                                                                                          |                             | 93.0                                       | 74.0     | 4.0                            | 3.0      |                                      |                                               | 1.0           | 1.0      | 0.2              | 0.2      | 0.1                                          | 3.0                                       |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>AC Shoulder Tie In - Entrances - 54</b>          |                                                    |                                                                                          |                             | 343.0                                      | 343.0    | 16.0                           | 16.0     |                                      |                                               | 3.0           | 3.0      | 0.6              | 0.6      | 0.5                                          | 10.0                                      |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Surface Preparation - project</b>                |                                                    |                                                                                          |                             |                                            |          |                                |          | 29.5                                 | 175.0                                         |               |          |                  |          |                                              |                                           |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Unclassified Excavation - Digouts</b>            | 11.0                                               |                                                                                          | 918.0                       |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Blotting Sand for Maintenance of Traffic</b>     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      | 5.0                                           |               |          |                  |          |                                              |                                           |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Mailbox Turnouts - 2 Each</b>                    |                                                    |                                                                                          |                             | 46.0                                       | 38.0     | 2.0                            | 2.0      |                                      |                                               | 0.4           | 0.4      | 0.1              | 0.1      |                                              | 2.0                                       |       |
|                                                     |                                                    |                                                                                          |                             |                                            |          |                                |          |                                      |                                               |               |          |                  |          |                                              |                                           |       |
| <b>Rates</b>                                        | Totals:                                            | 135.2                                                                                    | 9,880.2                     | 1,366.0                                    | 23,364.9 | 18,909.3                       | 1,087.2  | 879.2                                | 140.6                                         | 194.0         | 226.6    | 190.6            | 47.6     | 47.6                                         | 37.8                                      | 502.8 |

Application Rates: PG 58H-34 Asphalt Binder at 4.7%  
MC-70 Asphalt for Prime rate = 0.15 gallon per square yard  
SS-1h or CSS-1h Asphalt for Tack rate = 0.09 gallon per square yard- 1<sup>st</sup> lift, 0.06 gallon per square yard – Top lift  
SS-1h or CSS-1h Asphalt for Flush Seal rate = 0.05 gallon per square yard  
Water for Granular Material = 0.012 Mgal/ton

File - ...p\j\dk06DX\Notes\SectionF.dgn

1:200  
Plot Scale -  
Plotted From - TRPR13462

|                             |                |       |                 |
|-----------------------------|----------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET | TOTAL<br>SHEETS |
|                             | P 0025(105)149 | F7    | F12             |

Plotting Date: 09/03/2026

Revised: 09-03-2026 LLA

LOCATION OF INTERSECTING ROADS and FARM ENTRANCES

| INTERSECTING ROADS     | FARM ENTRANCES            |                               |                     |                     |
|------------------------|---------------------------|-------------------------------|---------------------|---------------------|
| 28' Intersecting Roads | 24' Farm Entrances        |                               | 32' Farm Entrances  | 40' Farm Entrances  |
| (14 each)              | (39 each)                 |                               | (7 each)            | (8 each)            |
| Sta. 54+11 Lt.& Rt.    | Sta. 8+77 Lt.&Rt.         | Sta. 212+21 Rt. & 201" Ah.    | Sta. 94+46 Lt.&Rt.  | Sta. 80+36 Lt.      |
| Sta. 106+76 Lt.& Rt.   | Sta. 17+98 Lt.&Rt.        | Sta. 252+99 Rt.               | Sta. 230+46 Rt.     | Sta. 238+43 Lt.&Rt. |
| Sta. 212+21 Lt.& Rt.   | Sta. 34+96 Lt.&Rt.        | Sta. 264+66 Rt.& 250' Ah.     | Sta. 335+00 Lt.&Rt. | Sta. 291+10 Lt.&Rt. |
| Sta. 264+66 Lt.&Rt.    | Sta. 45+46 Lt.&Rt.        | Sta. 305+00 Lt.               | Sta. 388+63 Lt.&Rt. | Sta. 397+29 Lt.&Rt. |
| Sta. 317+40 Lt.&Rt.    | Sta. 54+11 Rt.& 143' Ah.  | Sta. 353+64 Lt.&Rt.           |                     | Sta. 463+06 Lt.     |
| Sta. 370+99 Lt.&Rt.    | Sta. 72+56 Lt.&Rt.        | Sta. 360+55 Lt.               |                     |                     |
| Sta. 423+60 Lt.        | Sta. 115+00 Lt.&Rt.       | Sta. 370+99 Rt.& 250' Ah.&Bk. |                     |                     |
| Sta. 436+40 Rt.        | Sta. 121+71 Rt.           | Sta. 414+22 Lt.&Rt.           |                     |                     |
|                        | Sta. 133+47 Lt.&Rt.       | Sta. 423+60 Rt.               |                     |                     |
|                        | Sta. 159+42 Lt.&Rt.       | Sta. 436+40 Lt.               |                     |                     |
|                        | Sta. 166+97 Lt.&Rt.       | Sta. 441+00 Lt.               |                     |                     |
|                        | Sta. 178+42 Rt.           | Sta. 449+91 Rt.               |                     |                     |
|                        | Sta. 186+16 Rt.           | Sta. 471+98 Rt.               |                     |                     |
|                        | Sta. 212+21 Lt.& 199' Ah. |                               |                     |                     |

