



Planning & Engineering  
Office of Project Development  
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Pierre, South Dakota 57501-2586  
O: 605.773.3275  
[dot.sd.gov](http://dot.sd.gov)

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September 11, 2026

To Whom it May Concern,

Beginning with the 10/7/2026 letting, the SDDOT will be using the new Electronic Standard Specifications for Roads and Bridges, 10-7-26 Version. The Standard Specifications for Roads and Bridges is available for download and viewing at <https://dot.sd.gov/doing-business/contractors/standard-specifications> . A printed version of the Standard Specifications for Roads and Bridges will not be provided.

A revised Buy America specification is in effect beginning with the 10/7/26 letting, which aligns with the expiration of the Federal Manufactured Products General Waiver. Contractors should be aware that new provisions for manufactured products, along with updates to material classifications, documentation requirements, and compliance procedures, are included in Section 6.9 of the Standard Specifications (10/07/2026 version). All contractors and suppliers are strongly encouraged to review the updated specification in full. Contractors are encouraged to attend the Buy America Informational Webinar being put on by the SDDOT and AGC. Information on the webinar can be found at:

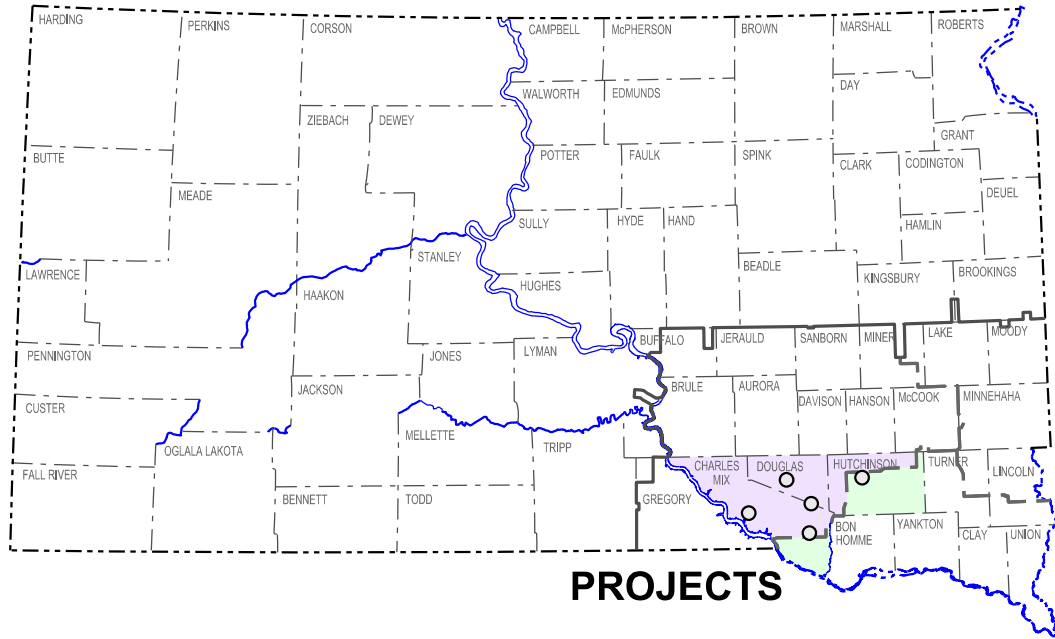
<https://dot.sd.gov/doing-business/contractors/webinars/>

FHWA has updated the FHWA-1273 commonly known as the "Pink Sheets". The new FHWA-1273 will be incorporated into all contracts awarded after 10/7/26. Additional information regarding the updated FHWA-1273 can be found at:

<https://www.fhwa.dot.gov/construction/cqit/form1273.cfm>

Sincerely,  
SDDOT – Bid Letting Office

PLOT SCALE - 1"=7000'



PROJECTS

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
PROJECTS NH 0018(251)360,  
P 0044(242)355, PT 0050(142)303,  
PT 0046(86)290 & PT 0044(241)327  
US HIGHWAY 18 &  
SD HIGHWAYS 44, 46 & 50  
CHARLES MIX, DOUGLAS &  
HUTCHINSON COUNTIES

COLUMN REPAIR, BERM REPAIR & RIPRAP  
PCN 090C, 090D, 090E, 090F & 090G

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 |       |                 |
|                             |                                                                                       | 1     | 51              |

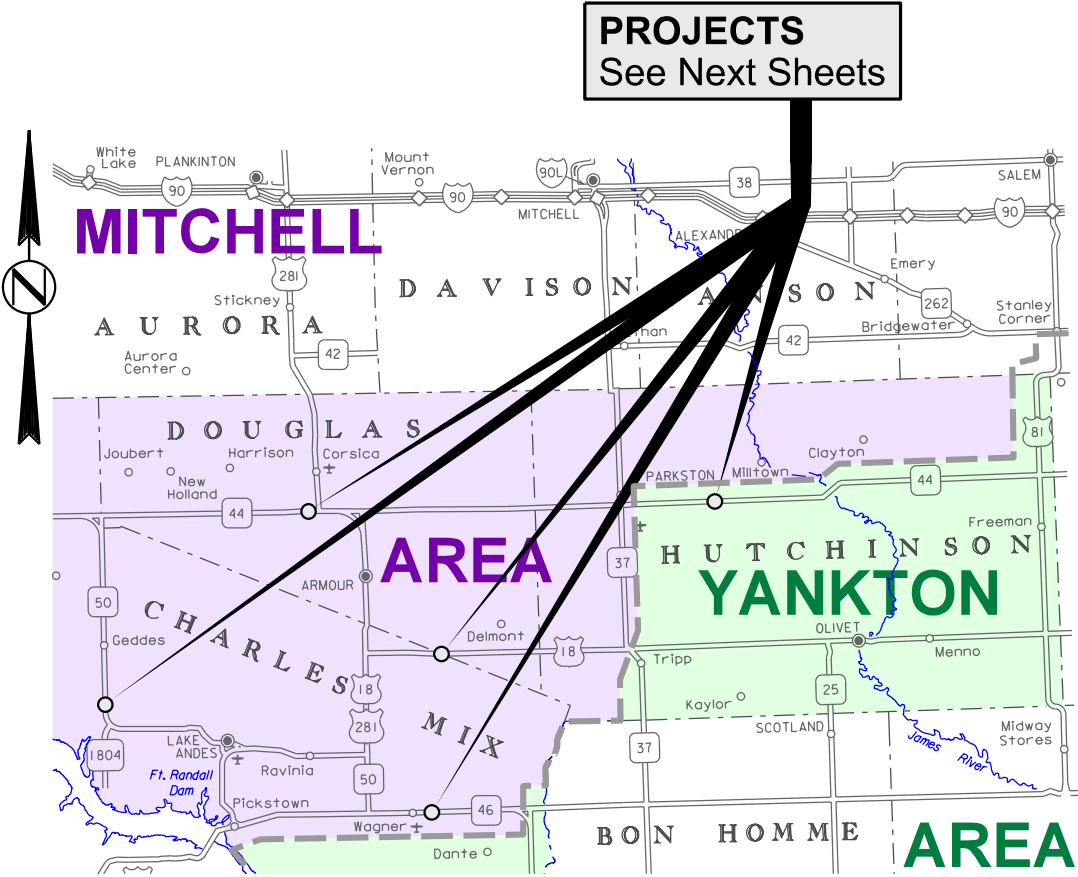
Plotting Date: 06/03/2026

INDEX OF SHEETS

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| Sheet 5        | Estimate of Quantities                 |
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| Sheets 9 - 16  | Pavement Marking & Traffic Control     |
| Sheets 17 - 24 | Bridge Work at Str. No. 22-228-179     |
| Sheets 25 - 33 | Bridge Work at Str. No. 34-125-080     |
| Sheets 34 - 40 | Bridge Work at Str. No. 12-300-211     |
| Sheets 41 - 46 | Bridge Work at Str. No. 12-523-290     |
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|           |        | DESIGN DESIGNATION |                     |                     |                    |
|-----------|--------|--------------------|---------------------|---------------------|--------------------|
| ROUTE     | US18   | SD44 E<br>of SD37  | SD50 S<br>of Geddes | SD46 E<br>of Wagner | SD44 W<br>of US281 |
| ADT(2025) | 550    | 1,593              | 532                 | 1,537               | 1,672              |
| ADT(2045) | 782    | 2,530              | 768                 | 2,219               | 2,413              |
| DHV       | 90     | 292                | 89                  | 256                 | 278                |
| D         | 51%    | 51%                | 51%                 | 51%                 | 51%                |
| T DHV     | 8.6%   | 10.2%              | 6.6%                | 5.7%                | 6.5%               |
| T ADT     | 19.0%  | 22.4%              | 14.6%               | 12.6%               | 14.2%              |
| V         | 65 MPH | 65 MPH             | 65 MPH              | 65 MPH              | 65 MPH             |

|                   |                        | STORM WATER PERMIT |                     |                     |                    |
|-------------------|------------------------|--------------------|---------------------|---------------------|--------------------|
| ROUTE             | US18                   | SD44 E<br>of SD37  | SD50 S<br>of Geddes | SD46 E<br>of Wagner | SD44 W<br>of US281 |
| Receiving Waters: | Trib. to Choteau Creek | N Branch Dry Ck    | Pease Creek         | Choteau Creek       | Andes Creek        |
| Area              |                        |                    |                     |                     |                    |
| Disturbed:        | 0.0 Acre               | 0.0 Acre           | 0.07 Acre           | 0.11 Acre           | 0.06 Acre          |
| Total Area:       | 0.3 Acre               | 0.2 Acre           | 0.4 Acre            | 1.3 Acres           | 0.4 Acre           |
| Latitude:         | 43.2403                | 43.3847            | 43.1969             | 43.0815             | 43.3852            |
| Longitude:        | -98.2506               | -97.8665           | -98.7070            | -98.2626            | -98.4160           |



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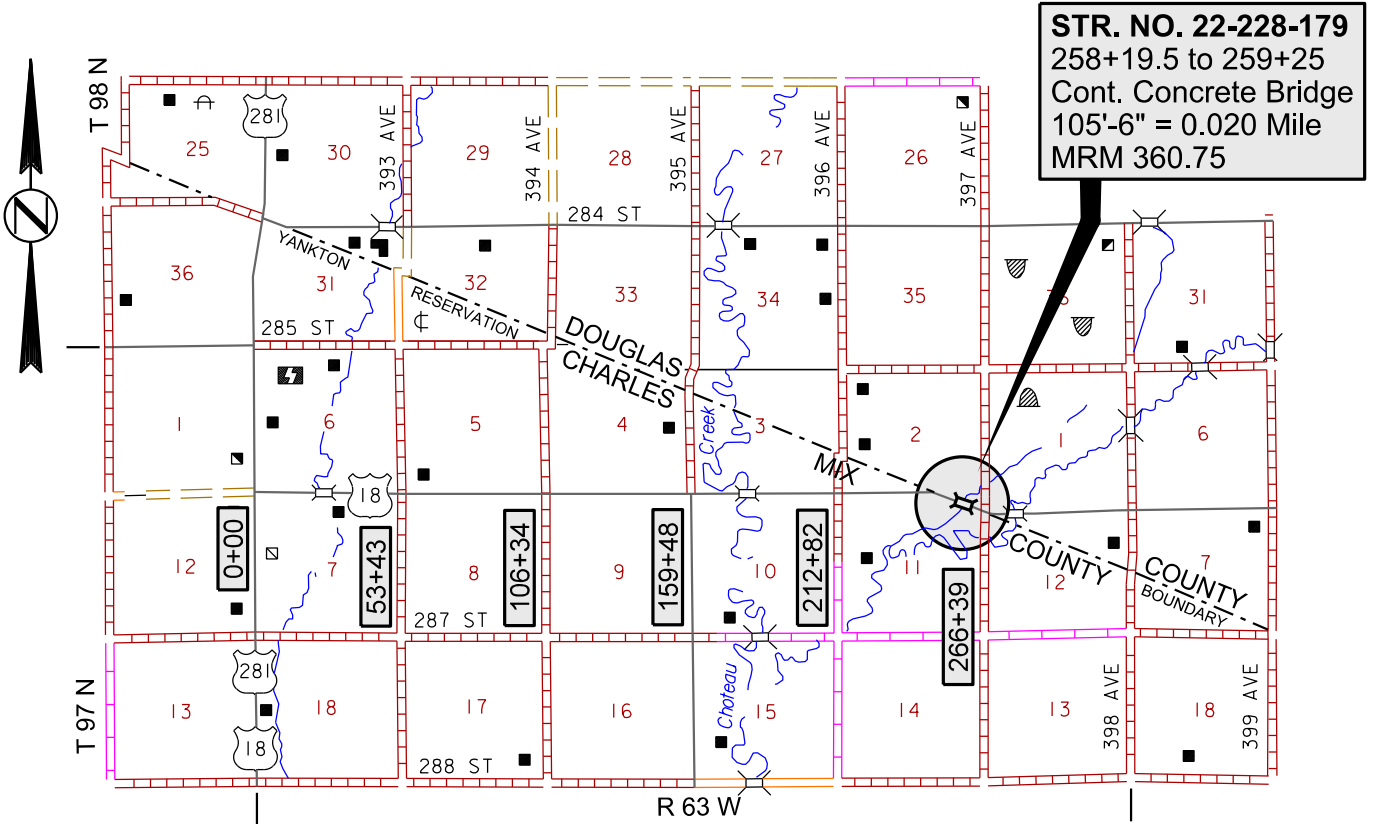
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PLOT SCALE - 1:7000

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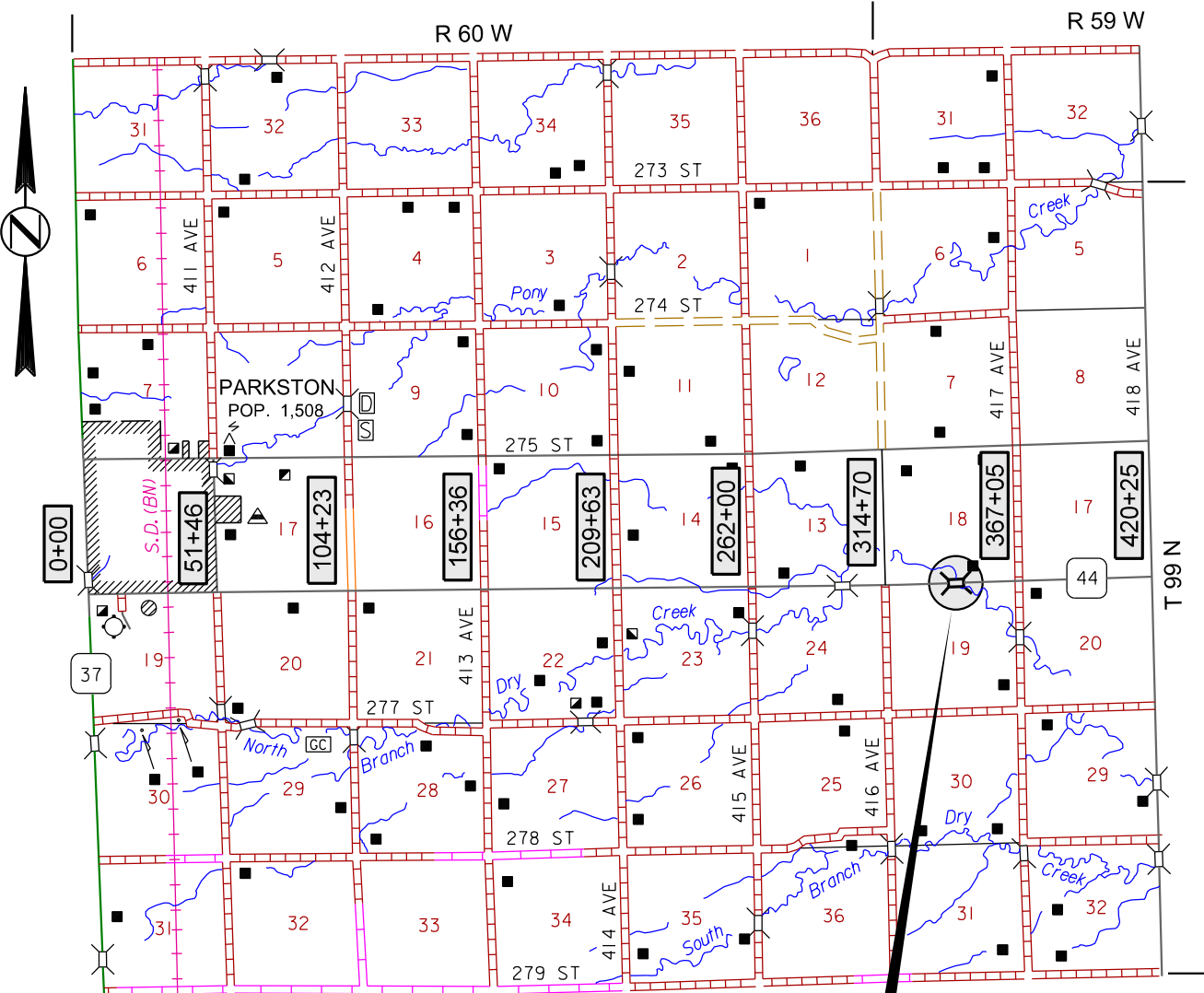
NH 0018(251)360  
US HIGHWAY 18  
CHARLES MIX & DOUGLAS COUNTIES  
MITCHELL AREA  
COLUMN REPAIR  
PCN 090C



P 0044(242)355  
SD HIGHWAY 44  
HUTCHINSON COUNTY  
YANKTON AREA  
COLUMN REPAIR  
PCN 090D

| STATE OF SOUTH DAKOTA                                                              | PROJECT | SHEET | TOTAL SHEETS |
|------------------------------------------------------------------------------------|---------|-------|--------------|
| NH 0018(251)360, P 0044(242)355, PT 0050(142)303, PT 0046(86)290 & PT 0044(241)327 |         | 2     | 51           |

Plotting Date: 06/03/2026



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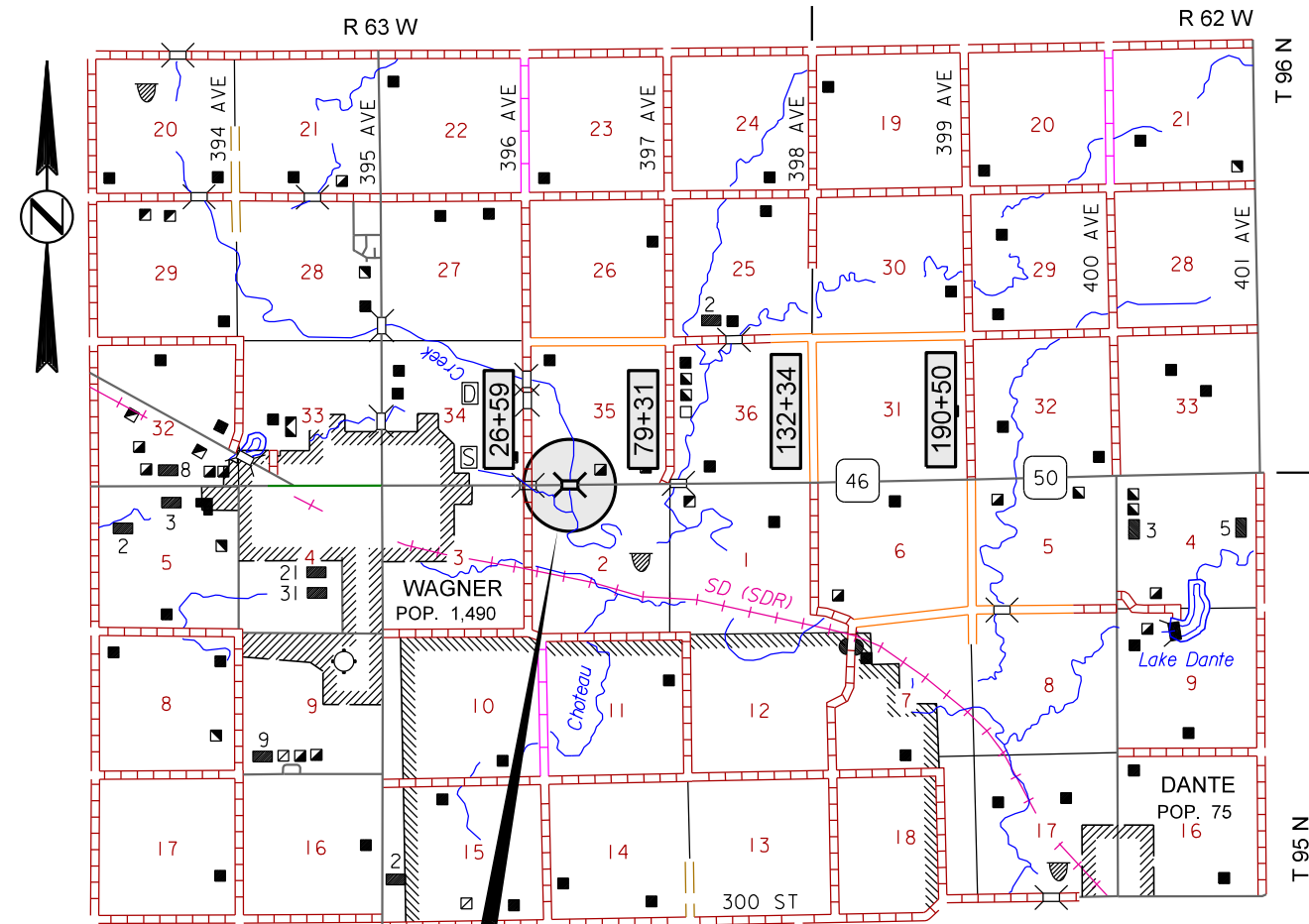
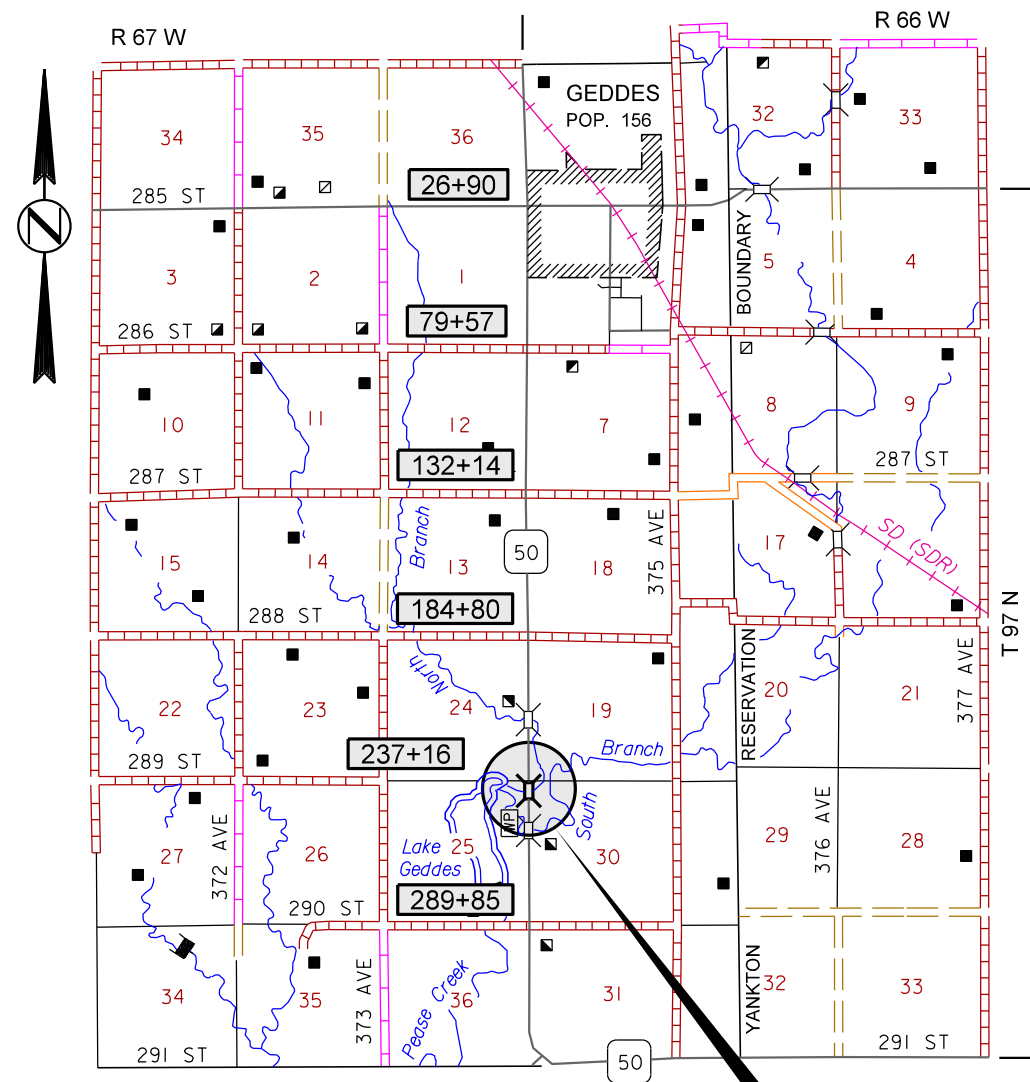
PLOT NAME - 2

PT 0050(142)303  
SD HIGHWAY 50  
CHARLES MIX COUNTY  
MITCHELL AREA  
BERM REPAIR & RIPRAP  
PCN 090E

PT 0046(86)290  
SD HIGHWAY 46  
CHARLES MIX COUNTY  
MITCHELL AREA  
BERM REPAIR & RIPRAP  
PCN 090F

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET<br>3 | TOTAL<br>SHEETS<br>51 |
|-----------------------------|---------------------------------------------------------------------------------------|------------|-----------------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 |            |                       |

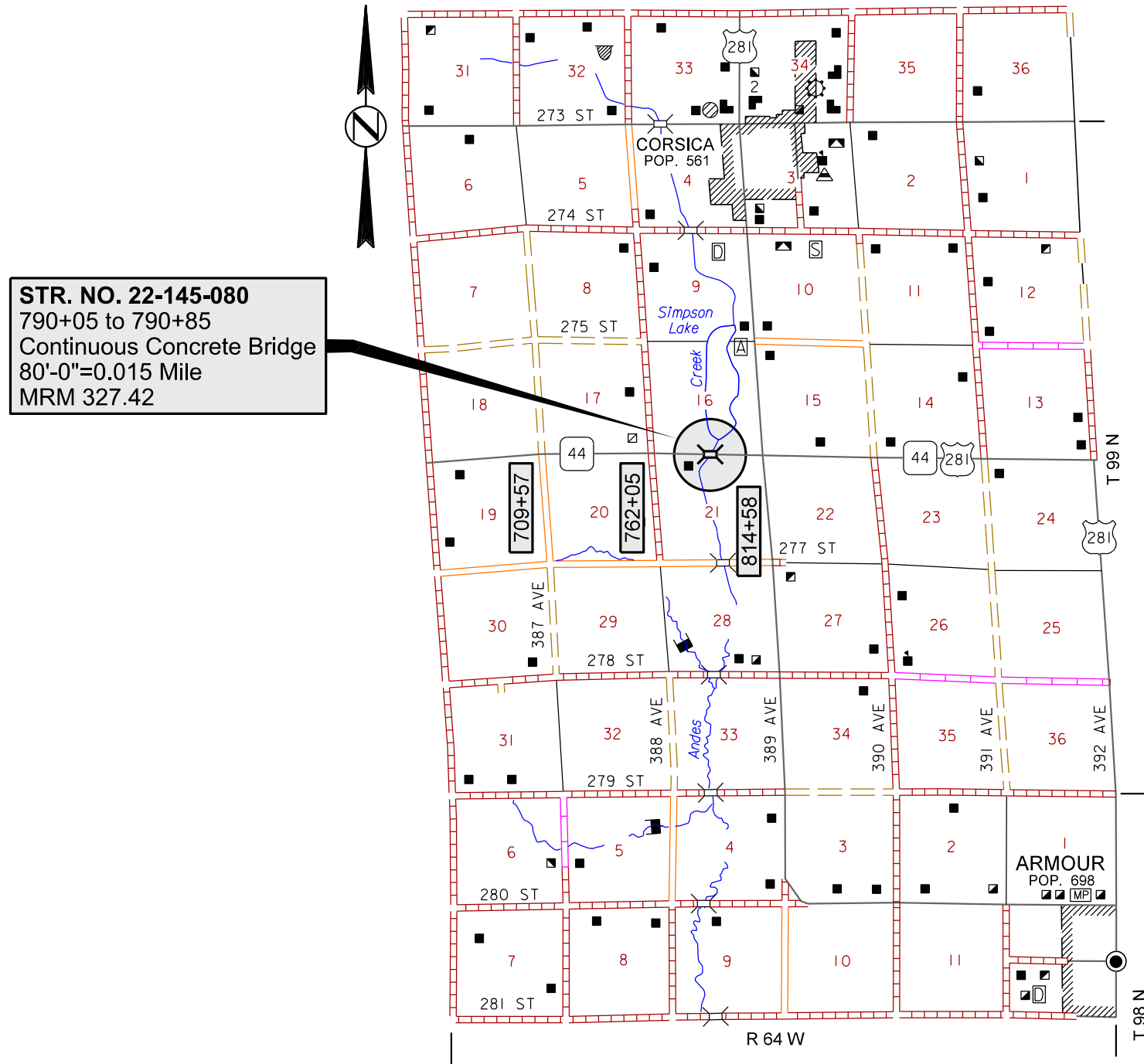
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**PT 0044(241)327  
SD HIGHWAY 44  
DOUGLAS COUNTY  
MITCHELL AREA  
BERM REPAIR & RIPRAP  
PCN 090G**

|                             |                                                                                       |       |                 |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 4     | 51              |

