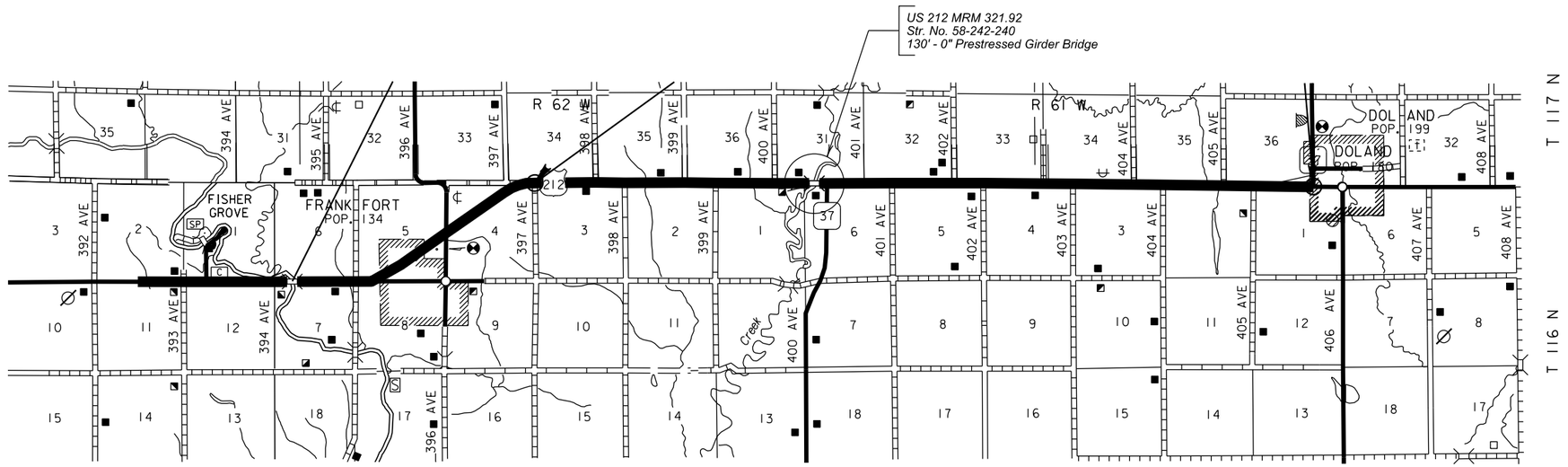
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E1	E19

Section E: Structure Plans

INDEX OF SHEETS -



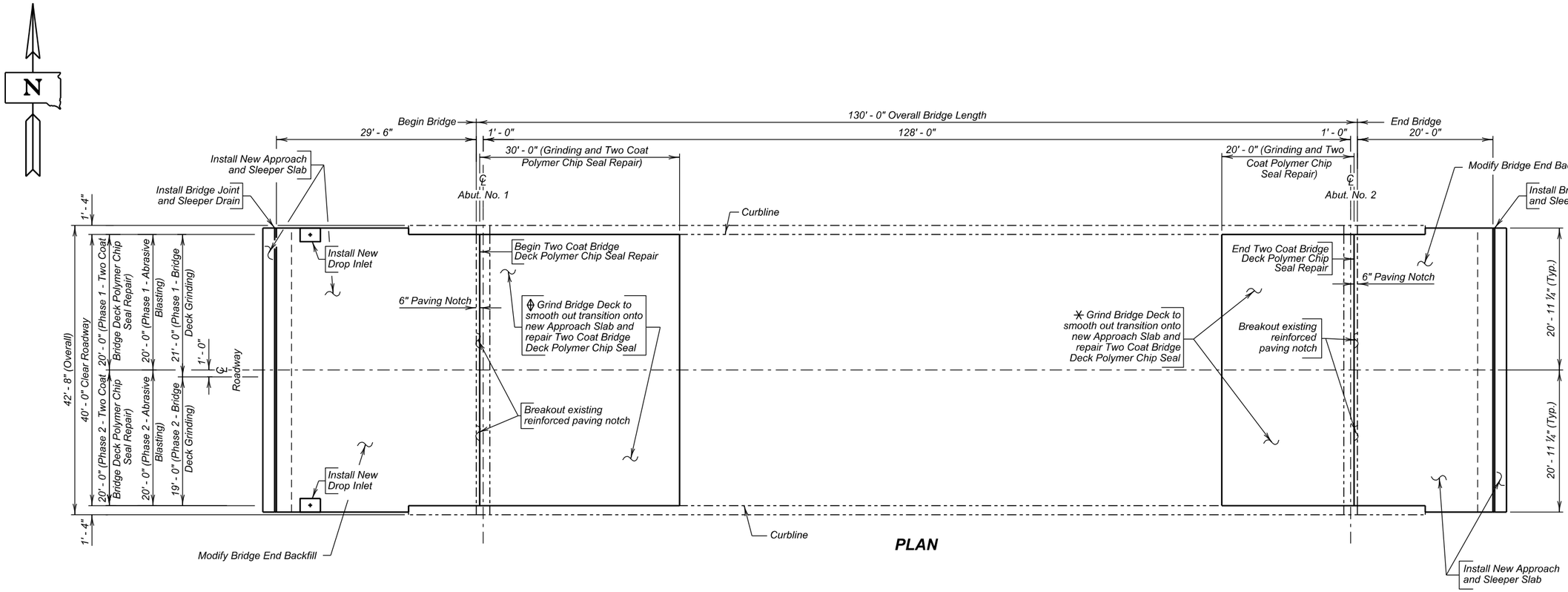
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E2	E19

SECTION E – ESTIMATE OF STRUCTURE QUANTITIES

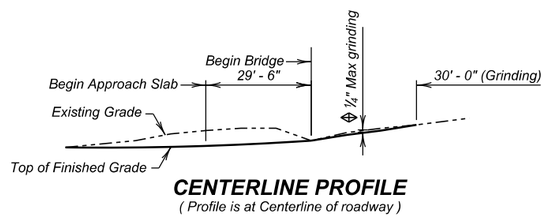
Str. No. 58-242-240

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
120E0010	Unclassified Excavation	21	CuYd
410E2600	Membrane Sealant Expansion Joint	133.2	Ft
430E0200	Bridge End Embankment	6	CuYd
430E0300	Granular Bridge End Backfill	60.0	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0150	Concrete Approach Slab for Bridge	230.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	21.0	SqYd
460E0300	Breakout Structural Concrete	1.2	CuYd
460E0380	Install Dowel in Concrete	56	Each
480E0504	No. 4 Rebar Splice	34	Each
480E0505	No. 5 Rebar Splice	32	Each
480E0506	No. 6 Rebar Splice	54	Each
491E0006	Two Coat Bridge Deck Polymer Chip Seal Repair	217.8	SqYd
491E0110	Abrasive Blasting of Bridge Deck	217.8	SqYd
491E0120	Bridge Deck Grinding	217.8	SqYd
680E0040	4" Underdrain Pipe	156	Ft
680E2500	Porous Backfill	6.0	Ton

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E3	E19



PLAN



CENTERLINE PROFILE
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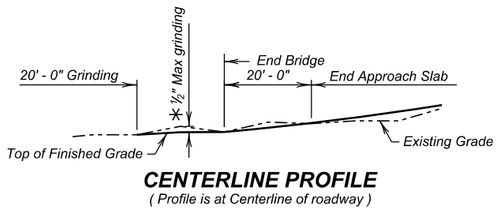


CENTERLINE PROFILE
(Profile is at Centerline of roadway)

-X081-
INDEX OF BRIDGE SHEETS -

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY	
		Phase I	Phase 2
Breakout Structural Concrete	CuYd	0.6	0.6
Two Coat Bridge Deck Polymer Chip Seal Repair	SqYd	108.9	108.9
Abrasive Blasting of Bridge Deck	SqYd	108.9	108.9
Bridge Deck Grinding	SqYd	114.4	103.4

◊ 1/4" maximum of grinding depth will be allowed to smooth out the transition onto the new Approach Slab

✳ 1/2" maximum of grinding depth will be allowed to smooth out the transition onto the new Approach Slab

PLANS BY :
OFFICE OF BRIDGE DESIGN, SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

LAYOUT FOR UPGRADE

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313
PCN 06PQ

SPINK COUNTY

S. D. DEPT. OF TRANSPORTATION

MAY 2025

-X081- — 1 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steven A. Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA01		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E4	E19

Revised 04/23/2025 JRB

ESTIMATE OF STRUCTURE QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
120E0010	Unclassified Excavation	21	CuYd
410E2600	Membrane Sealant Expansion Joint	133.2	Ft
430E0200	Bridge End Embankment	6	CuYd
430E0300	Granular Bridge End Backfill	60.0	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0150	Concrete Approach Slab for Bridge	230.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	21.0	SqYd
460E0300	Breakout Structural Concrete	1.2	CuYd
460E0380	Install Dowel in Concrete	56	Each
480E0504	No. 4 Rebar Splice	34	Each
480E0505	No. 5 Rebar Splice	32	Each
480E0506	No. 6 Rebar Splice	54	Each
491E0006	Two Coat Bridge Deck Polymer Chip Seal Repair	217.8	SqYd
491E0110	Abrasive Blasting of Bridge Deck	217.8	SqYd
491E0120	Bridge Deck Grinding	217.8	SqYd
680E0040	4" Underdrain Pipe	156	Ft
680E2500	Porous Backfill	6.0	Ton

SPECIFICATIONS

Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

SCOPE OF BRIDGE WORK & SEQUENCE OF OPERATIONS

All work on this structure will be accomplished with the traffic control shown elsewhere in the plans. Alternate sequence of operations may be submitted by the Contractor for approval by the Engineer a minimum of two weeks prior to the preconstruction meeting.

1. Perform underdrain excavation for the first phase of construction.
2. Remove reinforced paving notch for the first phase of construction.
3. Place bridge end backfill and underdrain system material for the first phase of construction.
4. Place approach slabs and sleeper slabs to the correct grade for the first phase of construction.
5. Place sleeper slab joints with approved Membrane Sealant Expansion Joint for the first phase of construction.
6. Perform bridge deck grinding for the first phase of construction.
7. Perform abrasive blasting and repair Two Coat Bridge Deck Polymer Chip Seal for the first phase of construction.
8. Switch traffic and repeat steps 1 to 7 for the second phase of construction.

GENERAL CONSTRUCTION – BRIDGE

1. All mild reinforcing steel will conform to ASTM A615, Grade 60.
2. All exposed concrete corners and edges will be chamfered ¾-inch unless noted otherwise in the plans.
3. Use 2-inch clear cover on all reinforcing steel except as shown otherwise.
4. Request for construction joints or reinforcing steel splices at points other than those shown, must be submitted to the Engineer for prior approval. If additional splices are approved, no payment will be allowed for the added quantity of reinforcing steel.
5. All lap splices are contact lap splices unless noted otherwise.

APPROACH SLAB UNDERDRAIN SYSTEM

A new underdrain system will be placed underneath the sleeper slabs as shown in the plans. The Approach Slab Underdrain System will be constructed in accordance with Section 435 of the Construction Specifications except the drainage tubing will be as specified in these notes and as detailed in the plans.

DRAINAGE TUBING

1. The underdrains will be constructed of a PVC pipe system as shown on the plans and meeting the following requirements:

   The 4" Dia. Perforated PVC Drain Pipe will be PS 46 Solvent Weld PVC pipe conforming ASTM F758 or SDR 35 Solvent Weld PVC Pipe conforming to ASTM D3034 with perforations in accordance with ASTM F758. The 4" Dia. PVC Outlet Pipe will be Schedule 40 PVC Pipe conforming to ASTM D1785 designated as PVC 1120, PVC 1220, or PVC 2120. Pipe sections will be connected using a PVC Solvent Cement conforming to ASTM D2564. The Drain Sleeve will conform to ASTM D6707.

2. Care will be taken to ensure that the 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve) and the 4" Dia. PVC Outlet Pipe are not damaged during construction. Sufficient cover material will be placed over the pipes before compaction equipment is allowed over the underdrain system. Any damaged pipes will be replaced by the Contractor at no additional cost to the Department.

3. All labor, tools, equipment, and any incidentals necessary for the installation of 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve), 4" Dia. PVC Outlet Pipe, 5" Black Steel Pipe, SDR Solvent Weld PVC Coupling, and PVC Cement will be incidental to the contract unit price per foot for 4" Underdrain Pipe.

DESIGN MIX OF CONCRETE

1. Class A45 Concrete will be used for the contract items Concrete Approach Slab for Bridge and Concrete Approach Sleeper Slab for Bridge.
2. The type of cement, concrete strength requirements, aggregate requirements, slump, and air requirements for the contract items Concrete Approach Sleeper Slab for Bridge and Concrete Approach Slab for Bridge will conform to the requirements of Section 460 of the Construction Specifications.

APPROACH SLABS

1. Bridge end backfill will be constructed in accordance with Section 430 of the Construction Specifications except the drainage tubing will be as specified in these notes and as detailed in the plans.
2. Excavation for placement of new approach slabs, sleeper slabs, bridge end backfill, and drainage tubing will be done with minimal disturbance to the underlying material.
3. Prior to the placement of the approach and sleeper slabs, the existing Granular Bridge End Backfill material will be compacted using at least four complete passes of a smooth face vibratory roller or vibratory plate compactor. Care will be taken to ensure an adequate compaction will be completed in this area. Base Course will be placed as required to fill any low spots and to achieve the elevation needed for installation of the new approach and sleeper slabs. The existing and fill material will be thoroughly watered prior to and during compaction. Base Course will be in accordance with Section 882 of the Construction Specifications.
4. The top of approach slab elevations will be as provided and subject to the approval of the Engineer. Care will be taken to provide a smooth transition from the bridge deck elevations to the new pavement elevations to prevent any dips or bumps in the areas of the bridge ends or ends of the new approach slabs. The maximum rate of grade transition through the approach slab will be 1/8-inch per 10 feet.
5. Sleeper slab riser will be cast with or later than the approach slab. Care will be taken to ensure the correct grade is maintained across the joint.
6. The portion of the sleeper slab below the construction joint may be precast. If the bottom portion of the sleeper slab is precast, the Contractor will submit proposed lifting and setting plans to the Bridge Construction Engineer for approval. In addition, if reinforcing or other details differ from those shown in the plans, the Contractor will submit proposed alternate details for approval.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

STR. NO. 58-242-240

MAY 2025

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A. Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA02		

APPROACH SLABS CONTINUED

7. The use of a vibratory screed will be required during placement of Class A45 Concrete for the approach slabs. Concrete placement in front of the screed will be kept parallel to the screed.

8. The concrete in the approach slab will be tined perpendicular to the centerline of the roadway.

9. The new approach slabs and sleeper slabs will have a surface finish as specified in Section 460.3 L.4 of the Construction Specifications.

10. The concrete approach slabs will be cured in accordance with Section 460.3 M of the Construction Specifications. The minimum 7-day cure time requirement will be waived. The approach slabs will be cured until a minimum compressive strength of 4,000 psi is reached.