TABLE OF CONSTRUCTION STAKING

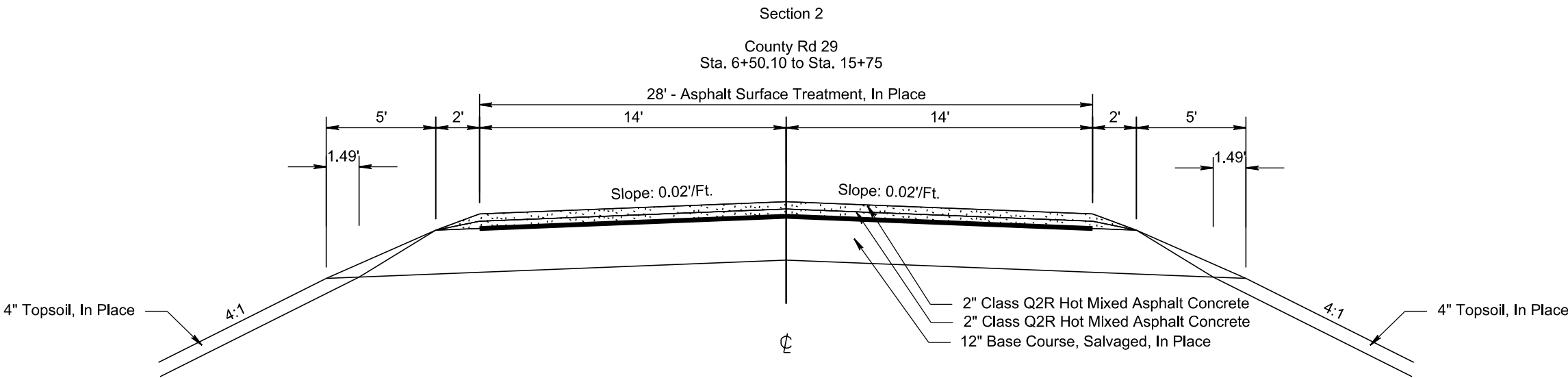
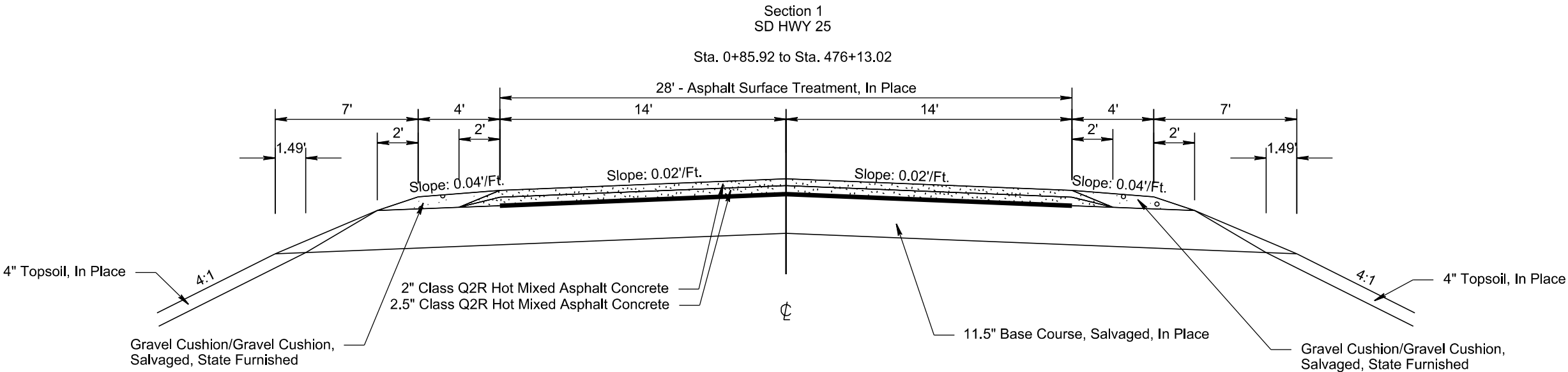
(See Special Provision for Contractor Staking)