Plotting Date: 06/03/2026



PLOT SCALE - 1:7000

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ESTIMATE OF QUANTITIES

|                             |                                                                                       |       |                 |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 5     | 51              |

8/28/26 GAW

PCN 090C

| BID ITEM<br>NUMBER | ITEM                                       | QUANTITY | UNIT |
|--------------------|--------------------------------------------|----------|------|
| 009E0010           | Mobilization                               | Lump Sum | LS   |
| 009E4100           | Construction Schedule, Category I          | Lump Sum | LS   |
| 634E0010           | Flagging                                   | 120.0    | Hour |
| 634E0110           | Traffic Control Signs                      | 229.4    | SqFt |
| 634E0120           | Traffic Control, Miscellaneous             | Lump Sum | LS   |
| 634E0275           | Type 3 Barricade                           | 2        | Each |
| 634E0310           | Temporary Flexible Vertical Markers (Tabs) | 1,200    | Ft   |
| 634E0600           | 4" Temporary Pavement Marking Tape Type I  | 144      | Ft   |

STR. NO. 22-228-179

| BID ITEM<br>NUMBER | ITEM                            | QUANTITY | UNIT |
|--------------------|---------------------------------|----------|------|
| 410E0030           | Structural Steel, Miscellaneous | Lump Sum | LS   |
| 460E0300           | Breakout Structural Concrete    | 0.5      | CuYd |
| 462E0100           | Class M6 Concrete               | 1.9      | CuYd |

PCN 090D

| BID ITEM<br>NUMBER | ITEM                                       | QUANTITY | UNIT |
|--------------------|--------------------------------------------|----------|------|
| 009E0010           | Mobilization                               | Lump Sum | LS   |
| 009E4100           | Construction Schedule, Category I          | Lump Sum | LS   |
| 634E0010           | Flagging                                   | 120.0    | Hour |
| 634E0110           | Traffic Control Signs                      | 229.4    | SqFt |
| 634E0120           | Traffic Control, Miscellaneous             | Lump Sum | LS   |
| 634E0275           | Type 3 Barricade                           | 2        | Each |
| 634E0310           | Temporary Flexible Vertical Markers (Tabs) | 1,200    | Ft   |
| 634E0600           | 4" Temporary Pavement Marking Tape Type I  | 144      | Ft   |

STR. NO. 34-125-080

| BID ITEM<br>NUMBER | ITEM                            | QUANTITY | UNIT |
|--------------------|---------------------------------|----------|------|
| 410E0030           | Structural Steel, Miscellaneous | Lump Sum | LS   |
| 460E0300           | Breakout Structural Concrete    | 0.5      | CuYd |
| 462E0100           | Class M6 Concrete               | 2.5      | CuYd |

PCN 090E

| BID ITEM<br>NUMBER | ITEM                                       | QUANTITY | UNIT |
|--------------------|--------------------------------------------|----------|------|
| 009E0010           | Mobilization                               | Lump Sum | LS   |
| 009E4100           | Construction Schedule, Category I          | Lump Sum | LS   |
| 634E0010           | Flagging                                   | 80.0     | Hour |
| 634E0110           | Traffic Control Signs                      | 229.4    | SqFt |
| 634E0120           | Traffic Control, Miscellaneous             | Lump Sum | LS   |
| 634E0275           | Type 3 Barricade                           | 2        | Each |
| 634E0310           | Temporary Flexible Vertical Markers (Tabs) | 1,200    | Ft   |
| 634E0600           | 4" Temporary Pavement Marking Tape Type I  | 144      | Ft   |

STR. NO. 12-300-211

| BID ITEM<br>NUMBER | ITEM                     | QUANTITY | UNIT |
|--------------------|--------------------------|----------|------|
| 120E0010           | Unclassified Excavation  | 31       | CuYd |
| 120E3120           | Bridge Berm Repair       | 2        | Each |
| 120E7000           | Select Granular Backfill | 16.8     | Ton  |
| 700E0210           | Class B Riprap           | 95.6     | Ton  |
| 734E0090           | Perforated Geocell       | 481      | SqFt |
| 831E0110           | Type B Drainage Fabric   | 156      | SqYd |

PCN 090F

| BID ITEM<br>NUMBER | ITEM                                       | QUANTITY | UNIT |
|--------------------|--------------------------------------------|----------|------|
| 009E0010           | Mobilization                               | Lump Sum | LS   |
| 009E4100           | Construction Schedule, Category I          | Lump Sum | LS   |
| 634E0010           | Flagging                                   | 80.0     | Hour |
| 634E0110           | Traffic Control Signs                      | 229.4    | SqFt |
| 634E0120           | Traffic Control, Miscellaneous             | Lump Sum | LS   |
| 634E0275           | Type 3 Barricade                           | 2        | Each |
| 634E0310           | Temporary Flexible Vertical Markers (Tabs) | 1,200    | Ft   |
| 634E0600           | 4" Temporary Pavement Marking Tape Type I  | 144      | Ft   |

STR. NO. 12-523-290

| BID ITEM<br>NUMBER | ITEM                     | QUANTITY | UNIT |
|--------------------|--------------------------|----------|------|
| 120E3120           | Bridge Berm Repair       | 2        | Each |
| 120E7000           | Select Granular Backfill | 16.3     | Ton  |
| 700E0210           | Class B Riprap           | 324.6    | Ton  |
| 734E0090           | Perforated Geocell       | 467      | SqFt |
| 831E0110           | Type B Drainage Fabric   | 410      | SqYd |

PCN 090G

| BID ITEM<br>NUMBER | ITEM                                       | QUANTITY | UNIT |
|--------------------|--------------------------------------------|----------|------|
| 009E0010           | Mobilization                               | Lump Sum | LS   |
| 009E4100           | Construction Schedule, Category I          | Lump Sum | LS   |
| 634E0010           | Flagging                                   | 80.0     | Hour |
| 634E0110           | Traffic Control Signs                      | 229.4    | SqFt |
| 634E0120           | Traffic Control, Miscellaneous             | Lump Sum | LS   |
| 634E0275           | Type 3 Barricade                           | 2        | Each |
| 634E0310           | Temporary Flexible Vertical Markers (Tabs) | 1,200    | Ft   |
| 634E0600           | 4" Temporary Pavement Marking Tape Type I  | 144      | Ft   |

STR. NO. 22-145-080

| BID ITEM<br>NUMBER | ITEM                     | QUANTITY | UNIT |
|--------------------|--------------------------|----------|------|
| 120E3120           | Bridge Berm Repair       | 2        | Each |
| 120E7000           | Select Granular Backfill | 16.8     | Ton  |
| 700E0210           | Class B Riprap           | 113.3    | Ton  |
| 734E0090           | Perforated Geocell       | 481      | SqFt |
| 831E0110           | Type B Drainage Fabric   | 175      | SqYd |

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT A: AQUATIC RESOURCES

COMMITMENT A2: STREAMS

All efforts to avoid and minimize stream impacts from the project have resulted in approximately 0.07 acre(s) of stream (including temporary and permanent) becoming impacted. Refer to the plans for location and boundaries of the impacted streams.

Table of Impacted Streams

| Stream Name            | HIGHWAY<br>MRM     | Perma-<br>nent<br>Impact<br>(Acres) | Temp-<br>orary<br>Impact<br>(Acres) | Total<br>Impact<br>(Acres) |
|------------------------|--------------------|-------------------------------------|-------------------------------------|----------------------------|
| Choteau Creek          | US18<br>MRM 360.75 | 0.00                                | 0.03                                | 0.03                       |
| Choteau Creek          | SD46<br>MRM 290.80 | 0.00                                | 0.003                               | 0.003                      |
| N. Branch of Dry Creek | SD44<br>MRM 355.11 | 0.00                                | 0.003                               | 0.003                      |
| Pease Creek            | SD50<br>MRM 303.34 | 0.00                                | 0.02                                | 0.02                       |
| Andes Creek            | SD44<br>MRM 327.42 | 0.00                                | 0.01                                | 0.01                       |

Action Taken/Required:

It has been determined that project impacts do not require mitigation. Temporary impacts identified in the Table of Impacted Streams will not be mitigated as the finished ground under the bridge will be shaped to match the upstream channel and flood plain and the existing low water channel will be maintained as near as practical to the existing location as designated in the plans.

ENVIRONMENTAL COMMITMENTS

COMMITMENT A2: STREAMS (CONTINUED)

The contractor will complete excavation after temporary diversion is in place, if required, with minimal standing water to create the profile of slope protection specified in plans. Once the instream work is completed, the removed material will be placed on top of the riprap to match the natural ground, proposed groundline, or specified shape and elevations shown in plans. When overburden extends into the streambed it will form the channel bottom and profile as specified in plans. The finished ground under the bridge will be shaped to match the upstream and downstream channel and flood plain.

The Contractor will notify the Project Engineer if additional easement is needed to complete work adjacent to any stream. The Project Engineer will obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any streams beyond the work limits and easements shown in the plans.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT C: WATER SOURCE

If a Contractor needs access to state waters for extraction, the Contractor must obtain a water right, through the application of a Temporary Permit to Use Public Waters before work begins.

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

COMMITMENT C: WATER SOURCE

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (SDDANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Temporary permit to use public waters for highway construction purposes application can be found on the SDDANR website: <https://danr.sd.gov/OfficeOfWater/WaterRights/PermitForms/default.aspx>

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at: <https://sdleastwanted.sd.gov/maps/default.aspx>

South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species: <https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04>

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

The North Branch of Dry Creek is classified as a warmwater semi-permanent fishery with a total suspended solids standard of less than 90 mg/L 30-day average, less than 158 mg/L daily maximum.

The Choteau Creek is classified as a warmwater semi-permanent fishery with a total suspended solids standard of less than 90 mg/L 30-day average, less than 158 mg/L daily maximum.

The Pease Creek is classified as a warmwater semi-permanent fishery with a total suspended solids standard of less than 90 mg/L 30-day average, less than 158 mg/L daily maximum.

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that this water body is not impacted.

Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Agriculture and Natural Resources (DANR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.



# ENVIRONMENTAL COMMITMENTS

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 |       |                 |
|                             |                                                                                       | 7     | 51              |

**COMMITMENT D2: SURFACE WATER DISCHARGE**

The DANR General Permit for Temporary Discharge Activities is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as coldwater permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as coldwater permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

**Action Taken/Required:**

If construction dewatering is required and this project is currently covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the contractor will need to submit the dewatering information to the Project Engineer using the following SDDOT Dewatering Info CDX form:

<<https://dot.sd.gov/doing-business/environmental/forms/>>

The Contractor will contact the local Tribal Office to obtain any required dewatering permits when working within Indian Reservation Land.

The Contractor will provide a copy of the approved permit or the submitted dewatering information to the Project Engineer prior to proceeding with any dewatering activities. The approved permit or submitted dewatering information must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DANR monthly. Additional information can be found at: <<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/swdpermitting/Ereporting.aspx>>

**COMMITMENT E: STORM WATER**

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

**Action Taken/Required:**

The DANR General Permit for Stormwater Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DANR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DANR letter of approval is received.

The Contractor must adhere to the “Special Provision Regarding Storm Water Discharges to Waters of the State.”

The Contractor will complete the DANR Contractor Authorization Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DANR.

**COMMITMENT E: STORM WATER (CONTINUED)**

The form can be found at: <[https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR\\_CGPAppendxCCA2023Fillable.pdf](https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_CGPAppendxCCA2023Fillable.pdf)>

The Contractor is advised that permit coverage may also be required for off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

The EPA 2022 Construction General Permit is required for this project. The SDDOT is the owner of this permit and will submit the NOI to EPA 15 days prior to project start in order to obtain coverage. Work can begin after authorization is received from the EPA. This permit provides coverage for construction and dewatering activities for this project.

The Contractor must adhere to the “Special Provision Regarding Storm Water Discharge to Waters of the United States within Indian Reservations”.

**Storm Water Pollution Prevention Plan**

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The DOT 298 Form will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly, and sediment is not tracked off the site.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: <<https://dot.sd.gov/doing-business/environmental/stormwater>>

DANR:<<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/default.aspx>>

EPA: <<https://www.epa.gov/npdes>>

**COMMITMENT H: WASTE DISPOSAL SITE**

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

**Action Taken/Required:**

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, No Dumping Allowed.
2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

Cost associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

# ENVIRONMENTAL COMMITMENTS (CONTINUED) & PLAN NOTES

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 |       |                 |
|                             |                                                                                       | 8     | 51              |

## COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

### Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow 30 Days from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 150 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

## COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures must be taken to ensure that the waterways of the U.S. are not impacted.

### Action Taken/Required:

Excavation will not occur below the ordinary high-water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting. The natural streambed will not be disturbed unless specified by the plans and under the observation of the Project Engineer. Refer to the Table of U.S. Waterways to Protect for ordinary high-water elevations. Any structure work over or within the waterway will be constructed according to Section 7.18 C of the Specifications.

## COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S. (CONTINUED)

All dredged or excavated materials will be placed at a site above the ordinary high-water elevation in a confined area (not classified as a wetland) that is a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high-water elevation will be allowed if all material placed below the ordinary high-water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms will be removed with minimal disturbance to the streambed. Proper construction practices will be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, stream diversions, grading, etc. will be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractor's construction operations will be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

All temporary works in waterways of the US are required to be covered in the Corp of Engineers 404 Permit. At the time of the preconstruction meeting, the Contractor will submit documentation for all temporary works for the purpose of complying with the 404 Permit requirements in accordance with Section 423.3 A of the Specifications.

### Table of U.S. Waterways to Protect

| MRM    | Waterway                  | Ordinary High-Water Elevation |
|--------|---------------------------|-------------------------------|
| 355.11 | North Branch of Dry Creek | 1418+07 (estimated)           |
| 360.75 | Choteau Creek             | 1280+18 (estimated)           |
| 290.8  | Choteau Creek             | 1377+66 (estimated)           |
| 303.34 | Pease Creek               | 1442+72 (estimated)           |

Stream channel excavation within "Waters of the US" is subject to USACE regulatory jurisdiction. Stream channel excavation cannot exceed the permitted quantities and/or surface area. The 404 Permit is included in the Special Provisions.

The Contractor will take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation, pier, or abutment excavation, channel cleanout, excavation for riprap protection, and removal of any temporary fill associated with construction activities.

## COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the USACE for the permanent actions associated with this project.

### Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 Permit.

The Contractor will also be responsible for obtaining a Section 404 Permit for any dredge, excavation, or fill activities associated with material sources, storage areas, waste sites, and Contractor work sites outside the plan work limits that affect wetlands, floodplains, or waters of the United States.

## COMMITMENT O: SECTION 401 WATER QUALITY CERTIFICATION

The SDDOT has obtained a Clean Water Act Section 401 Water Quality Certification from the Environmental Protection Agency (EPA) regarding an US Army Corp of Engineers CWA Section 404 Permit for the actions associated with this project.

### Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 401 certification. A copy of the EPA CWA 401 Certification must be retained on-site.

## 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 Project Engineer to modifications that will be necessary to avoid utility impacts.

## UTILITY CONTACTS:

Fort Randall Telephone Co.  
722 W Highway 46  
Wagner, SD, 57380  
Contact: Ms. Tootie Loeffler  
Tele: 605-384-3993  
Email: [tootie@hcinet.net](mailto:tootie@hcinet.net)

Midstate Communications  
PO Box 48  
Kimball, SD, 57355  
Contact: Mr. Andrew London  
Tele: 605-778-6908  
Email: [andrew@midstaff.net](mailto:andrew@midstaff.net)

Santel Communications  
PO Box 67  
Woonsocket, SD, 57385  
Contact: Mr. Mark Wilson  
Tele: 605-796-8129  
Email: [mwilson@santel.coop](mailto:mwilson@santel.coop)

Southeastern Electric Cooperative, Inc.  
47077 276th Street  
Lennox, SD, 57039  
Contact: Mr. John Euchner  
Tele: 605-310-2684  
Email: [johne@southeastern.coop](mailto:johne@southeastern.coop)

Randall Community Water District  
PO Box 37  
Lake Andes, SD, 57356  
Contact: Mr. Scott Pick  
Tele: 605-487-7823  
Email: [scott.pick@rcwd.org](mailto:scott.pick@rcwd.org)

Northwestern Energy Corporation  
3210 Douglas Avenue  
Yankton, SD, 57078  
Contact: Mr. Robert Gehm  
Tele: 605-668-4602  
Email: [Robert.gehm@northwestern.com](mailto:Robert.gehm@northwestern.com)

Golden West Telecommunication Coop  
525 E 4th Street  
Dell Rapids, SD, 57022  
Contact: Mr. Ryan Cuny  
Tele: 605-428-1125  
Email: [RyanCuny@GoldenWest.com](mailto:RyanCuny@GoldenWest.com)

Charles Mix Electric Association, Inc.  
Contact: Mr. Chad Loeffler  
Email: [loeffler@cme.coop](mailto:loeffler@cme.coop)

**SEQUENCE OF OPERATIONS**

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department’s intent for traffic control and sequencing of the work.

**GENERAL TRAFFIC CONTROL**

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

**COORDINATION BETWEEN CONTRACTORS**

A separate contract for Project P 0044(230)343– PCN 08J0 has been awarded to another Contractor (BX CIVIL & CONSTRUCTION, INC.) for polymer chip seal on SD44 adjacent to this project (PCN 090D). The polymer chip seal for PCN 08J0 will begin at MRM 354.25 at Structure No. 34-116-080.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractor on PCN 08J0. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer and at no additional cost to the contract.

**FLAGGING**

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

Additional flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours.

If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for “Flagging”.

**TEMPORARY PAVEMENT MARKING**

Temporary Pavement Marking needed for stop sign closures will only be paid for one time. If the Contractors schedule requires only one lane closure to be taken down, subsequent applications of temporary Pavement Marking will be placed at the Contractor’s expense.

Temporary Flexible Vertical Markers (Tabs) maybe used as detailed in the specifications, and as directed by the Engineer.

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

**TEMPORARY PAVEMENT MARKING, TYPE I**

Temporary pavement marking for stop lines will consist of 4” Temporary Pavement Marking Tape Type I. Placement of each 24” white stop line will be accomplished by placing six pieces of 4” x 12’ tape adjacent to one another. Each workspace requires two stop lines which is an equivalent of approximately 144’ of 4” tape (5 workspaces at 144’ = 720’).

TRAFFIC CONTROL SIGNS

Traffic control signs have been included in a table for each site. Payment will only be for those signs used on each site

PCN 090C – US18, CHARLES MIX AND DOUGLAS COUNTIES

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

| SIGN<br>CODE | SIGN DESCRIPTION       | CONVENTIONAL ROAD                                     |           |                  |      |
|--------------|------------------------|-------------------------------------------------------|-----------|------------------|------|
|              |                        | NUMBER                                                | SIGN SIZE | SQFT<br>PER SIGN | SQFT |
| R1-1         | STOP                   | 2                                                     | 30"       | 5.2              | 10.4 |
| W1-4         | REVERSE CURVE (L or R) | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W3-1         | STOP AHEAD (symbol)    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-1        | ROAD WORK AHEAD        | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-4        | ONE LANE ROAD AHEAD    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-7        | FLAGGER (symbol)       | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W21-5        | SHOULDER WORK          | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| G20-1        | ROAD WORK NEXT 1 MILE  | 2                                                     | 36" x 18" | 4.5              | 9.0  |
| G20-2        | END ROAD WORK          | 4                                                     | 36" x 18" | 4.5              | 18.0 |
|              |                        | CONVENTIONAL ROAD<br>TRAFFIC CONTROL SIGNS SQFT 229.4 |           |                  |      |

PCN 090D – SD44, HUTCHINSON COUNTY

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

| SIGN<br>CODE | SIGN DESCRIPTION       | CONVENTIONAL ROAD                                     |           |                  |      |
|--------------|------------------------|-------------------------------------------------------|-----------|------------------|------|
|              |                        | NUMBER                                                | SIGN SIZE | SQFT<br>PER SIGN | SQFT |
| R1-1         | STOP                   | 2                                                     | 30"       | 5.2              | 10.4 |
| W1-4         | REVERSE CURVE (L or R) | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W3-1         | STOP AHEAD (symbol)    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-1        | ROAD WORK AHEAD        | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-4        | ONE LANE ROAD AHEAD    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-7        | FLAGGER (symbol)       | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W21-5        | SHOULDER WORK          | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| G20-1        | ROAD WORK NEXT 1 MILE  | 2                                                     | 36" x 18" | 4.5              | 9.0  |
| G20-2        | END ROAD WORK          | 4                                                     | 36" x 18" | 4.5              | 18.0 |
|              |                        | CONVENTIONAL ROAD<br>TRAFFIC CONTROL SIGNS SQFT 229.4 |           |                  |      |

PCN 090E – SD50, CHARLES MIX COUNTY

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

| SIGN<br>CODE | SIGN DESCRIPTION       | CONVENTIONAL ROAD                                     |           |                  |      |
|--------------|------------------------|-------------------------------------------------------|-----------|------------------|------|
|              |                        | NUMBER                                                | SIGN SIZE | SQFT<br>PER SIGN | SQFT |
| R1-1         | STOP                   | 2                                                     | 30"       | 5.2              | 10.4 |
| W1-4         | REVERSE CURVE (L or R) | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W3-1         | STOP AHEAD (symbol)    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-1        | ROAD WORK AHEAD        | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-4        | ONE LANE ROAD AHEAD    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-7        | FLAGGER (symbol)       | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W21-5        | SHOULDER WORK          | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| G20-1        | ROAD WORK NEXT 1 MILE  | 2                                                     | 36" x 18" | 4.5              | 9.0  |
| G20-2        | END ROAD WORK          | 4                                                     | 36" x 18" | 4.5              | 18.0 |
|              |                        | CONVENTIONAL ROAD<br>TRAFFIC CONTROL SIGNS SQFT 229.4 |           |                  |      |

PCN 090F – SD46, CHARLES MIX COUNTY

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

| SIGN<br>CODE | SIGN DESCRIPTION       | CONVENTIONAL ROAD                                     |           |                  |      |
|--------------|------------------------|-------------------------------------------------------|-----------|------------------|------|
|              |                        | NUMBER                                                | SIGN SIZE | SQFT<br>PER SIGN | SQFT |
| R1-1         | STOP                   | 2                                                     | 30"       | 5.2              | 10.4 |
| W1-4         | REVERSE CURVE (L or R) | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W3-1         | STOP AHEAD (symbol)    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-1        | ROAD WORK AHEAD        | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-4        | ONE LANE ROAD AHEAD    | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-7        | FLAGGER (symbol)       | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W21-5        | SHOULDER WORK          | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| G20-1        | ROAD WORK NEXT 1 MILE  | 1                                                     | 36" x 18" | 4.5              | 4.5  |
| G20-1        | ROAD WORK NEXT 2 MILES | 1                                                     | 36" x 18" | 4.5              | 4.5  |
| G20-2        | END ROAD WORK          | 4                                                     | 36" x 18" | 4.5              | 18.0 |
|              |                        | CONVENTIONAL ROAD<br>TRAFFIC CONTROL SIGNS SQFT 229.4 |           |                  |      |

PCN 090G – SD44, DOUGLAS COUNTY

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

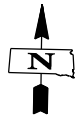
| SIGN<br>CODE | SIGN DESCRIPTION         | CONVENTIONAL ROAD                                     |           |                  |      |
|--------------|--------------------------|-------------------------------------------------------|-----------|------------------|------|
|              |                          | NUMBER                                                | SIGN SIZE | SQFT<br>PER SIGN | SQFT |
| R1-1         | STOP                     | 2                                                     | 30"       | 5.2              | 10.4 |
| W1-4         | REVERSE CURVE (L or R)   | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W3-1         | STOP AHEAD (symbol)      | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-1        | ROAD WORK AHEAD          | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-4        | ONE LANE ROAD AHEAD      | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W20-7        | FLAGGER (symbol)         | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| W21-5        | SHOULDER WORK            | 2                                                     | 48" x 48" | 16.0             | 32.0 |
| G20-1        | ROAD WORK NEXT 1/2 MILES | 2                                                     | 36" x 18" | 4.5              | 9.0  |
| G20-2        | END ROAD WORK            | 4                                                     | 36" x 18" | 4.5              | 18.0 |
|              |                          | CONVENTIONAL ROAD<br>TRAFFIC CONTROL SIGNS SQFT 229.4 |           |                  |      |



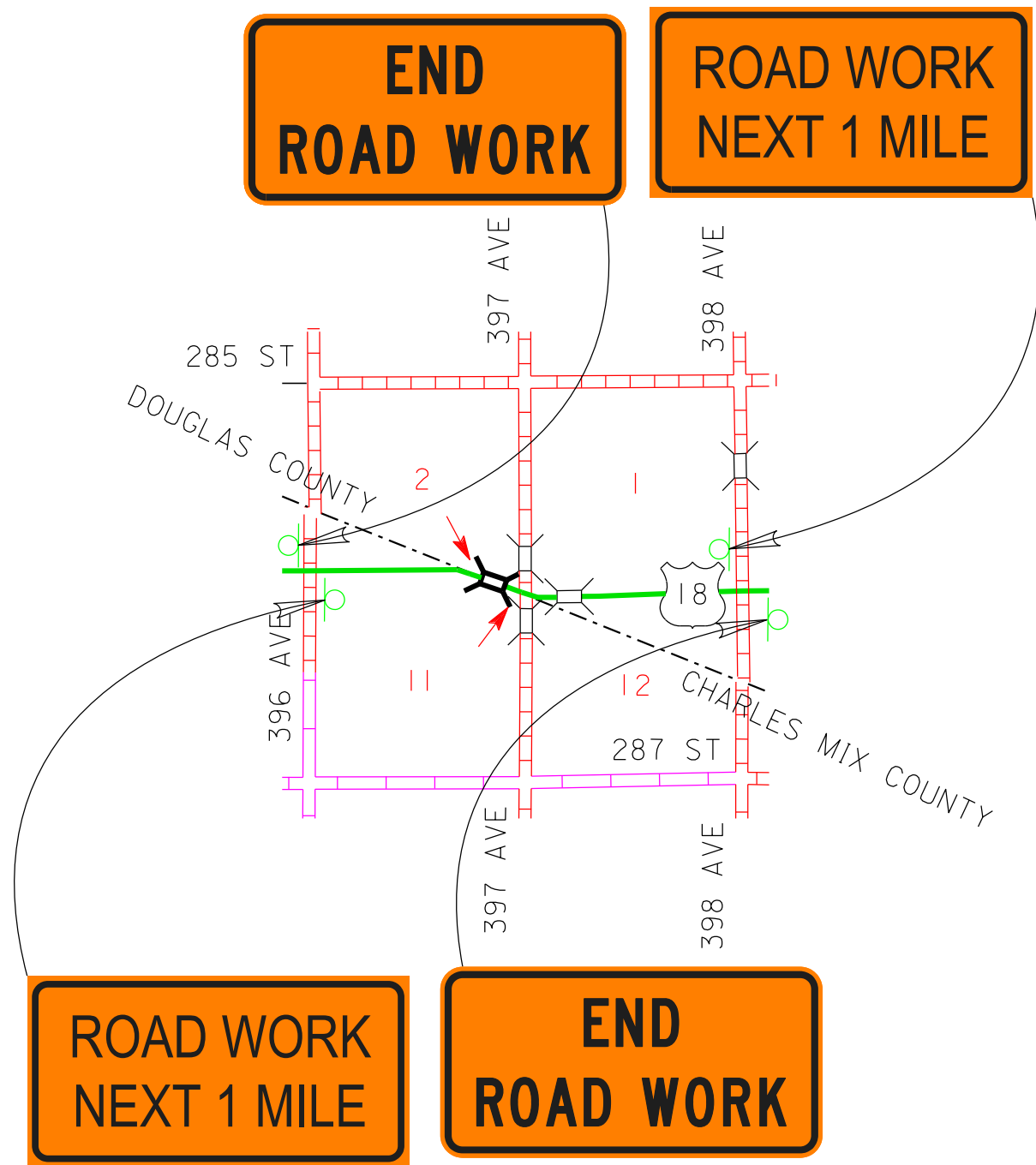
# TRAFFIC CONTROL

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 11    | 51              |

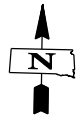
Plotting Date: 4/22/2026



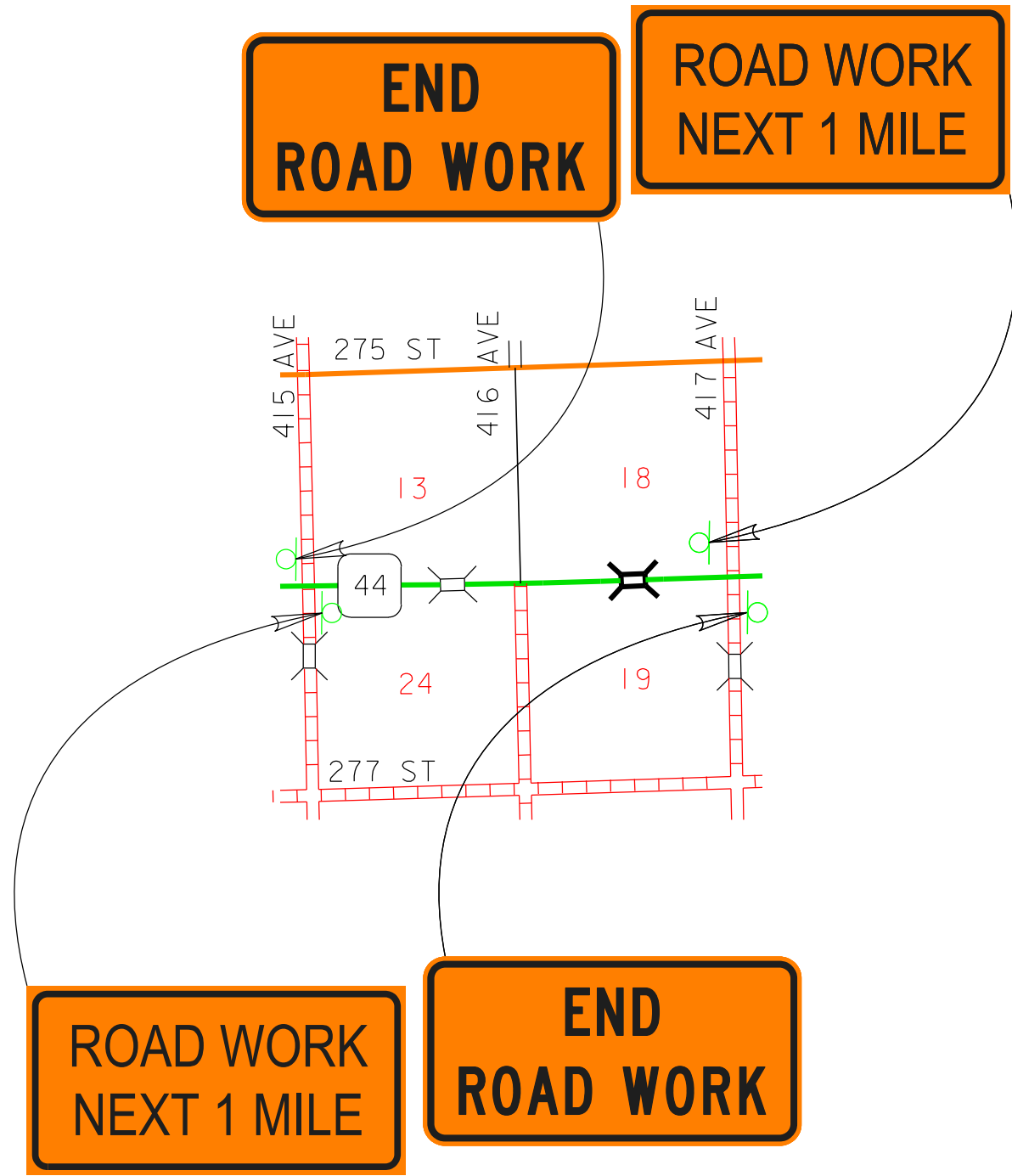
FIXED LOCATION SIGNING  
PCN 090C - US HWY 18,  
CHARLES MIX AND DOUGLAS COUNTIES



W20-1 signs are also to be used per  
the applicable standard plates.