11. The quantity Base Course required to fill any low spots or voids is based on an 8-inch layer under the area of the approach slab. The actual quantity may vary.

12. Concrete Approach Sleeper Slab for Bridge will be paid for at the contract unit price per square yard. This payment will be full compensation for excavation; furnishing, hauling, and placing all materials including concrete, and reinforcing steel; for disposal of all excavated material and surplus materials; labor; tools; equipment; and any incidentals necessary to complete this item of work.

13. Concrete Approach Slab for Bridge will be paid for at the contract unit price per square yard. This payment will be full compensation for excavation; furnishing, hauling, and placing all materials including: concrete, asphalt paint or 6 mil polyethylene sheeting, elastic joint sealer, and reinforcing steel; for disposal of all excavated material and surplus materials; labor; tools; equipment; and any incidentals necessary to complete this item of work.

14. Any Base Course and compaction required to fill any low spots or voids will be paid for at the contract unit price per cubic per yard for Granular Bridge End Backfill. This payment will be full compensation for furnishing, hauling, and placing all materials including disposal of all surplus materials; labor; tools; equipment; and any incidentals necessary to complete this item of work.

BRIDGE DECK GRINDING

1. The Contractor will have the option of grinding the entire deck surface during phase one. Any additional costs incurred for grinding the entire deck surface such as additional traffic control or cleaning will be at no additional cost to the Department.

2. The existing bridge deck has pavement markings that will be removed and replaced in the grinded area indicated in the plans.

CONCRETE BREAKOUT

1. This work will consist of removing all the material from the existing paving notch.

2. All broken out concrete and discarded reinforcing steel will become the property of the Contractor and will be disposed of at a site obtained by the Contractor and approved by the Engineer. An appropriate site will be as described in the Environmental Commitments.

3. The contract unit price per cubic yard for Breakout Structural Concrete will include breaking out paving notch, cleaning, and disposal of all broken out material.

TWO COAT BRIDGE DECK POLYMER CHIP SEAL REPAIR

1. The final Two Coat Bridge Deck Polymer Chip Seal Repair limits will be the area indicated in these plans. The Two Coat Bridge Deck Polymer Chip Seal Repair area will be defined by a shallow saw cut in the chip seal. Care will be taken not to damage the underling concrete to remain in place.

2. Any existing polymer chip seal in the repair areas will be removed as approved by the Engineer.

3. Disposal of discarded polymer chip seal material will be by the Contractor in accordance with the Environmental Commitments.

4. Saw cutting and removal of the existing polymer chip seal and installation of new polymer chip seal will be paid for at the contract unit price per square yard for Two Coat Bridge Deck Polymer Chip Seal Repair. This payment will be full compensation for furnishing, hauling, and placing all materials including disposal of all surplus materials; labor; tools; equipment; and any incidentals necessary to complete this item of work.

AS-BUILT ELEVATION SURVEY

The Contractor will be responsible for producing an as-built elevation survey soon after construction is complete and before the bridge is completely opened to traffic The Contractor will be responsible for recording the as-built elevations at the locations shown by the table of as-built elevations shown in the plans. The completed table will be given to the Engineer who will forward a copy to the Bridge Maintenance Engineer in the Office of Bridge Design and the Senior Region Bridge Engineer. The elevations will be based on the National Geodetic Survey (NGS) North American Vertical Datum of 1988 (NAVD88) and will use the benchmark provided in the plans. The Contractor will be responsible for verifying the NAVD88 elevation for the benchmark provided in the plans. All costs associated with obtaining the NAVD88 elevations at the locations shown in the table and for the benchmark shown in the plans, including all equipment, labor and any incidentals required will be incidental to the contract lump sum price for Bridge Elevation Survey.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

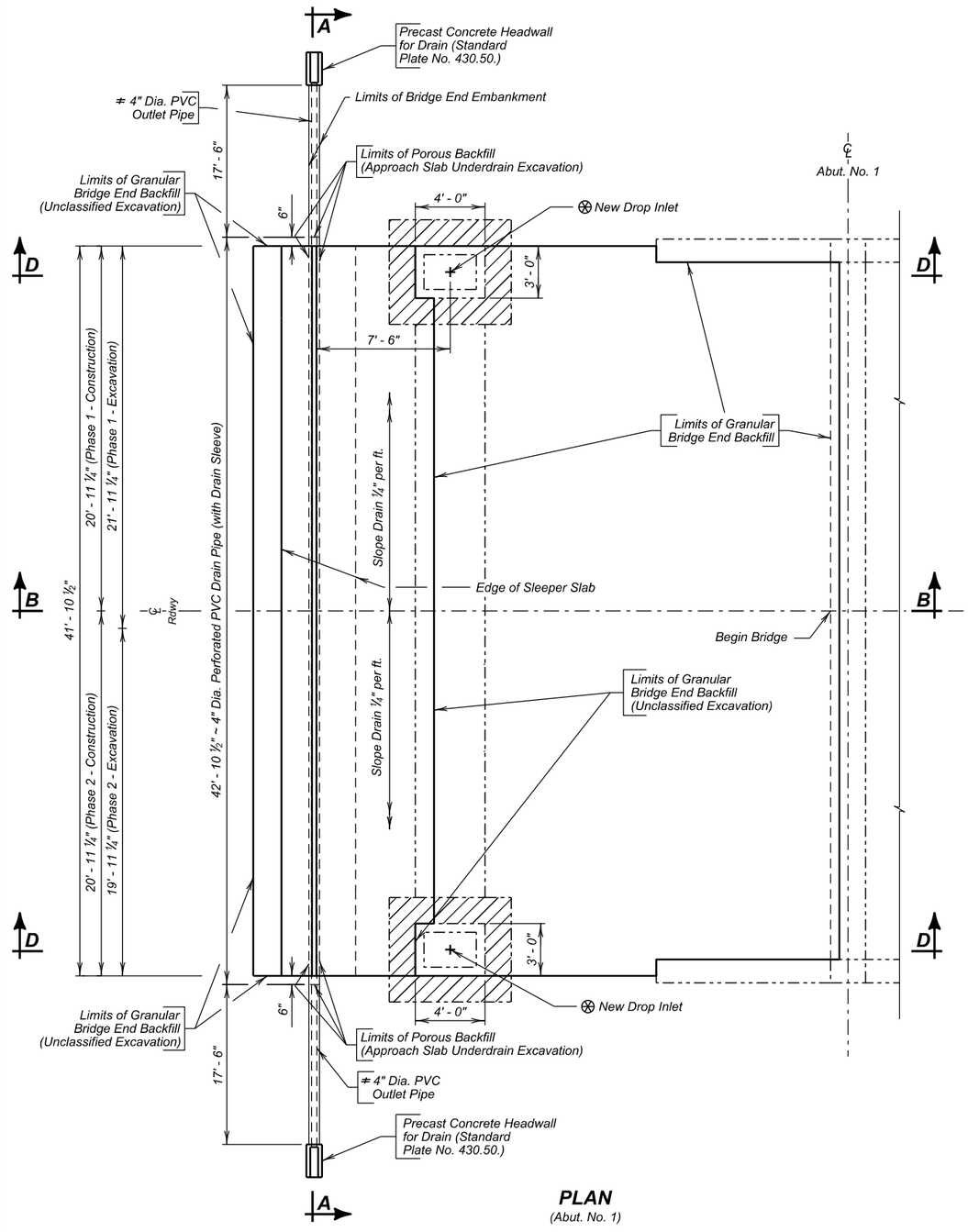
STR. NO. 58-242-240

MAY 2025

3 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A. Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA03		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E6	E19



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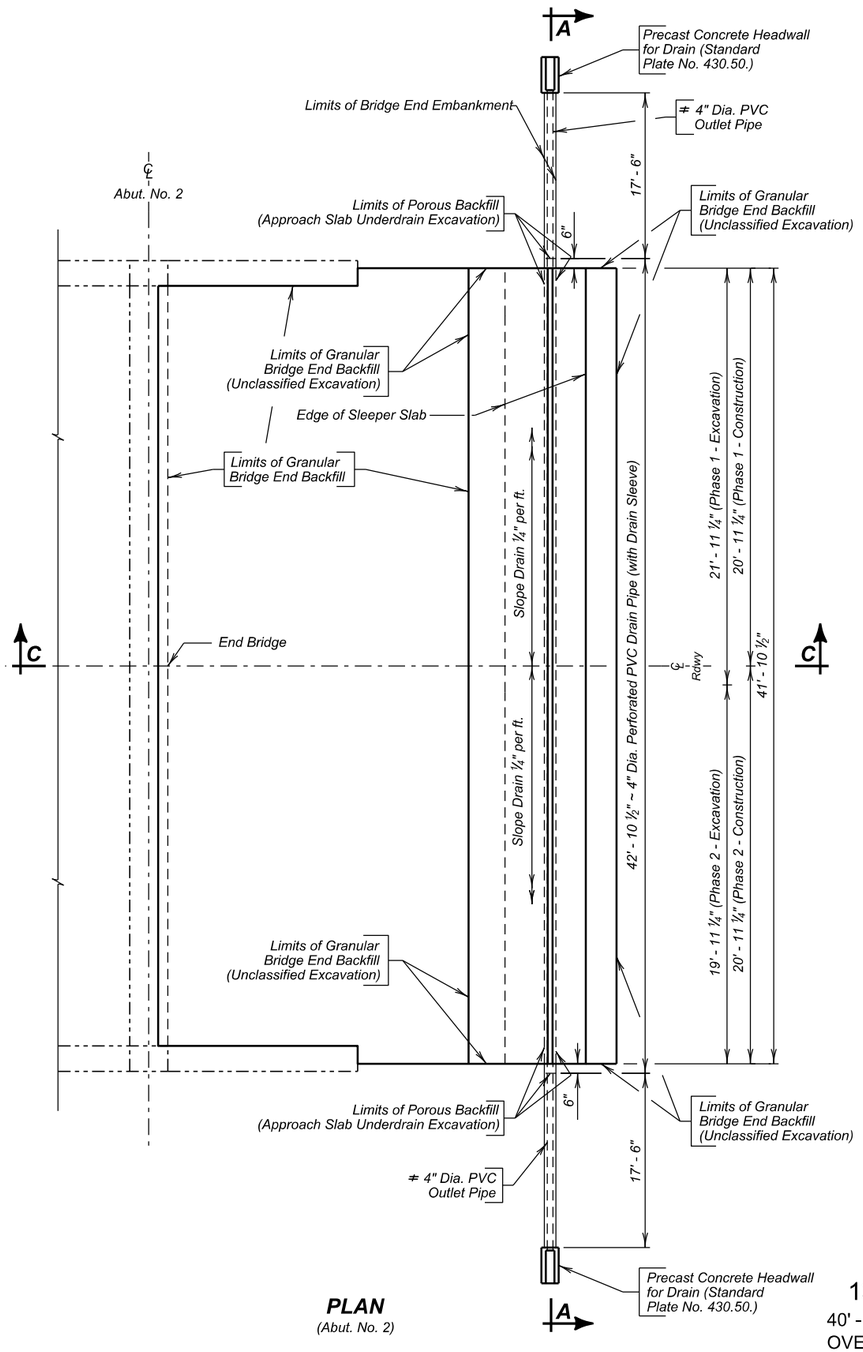
(Abut. No. 1)



PLAN
(Abut. No. 2)

Backfill (See Section F - Surfacing for Details)

NOTES:

≠ The exact length of the 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve) and 4" Dia. PVC Outlet Pipe will be field determined.The lengths shown are a best estimate based on the original contruction plans.

⊛ See details in SECTION F - SURFACING PLANS

BRIDGE END BACKFILL DETAILS (A)

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

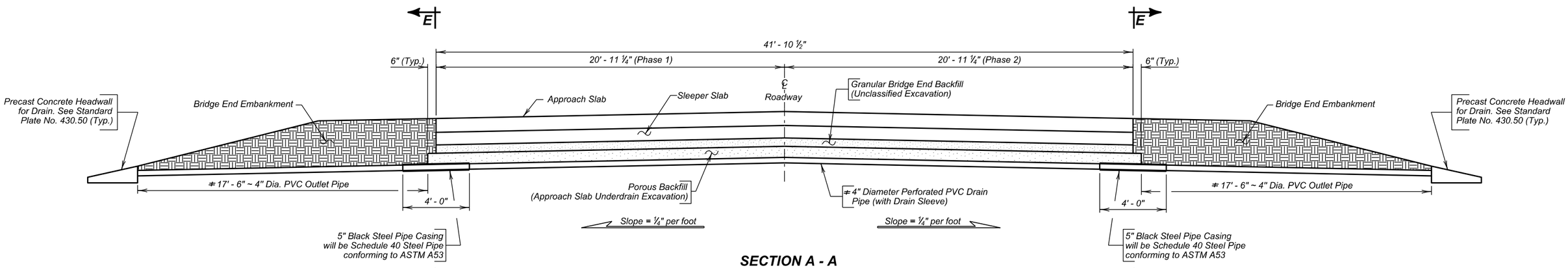
40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2025

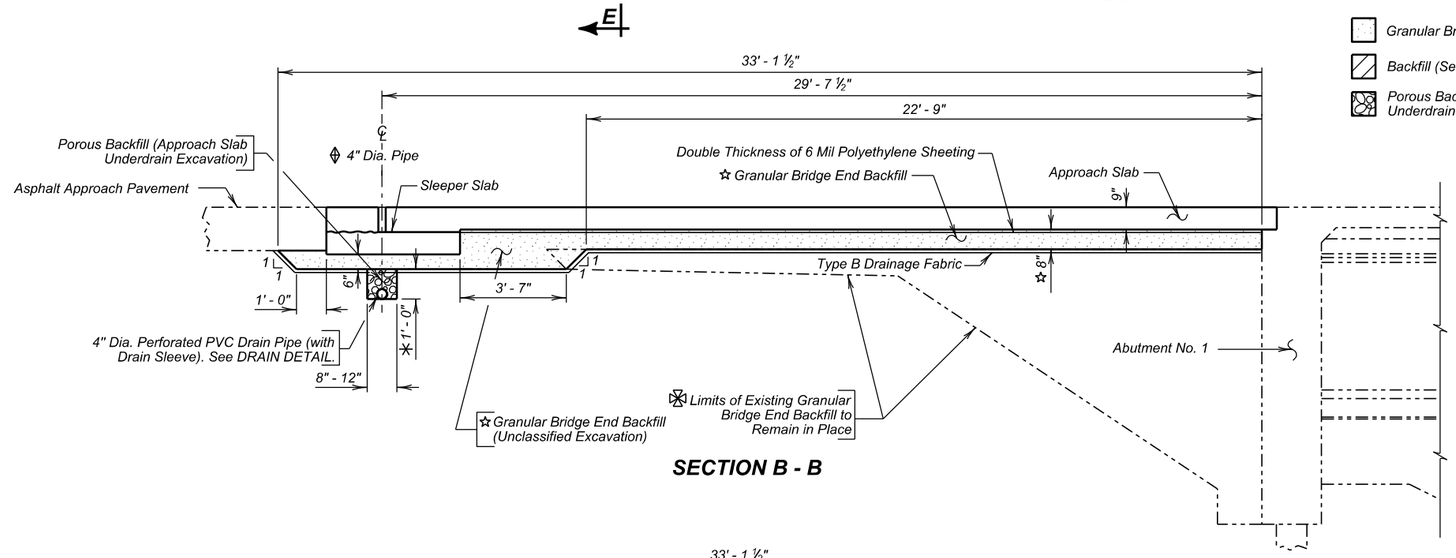
4 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB SPNK06PQ	AP 06PQBA04	JRB	Steve A Johnson BRIDGE ENGINEER