| Roadway and Description | Begin Station | End Station | Length (Ft) | Length (Mile) | Miscellaneous<br>Staking Quantity<br>(Mile) | Construction Staking<br>Quantity (Mile) |
|-------------------------|---------------|-------------|-------------|---------------|---------------------------------------------|-----------------------------------------|
| SD 25 Mainline          | 0+85.92       | 476+13.02   | 47,527.10   | 9.001         | 9.001                                       | 9.001                                   |
|                         |               |             |             |               | 9.001                                       | 9.001                                   |

# TYPICAL SURFACING SECTIONS

|                             |                |       |                 |
|-----------------------------|----------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT        | SHEET | TOTAL<br>SHEETS |
|                             | P 0025(105)149 | F8    | F12             |

Plotting Date: 09/03/2026

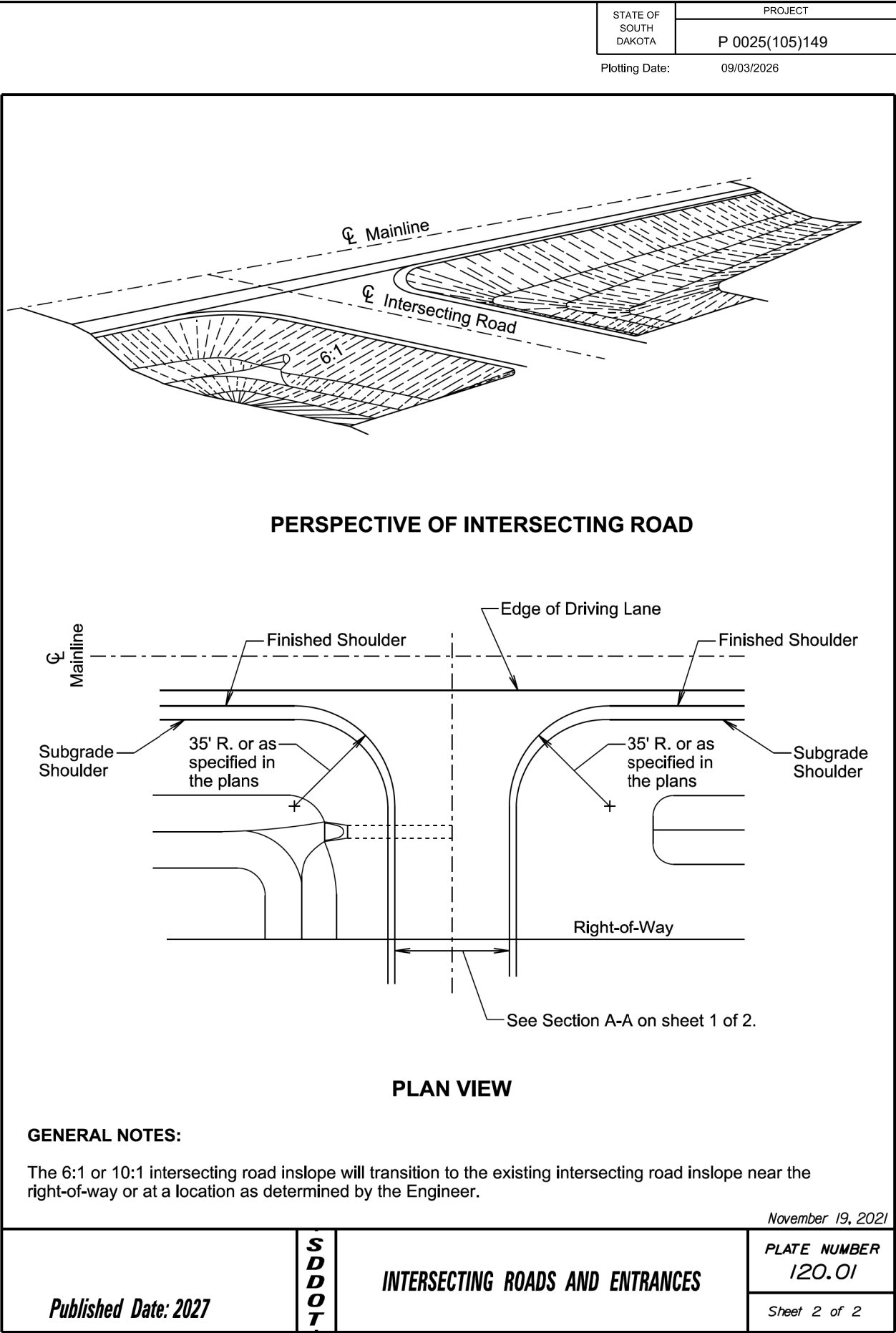
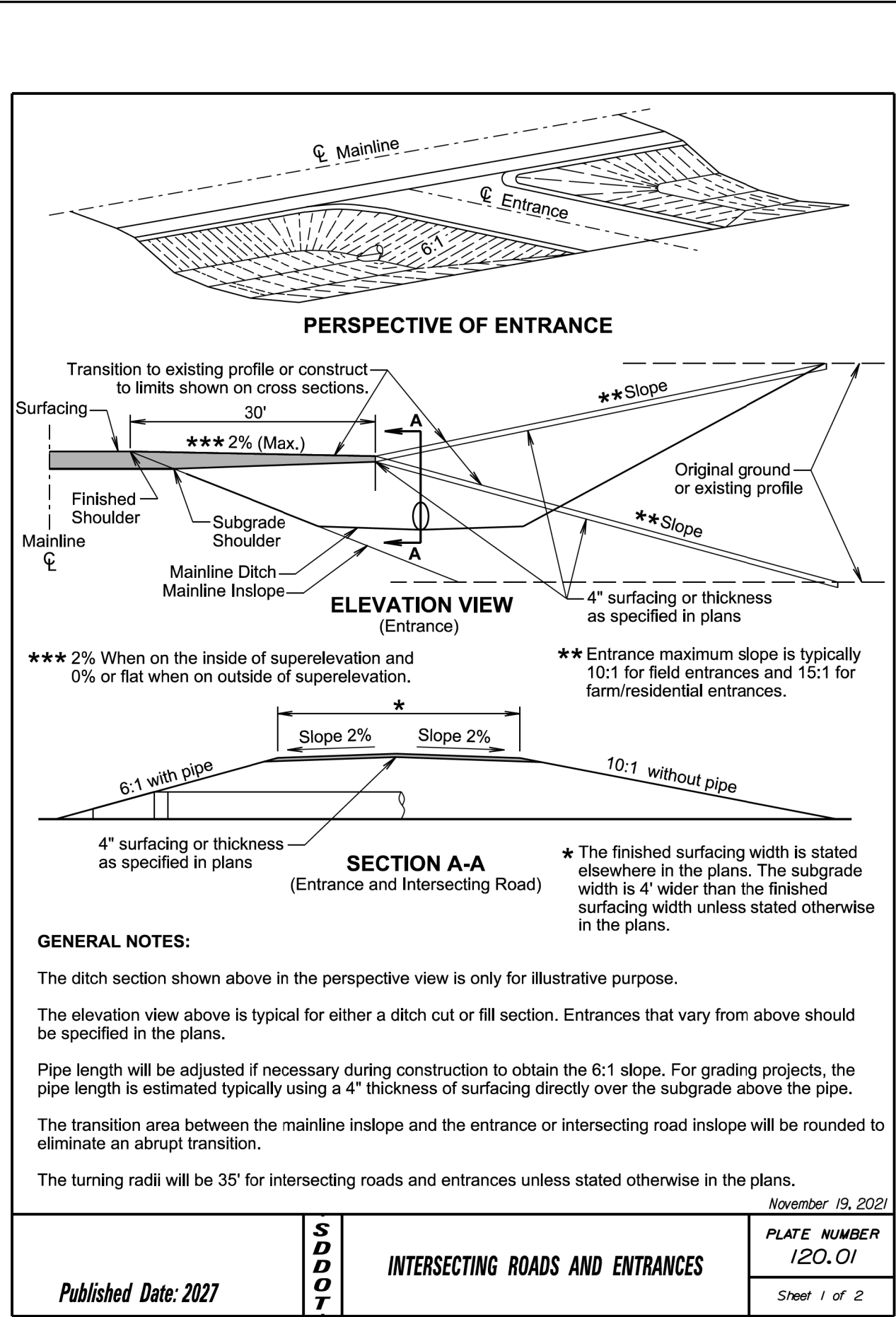