FIXED LOCATION SIGNING  
PCN 090D - SD HWY 44  
HUTCHINSON COUNTY



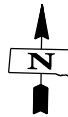
W20-1 signs are also to be used per  
the applicable standard plates.



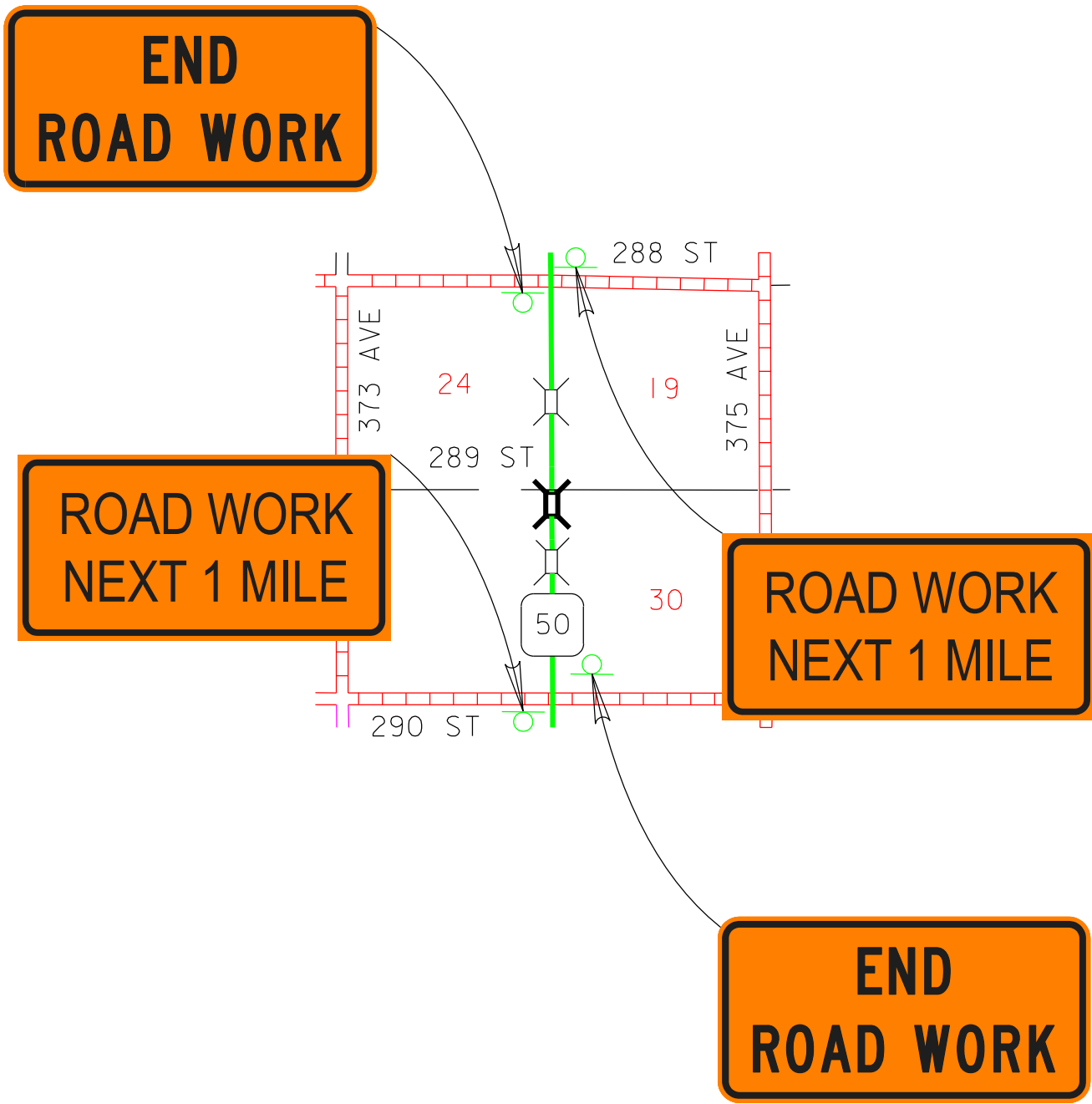
# TRAFFIC CONTROL

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 12    | 51              |

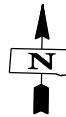
Plotting Date: 4/22/2026



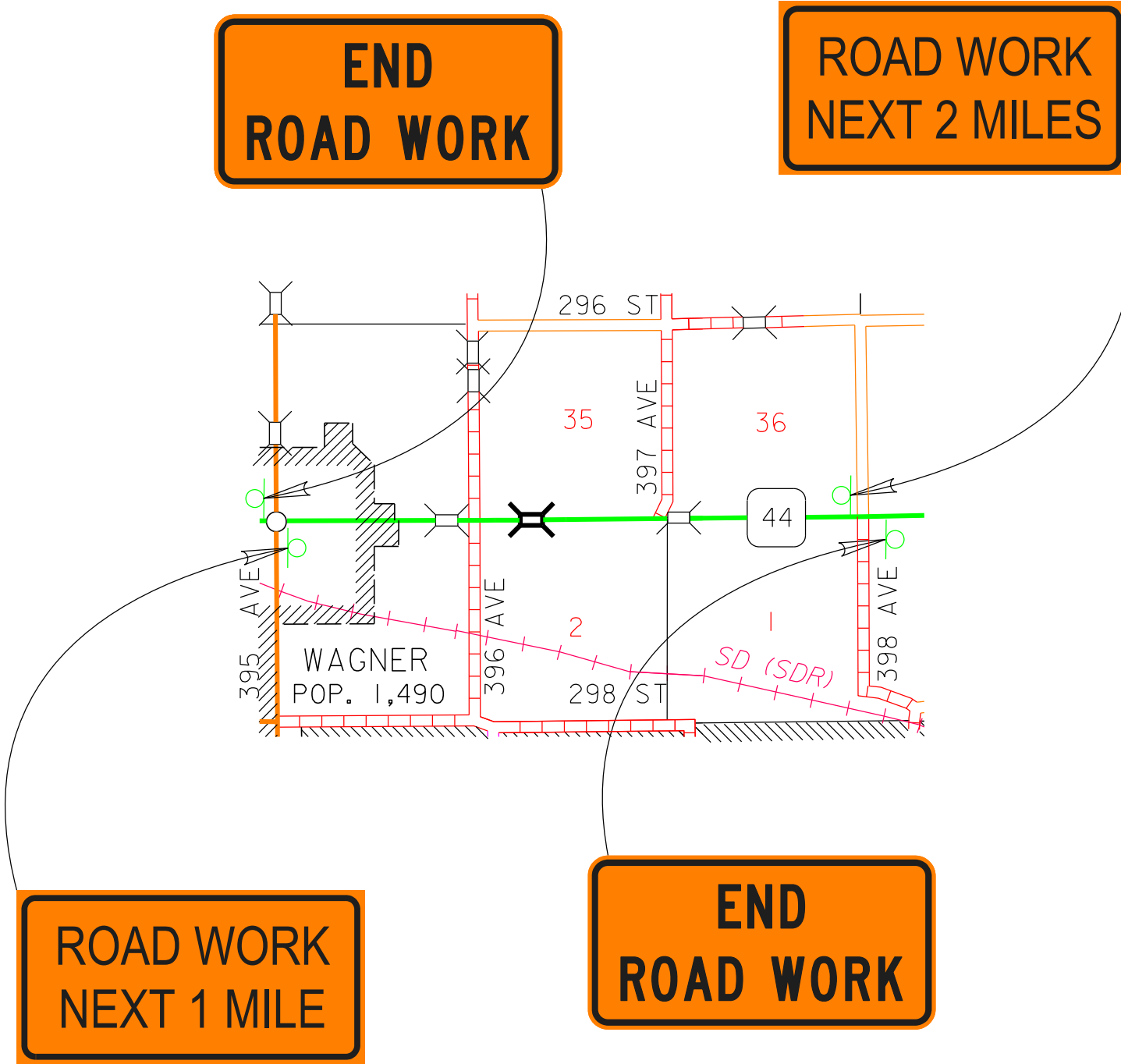
FIXED LOCATION SIGNING  
PCN 090E - SD HWY 50  
CHARLES MIX COUNTY



W20-1 signs are also to be used per the applicable standard plates.



FIXED LOCATION SIGNING  
PCN 090F - SD HWY 46  
CHARLES MIX COUNTY



W20-1 signs are also to be used per the applicable standard plates.

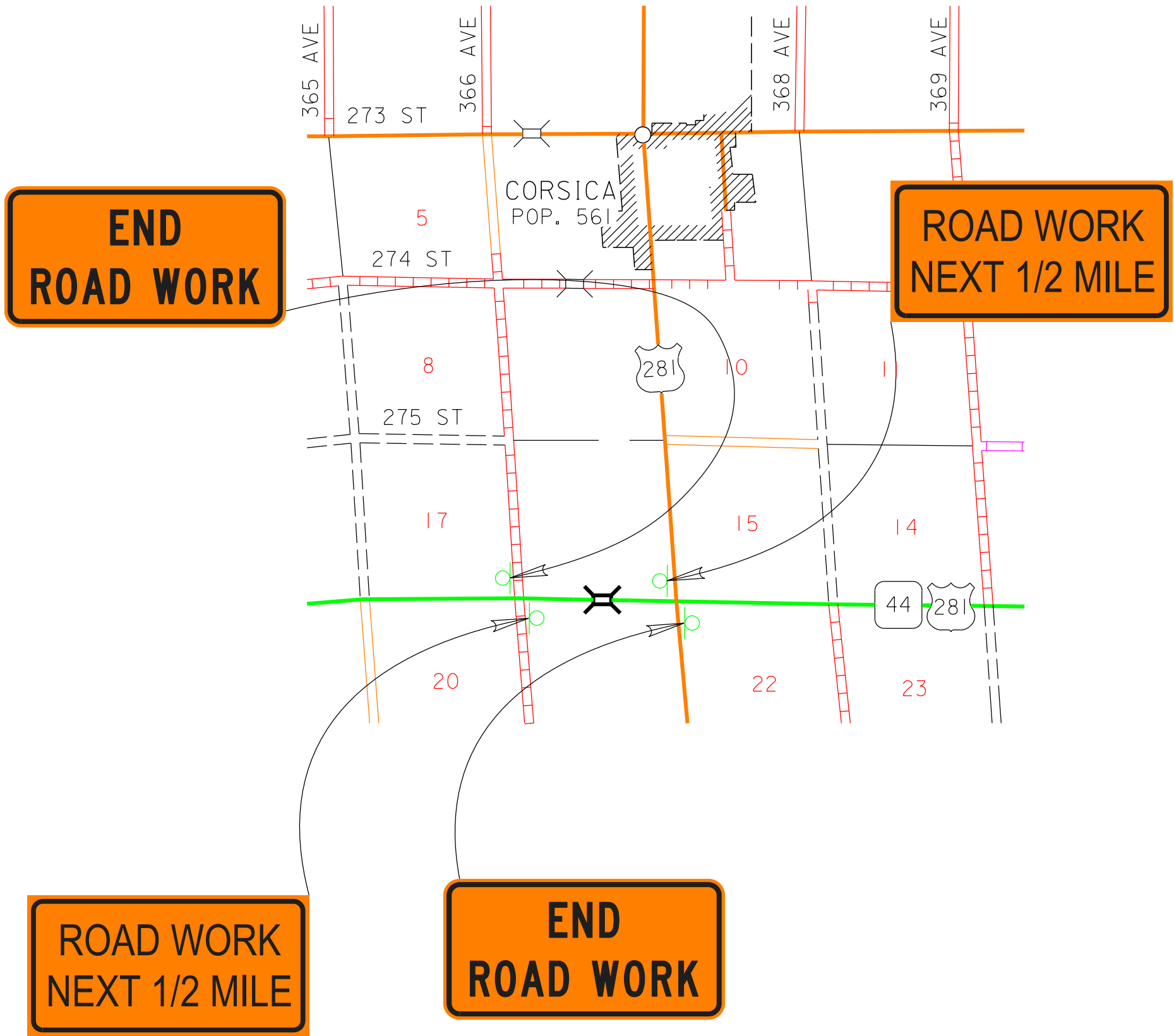
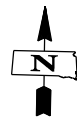
# TRAFFIC CONTROL

| STATE OF<br>SOUTH<br>DAKOTA | PROJECT                                                                               | SHEET | TOTAL<br>SHEETS |
|-----------------------------|---------------------------------------------------------------------------------------|-------|-----------------|
|                             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 |       |                 |
|                             |                                                                                       | 13    | 51              |

Plotting Date: 4/22/2026

## FIXED LOCATION SIGNING

PCN 090G - SD HWY 44 & US HWY 281  
DOUGLAS COUNTY



W20-1 signs are also to be used per  
the applicable standard plates.

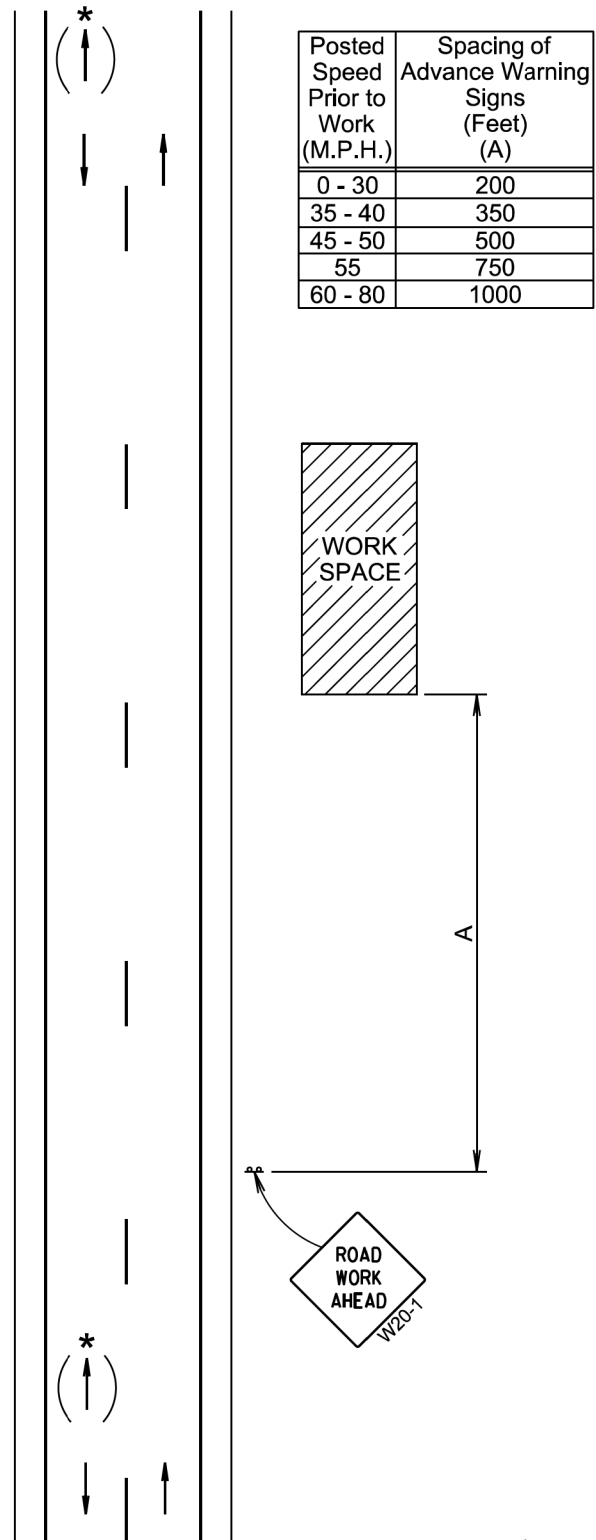
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated will be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

\* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.



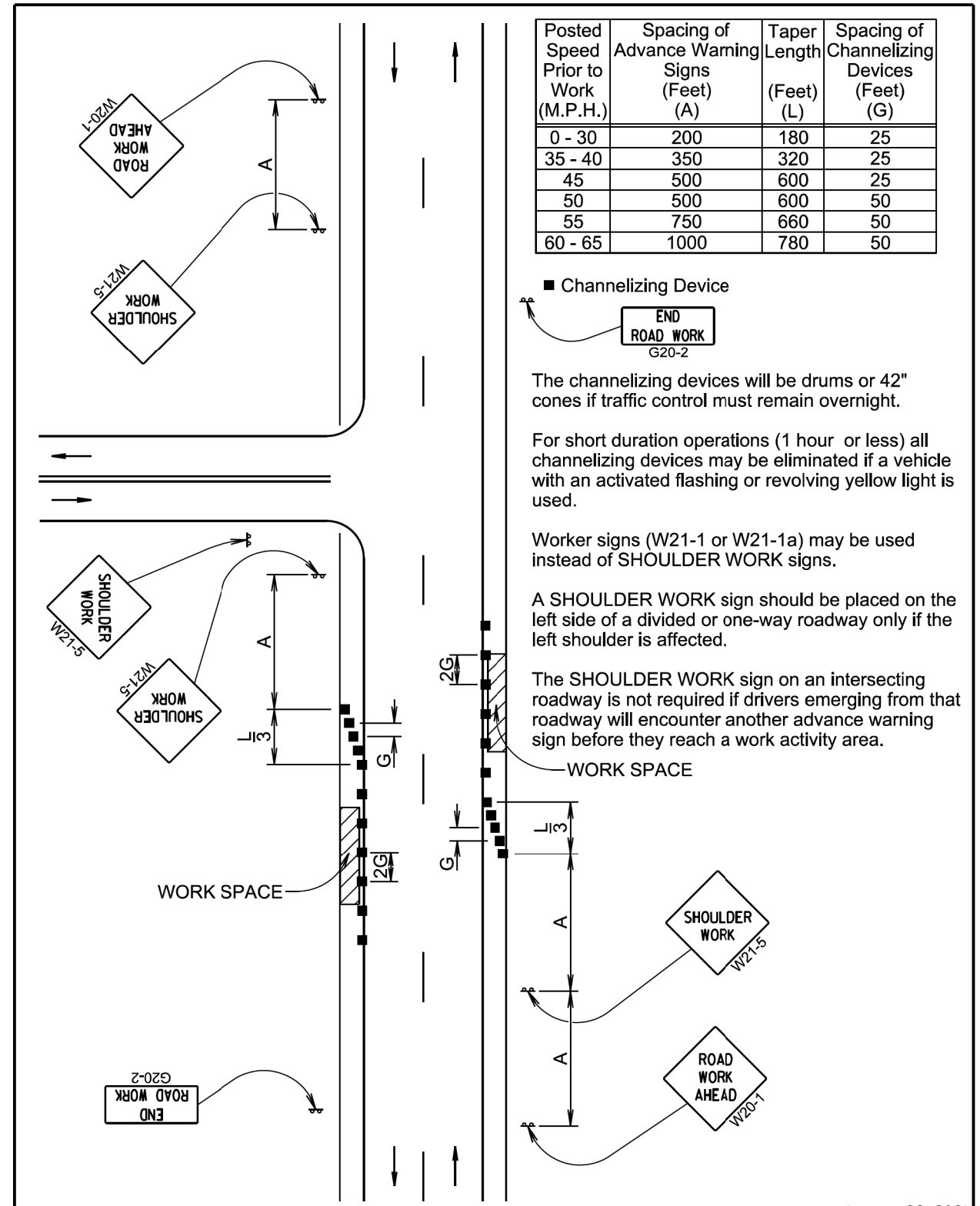
Published Date: 2026

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WORK BEYOND THE SHOULDER

PLATE NUMBER  
634.01

Sheet 1 of 1



Published Date: 2026

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WORK ON SHOULDERS

PLATE NUMBER  
634.03

Sheet 1 of 1

| Posted Speed Prior to Work (M.P.H.) | Spacing of Advance Warning Signs (Feet) (A) | Spacing of Channelizing Devices (Feet) (G) |
|-------------------------------------|---------------------------------------------|--------------------------------------------|
| 0 - 30                              | 200                                         | 25                                         |
| 35 - 40                             | 350                                         | 25                                         |
| 45                                  | 500                                         | 25                                         |
| 50                                  | 500                                         | 50                                         |
| 55                                  | 750                                         | 50                                         |
| 60 - 65                             | 1000                                        | 50                                         |

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices will be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

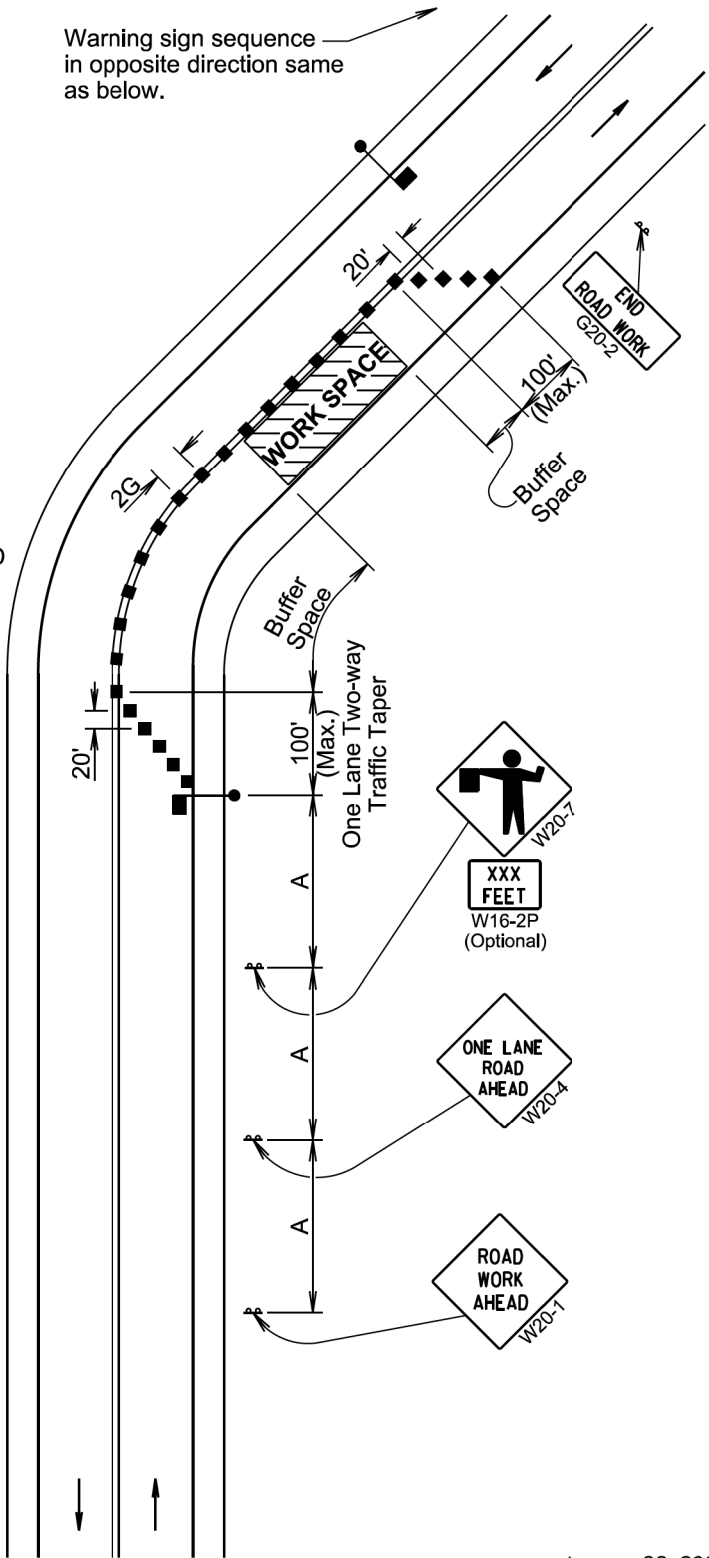
END ROAD WORK  
G20-2

Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

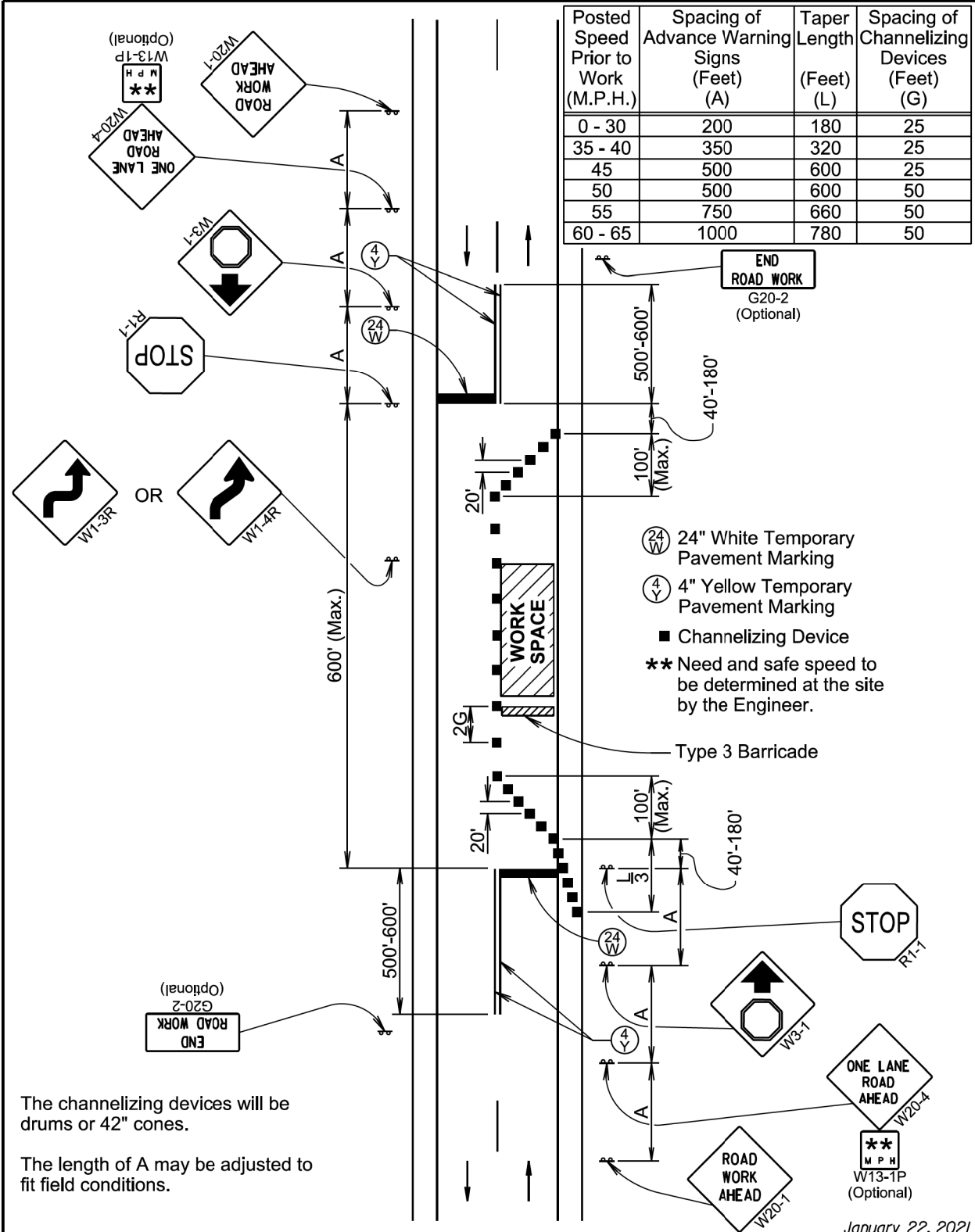
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

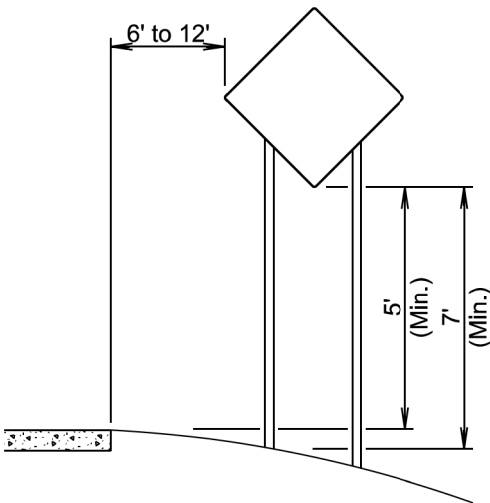
Warning sign sequence in opposite direction same as below.