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E7	E19



SECTION A - A



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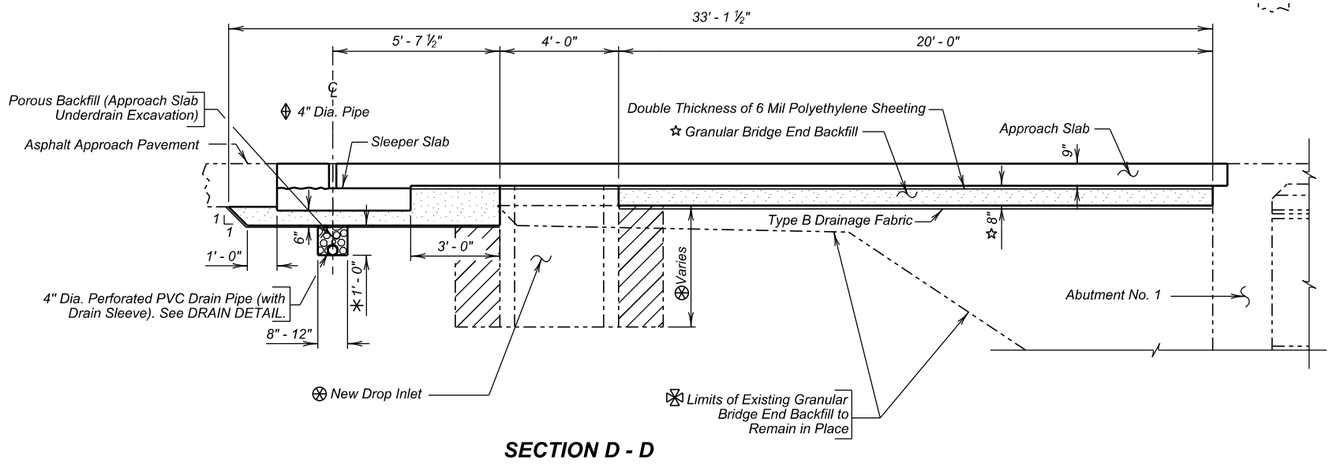


SECTION D - D

Granular Bridge End Backfill

Backfill (See Section F - Surfacing for Details)

Porous Backfill (Approach Slab Underdrain Excavation)

NOTES:

⧫ The centerline of the trench may be adjusted by one foot toward or away from the bridge, as approved by the Engineer, to miss the location of the guardrail posts.

⚹ 12" (min.) at ℄, slope bottom of trench and pipe at ¼" per foot.

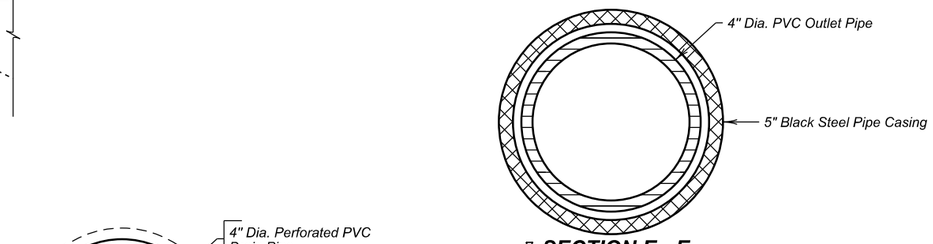
≠ The exact length of the 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve) and 4" Dia. PVC Outlet Pipe will be field determined. The lengths shown are a best estimate based on the original contruction plans.

⧖ A two or four hole configuration will be acceptable for the drain pipe.

⊗ No excavation is required for placement of the Granular Bridge End Backfill material that is within the limits of the existing Granular Bridge End Backfill indicated. The existing material is to be compacted and any low spot filled prior to placing a new sheet of drainage fabric.

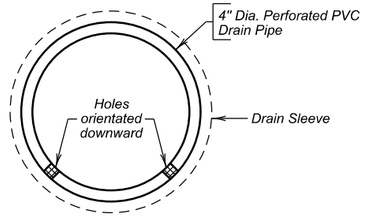
☆ Outside the limits of the existing Granular Bridge End Backfill, the existing material will require excavation and an 8-inch minimum depth of Granular Bridge End Backfill is to be placed. The 8" dimension shown is used for the estimate of material, actual thickness may vary. Steps will be taken to ensure an adequate compaction of the base material will be completed in this area. The new Bridge End Backfill material is to be placed to bring the approach slab up to the new grade.

⊗ See details in SECTION F - SURFACING PLANS



⧖ SECTION E - E

(Center 4 Ft. Section of 5" Pipe at Location of Guard Rail Post)



⧖ DRAIN DETAIL

BRIDGE END BACKFILL DETAILS (B)

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW

OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W

STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY

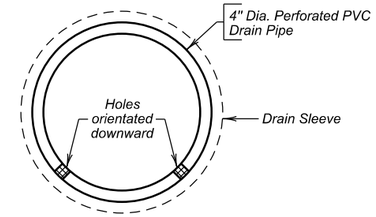
S. D. DEPT. OF TRANSPORTATION

MAY 2025

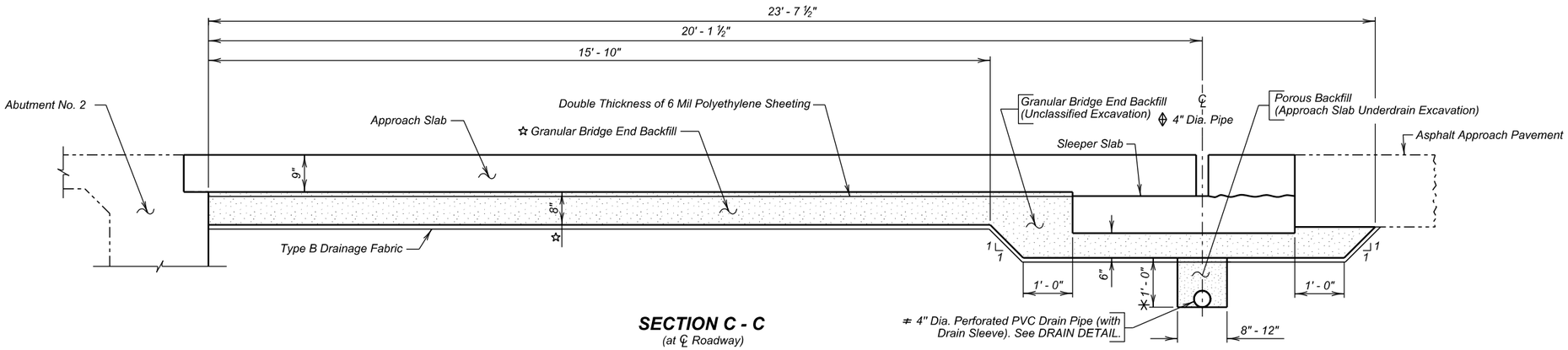
5 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA05		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E8	E19



⧖ DRAIN DETAIL



SECTION C - C
(at ℄ Roadway)

ESTIMATED QUANTITIES

	ITEM	UNIT	QUANTITY Phase I	QUANTITY Phase 2
	Unclassified Excavation	CuYd	11	10
⊛	Bridge End Embankment	CuYd	3	3
	Granular Bridge End Backfill	CuYd	30.0	30.0
∢	Approach Slab Underdrain Excavation	CuYd	1.7	1.5
	Precast Concrete Headwall for Drain	Each	2	2
⧠ ≠	4" Underdrain Pipe	Ft	78	78
∢ ϕ	Porous Backfill	Ton	3.0	3.0

Items 1 thru 5 are approximate quantities contained in the above contract items and are for information only.

	PHASE 1	PHASE 2
1. 6 mil Polyethylene sheeting (not including laps)	120 SqYd	120 SqYd
2. Type B Drainage Fabric	135 SqYd	135 SqYd
3. 4" Diameter Perforated PVC Drain Pipe (with Drain Sleeve)	43 Ft	43 Ft
≠ 4. 4" Diameter PVC Outlet Pipe	35 Ft	35 Ft
⧠ 5. 5" Black Steel Pipe Sleeve	8 Ft	8 Ft

NOTES:

- ⚹ 12" (min.) at ℄, slope bottom of trench and pipe at ¼" per foot.
- ⧫ The centerline of the trench may be adjusted by one foot toward or away from the bridge, as approved by the Engineer, to miss the location of the guardrail posts.
- ϕ For estimating purposes only, a factor of 1.89 Tons/Cu. Yd. was used to convert Cu. Yds. to Tons.
- ⊛ Shrinkage Factor of 1.25 used.
- ∢ Quantity under sleeper slab based on a 12" wide trench.
- ≠ The exact lengths of the 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve) and 4" Dia. PVC Outlet Pipe will be field determined. The lengths shown are a best estimate based on the original construction plans.
- ⧠ The 5" black steel pipe sleeve will be incidental to the contract unit price per foot for 4" Underdrain Pipe. The quantity shown for 4" Underdrain Pipe is the end to end length of the 4" pipe and does not include the additional length of 5" pipe sleeve.
- ☆ Outside the limits of the existing Granular Bridge End Backfill, the existing material will require excavation and an 8-inch minimum depth of Granular Bridge End Backfill is to be placed. The 8" dimension shown is used for the estimate of material, actual thickness may vary. Steps will be taken to ensure an adequate compaction of the base material will be completed in this area. The new bridge end backfill material is to be placed to bring the approach slab up to the new grade.

BRIDGE END BACKFILL DETAILS (C)

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

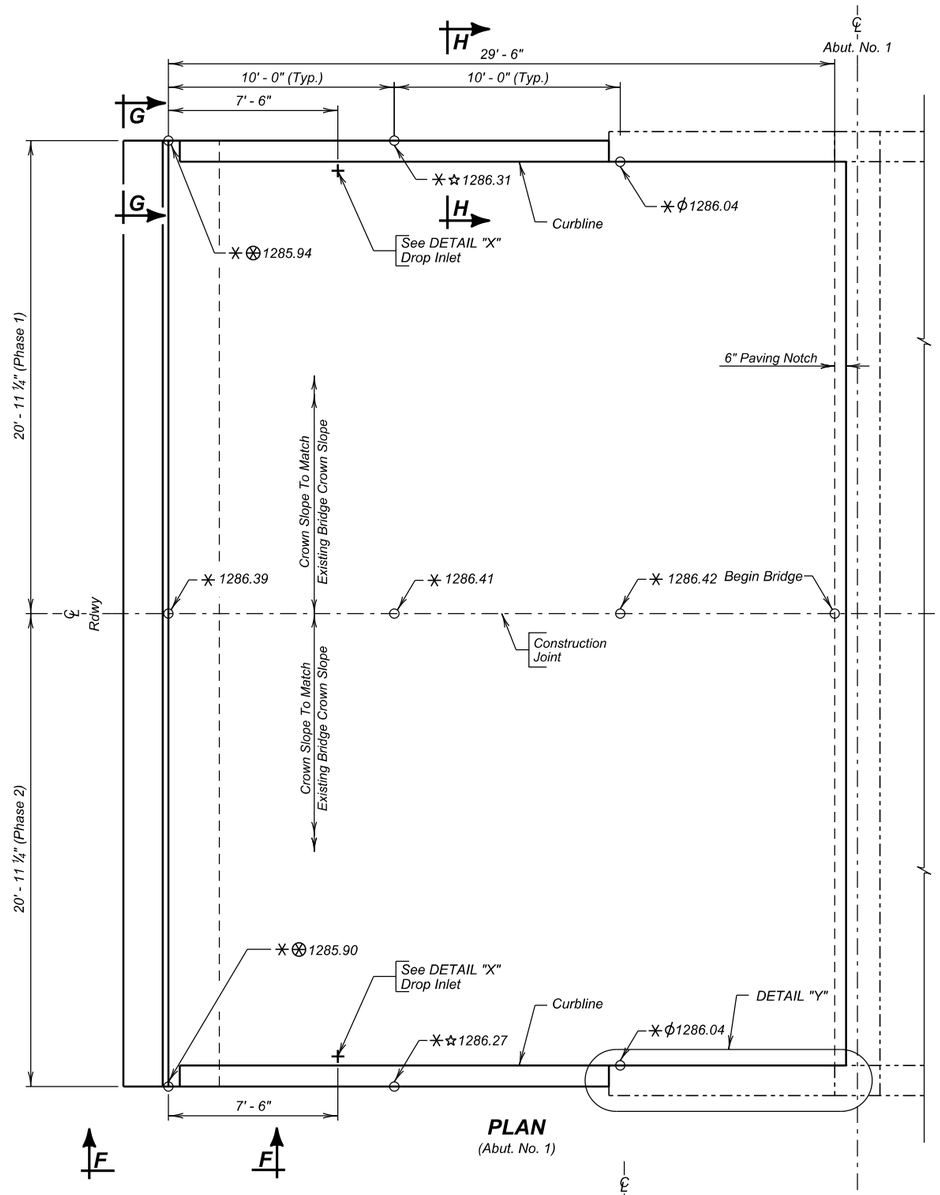
40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2025

6 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA06		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E9	E19