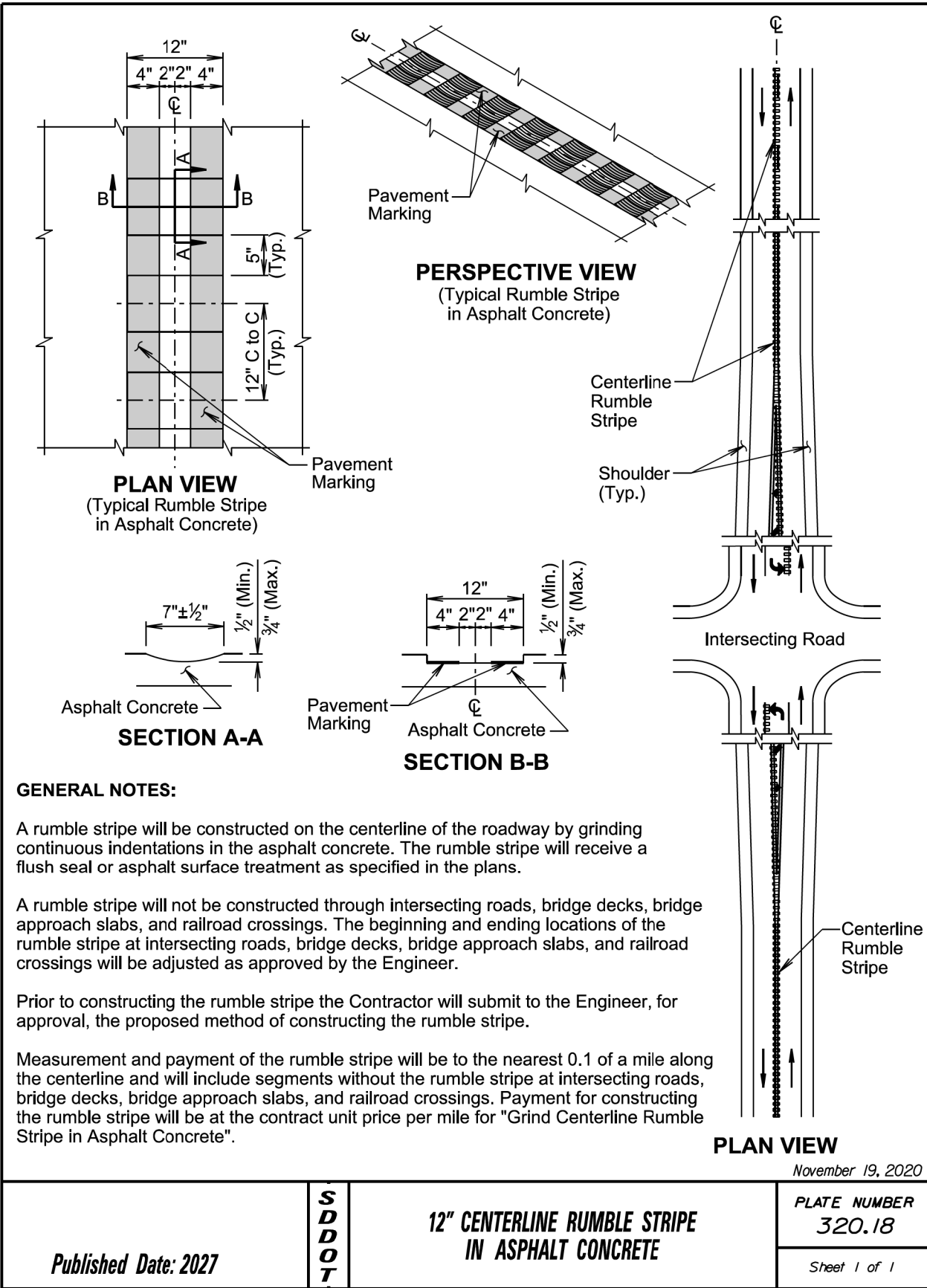