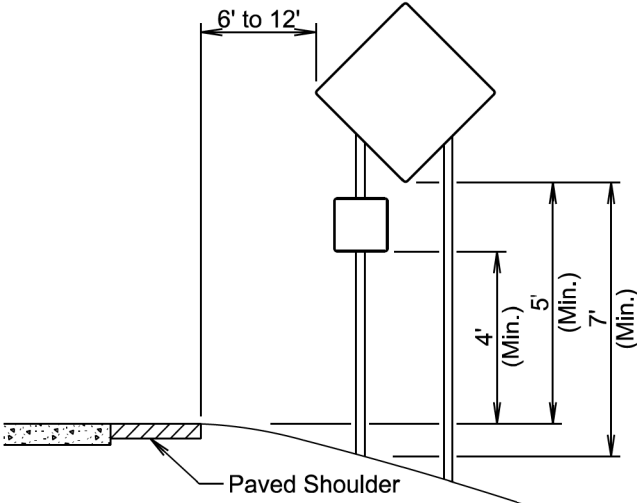
January 22, 2021



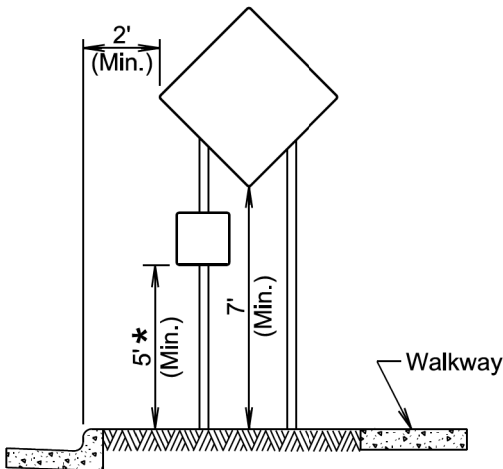
January 22, 2021



RURAL DISTRICT

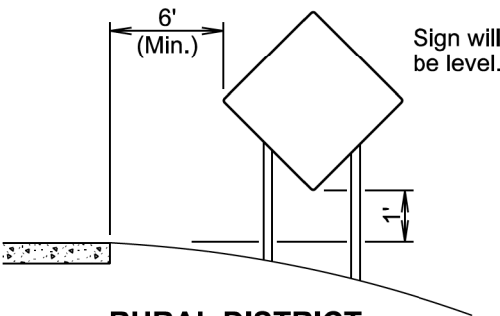


RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT

\* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



RURAL DISTRICT  
3 DAY MAXIMUM  
(Not applicable to regulatory signs)

January 22, 2021

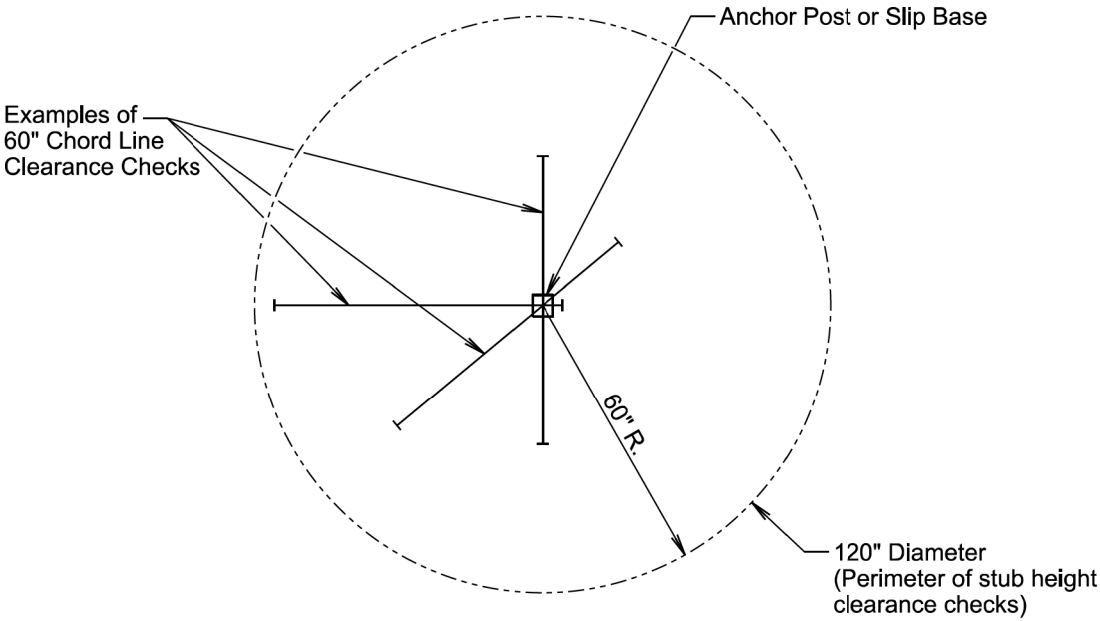
Published Date: 2026

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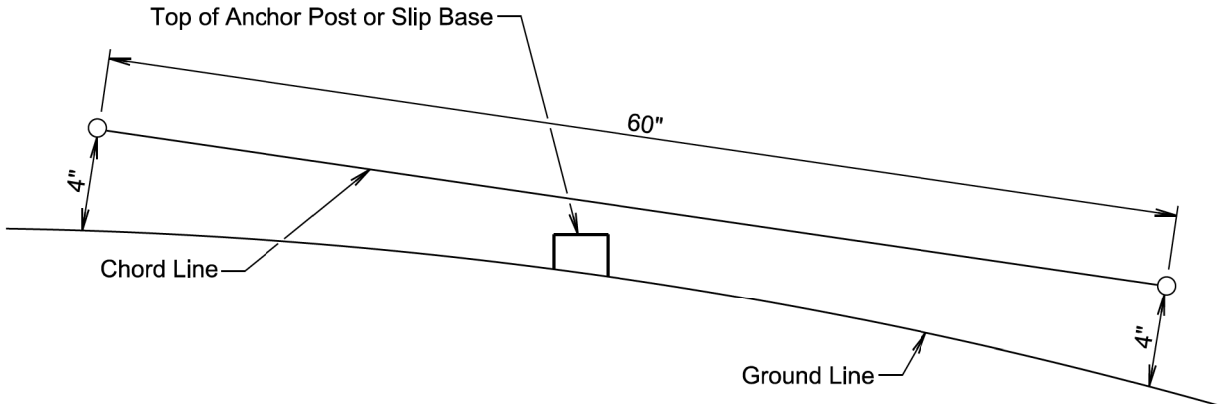
CRASHWORTHY SIGN SUPPORTS  
(Typical Construction Signing)

PLATE NUMBER  
634.85

Sheet 1 of 1



PLAN VIEW  
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

Published Date: 2026

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BREAKAWAY SUPPORT STUB CLEARANCE

PLATE NUMBER  
634.99

Sheet 1 of 1





ESTIMATE OF STRUCTURE QUANTITIES

| ITEM NO. | DESCRIPTION                     | QUANTITY | UNIT |
|----------|---------------------------------|----------|------|
| 410E0030 | Structural Steel, Miscellaneous | LumpSum  | LS   |
| 460E0300 | Breakout Structural Concrete    | 0.5      | CuYd |
| 462E0100 | Class M6 Concrete               | 1.9      | CuYd |

SPECIFICATIONS

- Construction Specifications: Standard Specifications for Roads and Bridges, 10-7-26 Version; Required Provisions; and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at <https://dot.sd.gov/doing-business/contractors/standard-specifications>.
- All Welding and Welding Inspection will be in conformance with the latest edition of the AASHTO/AWS D1.5M/D1.5 Bridge Welding Code unless otherwise noted in this plan set.

DETAILS AND DIMENSIONS OF EXISTING BRIDGE

All details and dimensions of the existing bridge, contained in these plans, are based on the original construction plans and shop plans. It is the Contractor's responsibility to inspect and verify the actual field conditions and any necessary as-built dimensions affecting the satisfactory completion of the work required for this project.

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.

- Breakout delaminated concrete in designated areas for the first phase of construction.
- Perform abrasive blasting and cleaning of column area to be encased for the first phase of construction.
- Place sleeve around column and place the concrete for the column repair for the first phase of construction.
- Switch traffic and repeat steps 1 through 3 for the second phase of construction.

COLUMN REPAIR

- The columns at Bent No. 4 have deteriorated and will be encased in concrete.

- All structural steel plates and bars for the fabricated column sleeves will conform to ASTM A709, Grade 36 or an approved equal. After all shop welding is complete, the fabricated metal column sleeves will be hot dip galvanized in accordance with ASTM A123. Areas within one inch of plan specified field welds will remain black or have the galvanizing removed prior to field welding. After all field welding is complete, the completed field welds and the work affected areas adjacent to the field welds will be coated with paint containing zinc in accordance with ASTM A780.
- The 3/4" diameter fully threaded rods and heavy hex nut will conform to ASTM F1554, Grade 36 or an approved equal. Threaded rods will be galvanized. The nuts will be welded to the inside surface of the metal column sleeves at each threaded rod location.
- When installing the column sleeve, it may be necessary to excavate the channel material around the existing column within the area of the column sleeve.
- The column sleeve used for the column encasement will be centered over the existing column and secured from movement during concrete placement. The sleeve will be watertight and will prevent concrete outflow from the bottom.
- Due to the presence of Topeka Shiners in this creek, the Contractor will not have the option of dewatering and will use a tremie with underwater placement. Concrete placement will follow similar placement requirements to Sections 465.3 L or M as appropriate with the exception of the minimum inside diameter of the tremie can be 3 inches and can be nonmetallic, the 5 ft minimum embedment of the tremie into the concrete will be waved but will still need to be as low in the pour as possible and maintained in fresh concrete.
- During column repair, traffic and construction vehicles will not be allowed on the lane above the column until the concrete placed during the repair has achieved a minimum concrete strength of 3,000 psi as measured with cylinder breaks.
- All labor, equipment, materials, and incidental costs associated with placing the concrete will be incidental to the contract unit price per cubic yard for Class M6 Concrete.
- All costs associated with furnishing and installing the metal sleeves for the column encasement including all labor, materials, equipment, excavation around the column, securing the sleeve, welding, galvanizing, and zinc paint will be incidental to the lump sum contract unit price for Structural Steel, Miscellaneous.

CONCRETE BREAKOUT

- Depending on water elevation and condition of the concrete the amount of concrete that can be removed may vary from what is shown. The Contractor will remove concrete as shown above the waterline and then to the extent possible below the waterline as approved by the Engineer. Reinforcing steel that is exposed and is scheduled for use in the new construction will be cleaned and straightened to the satisfaction of the Engineer. Care will be taken not to damage the existing reinforcing steel that is to be reused in the new construction during concrete breakout. Any reinforcing steel that is damaged during concrete breakout will be replaced or repaired, as approved by the Engineer, by the Contractor at no cost to the Department.
- All broken out concrete will be disposed of by the Contractor. Any disposal of discarded material will be in accordance with the Environmental Commitments.
- During concrete removal operations, broken-out concrete will be contained and not allowed to remain in the creek.
- The concrete column length to be encased will be abrasive blasted and cleaned down to the waterline. The area below the waterline will be cleaned to the satisfaction of the Engineer. The abrasive blasting and cleaning will remove all surface laitance, and all loose and foreign materials. The abrasive blasting will expose the coarse aggregate and remove loose rust from any exposed reinforcing steel. After abrasive blasting, the surface will be cleaned by air blast using a compressor equipped with a satisfactory operating filter.
- All labor, tools, equipment, and any incidentals necessary for the removal of the existing concrete including concrete breakout, cleaning and straightening existing reinforcing steel, abrasive blasting, air blasting, cleaning the column surfaces, and disposal of all broken out material will be incidental to the contract unit price per cubic yard for Breakout Structural Concrete.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES  
FOR  
105' - 6" CONT. CONCRETE BRIDGE

STR. NO. 22-228-179

APRIL 2026

2 OF 8

| STATE OF | PROJECT                                                                            | SHEET NO. | TOTAL SHEETS |
|----------|------------------------------------------------------------------------------------|-----------|--------------|
| S.D.     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303, PT 0046(86)290 & PT 0044(241)327 | 19        | 51           |

**CLASS M6 CONCRETE**

Requirements for the contract Item Class M6 Concrete will conform to the requirements of Section 462 of the Construction Specifications except as noted below.

1. The minimum 28-day compressive strength will be 4500 psi.
2. Coarse Aggregate to be used in concrete will consist of either crushed quartzite or other crushed ledge rock. If crushed ledge rock other than quartzite is to be used, it will be from a source approved by the Engineer.
3. Slump of the concrete will be 6-8 inches if placed with the free-fall tremie method or 7-9 inches if pumped through the tremie.
4. Due to the remote location of the site, the Contractor may include a hydration stabilizer in the concrete mix at a dosage intended to delay set for a specified time not exceeding 2 hours. The Contractor will submit the mix design and requested delivery time extension to the Concrete Engineer for review a minimum of 14 days prior to the performance of any concrete work. An allowed amount of additional delivery time will be granted at the Concrete Engineer's discretion and noted within the mix design review.
5. The Contractor may substitute a bag mix for the Class M6 Concrete provided the bag mix meets the requirements of Section 462 and items listed above. The Contractor must submit the bag mix to the Bridge Construction Engineer for approval a minimum of fourteen days before performing any concrete work.

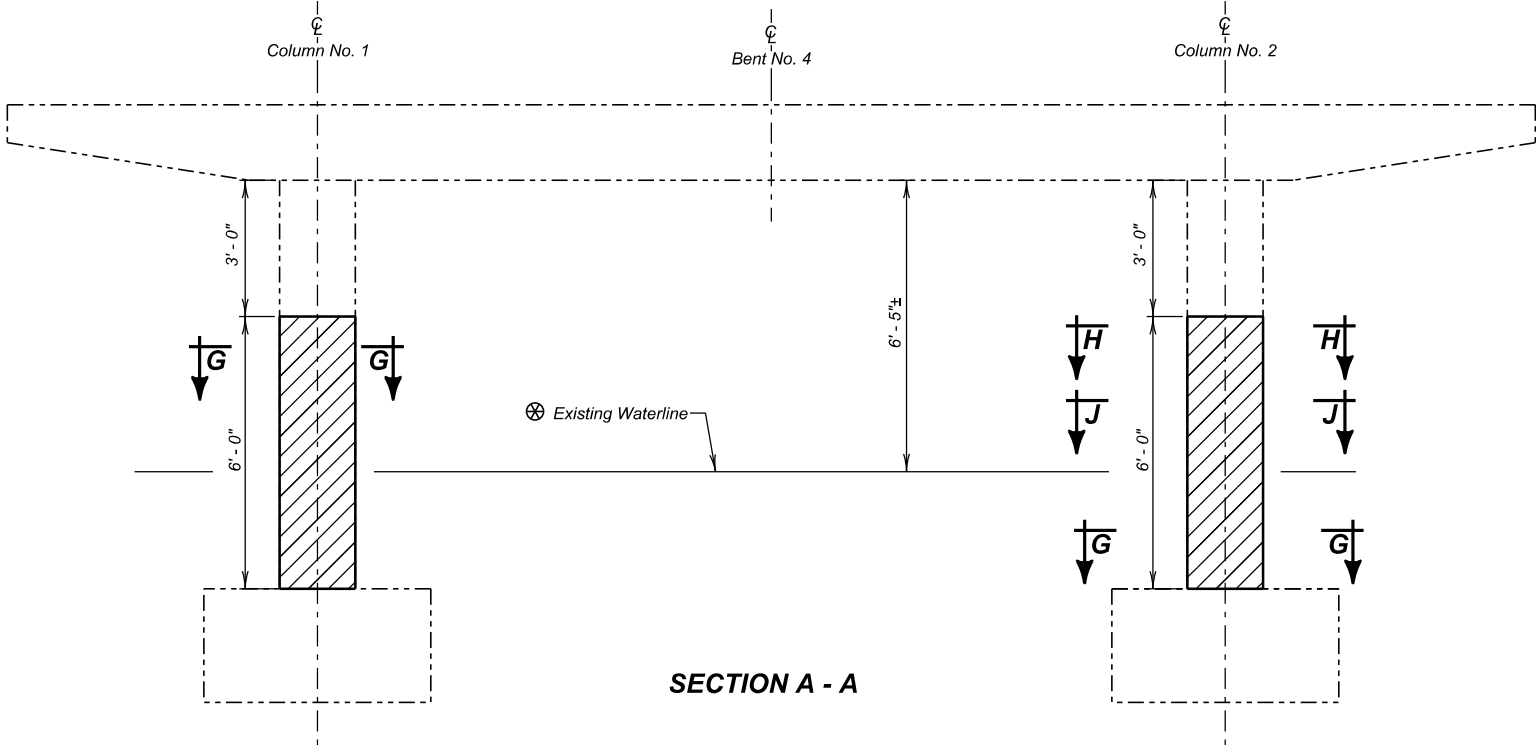
NOTES (CONTINUED)  
FOR  
105' - 6" CONT. CONCRETE BRIDGE

STR. NO. 22-228-179  
APRIL 2026

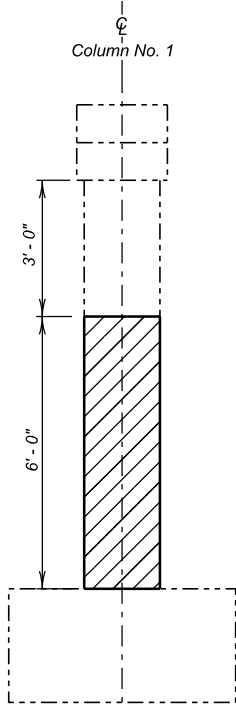
3 OF 8

|                                |                                |                   |                                                                                                          |
|--------------------------------|--------------------------------|-------------------|----------------------------------------------------------------------------------------------------------|
| DESIGNED BY<br>CMM<br>DOUG090C | CK. DES. BY<br>TJM<br>090CMA03 | DRAFTED BY<br>CMM | <br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|----------------------------------------------------------------------------------------------------------|

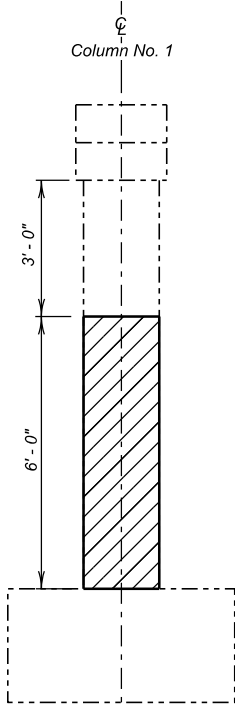
| STATE<br>OF<br>S.D. | PROJECT                                                                               | SHEET<br>NO. | TOTAL<br>SHEETS |
|---------------------|---------------------------------------------------------------------------------------|--------------|-----------------|
|                     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 20           | 51              |



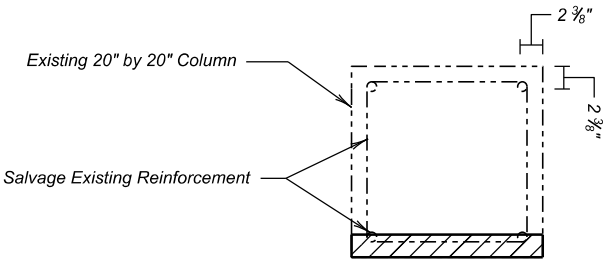
SECTION A - A



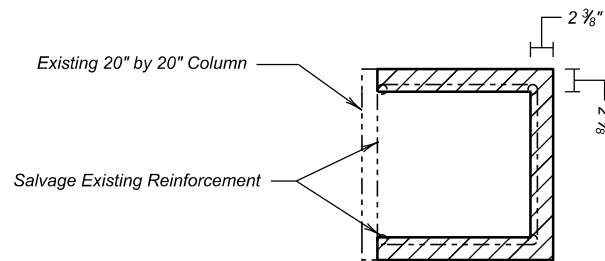
SECTION C - C



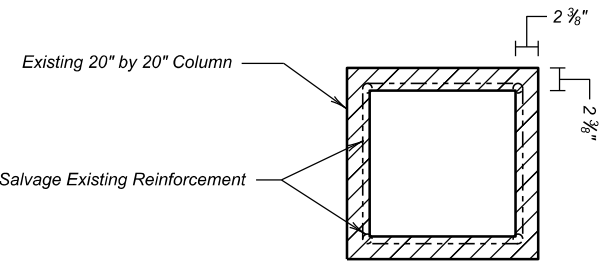
SECTION D - D



SECTION H - H



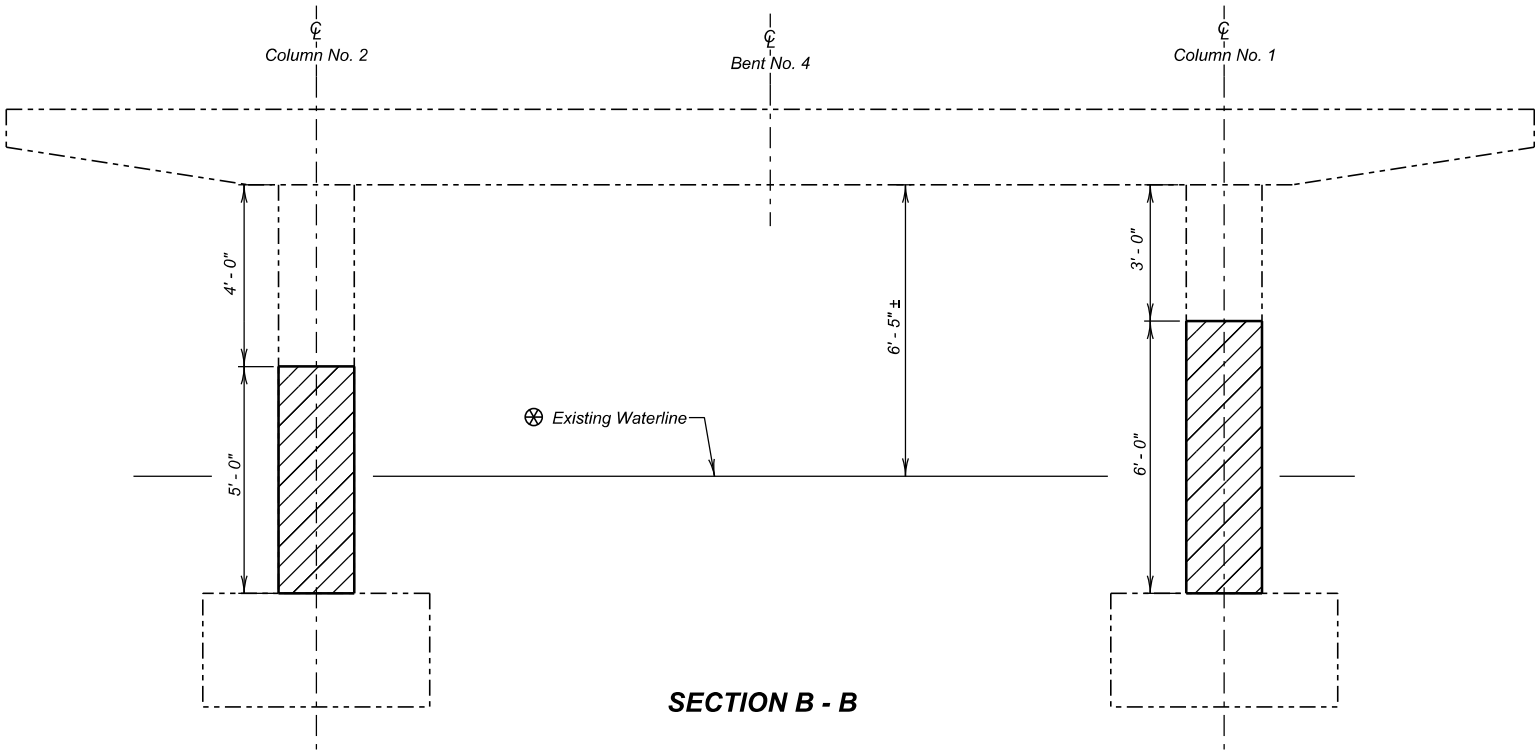
SECTION J - J



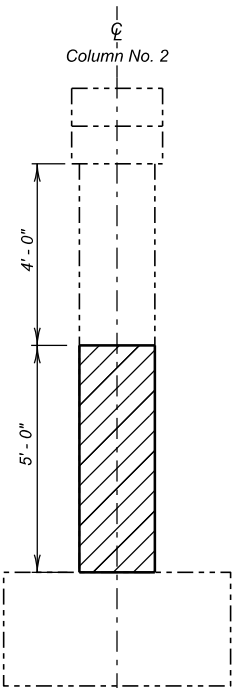
SECTION G - G

⊗ Waterline will vary, dimension shown is from time of inspection.

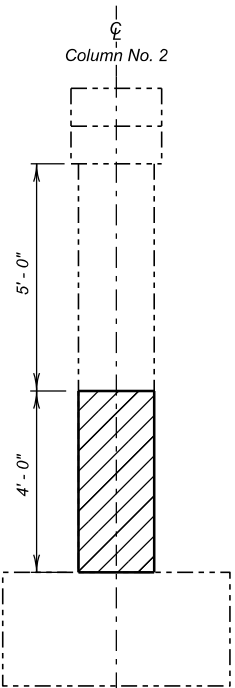
 Limits of Concrete Breakout



SECTION B - B



SECTION F - F



SECTION E - E

| ESTIMATED QUANTITIES           |      |          |         |
|--------------------------------|------|----------|---------|
| ITEM                           | UNIT | QUANTITY |         |
|                                |      | Phase 1  | Phase 2 |
| * Breakout Structural Concrete | CuYd | 0.3      | 0.2     |

\* The breakout area shown is the ideal breakout if water is not present. Actual breakout will vary based on field conditions and Contractor methods. Quantity is based on dimensions shown in these plans.