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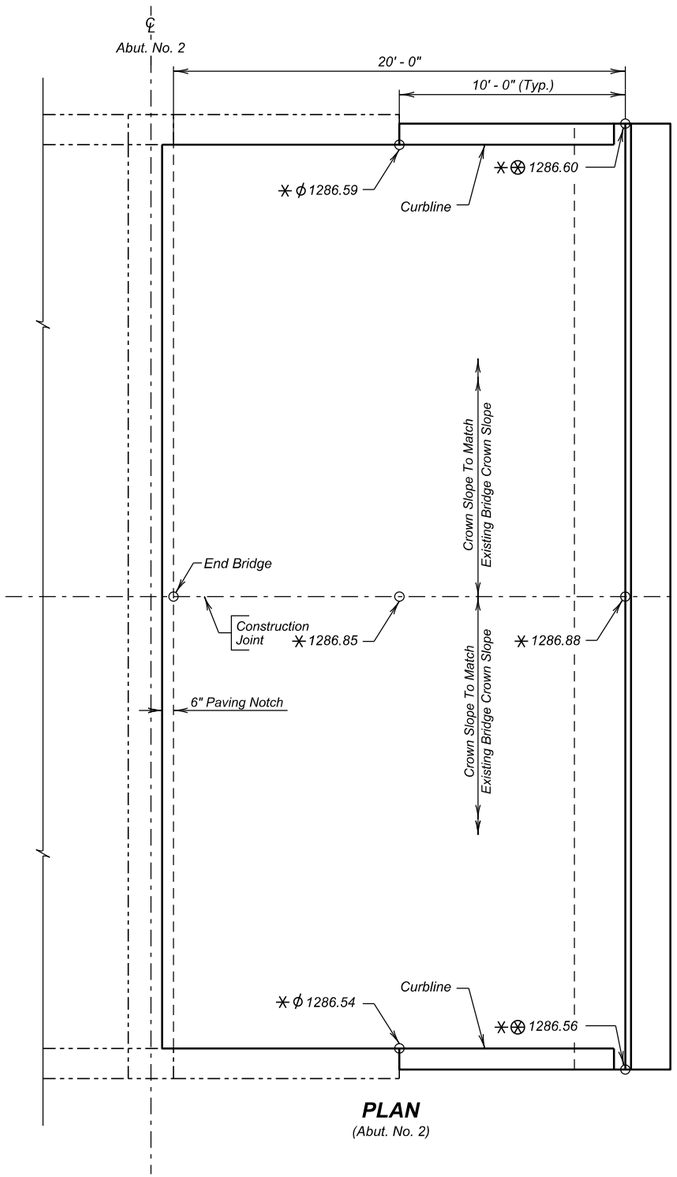
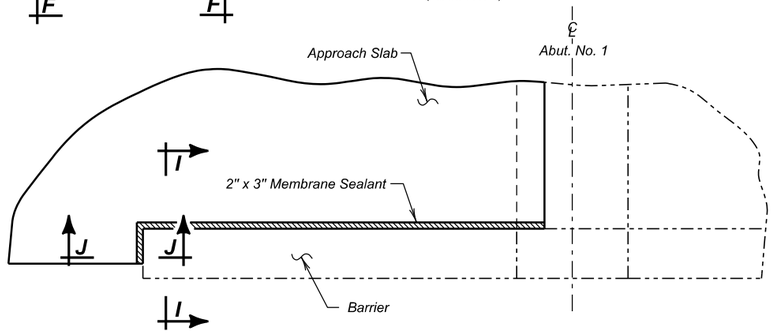
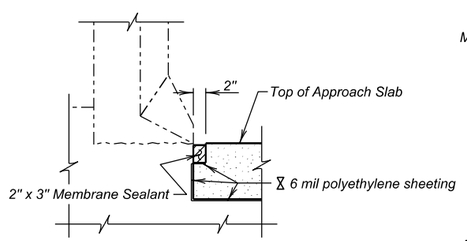


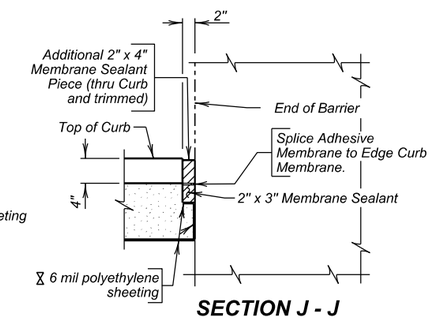
PLAN
(Abut. No. 2)



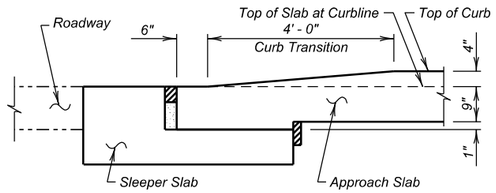
DETAIL "Y"
(Typical for every Barrier)



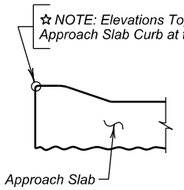
SECTION I - I



SECTION J - J

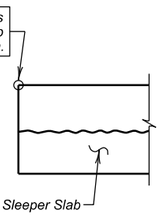


VIEW F - F



☆ NOTE: Elevations Top of Approach Slab Curb at this location.

SECTION H - H
(Concrete shading and reinforcing steel not shown for clarity)



⊛ NOTE: Elevations Top of Approach Slab at this location.

VIEW G - G
(Approach Slab Curb not shown for clarity.)
(Concrete shading and reinforcing steel not shown for clarity)

Benchmark Description:

B.M. # Cap and Rebar
2 feet South of West Hwy 212 sign.
Elevation = 1285.41

ϕ The elevations are taken at top of approach slab at the front of the barrier.

⧖ 6 mil polyethylene sheeting will not interfere with the bond between the Membrane Sealant and the approach slab.

✳ Elevations may need to be adjusted to achieve a smooth ride from the final bridge deck elevations to final pavement elevations.

APPROACH SLAB LAYOUT

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

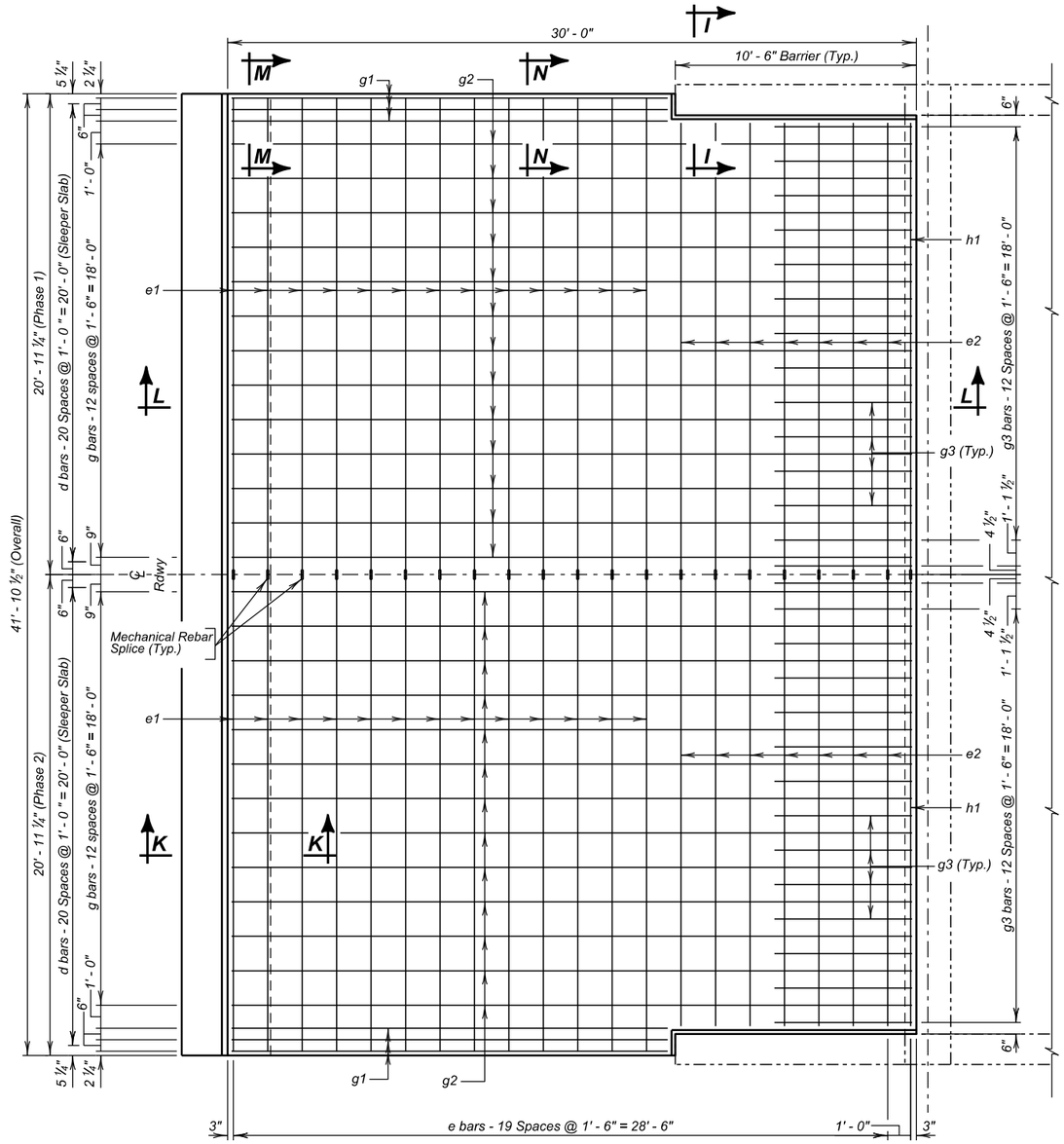
40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2025

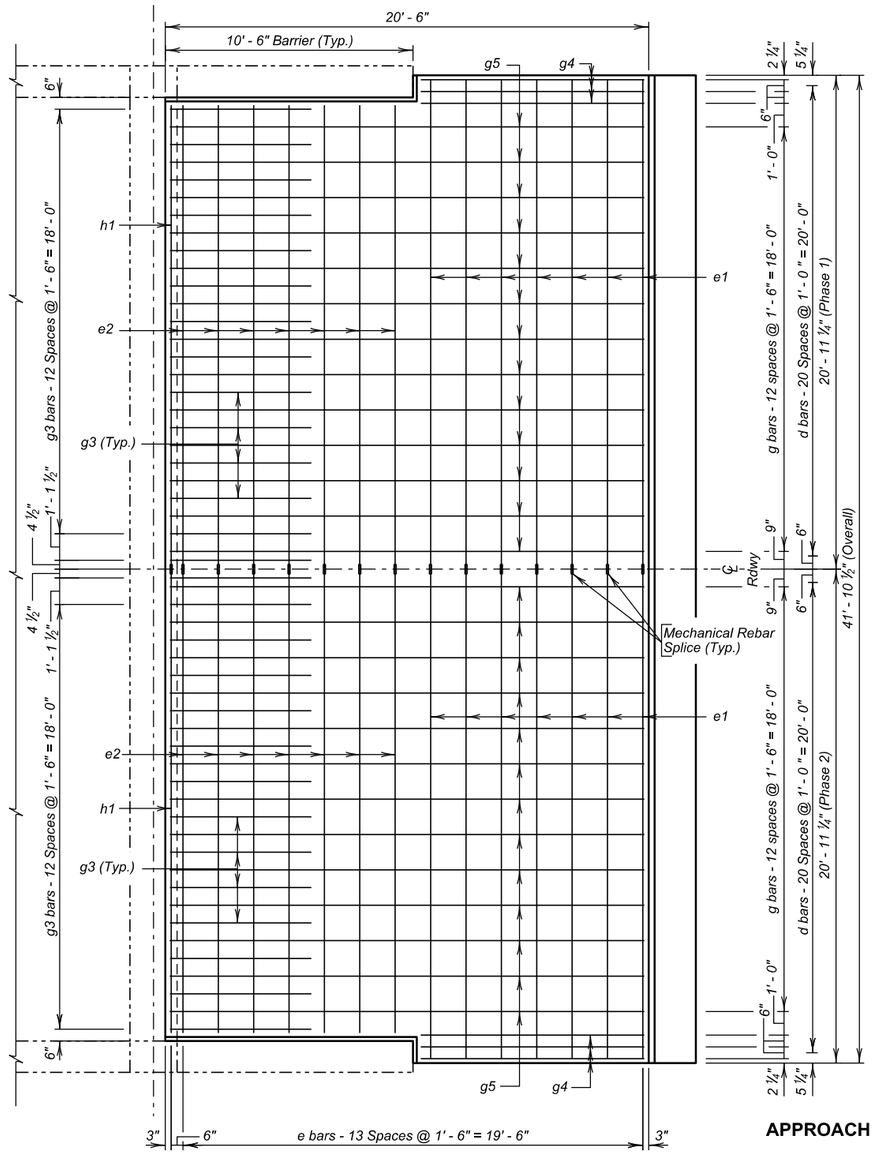
7 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A. Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA07		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E10	E19



PLAN
(Abut. No. 1)
(Top Steel)



PLAN
(Abut. No. 2)
(Top Steel)

APPROACH SLAB DETAILS (A)

FOR

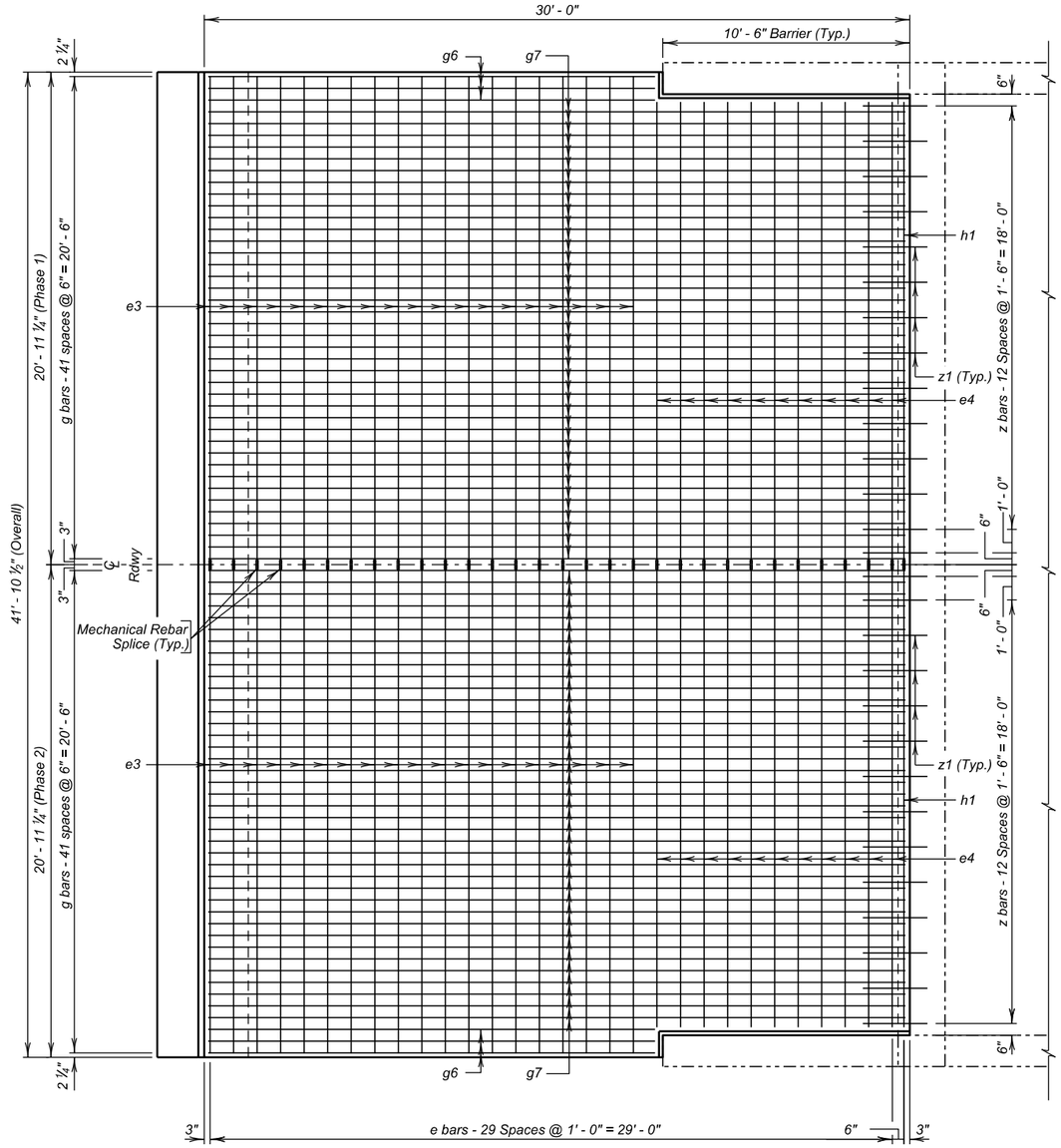
130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