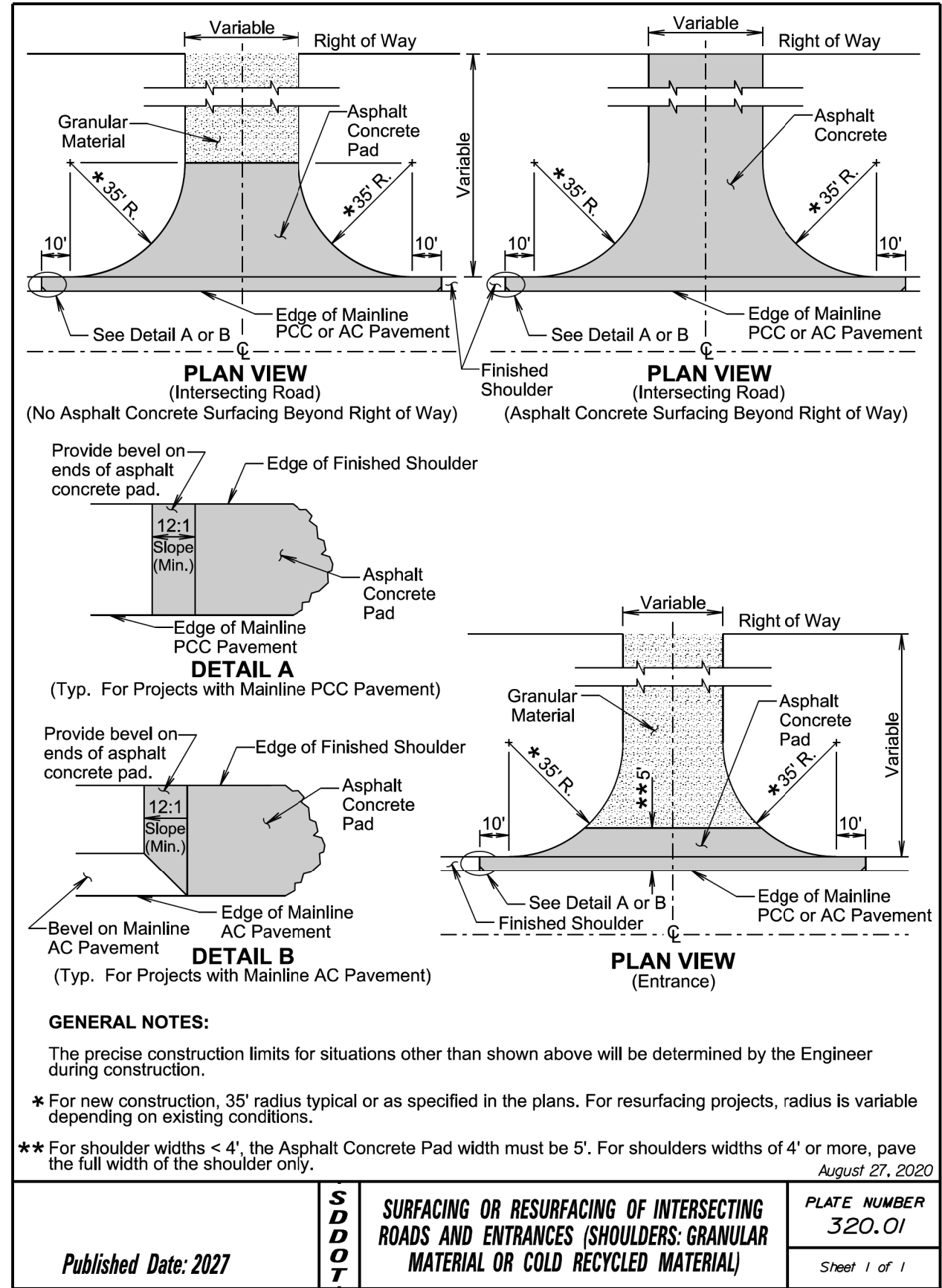
PLOT SCALE - 1+6.00001