CONCRETE BREAKOUT DETAILS  
FOR  
105' - 6" CONT. CONCRETE BRIDGE  
30' - 0" ROADWAY  
OVER CREEK  
STR. NO. 22-228-179  
0° SKEW  
SEC. 2/11-T97N-R63W  
NH 0018(251)360

DOUGLAS COUNTY  
S. D. DEPT. OF TRANSPORTATION

APRIL 2026

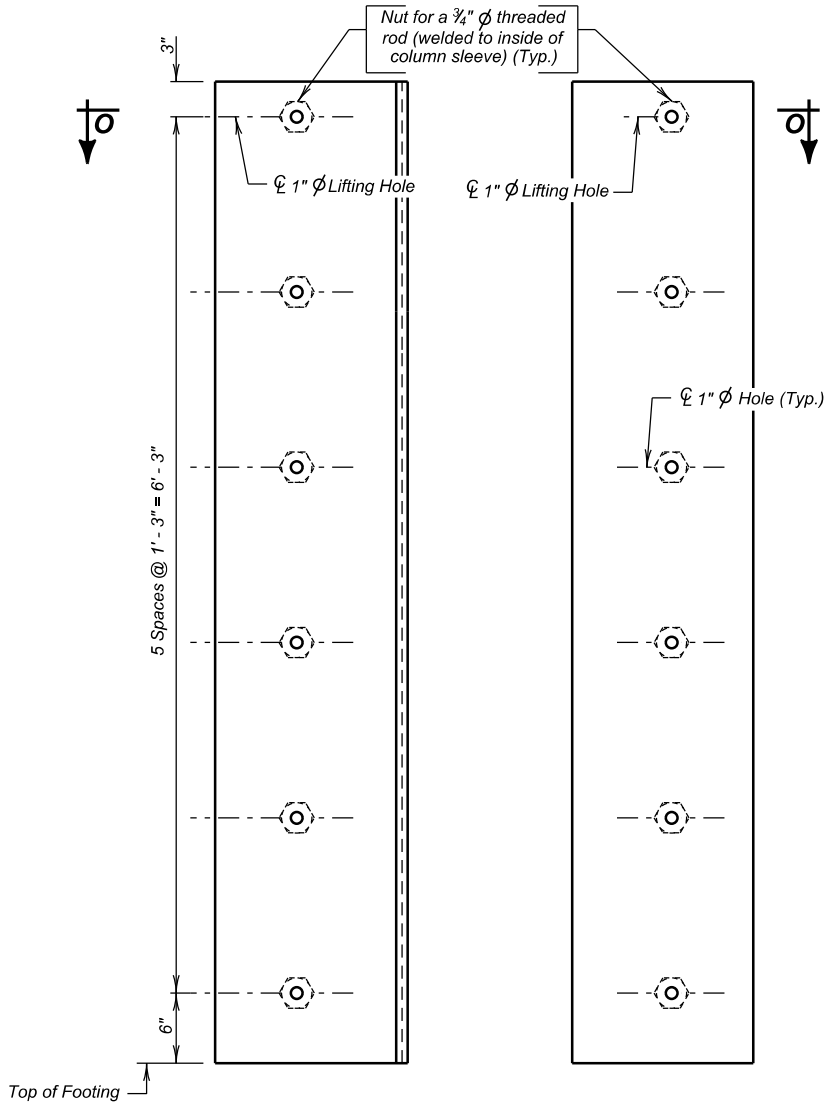
4 OF 8

|                                |                                |                       |                                                                                                          |
|--------------------------------|--------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------|
| DESIGNED BY<br>CMM<br>DOUG090C | CK. DES. BY<br>TJM<br>090CMA04 | DRAFTED BY<br>CMM/TJM | <br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------|



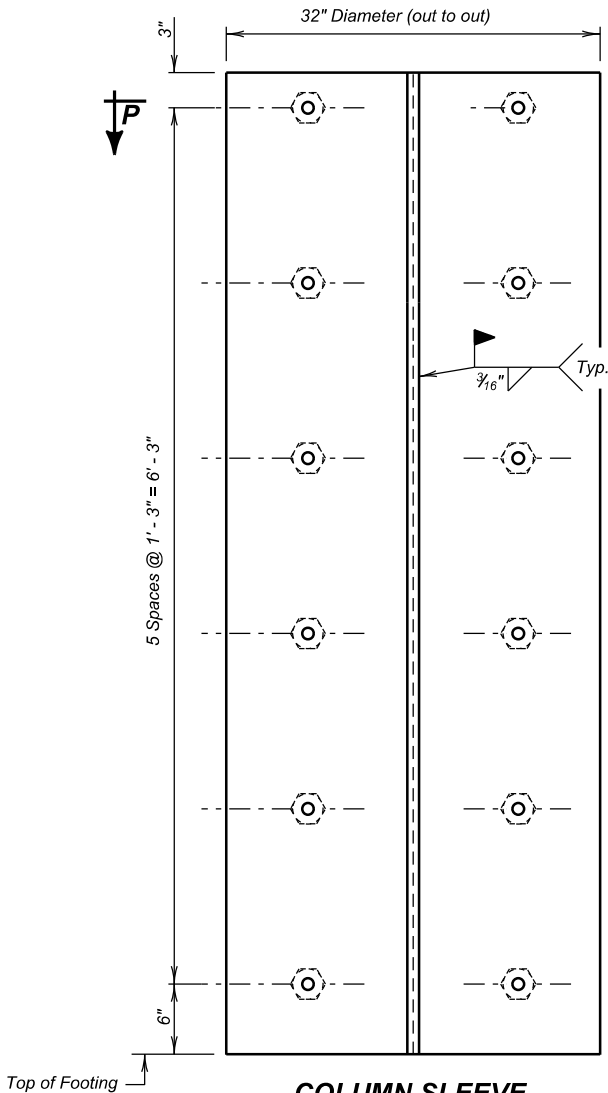


| STATE OF | PROJECT                                                                            | SHEET NO. | TOTAL SHEETS |
|----------|------------------------------------------------------------------------------------|-----------|--------------|
|          |                                                                                    | 22        | 51           |
| S.D.     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303, PT 0046(86)290 & PT 0044(241)327 |           |              |



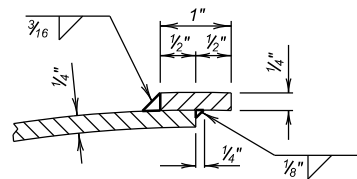
### COLUMN SLEEVE

(As delivered to job site prior to installation)

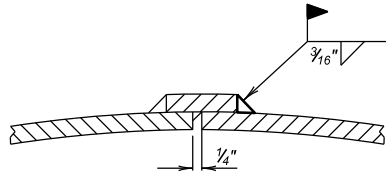


### COLUMN SLEEVE

(After installation on existing column)



DETAIL "X"



DETAIL "Y"

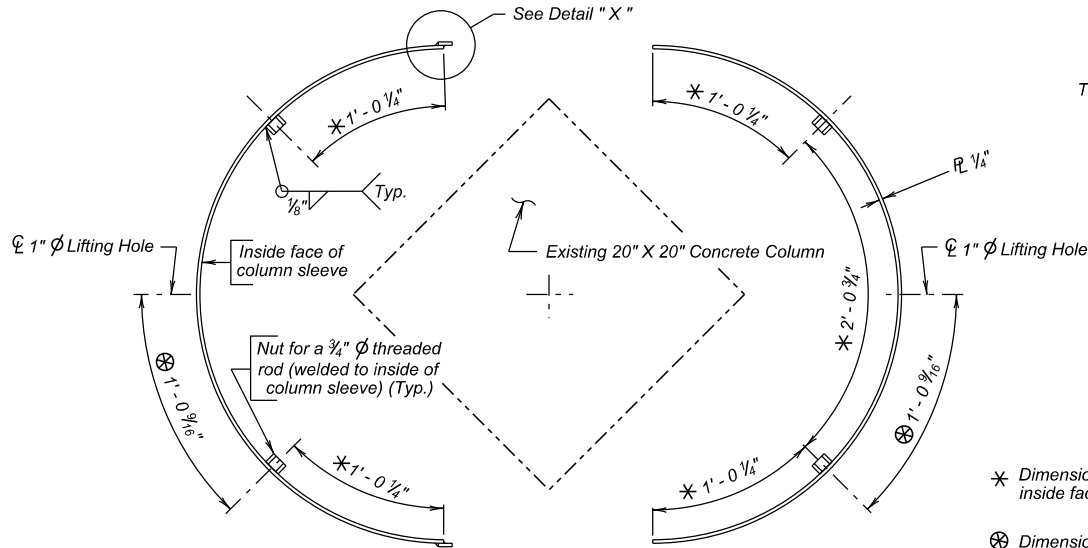
### ESTIMATED QUANTITIES

| ITEM                            | UNIT | QUANTITY |         |
|---------------------------------|------|----------|---------|
|                                 |      | Phase 1  | Phase 2 |
| Class M6 Concrete               | CuYd | 1.0      | 0.9     |
| Structural Steel, Miscellaneous | LS   | Lump Sum |         |

Quantity is based on approximate dimensions shown in these plans. Actual quantity will vary depending on field conditions.

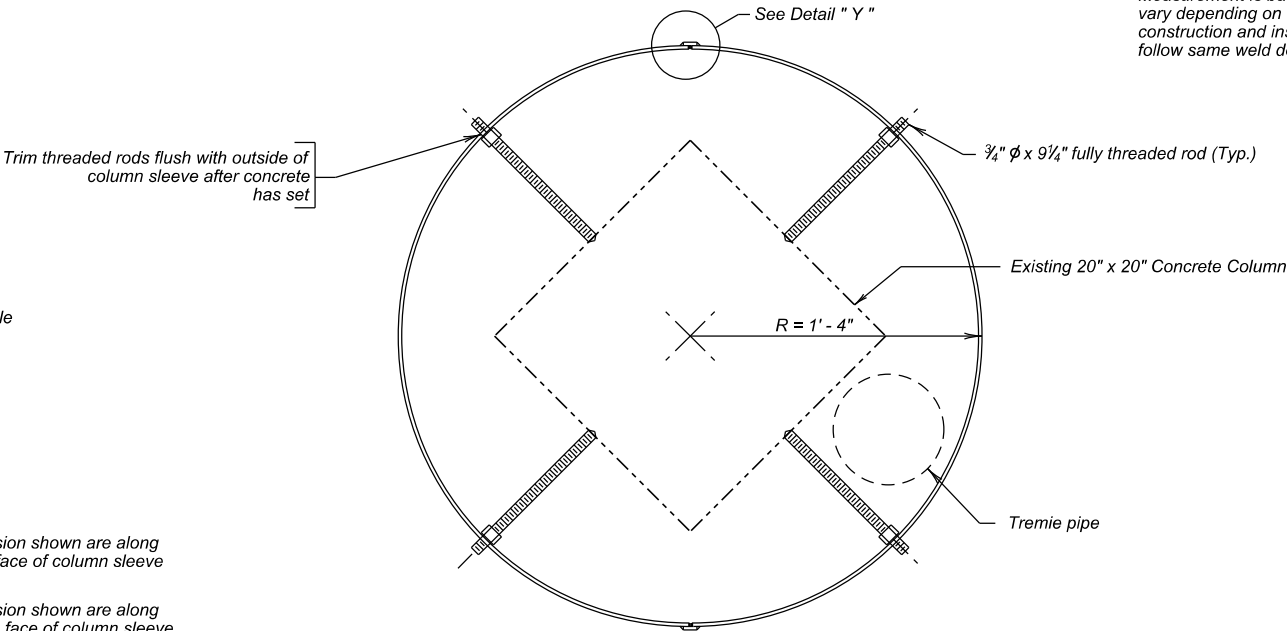
For informational purposes only, the estimated total structural steel quantity is 1290 lbs.

Measurement is based on approximate dimensions shown in these plans. Actual measurement may vary depending on field conditions. Depending on elevation of the water at time of construction and installation methods, sleeve maybe required to be fabricated in two parts, follow same weld details as shown in Details "X" and "Y".



### SECTION O - O

(As delivered to job site prior to installation)



### SECTION P - P

(After installation on existing column)

### COLUMN ENCASEMENT DETAIL (B)

FOR

### 105' - 6" CONT. CONCRETE BRIDGE

30' - 0" ROADWAY  
OVER CREEK  
STR. NO. 22-228-179  
PCN 090C

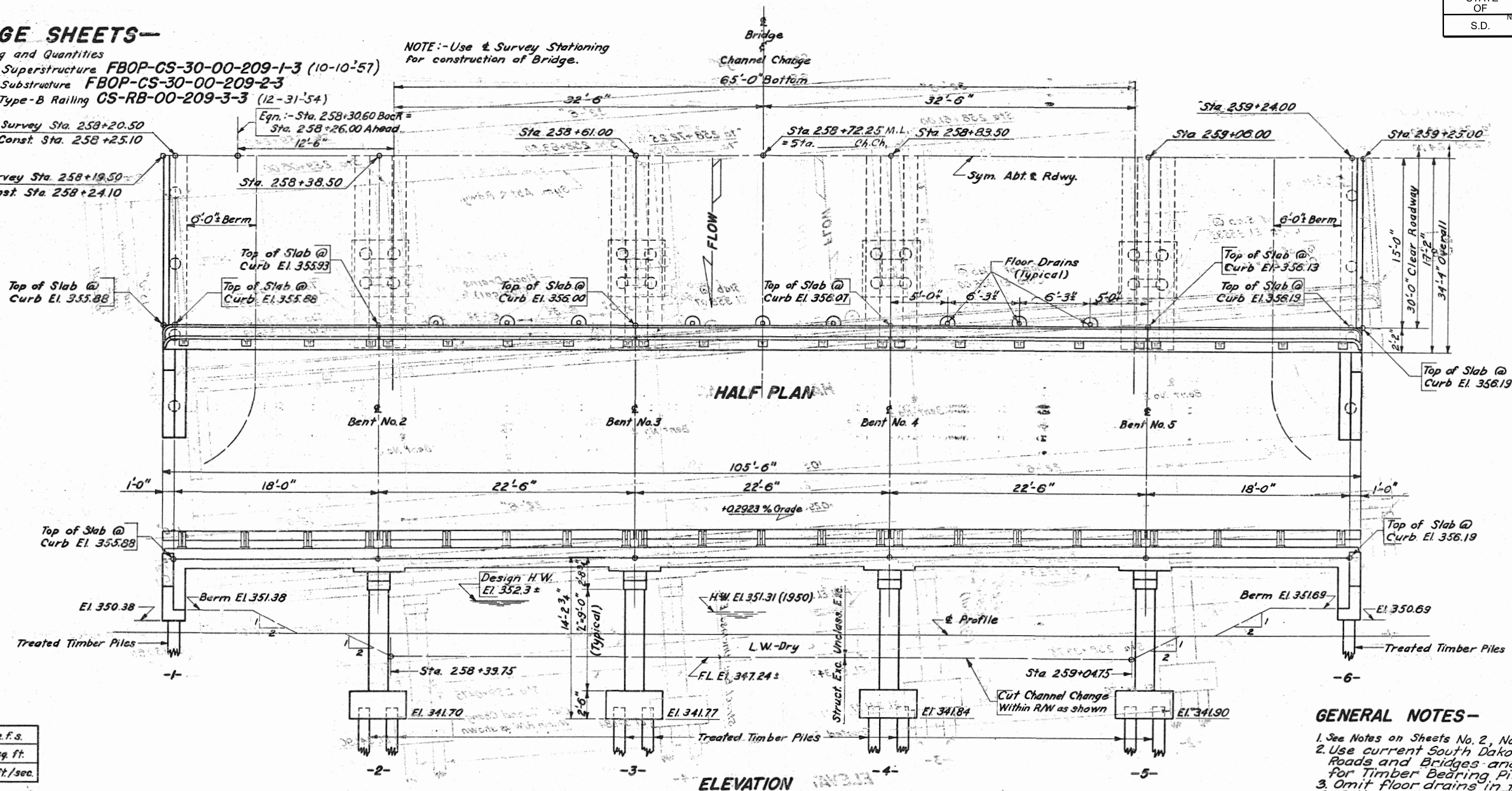
0° SKEW  
SEC. 2/11-T97N-R63W  
NH 0018(251)360

DOUGLAS COUNTY  
S. D. DEPT. OF TRANSPORTATION

APRIL 2026

6 OF 8

|                                |                                |                   |                                     |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|
| DESIGNED BY<br>CMM<br>DOUG090C | CK. DES. BY<br>TJM<br>090CMA06 | DRAFTED BY<br>CMM | Steve A. Johnson<br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|

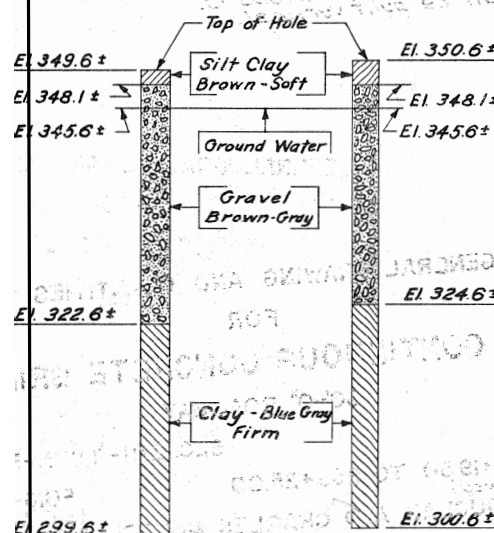


B.M. No. 11 El. 351.77  
Re-bar and Gds.  
203' Rt. Sta. 267+00

**GENERAL NOTES-**

1. See Notes on Sheets No. 2, No. 3 & No. 4.
2. Use current South Dakota Standard Specifications for Roads and Bridges and the Supplemental Specifications for Timber Bearing Piles dated Sept. 1, 1959.
3. Omit floor drains in the end spans.
4. Rail posts shall be built vertical.

### TEST HOLE DATA



| Test Hole No. 1  | Test Hole No. 2  |
|------------------|------------------|
| Sta. 265+50 on E | Sta. 266+50 on E |

| ESTIMATED QUANTITIES |                       |            |         |                                       |                                      |                      |          |
|----------------------|-----------------------|------------|---------|---------------------------------------|--------------------------------------|----------------------|----------|
| ITEM                 | Ct. A Cone<br>Cu Yds. | Steel Lbs. |         | Type "B"<br>Steel Railing<br>Lin. Ft. | Treated Timber Piles<br>"A" Lin. Ft. | Excavation - Cu Yds. |          |
|                      |                       | Rebar      | Struct. |                                       |                                      | Struct.              | Unclass. |
| SUPERSTRUCTURE       | 120.5                 | 26,743     | 190     | 213.3                                 |                                      |                      |          |
| Abutments No 1 & 2   | 35.6                  | 3,630      | 780     |                                       | 16 @ 30' = 480                       | 15                   |          |
| Bents Nos. 3, 4, & 5 | 42.1                  | 3,655      |         |                                       | 32 @ 25' = 800                       | 50                   |          |
| Totals               | 198.2                 | 36,030     | 950     | 213.3                                 | 4,120                                | 80                   | 2,480    |

\*One Treated Test Pile shall be driven by Abutments No 1 & 2 and at Bents No 3 & 4 before remaining piles are ordered.  
 \*See Section Plans for Unclassified Excavation.

~~\* One Treated Test Pile shall be driven at Abutts No 1 & 3 and at Bents No 2 & No 4 before remaining piles are ordered.~~  
~~\* See Grading Plans for Unclassified Excavation.~~

| ITEM   | MT. PILING<br>LF | MT. CUTTING<br>LF | SFE EXC<br>CU |
|--------|------------------|-------------------|---------------|
| ART 1  | 291              | 4                 | 10.922        |
| RENT 2 | 255              | 21                | 22.141        |
| 3      | 280              | 40                | 19.236        |
| 4      | 275              | 44                | 13.352        |
| 5      | 272              | 48                | 22.272        |
| ART 6  | 25               | 5                 | 21.141        |

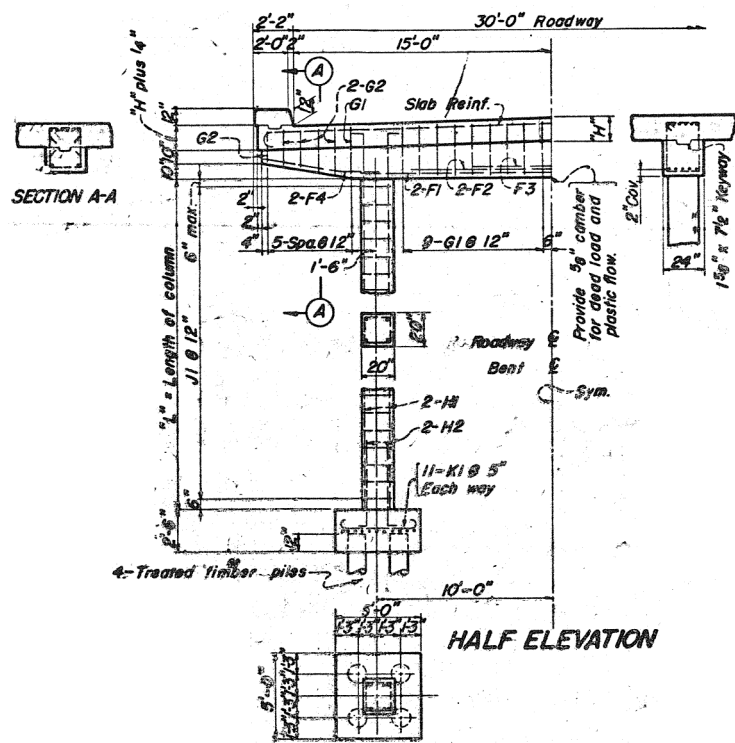
Notes &amp; Project Rev. 6-21-60

STR. NO. 22-228-179  
GENERAL DRAWING AND QUANTITIES  
FOR  
6" CONTINUOUS CONCRETE BRIDGE  
30'-0" ROADWAY  
SEC. 2/II-T97N-R63W  
258+19.50 TO 259+25.00  
*(Survey)* FOI6-2  
(ST. W.K.)  
DOUGLAS AND CHARLES MIX COUNTIES  
SOUTH DAKOTA H20-44  
STATE HIGHWAY COMMISSION

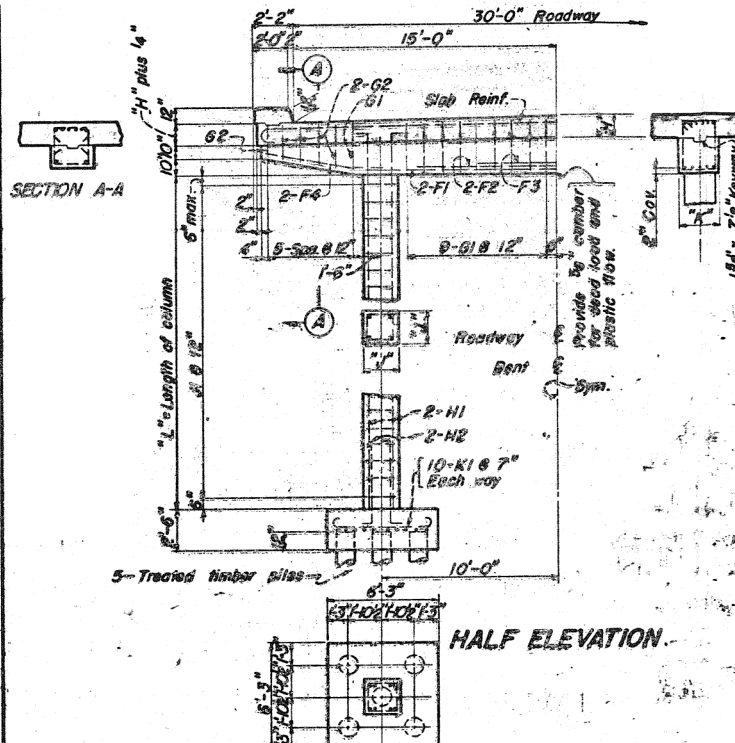
-X020-

DEC. 1956

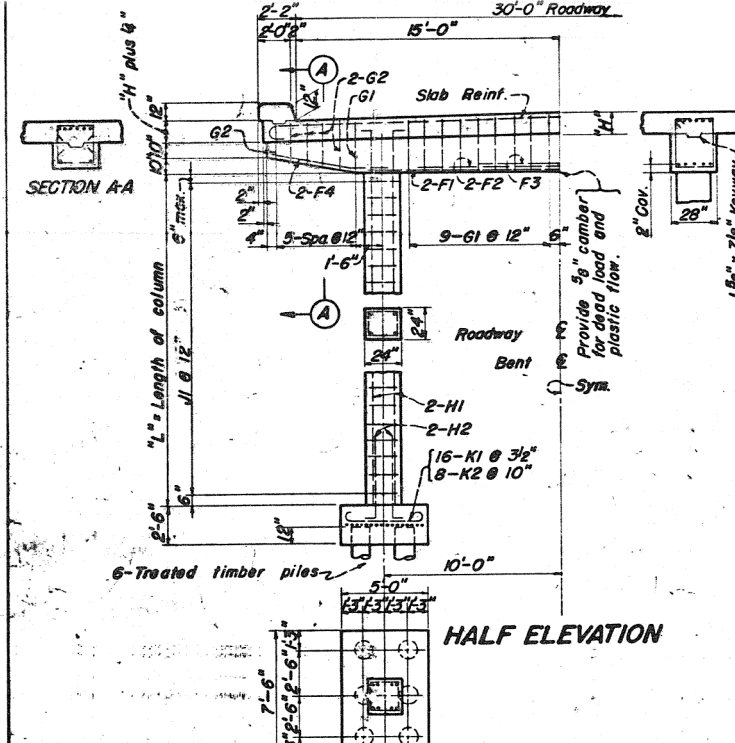
|             |          |            |                                       |
|-------------|----------|------------|---------------------------------------|
| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY                           |
|             | D.P.     | C.P.P.     | <i>[Signature]</i><br>BRIDGE ENGINEER |



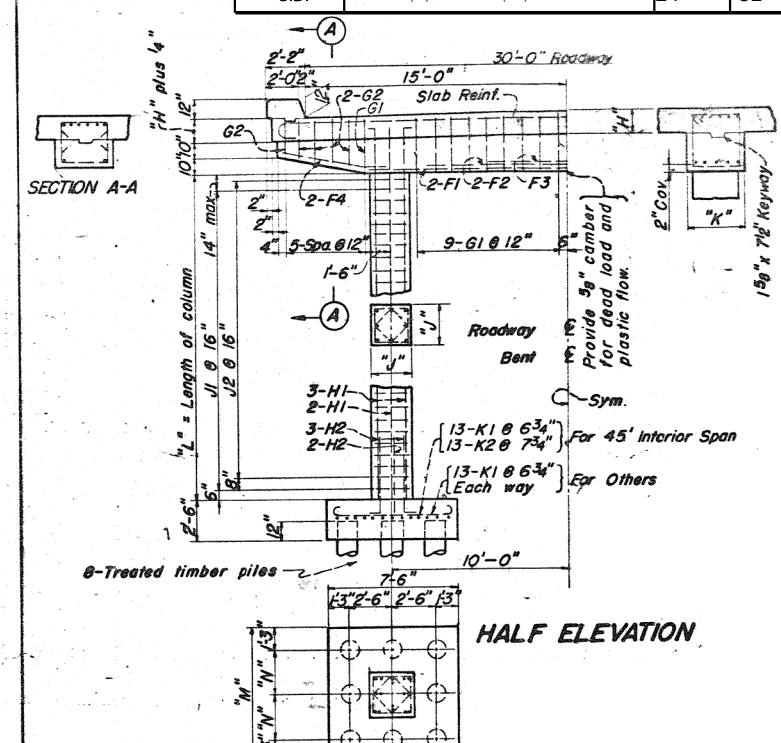
DETAILS OF INTERIOR BENTS FOR 20'-0", 22'-6", & 25'-0" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR 27'-6", 30'-0", & 32'-6" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR 35'-0" & 37'-6" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR 40'-0", 42'-6", & 45'-0" INTERIOR SPANS

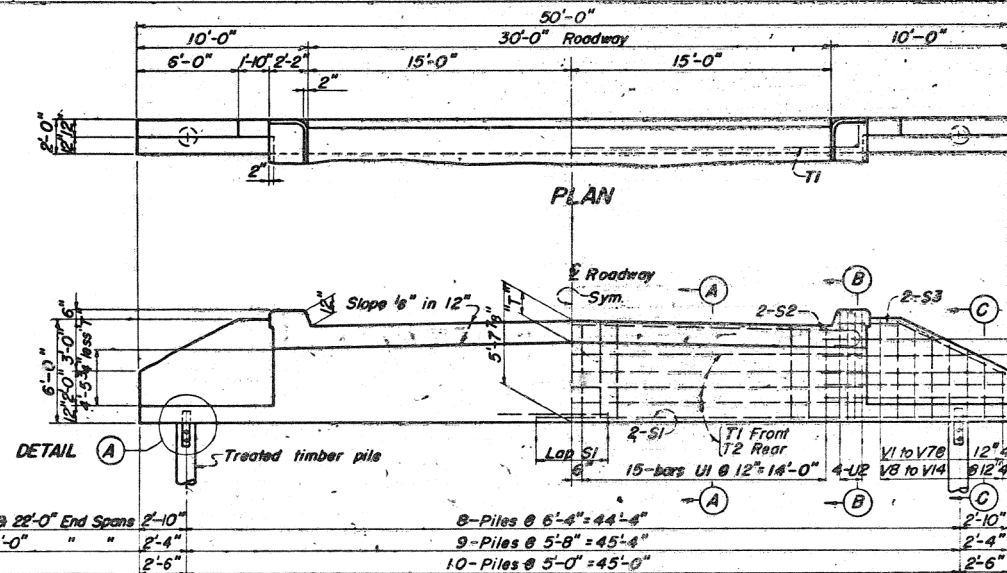
DATA FOR ONE INTERIOR BENT

| LENGTH OF INTERIOR SPAN | REINFORCING SCHEDULE |      |        |     |      |        |     |      |        |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        | DIMENSIONS |     |      |        |      |     | LENGTH OF INTERIOR SPAN | BAR BENDS |     |     |     |     |     |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      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|                         | F1                   |      | F2     |     | F3   |        | F4  |      | G1     |     |      |        |      |     | G2   |        |      |     |      |        | H1   |     |      |        |      |     | H2   |        |      |     |      |        | J1   |     |      |        |      |     | J2   |        |      |     |      |        | K1   |     |      |        |            |     | K2   |        |      |     |                         |           | "H" | "J" | "K" | "L" | "M" | "N" |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      |     |      |        |      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|                         | No.                  | Size | Length | No. | Size | Length | No. | Size | Length | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type       | No. | Size | Length | Type | No. |                         |           |     |     |     |     |     |     | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type | No. | Size | Length | Type 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\* Number reqd. equals "L" in inches divided by 6.

\* Number reqd. equals "L" in inches divided by 8.

\* "L" shall not exceed 20' or be less than one half (the length of the end span minus 4 ft.)