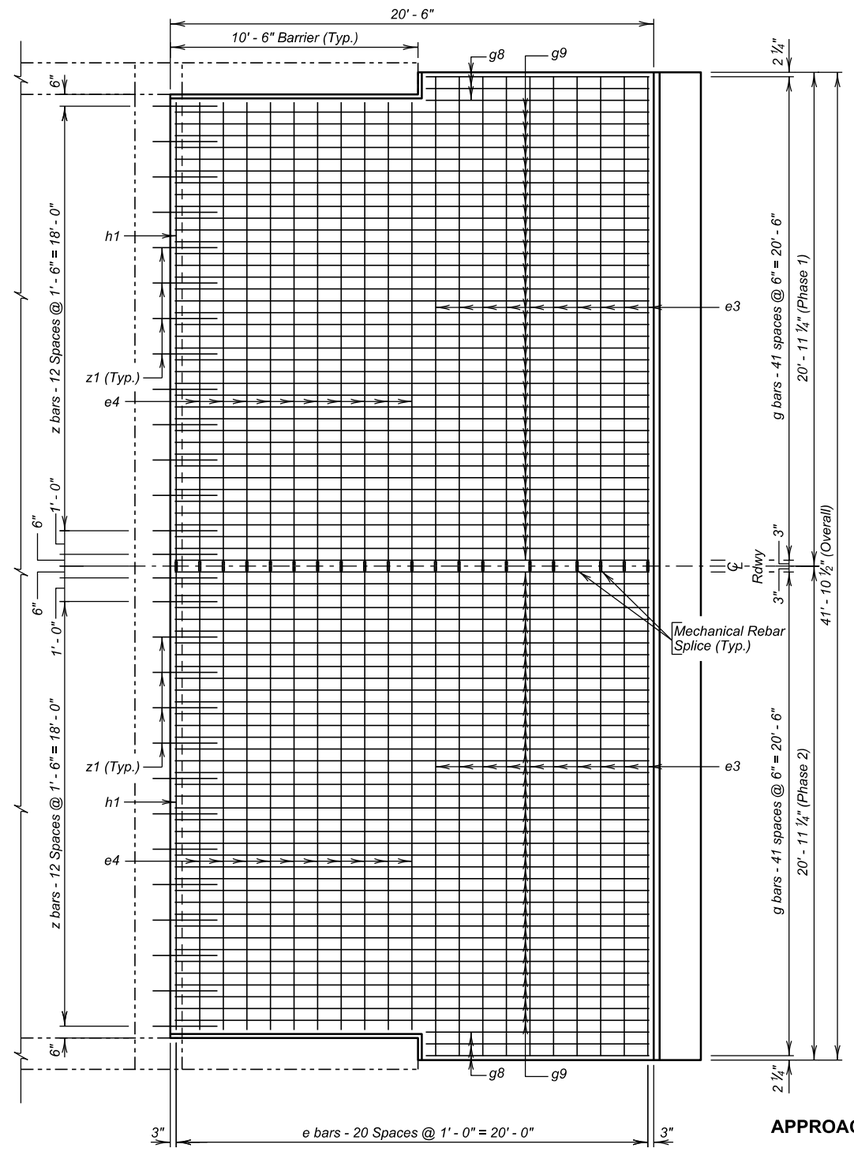
SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2025

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA08		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E11	E19



PLAN
(Abut. No. 1)
(Bot Steel)



PLAN
(Abut. No. 2)
(Bot Steel)

APPROACH SLAB DETAILS (B)

FOR

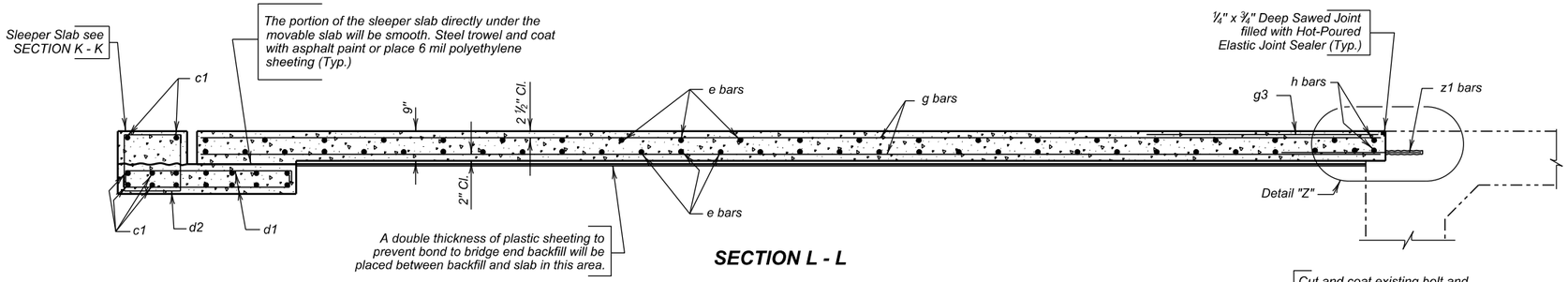
130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

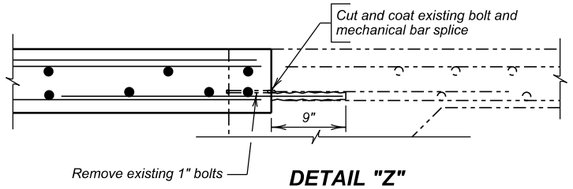
SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2025

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA09		

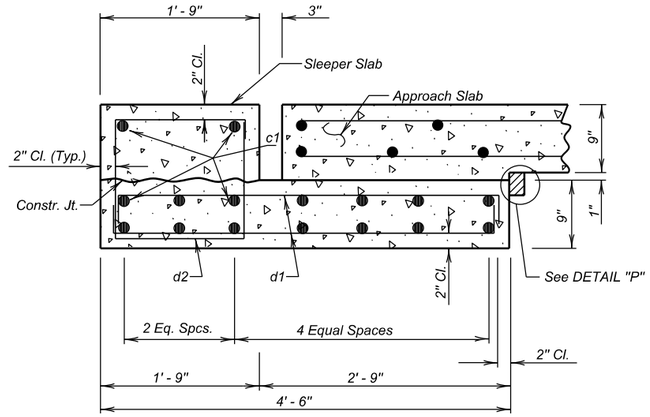
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E12	E19



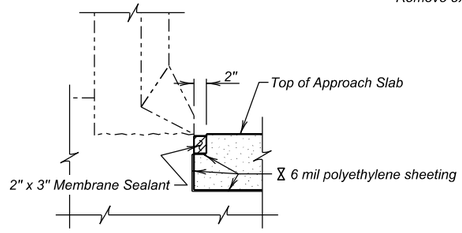
SECTION L - L



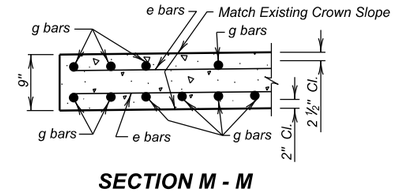
DETAIL "Z"



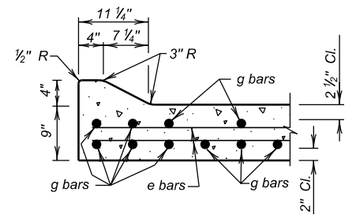
SECTION K - K
(Sleeper Slab)



SECTION I - I



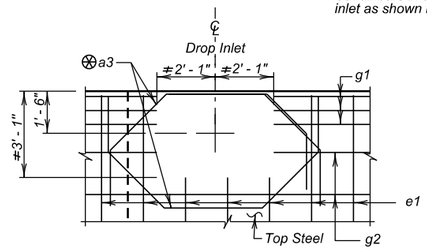
SECTION M - M



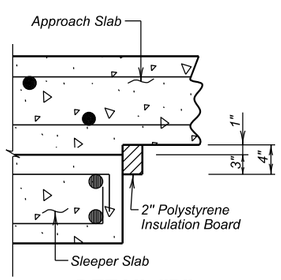
SECTION N - N

⊛ *Add a3 bar to top and bottom layer of steel as shown in DETAIL "X".*

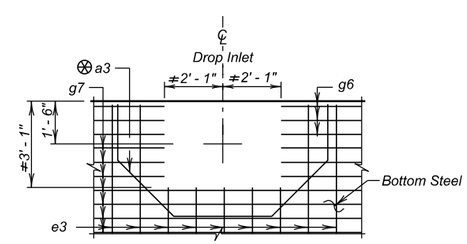
≠ *Cut all bars in area of drop inlet as shown in DETAIL "X".*



DETAIL "X"
(Plan for Top Steel when drop inlet is used.)



DETAIL "P"



DETAIL "X"
(Plan for Bottom Steel when drop inlet is used.)

ESTIMATED QUANTITIES
(For Two Approach Slabs and Two Sleeper Slabs)

ITEM	UNIT	QUANTITY	
		Phase I	Phase 2
Concrete Approach Slab for Bridge	SqYd	115.3	115.3
Concrete Approach Sleeper Slab for Bridge	SqYd	10.5	10.5
No. 4 Rebar Splice	Each	34	—
No. 5 Rebar Splice	Each	32	—
No. 6 Rebar Splice	Each	54	—
Membrane Sealant Expansion Joint	Ft	23.7	23.7
Install Dowel in Concrete	Each	28	28

	PHASE I	PHASE 2
1. Concrete in Approach Slabs.	28.8 CuYd	28.8 CuYd
2. Epoxy Coated Reinforcing Steel in Approach Slabs	8146 Lbs.	8146 Lbs.
3. Concrete in Sleeper Slabs	7.5 CuYd	7.5 CuYd
4. Epoxy Coated Reinforcing Steel in Sleeper Slabs	1144 Lbs.	1144 Lbs.
5. Epoxy Coated Reinforcing Steel in Dowels	158 Lbs.	158 Lbs.

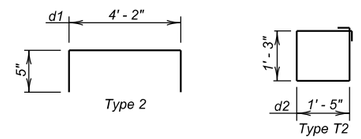
Items 1 thru 5 are approximate quantities contained in the above bid items and are for information only.

Notes for Membrane Sealant Expansion Joint can be found on APPROACH SLAB JOINT DETAILS sheet.

REINFORCING SCHEDULE
(For Two Approach Slabs and Two Sleeper Slabs)

	Mk.	No.	Size	Length	Type
	Phase 1				
	a3	3	4	11' - 6"	14
⧲	c1	32	5	20' - 9"	Str.
	d1	84	4	5' - 0"	2
	d2	42	4	6' - 1"	T2
⧲	e1	20	4	20' - 9"	Str.
⧲	e2	14	4	19' - 8"	Str.
⧲	e3	29	6	20' - 9"	Str.
⧲	e4	21	6	19' - 8"	Str.
	g1	3	4	19' - 0"	Str.
	g2	13	4	29' - 8"	Str.
	g3	28	4	6' - 0"	Str.
	g4	3	4	9' - 6"	Str.
	g5	13	4	20' - 2"	Str.
	g6	3	8	19' - 0"	Str.
	g7	39	8	29' - 8"	Str.
	g8	3	8	9' - 6"	Str.
	g9	39	8	20' - 2"	Str.
⧲	h1	4	6	19' - 8"	Str.
⧲	z1	28	7	2' - 9"	Str.
	Phase 2				
	a3	3	4	11' - 6"	14
⧲	c1	32	5	20' - 9"	Str.
	d1	84	4	5' - 0"	2
	d2	42	4	6' - 1"	T2
⧲	e1	20	4	20' - 9"	Str.
⧲	e2	14	4	19' - 8"	Str.
⧲	e3	29	6	20' - 9"	Str.
⧲	e4	21	6	19' - 8"	Str.
	g1	3	4	19' - 0"	Str.
	g2	13	4	29' - 8"	Str.
	g3	28	4	6' - 0"	Str.
	g4	3	4	9' - 6"	Str.
	g5	13	4	20' - 2"	Str.
	g6	3	8	19' - 0"	Str.
	g7	39	8	29' - 8"	Str.
	g8	3	8	9' - 6"	Str.
	g9	39	8	20' - 2"	Str.
⧲	h1	4	6	19' - 8"	Str.
⧲	z1	28	7	2' - 9"	Str.

Bending Details



NOTES:
All Dimensions are out to out of bars.
All Bars to be Epoxy Coated.