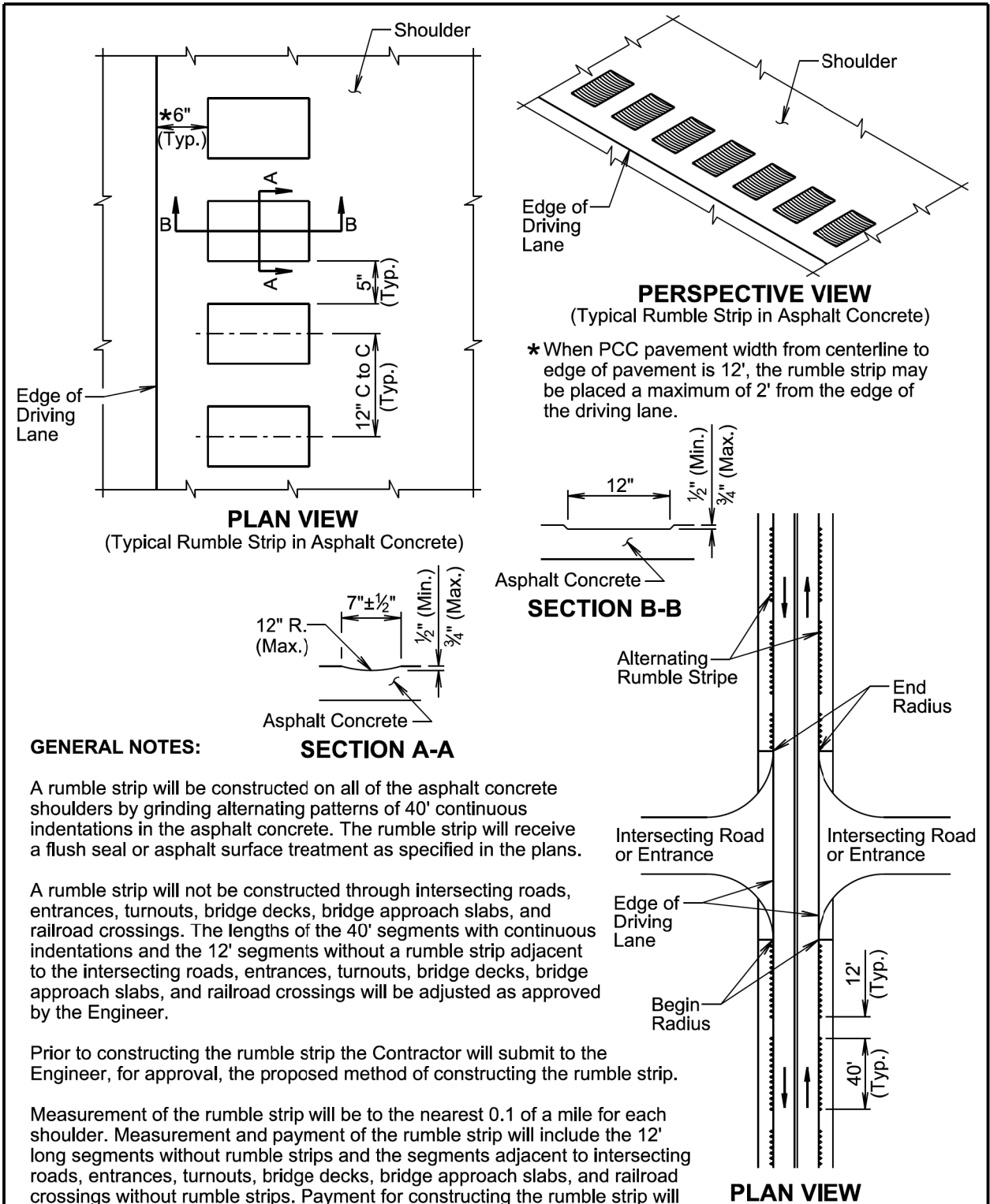
PLOTTED FROM - TRPR13462

PLOT NAME - 8

FILE - ... \06DX\_TYPICAL SECTIONS.DGN







**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.

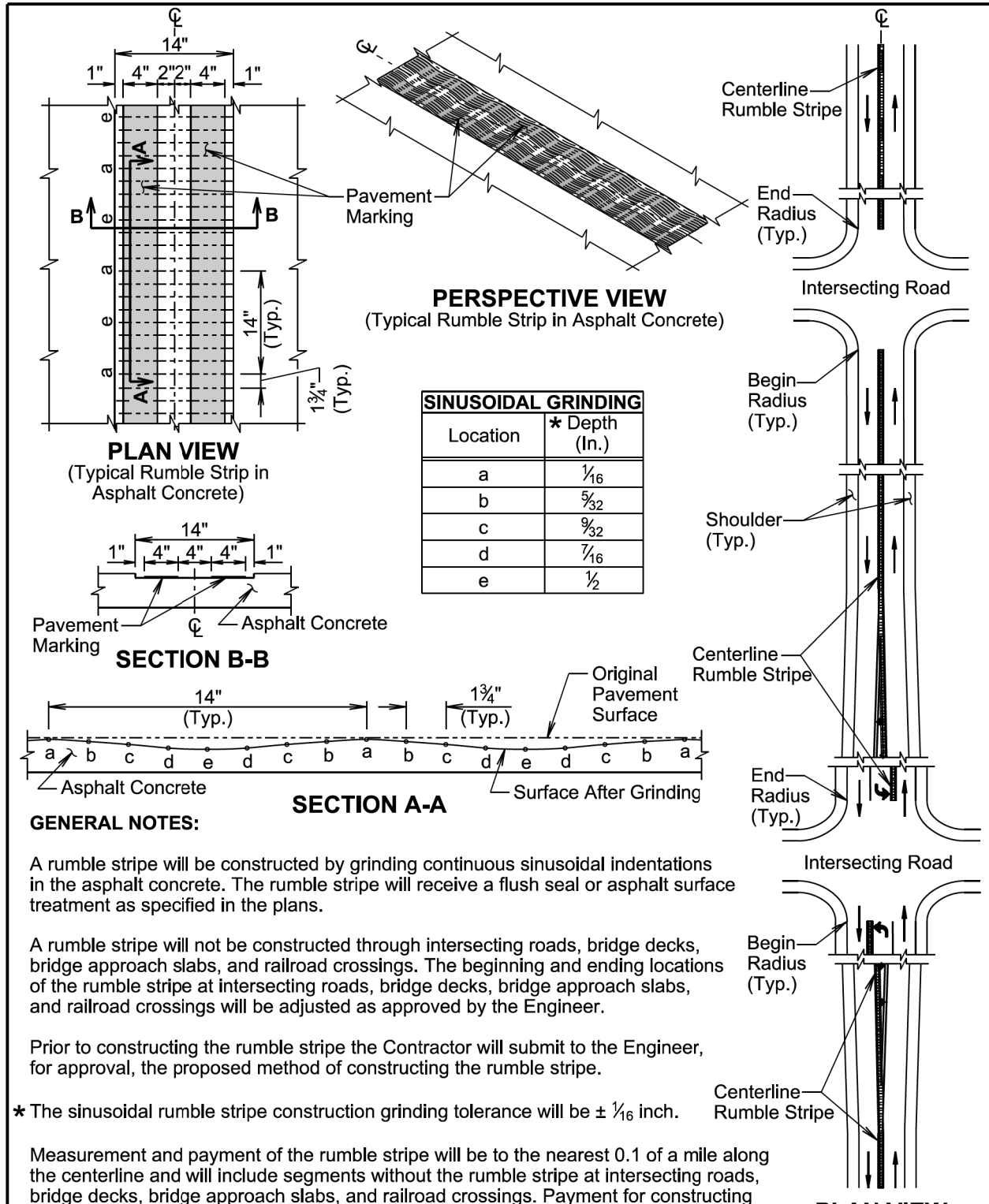
A rumble strip will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble strip adjacent to the intersecting roads, entrances,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

September 14, 2019

|                      |                       |                                                                         |              |
|----------------------|-----------------------|-------------------------------------------------------------------------|--------------|
| Published Date: 2027 | S<br>D<br>D<br>O<br>T | 12" RUMBLE STRIP IN ASPHALT CONCRETE<br>ON NONDIVIDED HIGHWAY SHOULDERS | PLATE NUMBER |
|                      |                       |                                                                         | 320.24       |
|                      |                       |                                                                         | Sheet 1 of 1 |



**GENERAL NOTES:**

A rumble stripe will be constructed by grinding continuous sinusoidal 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.

\* The sinusoidal rumble stripe construction grinding tolerance will be  $\pm 1/16$  inch.

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 Sinusoidal Centerline Rumble Stripe in Asphalt Concrete".

September 14, 2019

|                      |                       |                                                            |              |
|----------------------|-----------------------|------------------------------------------------------------|--------------|
| Published Date: 2027 | S<br>D<br>D<br>O<br>T | SINUSOIDAL CENTERLINE RUMBLE STRIPE<br>IN ASPHALT CONCRETE | PLATE NUMBER |
|                      |                       |                                                            | 320.40       |
|                      |                       |                                                            | Sheet 1 of 1 |