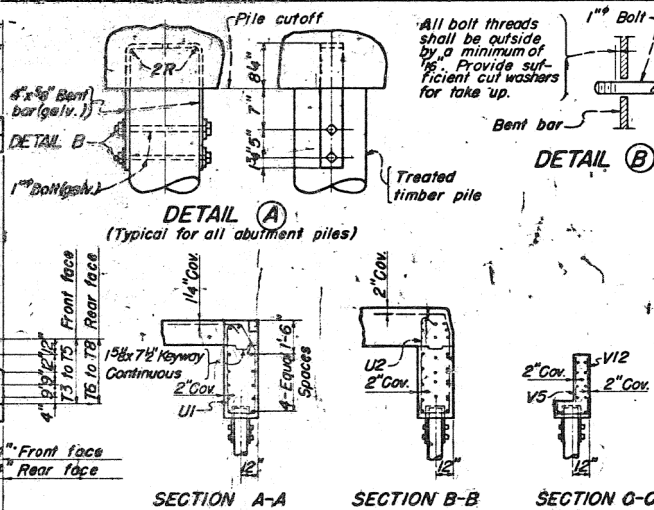


For 16'-0", 18'-0", 20'-0", & 22'-0" End Spans 2'-10"

For 24'-0", 26'-0", & 28'-0" " 2'-4"

For others 2'-6"

FRONT ELEVATION  
DETAILS OF ABUTMENT



SECTION A-A

SECTION B-B

SECTION C-C

| REINFORCING SCHEDULE |      |        |      |      |        |   |   |   |   | BAR BENDS |         |
|----------------------|------|--------|------|------|--------|---|---|---|---|-----------|---------|
| No.                  | Size | Length | Mark | Type | A      | B | C | D | E | TYPE      | TYPE    |
| 8                    | 1"   | 26'-6" | S1   | Str. | —      | — | — | — | — | TYPE 18   | TYPE 19 |
| 4                    | 1"   | 35'-9" | S2   | 1    | —      | — | — | — | — | TYPE 17   | TYPE 2  |
| 8                    | 1"   | 10'-0" | S3   | 16   | —      | — | — | — | — | TYPE 16   | TYPE 1  |
| 8                    | 5/8  | 36'-9" | T1   | 2    | —      | — | — | — | — | TYPE 15   | TYPE 1  |
| 8                    | 5/8  | 34'-0" | T2   | Str. | —      | — | — | — | — | TYPE 14   | TYPE 1  |
| 12                   | 1/2  | 9'-9"  | T3   | —    | —      | — | — | — | — | TYPE 13   | TYPE 1  |
| 4                    | 1/2  | 7'-9"  | T4   | —    | —      | — | — | — | — | TYPE 12   | TYPE 1  |
| 4                    | 1/2  | 5'-9"  | T5   | —    | —      | — | — | — | — | TYPE 11   | TYPE 1  |
| 12                   | 5/8  | 10'-0" | T6   | —    | —      | — | — | — | — | TYPE 10   | TYPE 1  |
| 4                    | 5/8  | 8'-0"  | T7   | —    | —      | — | — | — | — | TYPE 9    | TYPE 1  |
| 4                    | 5/8  | 6'-0"  | T8   | Str. | —      | — | — | — | — | TYPE 8    | TYPE 1  |
| 60                   | 1/2  | 18'-0" | U1   | 17   | —      | — | — | — | — | TYPE 7    | TYPE 1  |
| 16                   | 5/8  | 18'-6" | U2   | 18   | —      | — | — | — | — | TYPE 6    | TYPE 1  |
| 8                    | 1/2  | 4'-10" | V1   | Str. | —      | — | — | — | — | TYPE 5    | TYPE 1  |
| 4                    | 1/2  | 4'-6"  | V2   | —    | —      | — | — | — | — | TYPE 4    | TYPE 1  |
| 4                    | 1/2  | 4'-0"  | V3   | —    | —      | — | — | — | — | TYPE 3    | TYPE 1  |
| 4                    | 1/2  | 3'-6"  | V4   | —    | —      | — | — | — | — | TYPE 2    | TYPE 1  |
| 4                    | 1/2  | 3'-0"  | V5   | —    | —      | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1/2  | 2'-6"  | V6   | —    | —      | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1/2  | 2'-0"  | V7   | Str. | —      | — | — | — | — | TYPE 1    | TYPE 1  |
| 8                    | 1"   | 8'-0"  | V8   | 19   | 5'-8"  | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1"   | 7'-9"  | V9   | —    | 5'-5"  | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1"   | 7'-3"  | V10  | —    | 4'-11" | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1"   | 6'-9"  | V11  | —    | 4'-5"  | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1"   | 6'-3"  | V12  | —    | 3'-11" | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1"   | 5'-9"  | V13  | —    | 3'-5"  | — | — | — | — | TYPE 1    | TYPE 1  |
| 4                    | 1/2  | 5'-3"  | V14  | 19   | 2'-11" | — | — | — | — | TYPE 1    | TYPE 1  |

Note: All detail dimensions are out to out.

ORIGINAL CONSTRUCTION PLANS

STR. NO. 22-228-179

DETAILS OF STANDARD SUBSTRUCTURE FOR 3, 4, OR 5-SPAN CONTINUOUS CONCRETE SLAB BRIDGES

WITH INTERIOR FRAMED BENTS ON PILES 30'-0" ROADWAY 54'-0" TO 209'-0" OVERALL LENGTH

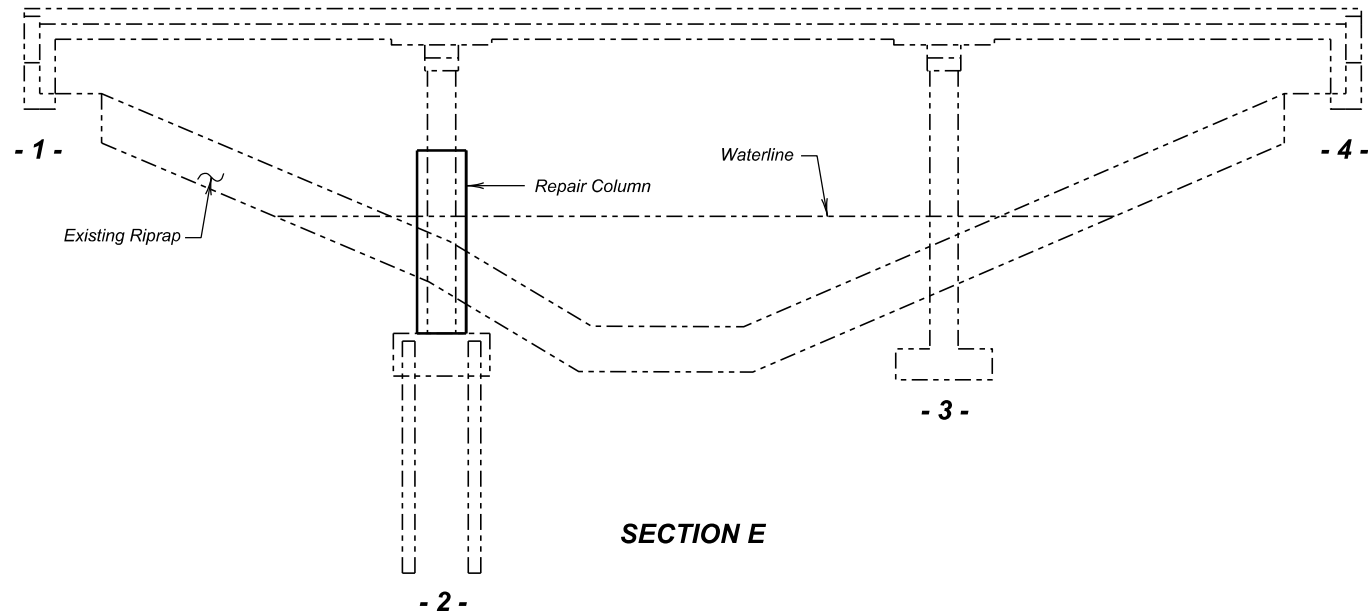
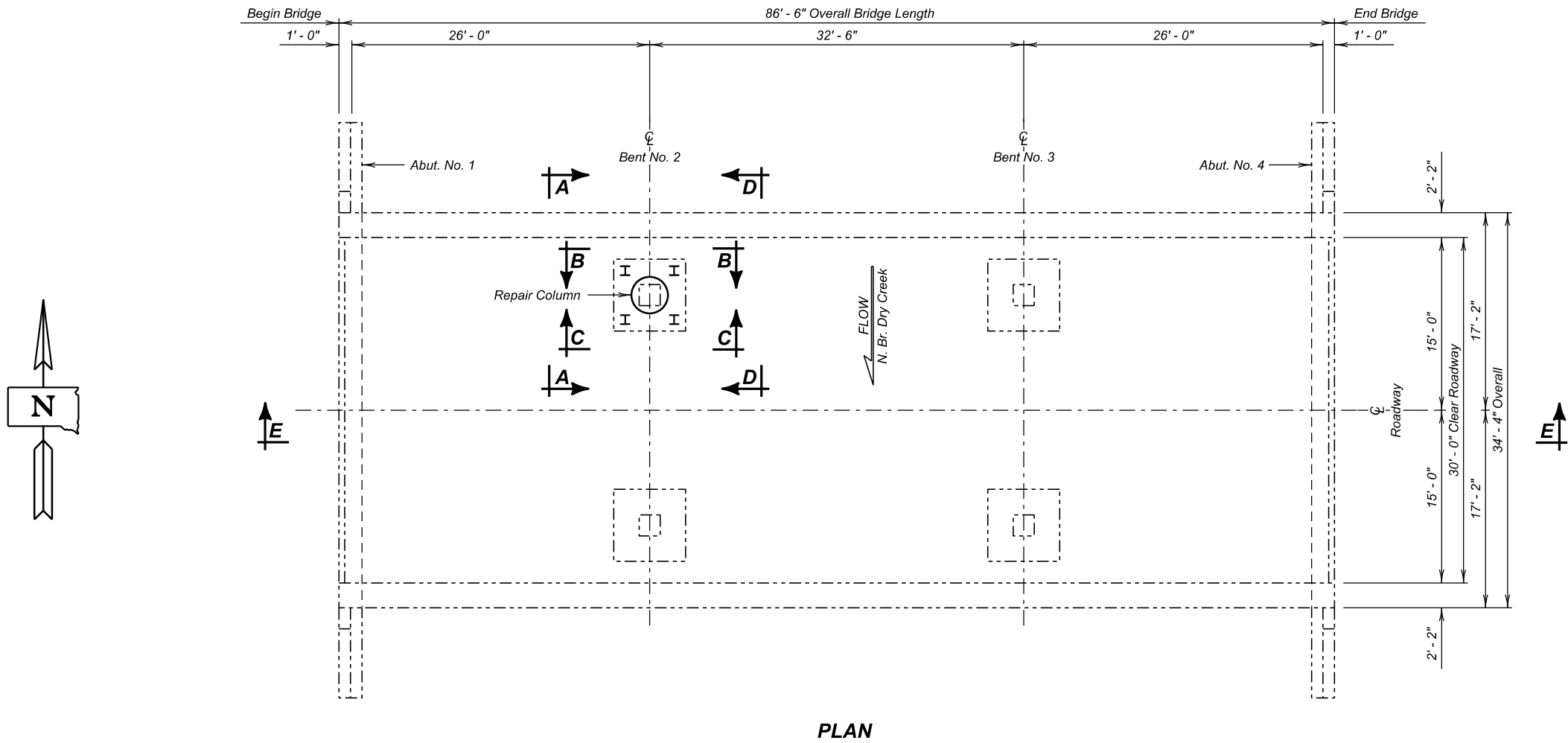
SOUTH DAKOTA STATE HIGHWAY COMMISSION

1948

8 OF 8

|             |          |            |             |
|-------------|----------|------------|-------------|
| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY |
| DOT         | DOT      | DOT        | DOT         |

| STATE<br>OF | PROJECT | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------------|---------|--------------|-----------------|
|             |         | 25           | 51              |



- X020 -**  
**INDEX OF BRIDGE SHEETS -**
- Sheet No. 1 - Layout for Upgrading
  - Sheet No. 2 - Estimate of Structure Quantities and Notes
  - Sheet No. 3 - Notes (Continued)
  - Sheet No. 4 - Concrete Breakout Details
  - Sheet No. 5 - Column Encasement Details (A)
  - Sheet No. 6 - Column Encasement Details (B)
  - Sheet No. 7 thru 9 - Original Construction Plans

**LAYOUT FOR UPGRADING**  
**FOR**  
**86' - 6" CONT. CONCRETE BRIDGE**  
30' - 0" ROADWAY 0° SKEW  
OVER NO. BR. DRY CREEK SEC. 18/19-T99N-R59W  
STR. NO. 34-125-080 P 0044(242)355  
PCN 090D  
HUTCHINSON COUNTY  
S. D. DEPT. OF TRANSPORTATION  
APRIL 2026 1 OF 9

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

| DESIGNED BY | CK. DES. BY | DRAFTED BY | BRIDGE ENGINEER  |
|-------------|-------------|------------|------------------|
| CMM         | TJM         | CMM/TJM    | Steve A. Johnson |
| HUCH090D    | 090DMB01    |            |                  |



ESTIMATE OF STRUCTURE QUANTITIES

| ITEM NO. | DESCRIPTION                     | QUANTITY | UNIT |
|----------|---------------------------------|----------|------|
| 410E0030 | Structural Steel, Miscellaneous | LumpSum  | LS   |
| 460E0300 | Breakout Structural Concrete    | 0.5      | CuYd |
| 462E0100 | Class M6 Concrete               | 2.5      | CuYd |

SPECIFICATIONS

- Construction Specifications: Standard Specifications for Roads and Bridges, 10-7-26 Version; Required Provisions; and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at <https://dot.sd.gov/doing-business/contractors/standard-specifications>.
- All Welding and Welding Inspection will be in conformance with the latest edition of the AASHTO/AWS D1.5M/D1.5 Bridge Welding Code unless otherwise noted in this plan set.

DETAILS AND DIMENSIONS OF EXISTING BRIDGE

All details and dimensions of the existing bridge, contained in these plans, are based on the original construction plans and shop plans. It is the Contractor's responsibility to inspect and verify the actual field conditions and any necessary as-built dimensions affecting the satisfactory completion of the work required for this project.

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.

- Breakout delaminated concrete in designated area.
- Perform abrasive blasting and cleaning of column area to be encased.
- Place sleeve around column, dewater the sleeve, if elected, and place the concrete for the column repair.

COLUMN REPAIR

- Column No. 1 at Bent No. 2 has deteriorated concrete. The deteriorated column section will be encased with concrete.
- All structural steel plates and bars for the fabricated column sleeves will conform to ASTM A709, Grade 36 or an approved equal. After all shop welding is complete, the fabricated metal column sleeves will be hot dip galvanized in accordance with ASTM A123. Areas within one inch of plan specified field welds will remain black or have the galvanizing removed prior to field welding. After all field welding is complete, the completed field welds and the work affected areas adjacent to the field welds will be coated with paint containing zinc in accordance with ASTM A780.

- The 3/4" diameter fully threaded rods and heavy hex nut will conform to ASTM F1554, Grade 36 or an approved equal. Threaded rods will be galvanized. The nuts will be welded to the inside surface of the metal column sleeves at each threaded rod location.
- The existing riprap will need removed and reset following the repair. Additionally, it may be necessary to excavate the channel material around the existing column within the area of the column sleeve.
- The column sleeve used for the column encasement will be centered over the existing column and secured from movement during concrete placement. The sleeve will be watertight and will prevent concrete outflow from the bottom.
- The Contractor will have the option of dewatering and placing concrete using the free fall method or use of a tremie with underwater placement. Concrete placement will follow similar placement requirements to Sections 465.3 L or M as appropriate with the exception of the minimum inside diameter of the tremie can be 3 inches and can be nonmetallic, the 5 ft minimum embedment of the tremie into the concrete will be waved but will still need to be as low in the pour as possible and maintained in fresh concrete.
- If dewatered, the Contractor will have the option of using a commercially available column form. The form can be reusable or stay in place. The form will be approved by the Bridge Construction Engineer and will be at no additional cost to the Department.
- During column repair, traffic and construction vehicles will not be allowed on the lane above the column until the concrete placed during the repair has achieved a minimum concrete strength of 3,000 psi as measured with cylinder breaks.
- All labor, equipment, materials, and incidental costs associated with placing the concrete including dewatering if elected will be incidental to the contract unit price per cubic yard for Class M6 Concrete.
- All costs associated with furnishing and installing the metal sleeves or column forms for the column encasement including all labor, materials, equipment, excavation around the column, removal and rest of existing riprap, securing the sleeve and producing a watertight seal, welding, galvanizing, and painting all work affected areas will be incidental to the lump sum contract unit price for Structural Steel, Miscellaneous.

CONCRETE BREAKOUT

- Depending on water elevation, condition of the concrete, and repair method chosen, the amount of concrete that can be removed may vary from what is shown. The Contractor will remove concrete as shown above the waterline and then to the extent possible below the waterline as approved by the Engineer. Reinforcing steel that is exposed and is scheduled for use in the new construction will be cleaned and straightened to the satisfaction of the Engineer. Care will be taken not to damage the existing reinforcing steel that is to be reused in the new construction during concrete breakout. Any reinforcing steel that is damaged during concrete breakout will be replaced or repaired, as approved by the Engineer, by the Contractor at no cost to the Department.
- All broken out concrete will be disposed of by the Contractor. Any disposal of discarded material will be in accordance with the Environmental Commitments.
- During concrete removal operations, broken-out concrete will be contained and not allowed to remain in Dry Creek.
- The concrete column length to be encased will be abrasive blasted and cleaned down to the waterline. The area below the waterline will be cleaned to the satisfaction of the Engineer. The abrasive blasting and cleaning will remove all surface laitance, and all loose and foreign materials. The abrasive blasting will expose the coarse aggregate and remove loose rust from any exposed reinforcing steel. After abrasive blasting, the surface will be cleaned by air blast using a compressor equipped with a satisfactory operating filter.
- All labor, tools, equipment, and any incidentals necessary for the removal of the existing concrete including concrete breakout, cleaning and straightening existing reinforcing steel, abrasive blasting, air blasting, cleaning the column surfaces, and disposal of all broken out material will be incidental to the contract unit price per cubic yard for Breakout Structural Concrete.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES  
FOR  
86' - 6" CONT. CONCRETE BRIDGE

STR. NO. 34-125-080  
APRIL 2026

| STATE OF | PROJECT                                                                            | SHEET NO. | TOTAL SHEETS |
|----------|------------------------------------------------------------------------------------|-----------|--------------|
| S.D.     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303, PT 0046(86)290 & PT 0044(241)327 | 27        | 51           |

**CLASS M6 CONCRETE**

Requirements for the contract Item Class M6 Concrete will conform to the requirements of Section 462 of the Construction Specifications except as noted below.

1. The minimum 28-day compressive strength will be 4500 psi.
2. Coarse Aggregate to be used in concrete will consist of either crushed quartzite or other crushed ledge rock. If crushed ledge rock other than quartzite is to be used, it will be from a source approved by the Engineer.
3. Slump of the concrete will be 6-8 inches if placed with the free-fall tremie method or 7-9 inches if pumped through the tremie.
4. Due to the remote location of the site, the Contractor may include a hydration stabilizer in the concrete mix at a dosage intended to delay set for a specified time not exceeding 2 hours. The Contractor will submit the mix design and requested delivery time extension to the Concrete Engineer for review a minimum of 14 days prior to the performance of any concrete work. An allowed amount of additional delivery time will be granted at the Concrete Engineer's discretion and noted within the mix design review.
5. The Contractor may substitute a bag mix for the Class M6 Concrete provided the bag mix meets the requirements of Section 462 and items listed above. The Contractor must submit the bag mix to the Bridge Construction Engineer for approval a minimum of fourteen days before performing any concrete work.

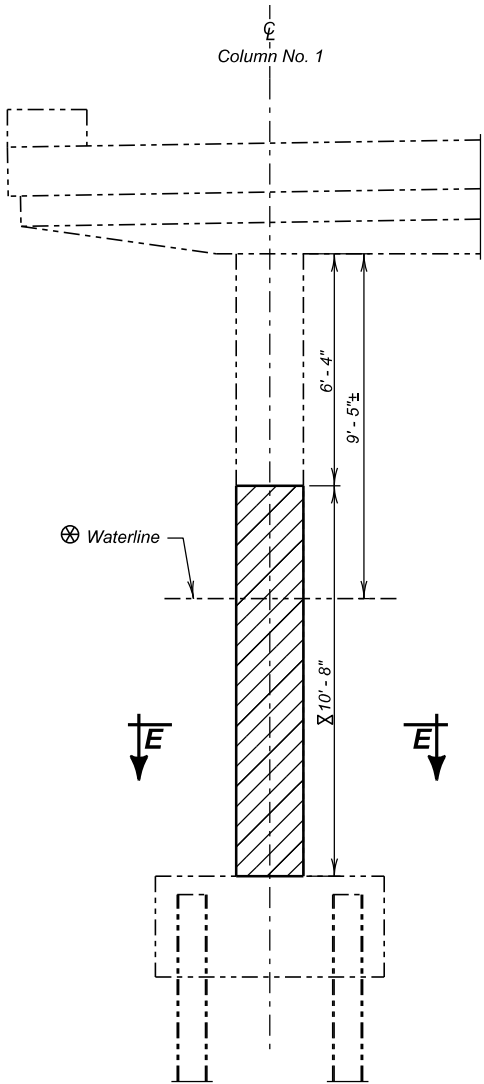
NOTES (CONTINUED)  
FOR  
86' - 6" CONT. CONCRETE BRIDGE

STR. NO. 34-125-080  
APRIL 2026

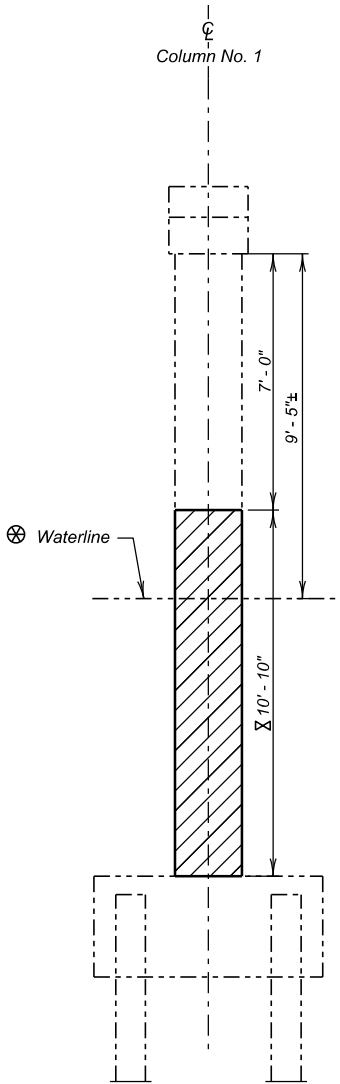
3 OF 9

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| DESIGNED BY<br>CMM<br>HUCH090D | CK. DES. BY<br>TJM<br>090DMA03 | DRAFTED BY<br>CMM/TJM | <br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------|

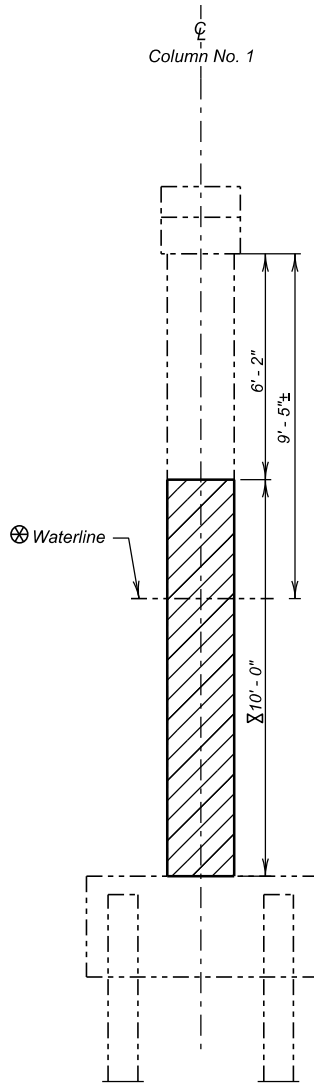




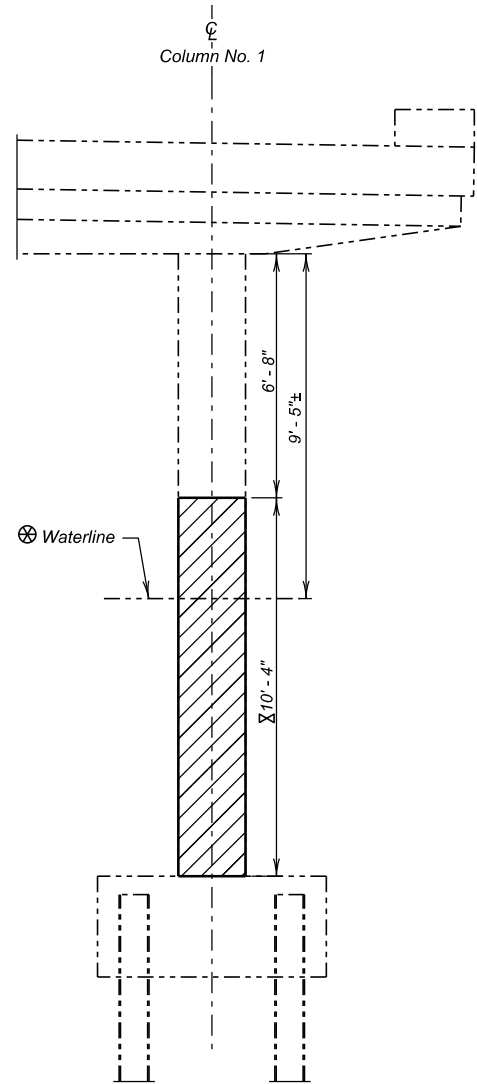
SECTION A - A



SECTION B - B



SECTION C - C



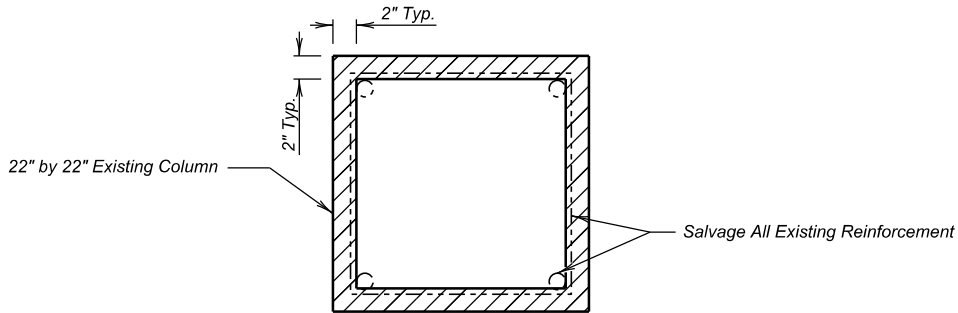
SECTION D - D

⊗ Waterline will vary, dimension shown is from time of inspection.

⊗ Due to riprap around the columns, the delaminations extent could not be determined. The top of the footing was used for quantity estimates. The riprap will need removed and reset following the column repair.

| ESTIMATED QUANTITIES           |      |          |
|--------------------------------|------|----------|
| ITEM                           | UNIT | QUANTITY |
| * Breakout Structural Concrete | CuYd | 0.5      |

\* The breakout area shown is the ideal breakout if water is not present. Actual breakout will vary based on field conditions and Contractor methods. Quantity is based on dimensions shown in plans.