⧲ *Splice (Mechanically Spliced)*
⧲ *Dowels*

APPROACH SLAB DETAILS (C)

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY

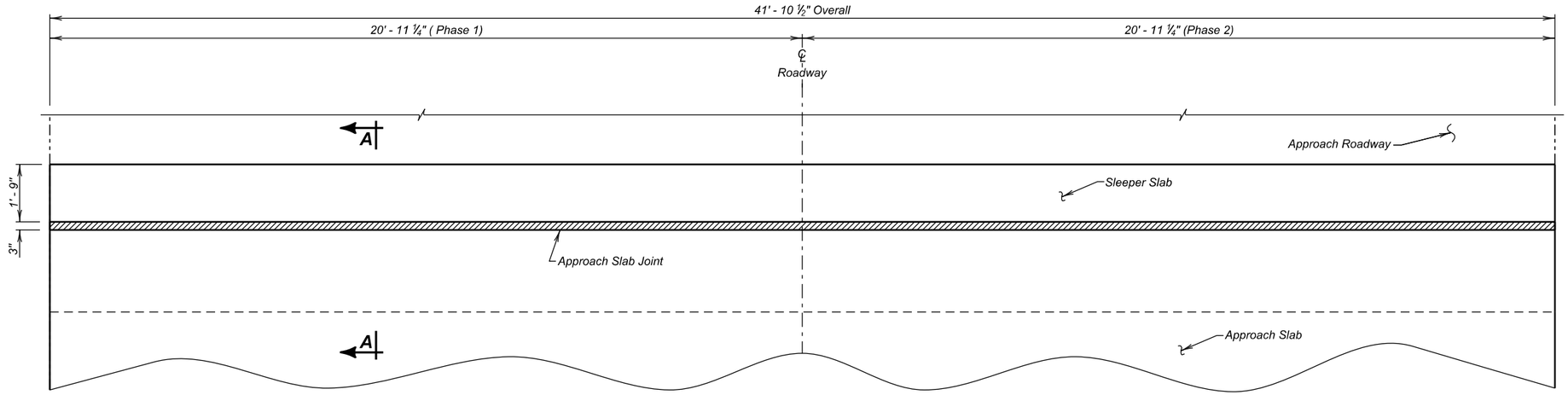
S. D. DEPT. OF TRANSPORTATION

MAY 2025

10 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	BRIDGE ENGINEER
SPNK06PQ	06PQBA10		

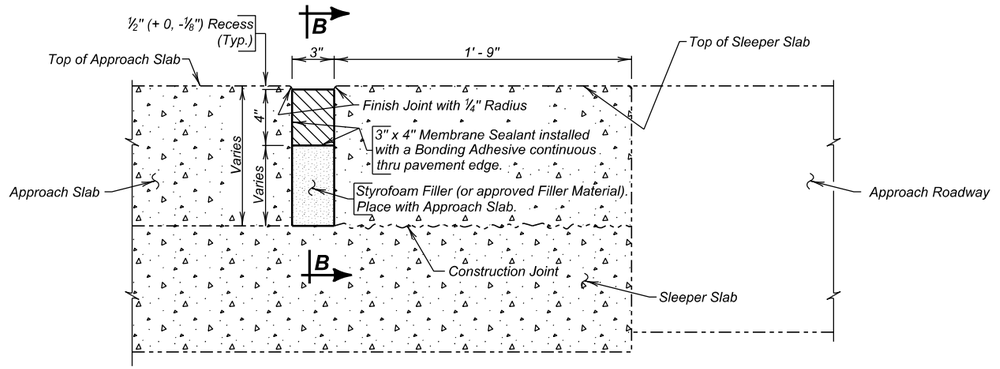
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E13	E19



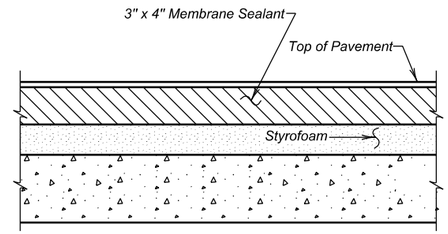
PLAN

GENERAL NOTES

1. The Membrane Sealant will be on the approved product list for Membrane Sealant Expansion Joints.
2. The manufacturer will supply the membrane sealant in packaging that precompresses the membrane sealant. The precompressed dimension will be as recommended by the sealant manufacturer, however, in no case will the precompressed dimension exceed 75% of the joint opening width. The foam sealant will be slowly self expanding to permit workers ample time to install the membrane sealant before the membrane sealant exceeds the joint opening width.
3. The membrane sealant will provide a water tight seal throughout a joint movement range of + 25% (minimum) from the specified joint opening dimension.
4. The membrane sealant will be supplied in pieces a minimum of 5 feet in length. The foam sealant will be ultra-violet and ozone resistant.
5. The bonding adhesive used to attach the membrane sealant to the adjacent concrete will be approved by the membrane sealant manufacturer.
6. Adhesive used to join adjacent pieces of the membrane sealant will be as recommended by the manufacturer.
7. If styrofoam filler material is used in the construction, it will be closed cell and water-tight as approved by the Engineer.
8. The minimum ambient air temperature at the time of joint installation and adhesive curing will be 40° F.
9. A technical representative of the membrane sealant manufacturer will be present at the jobsite during installation. The technical representative will be knowledgeable in the correct procedures for the preparation and installation of the joint material to ensure the Contractor installs the joint to the manufacturers' recommendations.
10. Surfaces that will be in contact with the membrane sealant will be thoroughly cleaned by abrasive blasting to remove all laitance and contaminants (such as oil, curing compounds, etc.) from the surface. At a minimum, two passes of abrasive blasting with the nozzle held at an angle to within 1 to 2 inches of the surface will be required. Cleaning of the surfaces with solvents, wire brushing, or grinding will not be permitted.
11. After abrasive blasting, but immediately prior to membrane joint installation, the entire joint contact surface will be air blasted. The air compressor used for joint cleaning will be equipped with trap devices capable of providing moisture-free and oil-free air at a recommended pressure of 90 psi. To obtain complete bonding with the adhesive, the adjacent surfaces must be dry and clean. The contact surfaces for the joint will be visually inspected by the Engineer immediately prior to joint installation to verify the surface is dry and clean.
12. Individual spliced sections will be installed as per the manufacturers' recommendations.The membrane joint sealant manufacturer will submit a detailed installation procedure to the Engineer at least 5 days prior to joint installation for his review.
13. Traffic will not be allowed on the joint until the bonding adhesive has had time to cure, as recommended by the manufacturer.
14. Use plywood or other material to protect concrete adjacent to the joint from spalling before any equipment is moved across the joint. Any spall areas will be repaired at the Contractor's expense by breaking out and replacing adjacent concrete, as approved by the Engineer.
15. The Membrane Sealant Expansion Joint will be measured in feet to the nearest one-tenth foot, complete in place. Measurement will be made of the overall horizontal length. The Membrane Sealant Expansion Joint will be paid for at the contract unit price per foot complete in place. Payment for this item will be full compensation for furnishing all the required materials in place, including labor, equipment and incidentals necessary to complete the work in accordance with the plans and the foregoing specifications.



SECTION A - A



SECTION B - B

ESTIMATED QUANTITIES (For Two Approach Slabs)			
ITEM	UNIT	QUANTITY	
		Phase 1	Phase 2
Membrane Sealant Expansion Joint	Ft	42.9	42.9

APPROACH SLAB JOINT DETAILS

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY

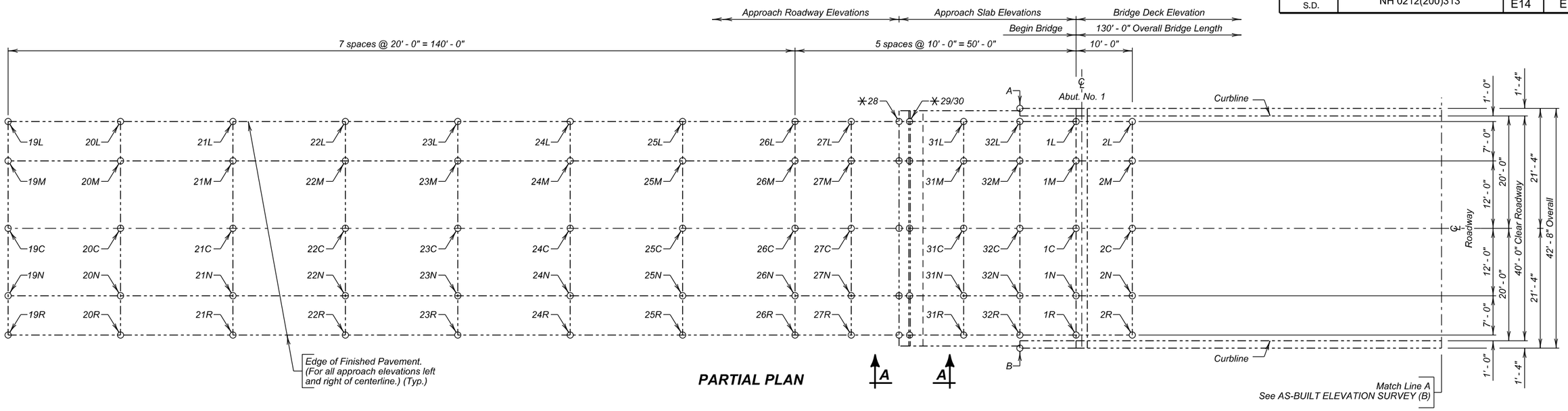
S. D. DEPT. OF TRANSPORTATION

MAY 2025

11 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA11		

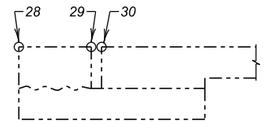
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E14	E19



PARTIAL PLAN

Table of Elevations - Approach Roadway									
Location	Elevation	Location	Elevation	Location	Elevation	Location	Elevation	Location	Elevation
19L		19M		19C		19N		19R	
20L		20M		20C		20N		20R	
21L		21M		21C		21N		21R	
22L		22M		22C		22N		22R	
23L		23M		23C		23N		23R	
24L		24M		24C		24N		24R	
25L		25M		25C		25N		25R	
26L		26M		26C		26N		26R	
27L		27M		27C		27N		27R	

Bridge Ends	
Location	Elevation
A	
B	



VIEW A - A

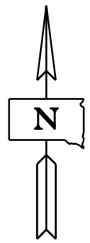


Table of Elevations - Approach Slab Joints (See VIEW A - A) and Approach Slab									
Location	Elevation	Location	Elevation	Location	Elevation	Location	Elevation	Location	Elevation
28L		28M		28C		28N		28R	
29L		29M		29C		29N		29R	
30L		30M		30C		30N		30R	
31L		31M		31C		31N		31R	
32L		32M		32C		32N		32R	

Table of Elevations - Bridge Deck Elevations									
Location	Elevation	Location	Elevation	Location	Elevation	Location	Elevation	Location	Elevation
1L		1M		1C		1N		1R	
2L		2M		2C		2N		2R	

Benchmark Description:

B.M. # Cap and Rebar
2 feet South of West Hwy 212 sign.
Elevation = 1285.41

NOTE:

The elevations will be based on the National Geodetic Survey North American Vertical Datum of 1988 and will be recorded at the locations shown by the table on this sheet. The completed table will be given to the Engineer who will forward a copy to the Bridge Maintenance Engineer in the Office of Bridge Design and the Region Bridge Engineer.

✳ *Labels for all the points at the joints are not shown for clarity. These points follow the same labeling sequence as the adjacent points. Details for these point locations are also shown in VIEW A - A.*

AS-BUILT ELEVATION SURVEY (A)

FOR

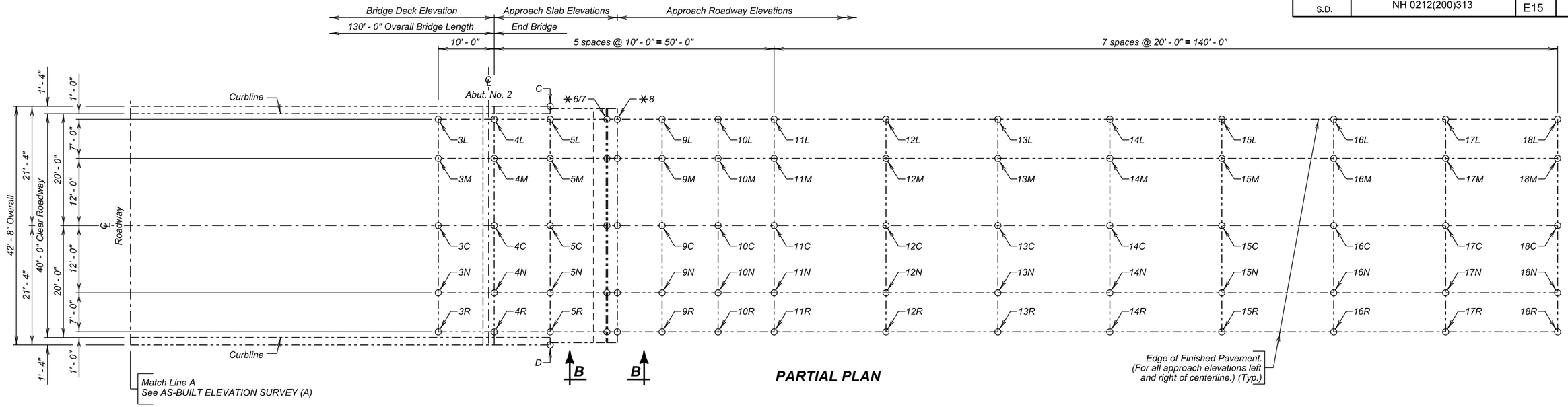
130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/6-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2025

DESIGNED BY	CK. DES. BY	DRAFTED BY	
KR	JRB	KR	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA12		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E15	E19



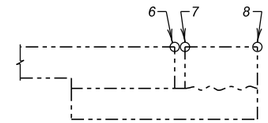
PARTIAL PLAN

Table of Elevations - Bridge Deck Elevations									
Location	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**
3L		3M		3C		3N		3R	
4L		4M		4C		4N		4R	

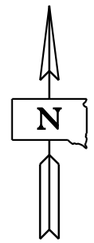
Table of Elevations - Approach Slab Joints (See VIEW B - B) and Approach Slab									
Location	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**
5L		5M		5C		5N		5R	
6L		6M		6C		6N		6R	
7L		7M		7C		7N		7R	
8L		8M		8C		8N		8R	

Table of Elevations - Approach Roadway									
Location	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**	**Location**	**Elevation**
9L		9M		9C		9N		9R	
10L		10M		10C		10N		10R	
11L		11M		11C		11N		11R	
12L		12M		12C		12N		12R	
13L		13M		13C		13N		13R	
14L		14M		14C		14N		14R	
15L		15M		15C		15N		15R	
16L		16M		16C		16N		16R	
17L		17M		17C		17N		17R	
18L		18M		18C		18N		18R	

Bridge Ends	
Location	**Elevation**
C	
D	



VIEW B - B



Benchmark Description:

B.M. # Cap and Rebar
2 feet South of West Hwy 212 sign.
Elevation = 1285.41

✳ *Labels for all the points at the joints are not shown for clarity. These points follow the same labeling sequence as the adjacent points. Details for these point locations are also shown in VIEW B - B.*

NOTE:

The elevations will be based on the National Geodetic Survey North American Vertical Datum of 1988 and will be recorded at the locations shown by the table on this sheet. The completed table will be given to the Engineer who will forward a copy to the Bridge Maintenance Engineer in the Office of Bridge Design and the Region Bridge Engineer.