SECTION E - E

⊗ Limits of Concrete Breakout

CONCRETE BREAKOUT DETAILS  
FOR  
86' - 6" CONT. CONCRETE BRIDGE  
30' - 0" ROADWAY 0° SKEW  
OVER NO. BR. DRY CREEK SEC. 18/19-T99N-R59W  
STR. NO. 34-125-080 P 0044(242)355

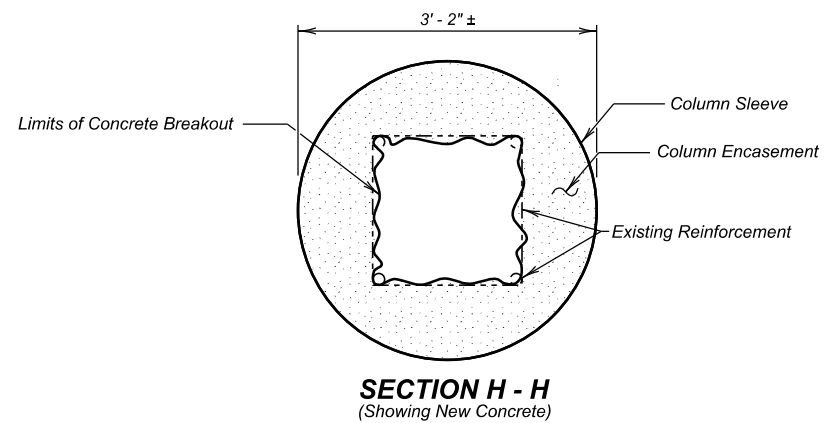
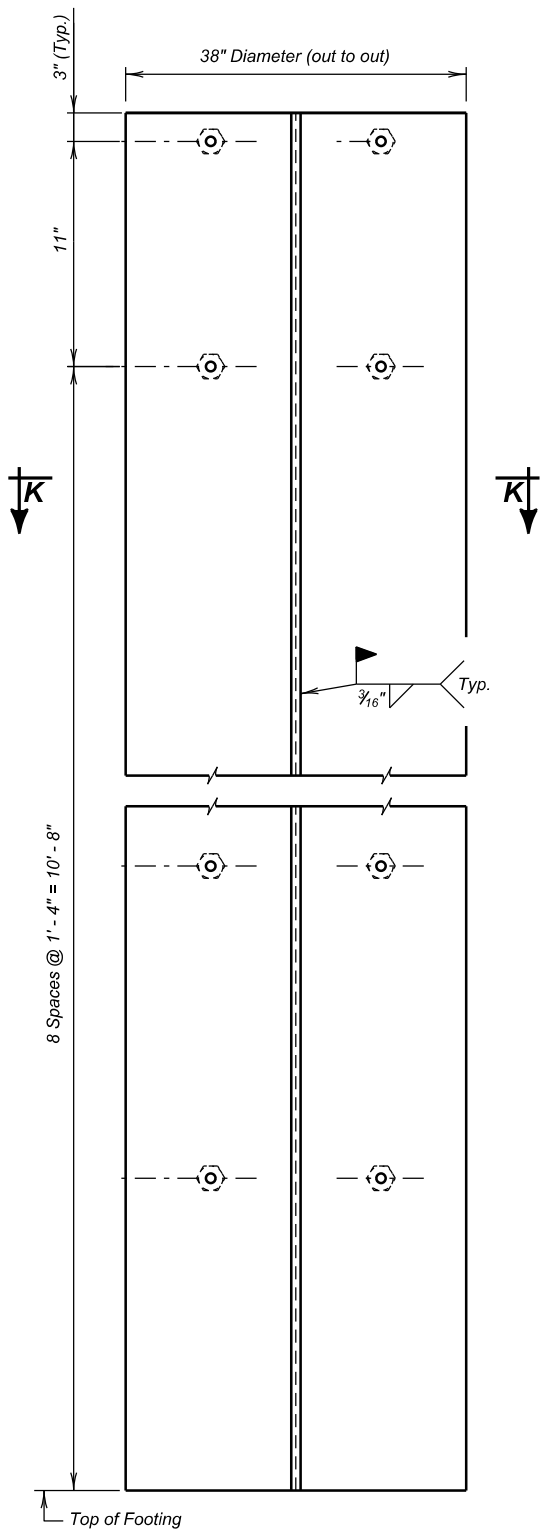
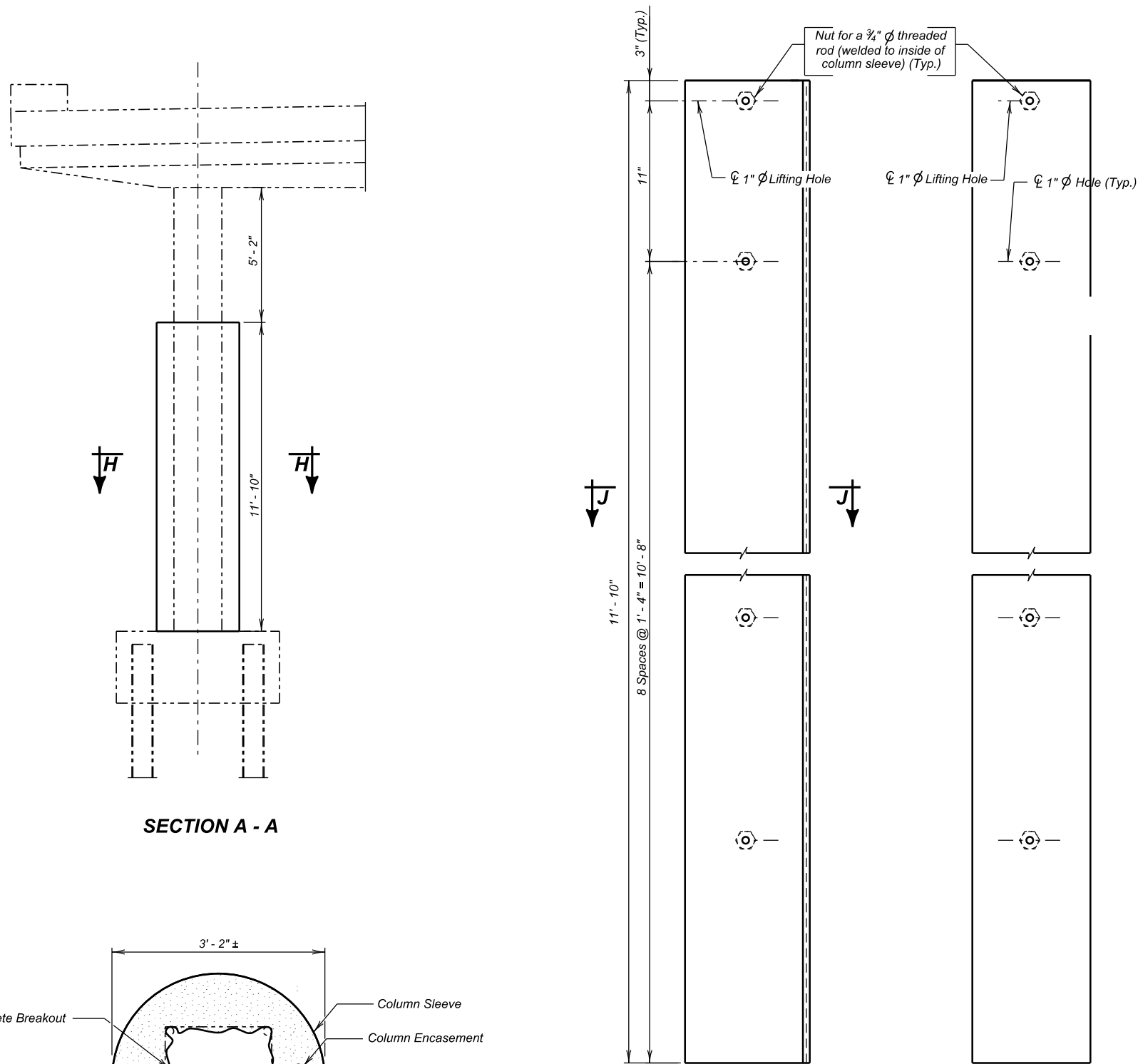
HUTCHINSON COUNTY  
S. D. DEPT. OF TRANSPORTATION

APRIL 2026

- X020 -

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|--------------------------------|--------------------------------|-------------------|-------------------------------------|
| DESIGNED BY<br>CMM<br>HUCH090D | CK. DES. BY<br>TJM<br>090DMB04 | DRAFTED BY<br>CMM | Steve A. Johnson<br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|

| STATE<br>OF<br>S.D. | PROJECT                                                                               | SHEET<br>NO. | TOTAL<br>SHEETS |
|---------------------|---------------------------------------------------------------------------------------|--------------|-----------------|
|                     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 29           | 51              |



**COLUMN ENCASEMENT DETAIL (A)**  
FOR  
**86' - 6" CONT. CONCRETE BRIDGE**  
30' - 0" ROADWAY  
OVER NO. BR. DRY CREEK  
STR. NO. 34-125-080

0° SKEW  
SEC. 18/19-T99N-R59W  
P 0044(242)355

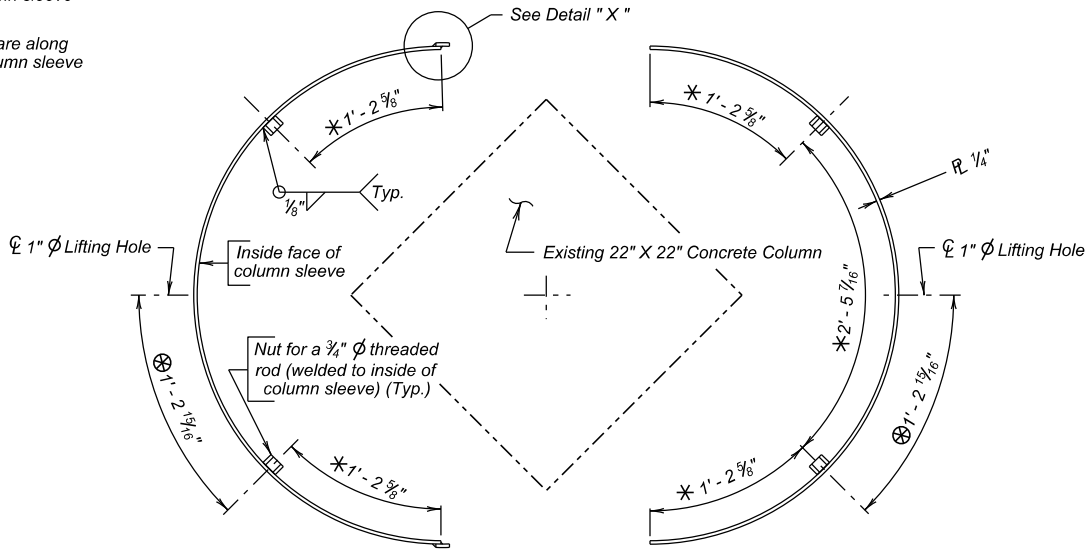
HUTCHINSON COUNTY  
S. D. DEPT. OF TRANSPORTATION  
APRIL 2026

5 OF 9

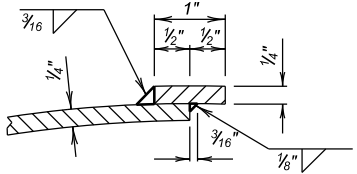
|                                |                                |                       |                                     |
|--------------------------------|--------------------------------|-----------------------|-------------------------------------|
| DESIGNED BY<br>CMM<br>HUCH090D | CK. DES. BY<br>TJM<br>090DMB05 | DRAFTED BY<br>CMM/TJM | Steve A. Johnson<br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-----------------------|-------------------------------------|

\* Dimension shown are along  
inside face of column sleeve

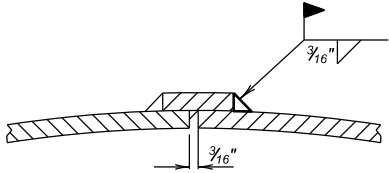
⊗ Dimension shown are along  
outside face of column sleeve



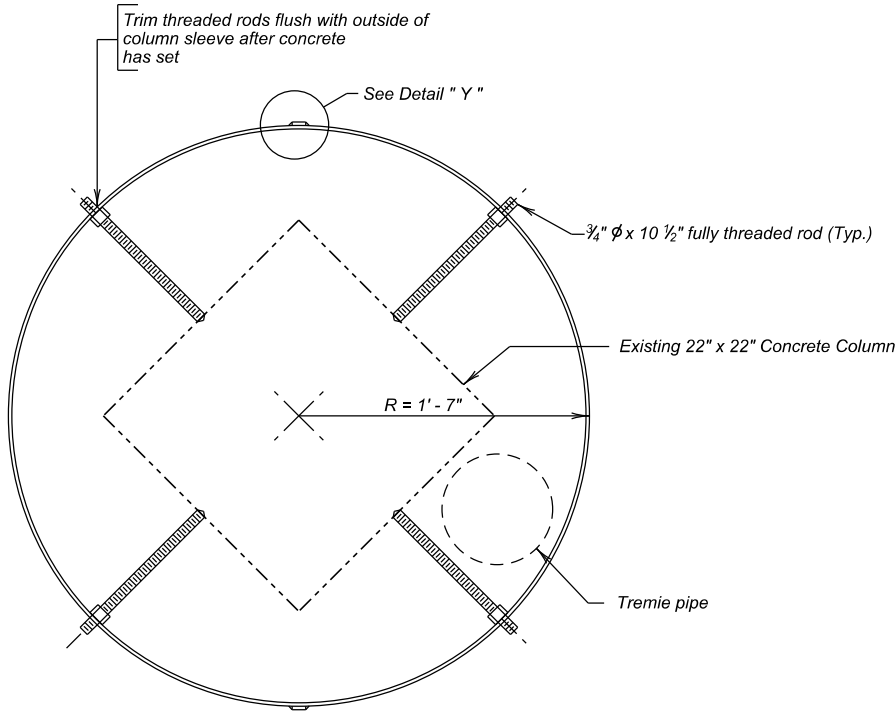
**SECTION J - J**  
(As delivered to job site prior to installation)



**DETAIL "X"**



**DETAIL "Y"**



**SECTION K - K**  
(After installation on existing column )

| ESTIMATED QUANTITIES            |      |          |
|---------------------------------|------|----------|
| ITEM                            | UNIT | QUANTITY |
| Class M6 Concrete               | CuYd | 2.5      |
| Structural Steel, Miscellaneous | LS   | Lump Sum |

⚡ Quantity is based on approximate dimensions shown in these plans.  
Actual quantity will vary depending on field conditions.

For informational purposes only, the estimated  
total structural steel quantity is 1275 lbs

**COLUMN ENCASEMENT DETAILS (B)**  
FOR  
**86' - 6" CONT. CONCRETE BRIDGE**  
30' - 0" ROADWAY 0° SKEW  
OVER NO. BR. DRY CREEK SEC. 18/19-T99N-R59W  
STR. NO. 34-125-080 P 0044(242)355

HUTCHINSON COUNTY  
S. D. DEPT. OF TRANSPORTATION  
APRIL 2026



-X020-

## INDEX OF BRIDGE SHEETS—

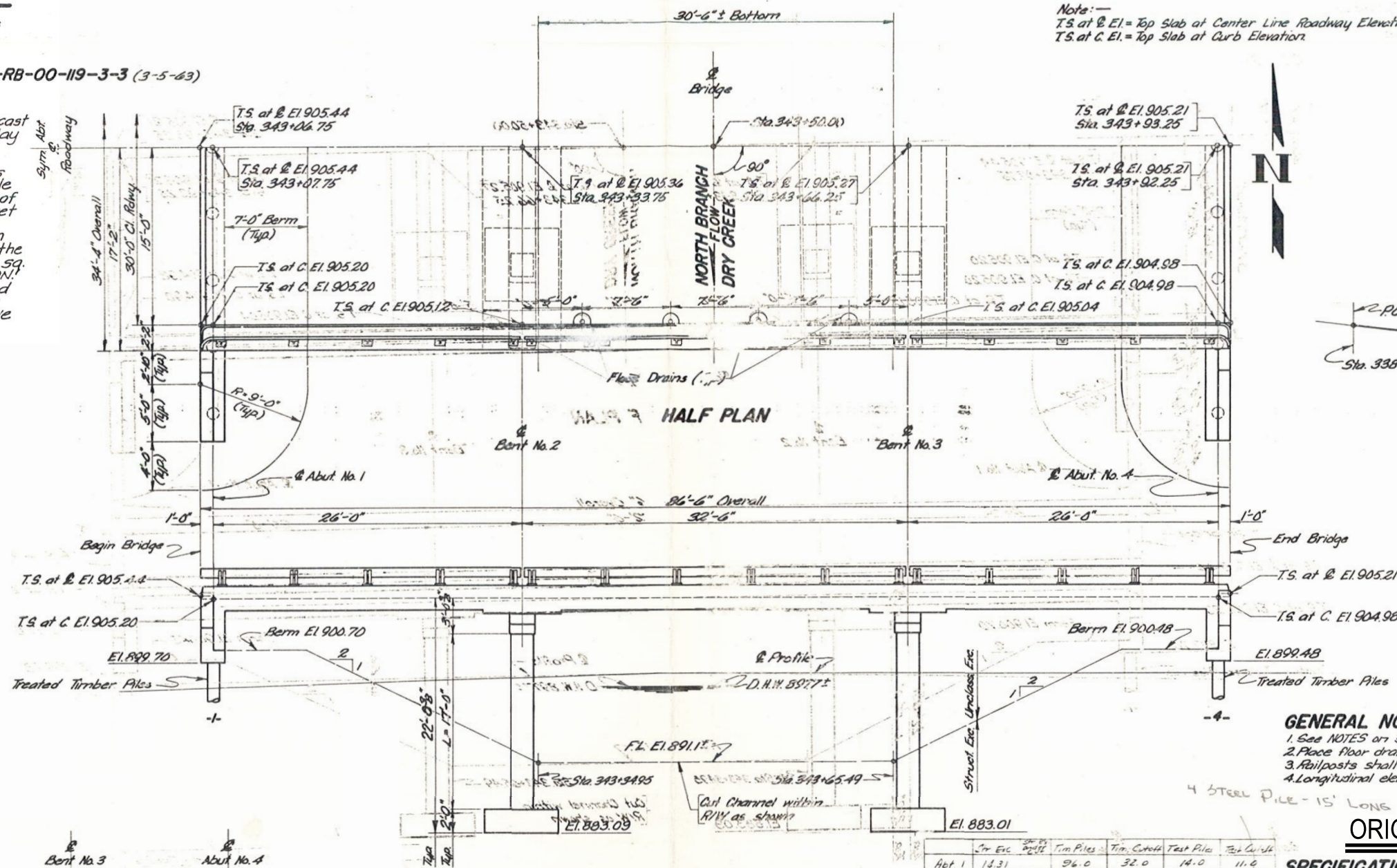
Sheet No. 1 - General Drawing and Quantities  
Sheet No. 2 - Subsurface Investigations  
Sheet No. 3 - Details of Superstructure  
Sheet No. 4 - Details of Substructure  
Sheet No. 5 - Details of Type -B Railing

**EXCAVATION NOTES.—**

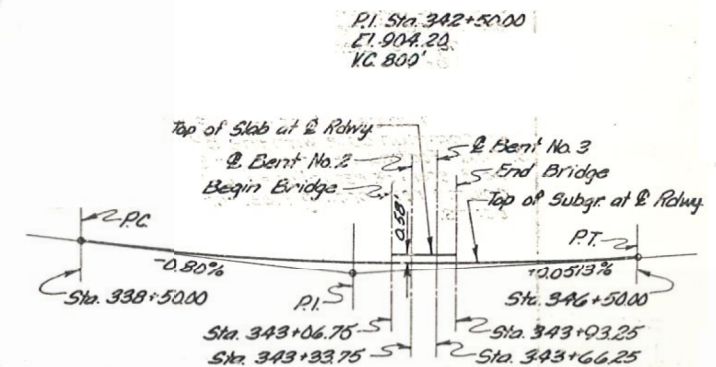
1. Footings for Bents No. 2 and No. 3 shall be cast against solid undisturbed Blue Glacial Clay and carried into same approximately the depth of the footings. Limits of Blue Glacial Clay excavation for these footings shall be bounded as nearly as practicable by the neat lines as shown in the details of footings for Bents No. 2 and No. 3 on Sheet No. 4 of 5.
2. Blue Glacial Clay shall develop a minimum bearing value of 3.25 tons per sq. ft. If the bearing value is less than 3.25 tons per sq. ft. communicate with the BRIDGE SECTION.
3. Final footing elevations for Bents No. 2 and No. 3 shall be established before ordering column reinforcing steel for the respective bents.

|   |             |
|---|-------------|
| Q | 1050 c.f.s  |
| A | 284 sq. ft. |
| V | 3.7 f.p.s.  |

B.M. No. 15 Elev. 902.42  
Re-bar & Gd. Stake  
8 1/2' Lt. Sto. 340+92



Note:—  
T.S. at C. El. = Top Slab at Center Line Roadway Elevation.  
T.S. at C. El. = Top Slab at Curb Elevation.



### SUBGRADE CURVE DATA

B.M. No. 10 Elev 903.07  
Re-bar & G's Static  
155' Lt Sta. 367+37

**GENERAL NOTES—**

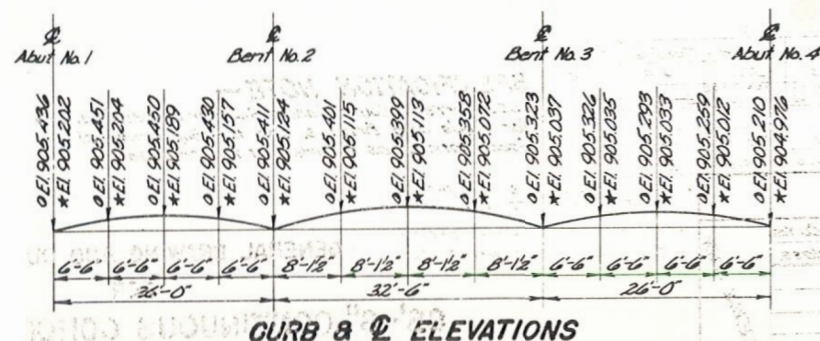
1. See NOTES on Sheets No. 3, 4 and 5.
2. Place floor drains as shown in HALF PLAN Drawing (B.12a'd).
3. Railposts shall be built vertical.
4. Longitudinal elements of the slab shall conform to the vertical curve.

## ORIGINAL CONSTRUCTION PLANS

|       | Str Exc | Str Pile<br>Depth | Tim Piles           | Tim. Cutoff        | Test Piles | Test W  |
|-------|---------|-------------------|---------------------|--------------------|------------|---------|
| Abt 1 | 16.31   |                   | 96.0                | 32.0               | 14.0       | 11.0    |
| B2    | 56.60   | 6.88              | 224 HBZ<br>2415 lbs | 444 TBZ<br>103 lbs | 6-14       | Foot 14 |
| B3    | 56.22   | 1.98              |                     |                    |            |         |
| Abt 4 | 16.31   |                   | 116.0               | 58.0               | 13.0       | 9.0     |
| Tot 1 | 161.41  | 7.86              | 306.0               | 180.0              | 30.0       | 20.0    |

**SPECIFICATION NOTE—**

Use current South Dakota Standard Specifications for Roads and Bridges, and the Supplemental Specifications, as included in the proposal.



NOTE: Elevation is indicated with \* are Top of Finished Slab at Curb and @ are Top of Finished Slab at @ Roadway. Camber for Dead Load Deflection-PLUS Plastic Flow, shown on sheet No. 3 of Bridge Plans have been included in above elevations.

| ESTIMATED QUANTITIES |     |       |       |        |     |       |       |        |     |       |       |        |
|----------------------|-----|-------|-------|--------|-----|-------|-------|--------|-----|-------|-------|--------|
| ITEM                 | QTY | UNIT  | PRICE | TOTAL  | QTY | UNIT  | PRICE | TOTAL  | QTY | UNIT  | PRICE | TOTAL  |
| Excavation           | 100 | cu yd | 1.50  | 150.00 | 200 | cu yd | 1.50  | 300.00 | 300 | cu yd | 1.50  | 450.00 |
| Backfill             | 100 | cu yd | 1.50  | 150.00 | 200 | cu yd | 1.50  | 300.00 | 300 | cu yd | 1.50  | 450.00 |
| Gravel               | 100 | cu yd | 1.50  | 150.00 | 200 | cu yd | 1.50  | 300.00 | 300 | cu yd | 1.50  | 450.00 |
| Concrete             | 100 | cu yd | 1.50  | 150.00 | 200 | cu yd | 1.50  | 300.00 | 300 | cu yd | 1.50  | 450.00 |
| Rebar                | 100 | lb    | 1.50  | 150.00 | 200 | lb    | 1.50  | 300.00 | 300 | lb    | 1.50  | 450.00 |
| Formwork             | 100 | sq ft | 1.50  | 150.00 | 200 | sq ft | 1.50  | 300.00 | 300 | sq ft | 1.50  | 450.00 |
| Paint                | 100 | gal   | 1.50  | 150.00 | 200 | gal   | 1.50  | 300.00 | 300 | gal   | 1.50  | 450.00 |
| Other                | 100 | unit  | 1.50  | 150.00 | 200 | unit  | 1.50  | 300.00 | 300 | unit  | 1.50  | 450.00 |

One Treated Timber Test Pile shall be driven Abuts. No. 1 & 4 before remaining piles are ordered.

\* INCIDENTAL WORK - In place on & Sills 342+02 to 342+92, on 40'x20' Redway (1-span) Pony Truss Bridge. Break down and remove old concrete floor. Mark and remove stringers, tie beams and floor bracing. Concrete truss is to remain intact and shall be well exposed on one side. Remove old beams from bridge seats. Concrete shall be taken out to the structural properties of the bridge members. Break down and remove old concrete abutments and wingwalls to 1' below finished ground or as necessary to facilitate construction of new footings. All salvaged materials shall be placed neatly within the Right-of-way as directed by the ENGINEER, to be picked up by County or State forces. Satisfactory broken concrete shall be used as slope protection on the upstream side of Sills No. 1 & No. 4. All other broken concrete and materials shall be disposed of as directed by the ENGINEER.

## GENERAL DRAWING AND QUANTITIES

**FOR**

## 86'-6" CONTINUOUS CONCRETE BRIDGE

30'-0" ROADWAY

OVER NO. 8R. DRY CREEK SEC. 18/19-T99N-R59W

STA. 343+06.75 TO 343+93.25 S 9431

HUTCHINSON COUNTY

SOUTH DAKOTA      H20-S16-44

DEPARTMENT OF HIGHWAYS

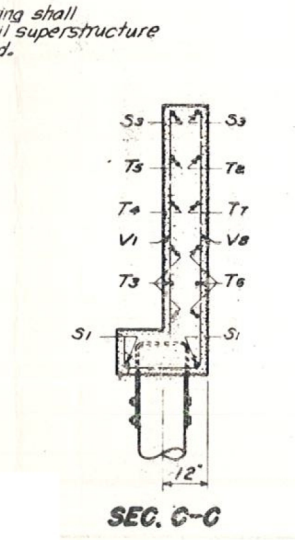
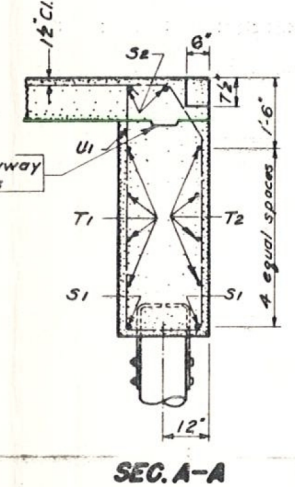
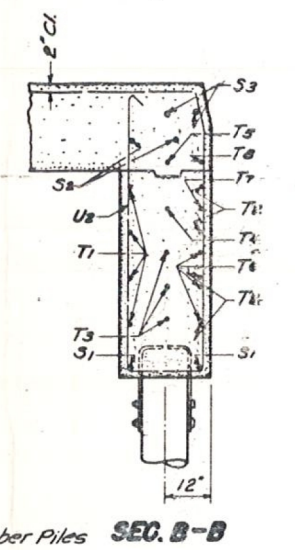
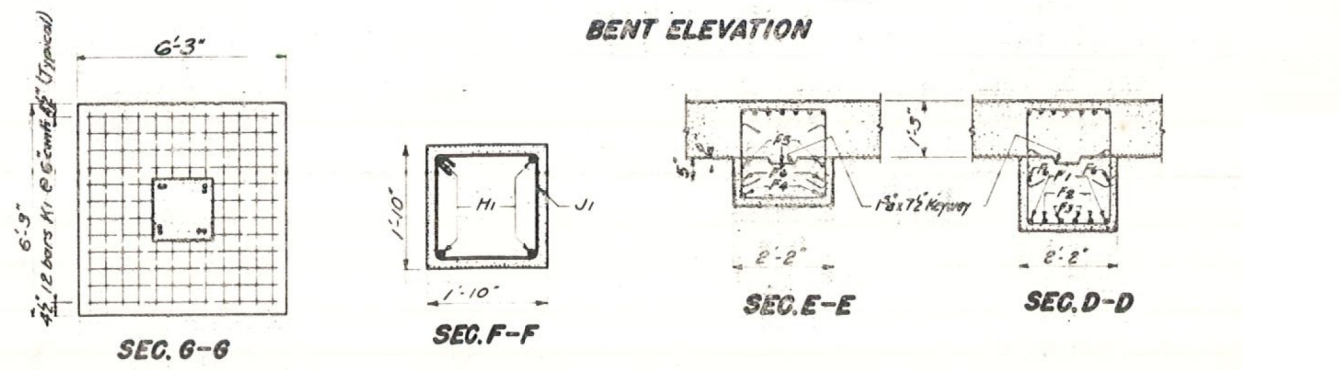
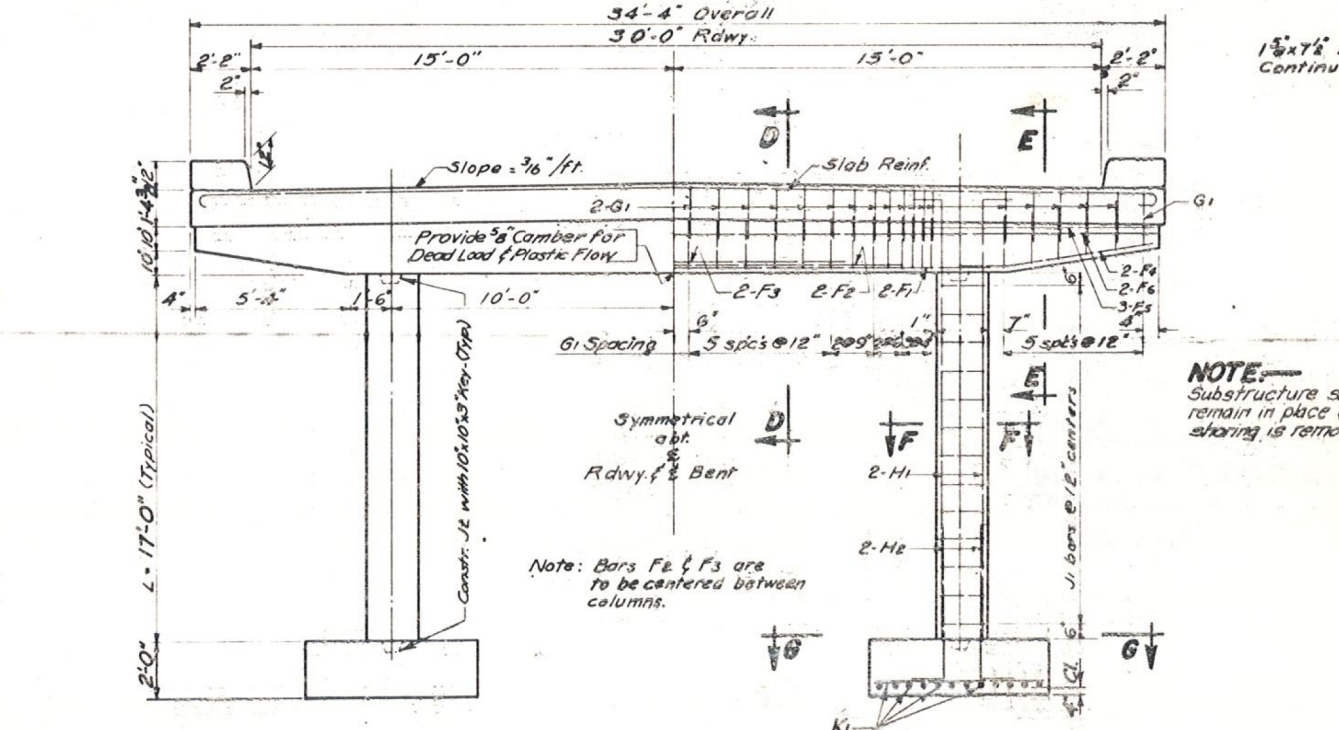
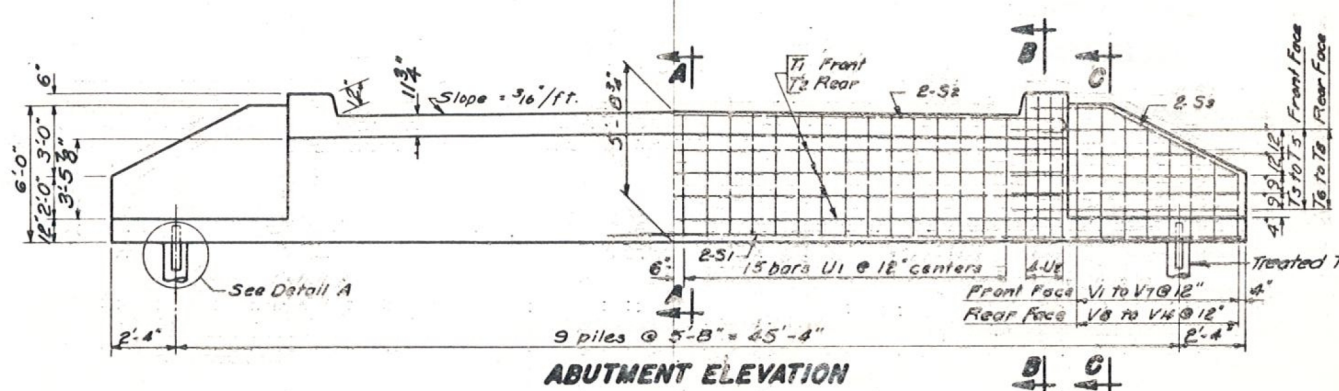
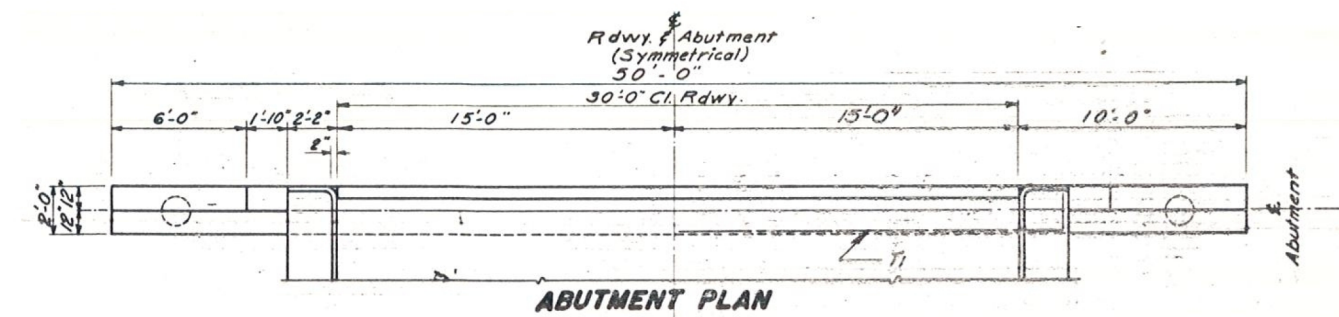
STR. NO. 34-125-080