AS-BUILT ELEVATION SURVEY (B)

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/6-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY

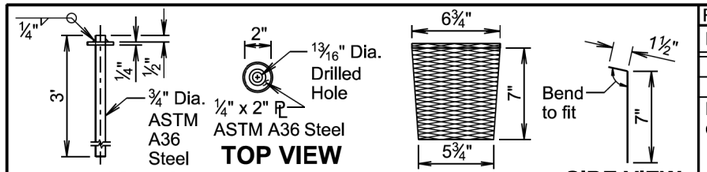
S. D. DEPT. OF TRANSPORTATION

MAY 2025

13 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
KR	JRB	KR	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA13		

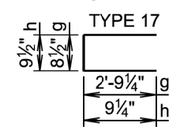
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E16	E19

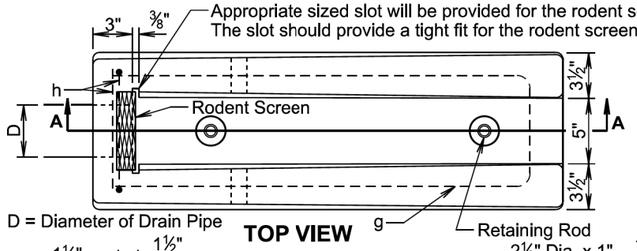


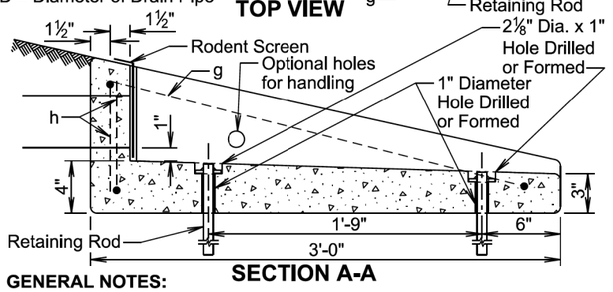
REINFORCING SCHEDULE				
MK.	No.	Size	Length	Type
g	1	4	6'-3"	17
h	2	4	2'-4"	17

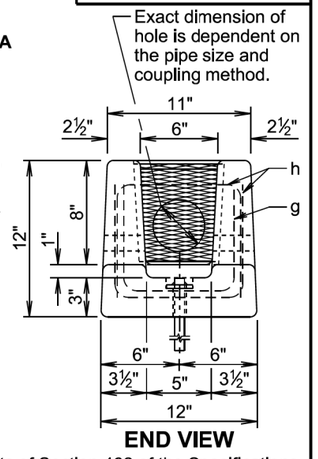
NOTE: All dimensions are out to out of bars.

Bending Details









GENERAL NOTES:

The concrete will be Class M6. The concrete will conform to the requirements of Section 462 of the Specifications. It is estimated that each unit weighs approximately 210 pounds.

All reinforcing steel will conform to ASTM A615, Grade 60 and will be epoxy coated. The reinforcing steel will be securely retained to prevent displacement during placement of concrete. It is estimated that 7.3 pounds of reinforcing steel is required for each unit.

The pipe will be placed in the concrete headwall with the pipe end flush with the concrete surface adjacent to the rodent screen.

The rodent screen will be galvanized 13 Ga. steel with a diamond shaped flattened mesh pattern. The size will be ½". The size refers to the measurement across the smallest diamond shaped opening measured from the centers of the wires.

The retaining rod will be galvanized in accordance with ASTM A123 after all shop welding has been completed.

The drawing indicates using ½" fillets; however, ¾" chamfers may be substituted for the ½" fillets.

All costs for furnishing and installing the concrete headwall including equipment, labor, and materials including concrete, reinforcing steel, retaining rods, and rodent screen will be incidental to the contract unit price per each for "Precast Concrete Headwall for Drain".

November 19, 2021

Published Date: 2025	SDDOT	PRECAST CONCRETE HEADWALL FOR DRAIN	PLATE NUMBER 430.50
			Sheet 1 of 1

130' - 0" PRESTRESSED GIRDER BRIDGE

STR. NO. 58-242-240

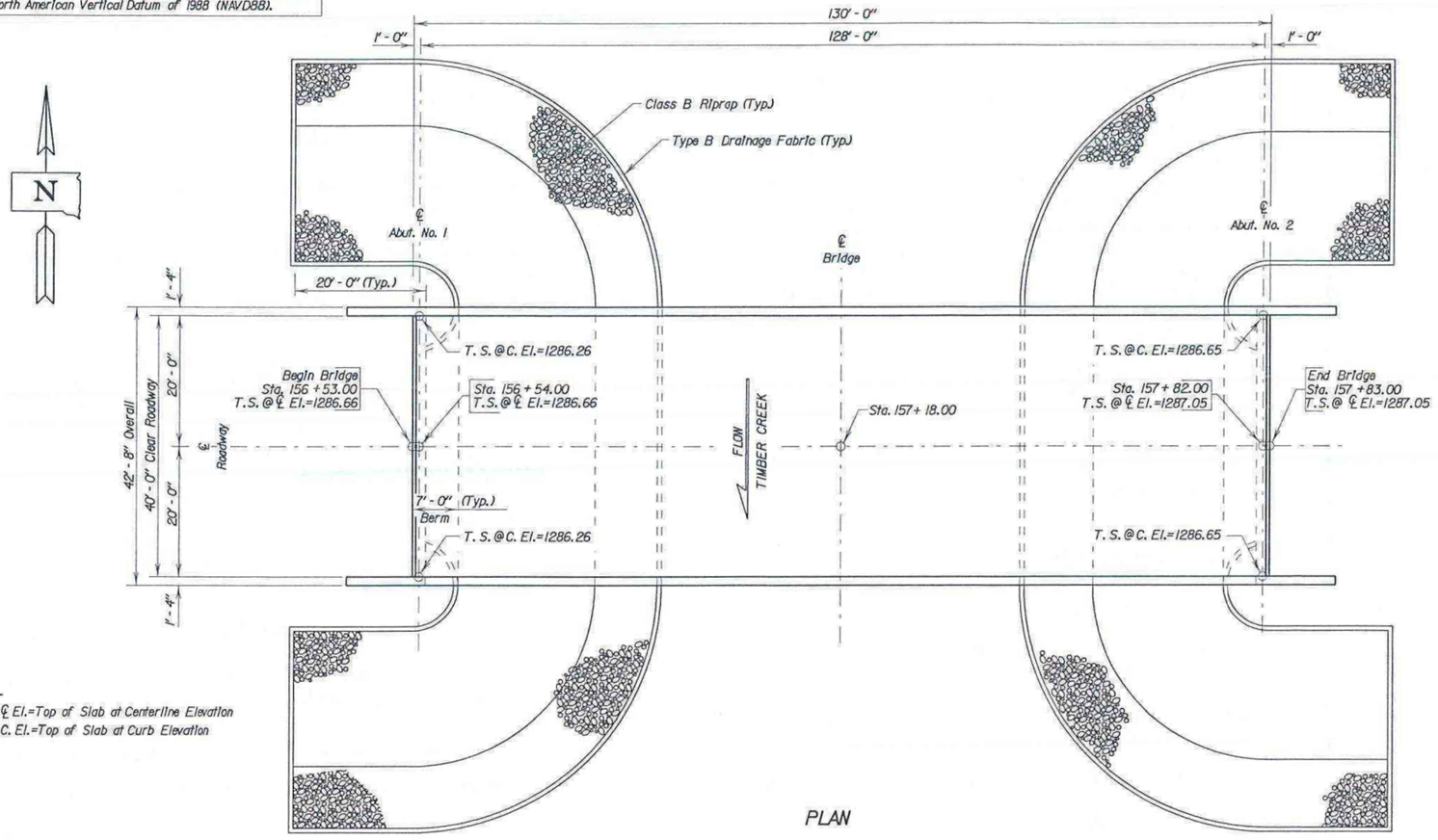
MAY 2025

14 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA14		

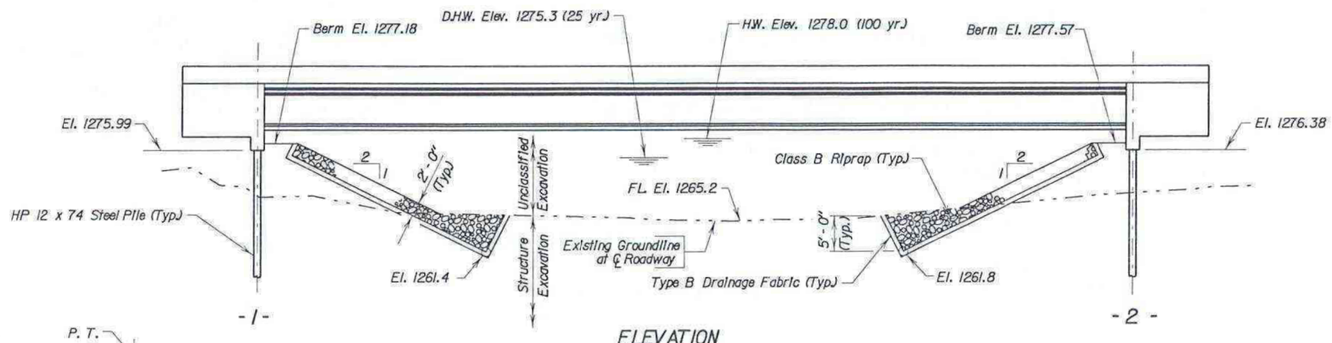
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E17	E19

The elevations shown in these plans are based on the National Geodetic Survey (NGS) North American Vertical Datum of 1988 (NAVD88).



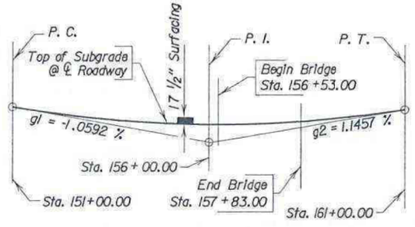
PLAN

NOTE -
T.S. @ ℄ El.=Top of Slab at Centerline Elevation
T.S. @ C. El.=Top of Slab at Curb Elevation



ELEVATION

P. I. Sta. 156 + 00.00
Elev. 1282.39 (Subgrade)
V. C. = 1000'



GRADELINE DATA

HYDRAULIC DATA

Q_d	2887 cfs
A_d	671 sq.ft.
V_d	4.3 fps
Q_F	2887 cfs
Q_{100}	6887 cfs
V_{max}	7.8 fps

Q_d = Design discharge for the proposed bridge based on 25 year frequency. El. 1275.3

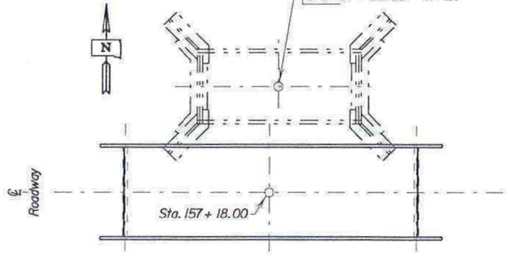
Q_F = Designated peak discharge for the basin approaching proposed project based on 25 year frequency.

Q_{100} = Computed discharge for the basin approaching proposed project based on 100 year frequency. El. 1278.0

V_{max} = Maximum computed outlet velocity for the proposed bridge based on a 100 year frequency.

PLANS BY :
OFFICE OF BRIDGE DESIGN, SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

-X081-
INDEX OF BRIDGE SHEETS-



LAYOUT

ORIGINAL CONSTRUCTION PLANS

GENERAL DRAWING
FOR
130'- 0" PRESTR. GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/6-T117/116N-R61W
STA. 156+53.00 TO 157+83.00 — NH 0212(107)318
STR. NO. 58-242-240 — HL-93
PCN 4168 — (& ALT.)

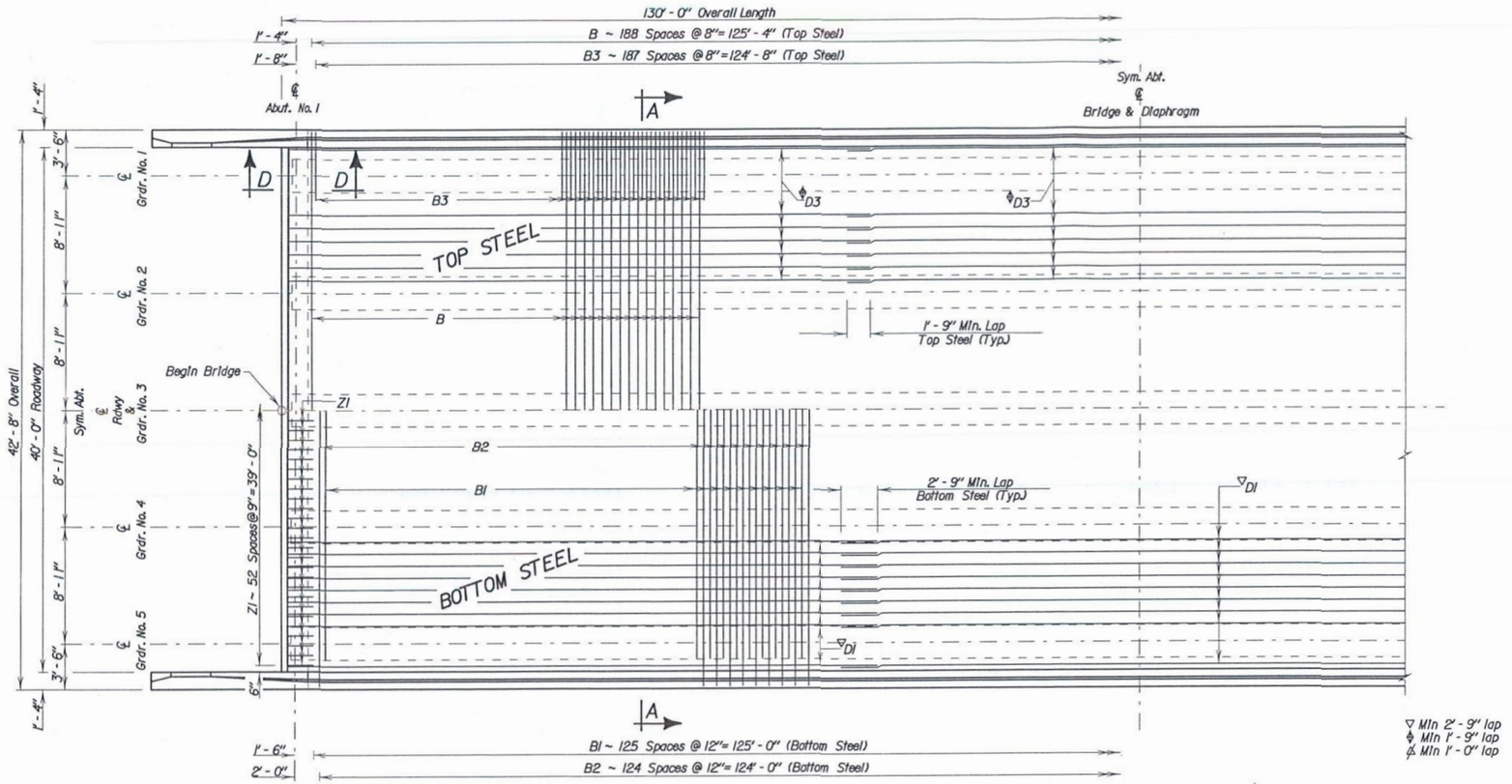
SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
FEBRUARY 2006

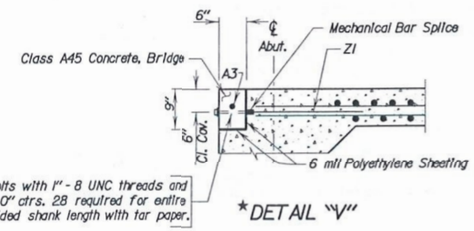
-X081-

15 OF 17

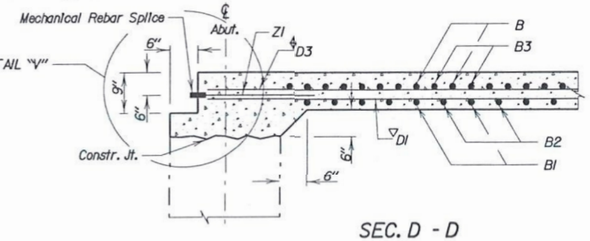
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
DM/AV	JK	DM/AV	John C. Cole
SPNK4168	4168KB01		BRIDGE ENGINEER

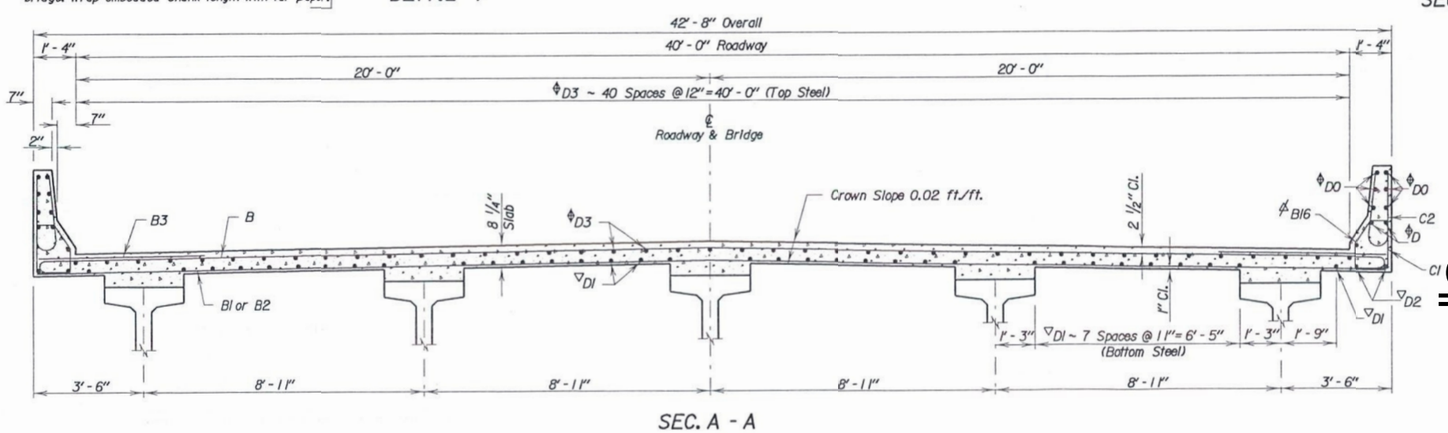
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E18	E19





★ NOTE -
Mechanical Bar Splices shall be threaded with 1" - 8 UNC threads. All costs associated with furnishing and installing bolts, washers, tar paper and polyethylene sheeting for the approach slab pavement notch shall be incidental to the contract unit price per cubic yard for Class A45 Concrete, Bridge.

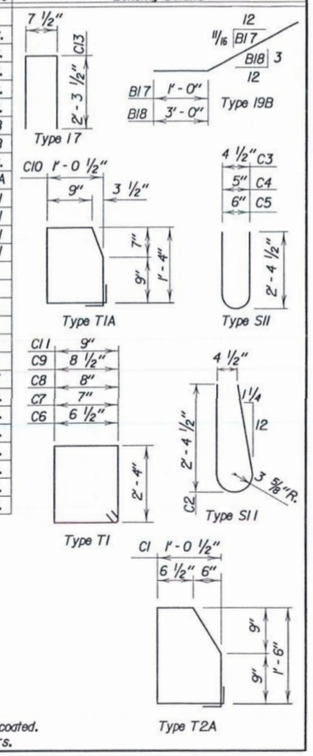




REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type
B	189	5	43' - 6"	1
B1	126	4	42' - 4"	Str.
B2	125	5	38' - 2"	Str.
B3	376	5	5' - 3"	Str.
B15	12	5	14' - 6"	Str.
B16	6	4	49' - 7"	Str.
B17	8	4	8' - 6"	19B
B18	12	8	4' - 3"	19B
B19	12	5	2' - 4"	Str.
C1	282	5	5' - 9"	T2A
C2	254	5	5' - 1"	S11
C3	4	5	5' - 0"	S11
C4	4	5	5' - 0"	S11
C5	4	5	5' - 0"	S11
C6	4	5	6' - 8"	T1
C7	4	5	6' - 9"	T1
C8	4	5	6' - 11"	T1
C9	4	5	7' - 0"	T1
C10	16	5	5' - 6"	T1A
C11	16	5	7' - 1"	T1
C13	4	5	5' - 3"	17
D	12	4	51' - 1"	Str.
D0	36	4	43' - 2"	Str.
D1	102	5	44' - 8"	Str.
D2	12	5	51' - 9"	Str.
D3	123	4	44' - 1"	Str.
D10	16	6	11' - 8"	Str.
Z1	106	7	2' - 0"	Str.

Bending Details



NOTES-
All reinforcing steel shall be epoxy coated.
All dimensions are out to out of bars.

ESTIMATED QUANTITIES

	ITEM	UNIT	QUANTITY
*	Class A45 Concrete, Bridge Deck	Cu.Yd.	197.7
◊	Epoxy Coated Reinforcing Steel	Lb.	34,383
	No. 7 Rebar Splice	Each	106
	72" Wyoming Shape Prestressed Concrete Beam	Ft.	644
	Concrete Penetrating Sealer	Sq.Yd.	573

◊ Includes quantities for Barrier Curbs and Slab.
* Includes quantities for Abutment Backwall and Wing Walls above construction joint, Barrier Curb, Slab and Haunch. (Average depth of 3 1/4" used for Haunch Quantity.) Concrete Quantity for Barrier Curbs Is 0.0842 Cu.Yd/Ft. Concrete Quantity per 12' End Block Is 1.1659 Cu. Yds.

SUPERSTRUCTURE DETAILS
FOR
130'- 0" PRESTR. GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/6-T117/116N-R61W
STA. 156+53.00 TO 157+83.00 — NH 0212(107)318
STR. NO. 58-242-240 — HL-93 (& ALT.)

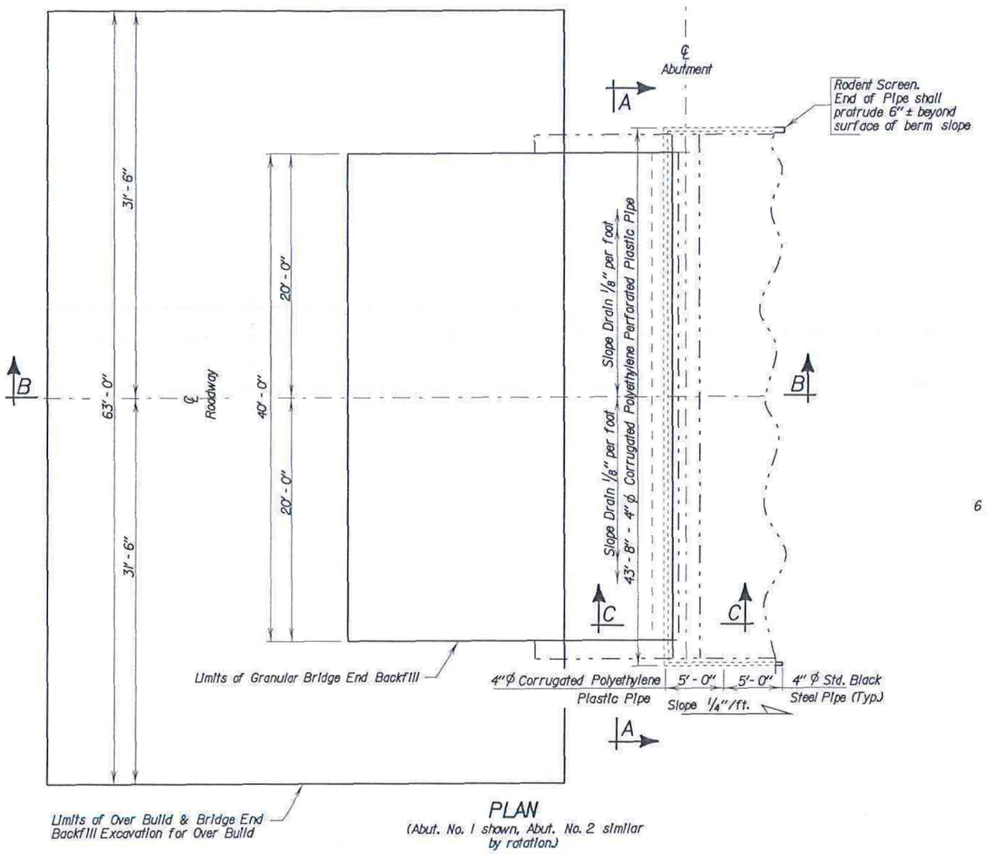
ORIGINAL CONSTRUCTION PLANS

SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
FEBRUARY 2006

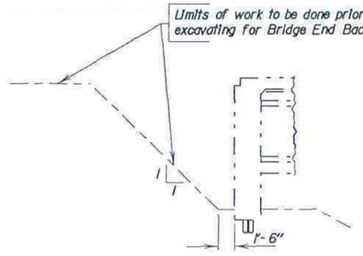
16 OF 17

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
DM/AV	JK	DM/AV	John C. Cole
SPNK4168	4168KB08		BRIDGE ENGINEER

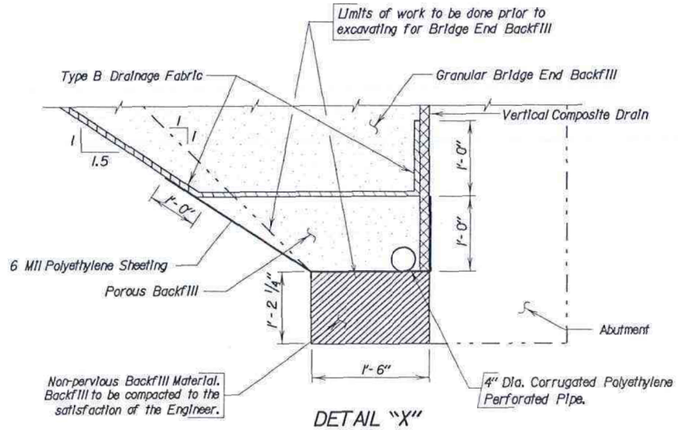
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E19	E19



PLAN
(Abut. No. 1 shown, Abut. No. 2 similar by rotation.)



SEC. C-C
(TYP.)



DETAIL "X"
(Normal to ℄ Roadway)

ESTIMATED QUANTITIES (for 2 abutments)		
ITEM	UNIT	QUANTITY
Bridge End Backfill Underdrain Pipe	Ft.	187
ϕ Bridge End Backfill Excavation	Cu. Yd.	246
Bridge End Backfill	Cu. Yd.	198

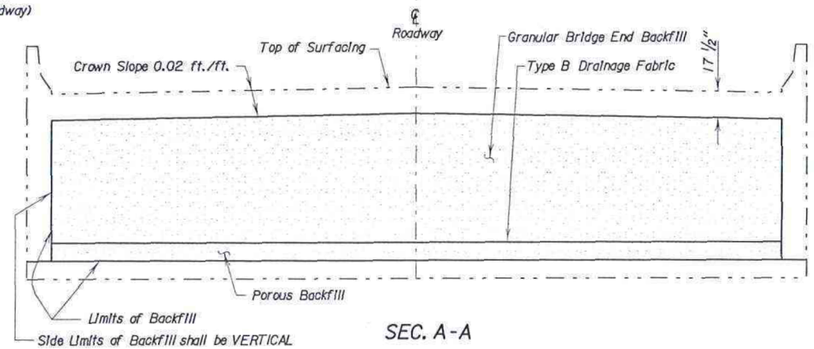
1. 87 ft. 4" dia. Corrugated Polyethylene Perforated Plastic Pipe.
2. 20 ft. 4" dia. Corrugated Polyethylene Plastic Pipe.
3. 20 ft. 4" dia. Std. Black Steel Pipe with Rodent Screen.
4. 418 sq. ft. 6 mil Polyethylene Sheeting, not including laps.
5. 192 cu. yd. Granular Bridge End Backfill.
△ 6. 6 cu. yds. Porous Backfill.
7. 242 sq. yds. Type B Drainage Fabric.
8. 691 sq. ft. Vertical Composite Drain.

Items 1 thru 8 are approximate quantities contained in the above bid items and are for information only.

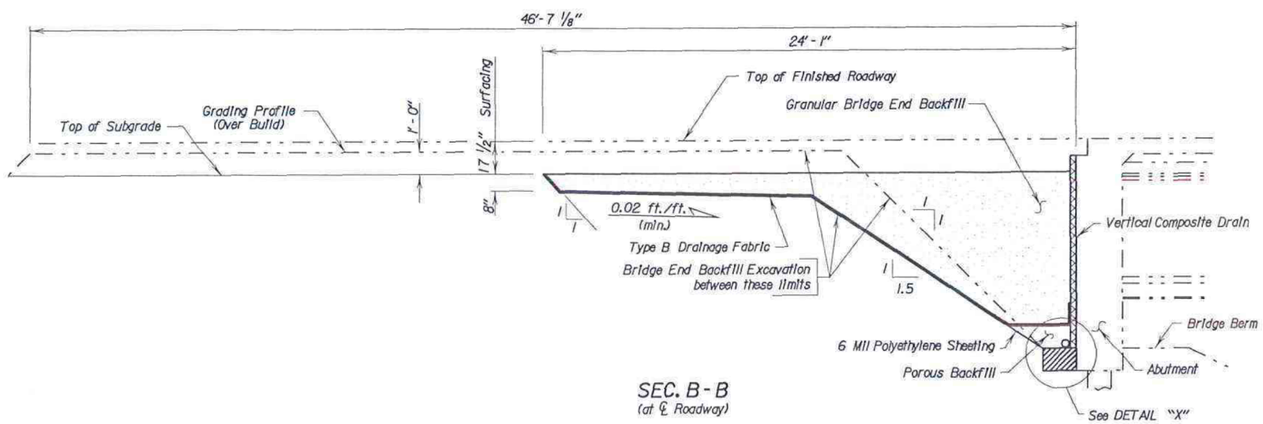
ϕ Bridge End Backfill Excavation will not be measured, Plans quantity payment will be full compensation for this item.

△ Porous backfill shall conform to Section 680.2A of the South Dakota Standard Specifications.

ORIGINAL CONSTRUCTION PLANS



SEC. A-A



SEC. B-B
(at ℄ Roadway)

DETAILS OF BRIDGE END BACKFILL
FOR

130'- 0" PRESTR. GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/6-T117/116N-R61W
STA. 156+53.00 TO 157+83.00 — NH 0212(107)318
STR. NO. 58-242-240 — HL-93 (& ALT.)

SPINK COUNTY
S. D. DEPT. OF TRANSPORTATION
FEBRUARY 2006

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
DM/AV	JK	DM/AV	John C. Cole
SPNK4168	4168KB13		BRIDGE ENGINEER