MAR. 1963

7 OF 9

|             |          |            |                                       |
|-------------|----------|------------|---------------------------------------|
| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED                              |
|             | LG       | R.C.M.     | <i>[Signature]</i><br>BRUCE HENRIKSEN |





### REINFORCING SCHEDULE

(For One Bent)

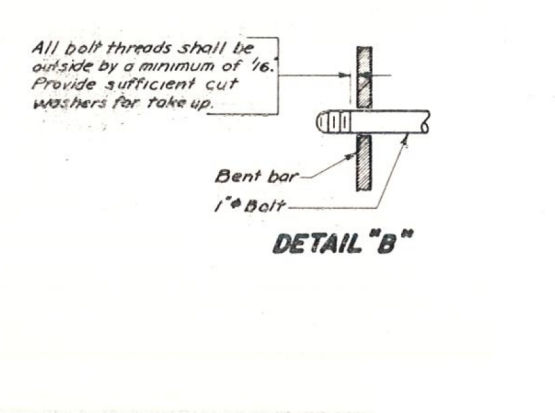
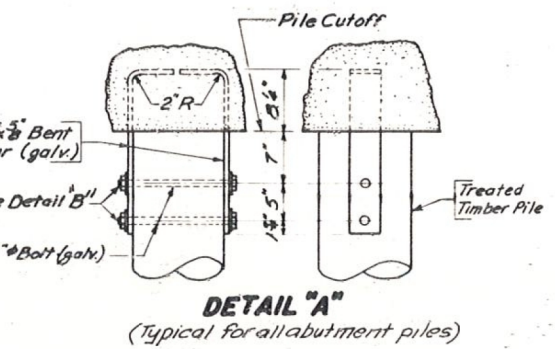
| MARK | No. | Size | Length | Type | Bending Details        |
|------|-----|------|--------|------|------------------------|
| F1   | 2   | 10   | 22'-0" | Str. | F1 1'-10" 5'-2" 18" 12 |
| F2   | 2   | 10   | 17'-0" | Str. |                        |
| F3   | 2   | 10   | 13'-0" | Str. |                        |
| F4   | 4   | 4    | 7'-0"  | 19A  |                        |
| F5   | 6   | 6    | 9'-0"  | Str. |                        |
| F6   | 2   | 4    | 33'-3" | Str. |                        |
| G1   | 74  | 4    | 6'-3"  | S3   |                        |
| H1   | 8   | 10   | 20'-9" | 2A   |                        |
| H2   | 8   | 10   | 6'-9"  | 2A   |                        |
| J1   | 34  | 4    | 7'-3"  | T1   |                        |
| K1   | 48  | 6    | 5'-9"  | Str. |                        |

(For One Abutment)

| MARK | No. | Size | Length | Type | Bending Details |
|------|-----|------|--------|------|-----------------|
| S1   | 4   | 9    | 26'-6" | Str. |                 |
| S2   | 2   | 9    | 36'-0" | 1    |                 |
| S3   | 4   | 9    | 10'-0" | 19A  |                 |
| T1   | 4   | 5    | 36'-9" | 2    |                 |
| T2   | 4   | 5    | 34'-0" | Str. |                 |
| T3   | 6   | 4    | 9'-9"  |      |                 |
| T4   | 2   | 4    | 7'-9"  |      |                 |
| T5   | 2   | 4    | 5'-9"  |      |                 |
| T6   | 6   | 5    | 10'-0" |      |                 |
| T7   | 2   | 5    | 8'-0"  |      |                 |
| T8   | 2   | 5    | 6'-0"  | Str. |                 |
| U1   | 30  | 4    | 18'-0" | 18   |                 |
| U2   | 8   | 5    | 18'-6" | 18   |                 |
| V1   | 4   | 4    | 5'-0"  | Str. |                 |
| V2   | 2   |      | 4'-6"  |      |                 |
| V3   | 2   |      | 4'-0"  |      |                 |
| V4   | 2   |      | 3'-6"  |      |                 |
| V5   | 2   |      | 3'-0"  |      |                 |
| V6   | 2   |      | 2'-6"  |      |                 |
| V7   | 2   |      | 2'-0"  | Str. |                 |
| V8   | 4   |      | 8'-0"  | 21   | 5'-8"           |
| V9   | 2   |      | 7'-9"  |      | 5'-5"           |
| V10  | 2   |      | 7'-3"  |      | 4'-11"          |
| V11  | 2   |      | 6'-9"  |      | 4'-5"           |
| V12  | 2   |      | 6'-3"  |      | 3'-11"          |
| V13  | 2   |      | 5'-9"  |      | 3'-5"           |
| V14  | 2   | 4    | 5'-3"  | 21   | 2'-11"          |

Note: All dimensions are out to out of bars.

Note: All dimensions are out to out of bars.



| ESTIMATED QUANTITIES |        |              |            |            |
|----------------------|--------|--------------|------------|------------|
| ITEM                 | UNIT   | B. ABUTMENTS | BENT NO. 2 | BENT NO. 3 |
| Class A Concrete     | Cu Yds | 30.8         | 13.8       | 13.8       |
| Reinforcing Steel    | Lbs    | 3430         | 2427       | 2427       |
| Treated Timber Piles | No.    | 13           |            |            |
| Structural Steel     | Lbs    | 850          |            |            |
| Soil Excavation      | Cu Yds | 80           |            |            |

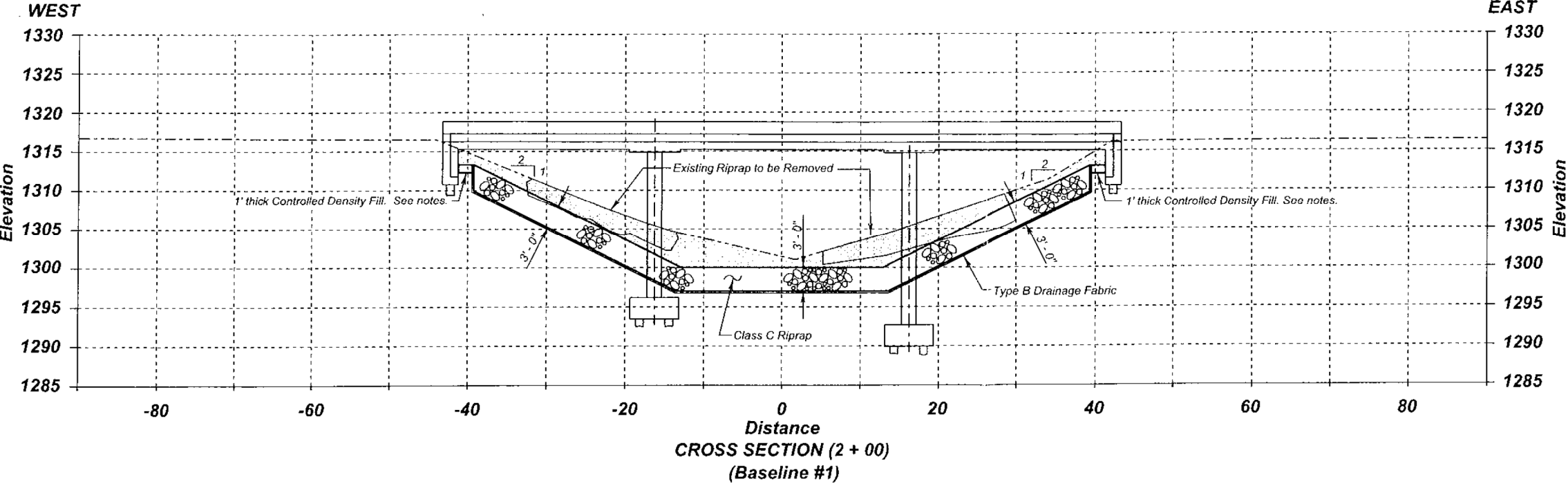
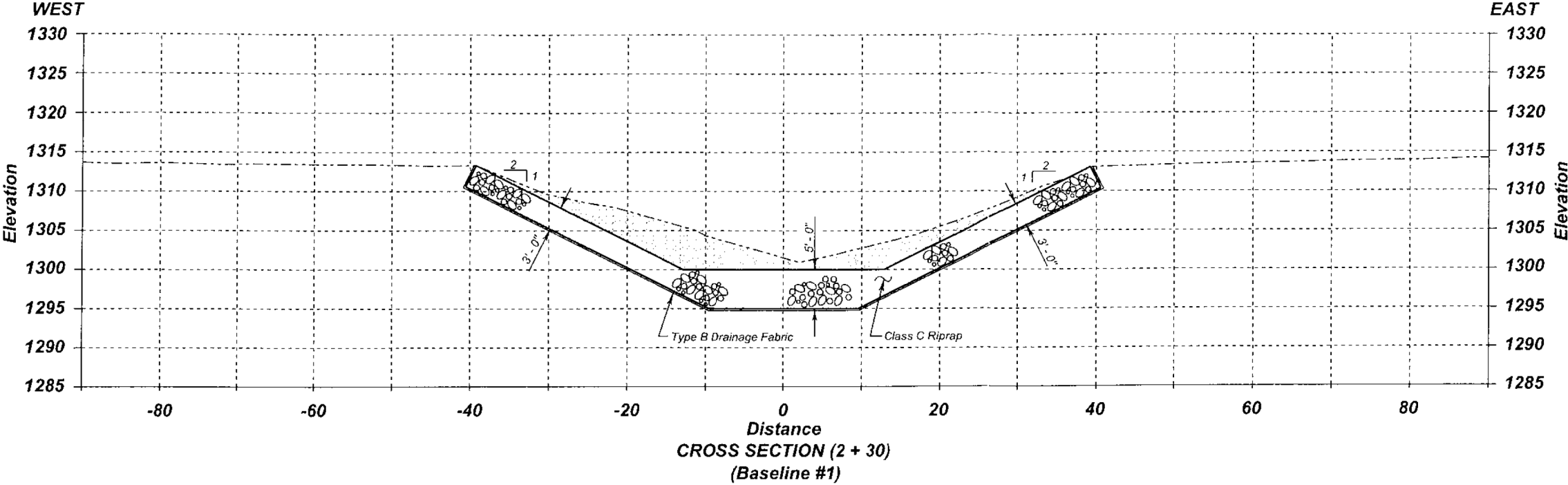
\*Includes slab and curbs directly over abutments.

ORIGINAL CONSTRUCTION PLANS

DETAILS OF SUBSTRUCTURE  
FOR  
86'-6" CONTINUOUS CONCRETE BRIDGE  
30'-0" ROADWAY  
OVER NO. BR. DRY CREEK SEC. 18/19-T99N-R55W  
STA. 343+06.75 TO 343+93.25 S 9431  
HUTCHINSON COUNTY  
SOUTH DAKOTA H20-S16-44  
DEPARTMENT OF HIGHWAYS  
STR. NO. 34-125-080 MAR. 1963 8 OF 9

|             |          |            |          |
|-------------|----------|------------|----------|
| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED |
|             | M.B.S.   | R.C. MEHL  |          |





| ESTIMATED QUANTITIES                                                                                        |         |          |
|-------------------------------------------------------------------------------------------------------------|---------|----------|
| ITEM                                                                                                        | UNIT    | QUANTITY |
| Contractor Furnished Borrow                                                                                 | Cu. Yd. | 48.7     |
| Class C Riprap                                                                                              | Ton     | 3073.5   |
| Type B Drainage Fabric                                                                                      | Sq. Yd. | 2071.7   |
| Controlled Density Fill                                                                                     | Cu. Yd. | 6.7      |
| For informational purposes only, 2774.8 cubic yards of excavated material is included in this payment item. |         |          |

ORIGINAL CONSTRUCTION PLANS

CHANNEL CROSS SECTIONS

FOR

86' - 6" CONTINUOUS CONCRETE BRIDGE

30' - 0" ROADWAY

0° SKEW

OVER N. BR. DRY CREEK

SEC. 18/19-T99N-R59W

STR. NO. 34-125-080

P 0044(152)355

HUTCHINSON COUNTY

S. D. DEPT. OF TRANSPORTATION

AUGUST 2012

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ESTIMATE OF STRUCTURE QUANTITIES

| ITEM NO. | DESCRIPTION              | QUANTITY | UNIT |
|----------|--------------------------|----------|------|
| 120E0010 | Unclassified Excavation  | 31       | CuYd |
| 120E3120 | Bridge Berm Repair       | 2        | Each |
| 120E7000 | Select Granular Backfill | 16.8     | Ton  |
| 700E0210 | Class B Riprap           | 95.6     | Ton  |
| 734E0090 | Perforated Geocell       | 481      | SqFT |
| 831E0110 | Type B Drainage Fabric   | 156      | SqYd |

SPECIFICATIONS

Construction Specifications: Standard Specifications for Roads and Bridges, 10-7-26 Version; Required Provisions; and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at <https://dot.sd.gov/doing-business/contractors/standard-specifications>.

SCOPE OF BRIDGE WORK & SEQUENCE OF OPERATIONS

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

- Repair Bridge Berm and inslopes at the abutments.
- Place Type B drainage fabric and Class B Riprap.
- Place Perforated Geocell filled with Select Granular Backfill on the berm top.

BRIDGE BERM REPAIR

- The bridge berms have material loss due to a flood event and will need rebuilt and shaped to their original template with Class B Riprap incorporated into the berm slope.
- A combination of material loss and deposition occurred at this site. With the material deposition and excavated material for the rip rap placement, it is anticipated that minimal borrow material will be needed provided the onsite material meets the soil requirements. Reconstruct the berms to at least 1-foot above the bottom of the abutment backwall. The berm slope will be benched into stable embankment during reshaping and reconstruction. The soil will be placed in horizontal lifts perpendicular to the centerline of the abutment.
- Shape the fill in front of the wing walls to divert runoff from the inslopes away from the face of the berm slope. Reshape the inslopes near the wing walls to approximately 20 feet out from the bridge.
- At the upper part of the berm slope, clearance between the structure and berm will prohibit the use of large compaction equipment. The soil in this area will be compacted using hand operated compaction equipment. Berm material will be placed in reduced lift thicknesses with adequate moisture to obtain density requirements.

- Soil used to reconstruct the berm slope will be furnished by the Contractor and approved by the Engineer. The soil will have 100% passing the 1 ½ inch sieve, a maximum of 70% passing the #4 sieve, have a maximum Liquid Limit (LL) of 45 and a Plastic Index (PI) greater than 10 but less than 25. The Contractor will be responsible for one gradation, LL and PI test for each borrow source for berm reconstruction. The test results will be supplied to the Engineer in writing.
- Compaction of the reconstructed berm, spill cones, and inslopes will be governed by the Ordinary Compaction Method.
- Quantities provided are an estimate for this work. It is the responsibility of the Contractor to visit the site prior to starting construction to determine quantities needed.
- The cost of the berm reconstruction will be incidental to the contract unit price per each for Bridge Berm Repair. This payment will be full compensation for furnishing all materials, labor, tools, and equipment necessary or incidental to the reconstruction of the bridge berm.

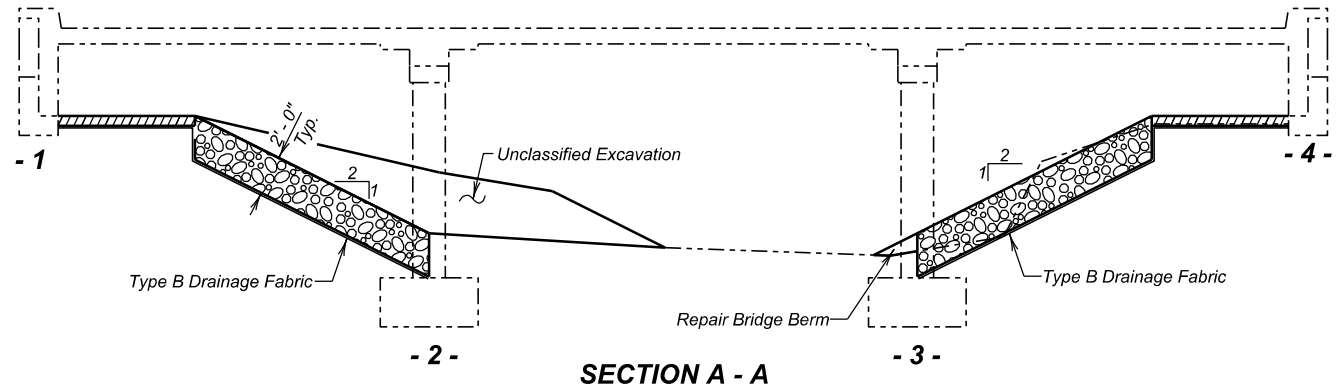
RIPRAP

- The cross section shown in this plan set is provided as a guide for riprap placement and are based on the existing ground locations at the time of inspection. The location of the toe of the riprap may vary to suit local site conditions provided the following items are adhered to:
  - The opening provided under the structure for water flow is not reduced from what is shown on the cross section.
  - Any changes in the riprap configuration are approved by the Engineer.
- Prior to placement of the drainage fabric, the surface to be covered will be smooth, free of obstructions, and conform to the plan configuration.
- All material excavated to allow for riprap placement will be disposed of by the Contractor.
- A factor of 1.4 tons/CuYd was used to convert the riprap quantity from CuYd to Tons.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES  
FOR  
67' - 0" CONT. CONCRETE BRIDGE

STR. NO. 12-300-211  
APRIL 2026

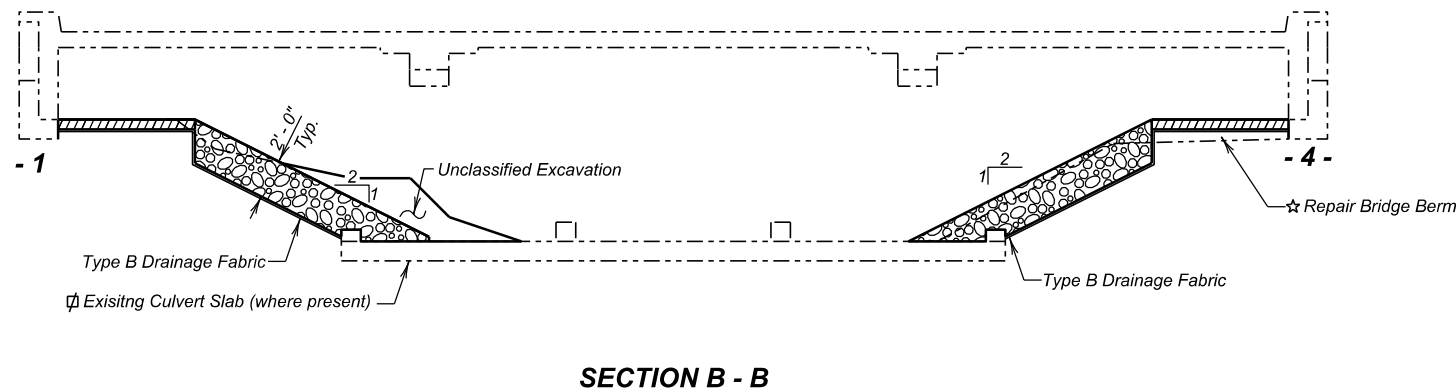
| STATE<br>OF | PROJECT                                                                               | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------------|---------------------------------------------------------------------------------------|--------------|-----------------|
|             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 36           | 51              |



**NOTES:**

☆ The exact amount of berm repair will be field determined. The dimensions shown are best estimate.

∅ The existing culvert bottom slab is to remain in place. Portions of the bottom slab were removed to place the footings for the bridge. The exact removal extents are unknown.



**LEGEND:**

-  Class B Riprap
-  Perforated Geocell

**BERM REPAIR (A)**  
FOR  
**67' - 0" CONT. CONCRETE BRIDGE**  
30' - 0" ROADWAY 0° SKEW  
OVER N. BR. PEASE CREEK SEC. 25/30-T97N-R67/66W  
STR. NO. 12-300-211 PT 0050(142)303

CHARLES MIX COUNTY  
S. D. DEPT. OF TRANSPORTATION  
APRIL 2026

3 OF 7

|                                |                                |                   |                                                                                                          |
|--------------------------------|--------------------------------|-------------------|----------------------------------------------------------------------------------------------------------|
| DESIGNED BY<br>CMM<br>CMIX090E | CK. DES. BY<br>TJM<br>090EMC01 | DRAFTED BY<br>CMM | <br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|----------------------------------------------------------------------------------------------------------|



| STATE OF | PROJECT                                                                            | SHEET NO. | TOTAL SHEETS |
|----------|------------------------------------------------------------------------------------|-----------|--------------|
| S.D.     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303, PT 0046(86)290 & PT 0044(241)327 | 37        | 51           |



SECTION C - C

**BERM REPAIR (B)**  
FOR  
**67' - 0" CONT. CONCRETE BRIDGE**  
30' - 0" ROADWAY 0° SKEW  
OVER CREEK SEC. 25/30-T97N-R67/66W  
STR. NO. 12-300-211 NH 0018(251)360

CHARLES MIX COUNTY  
S. D. DEPT. OF TRANSPORTATION

APRIL 2026

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✱ Edge of riprap and protected berm top will need to tie into existing ground. Reshape the edges and provide material as needed to create smooth transitions.  
✧ Minimal work anticipated based on current condition of channel.  
✱ Material will be required to shape slope based on current channel condition.

|                                |                                |                   |                                            |
|--------------------------------|--------------------------------|-------------------|--------------------------------------------|
| DESIGNED BY<br>CMM<br>CMIX090E | CK. DES. BY<br>TJM<br>090EMC04 | DRAFTED BY<br>CMM | <i>Steve A. Johnson</i><br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|--------------------------------------------|





SECTION D - D

BERM REPAIR (C)  
FOR  
67' - 0" CONT. CONCRETE BRIDGE  
30' - 0" ROADWAY OVER CREEK  
STR. NO. 12-300-211  
0° SKEW  
SEC. 25/30-T97N-R67/66W  
NH 0018(251)360

CHARLES MIX COUNTY  
S. D. DEPT. OF TRANSPORTATION

APRIL 2026

5 OF 7

For estimating purposes only, a factor of 1.89 Tons/Cu. Yd. was used to convert Cu. Yds. to Tons.  
Edge of riprap and protected berm top will need to tie into existing ground. Reshape the edges and provide material as needed to create smooth transitions.  
Minimal work anticipated based on current condition of channel.  
Material will be required to shape slope based on current channel condition.

| ESTIMATED QUANTITIES     |      |          |
|--------------------------|------|----------|
| (For Both Abutments)     |      |          |
| ITEM                     | UNIT | QUANTITY |
| Unclassified Excavation  | CuYd | 31       |
| Bridge Berm Repair       | Each | 2        |
| Select Granular Backfill | Ton  | 16.8     |
| Class B Riprap           | Ton  | 95.6     |
| Type B Drainage Fabric   | SqYd | 156      |
| Perforated Geocell       | SqFt | 481      |



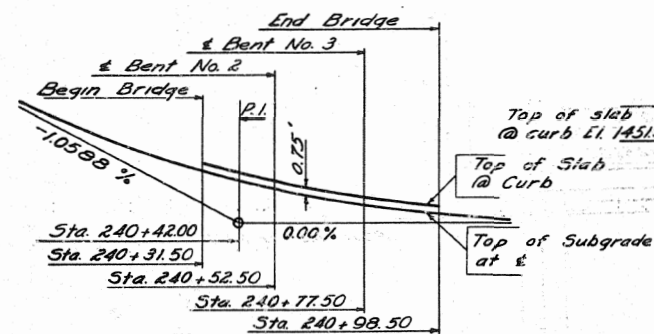
—X020—

## INDEX OF BRIDGE SHEETS.—

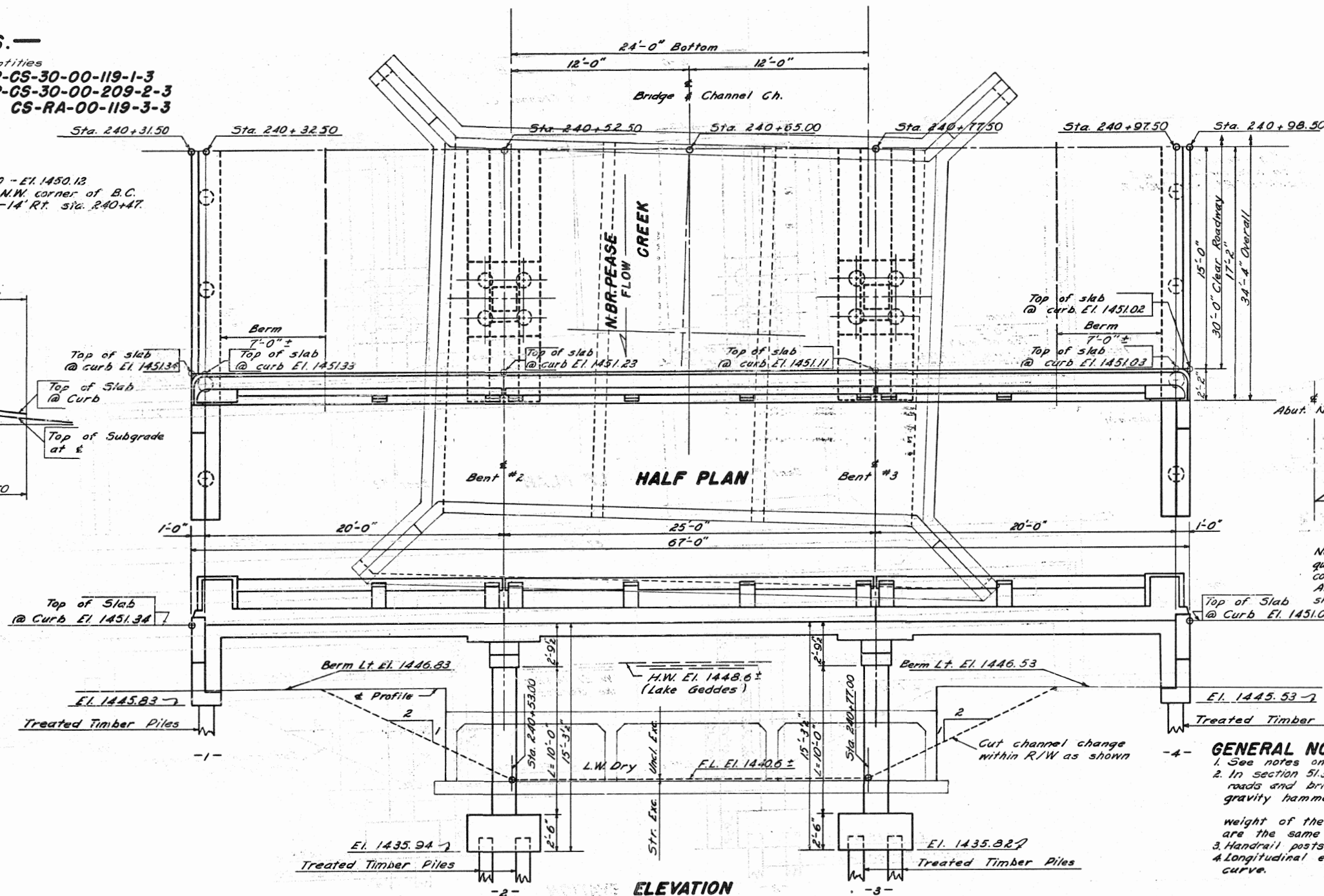
Sheet No.1 - General Drawing and Quantities  
Sheet No.2 - Superstr. Details FBOP-CS-30-00-119-1-3  
Sheet No.3 - Substr. Details FBOP-CS-30-00-209-2-3  
Sheet No.4 - Details of Type-A Railing CS-RA-00-119-3-3

B.M. #10 - E1. 1450.12  
X on N.W. corner of B.C.  
Hdwl. - 14' Rt. Sta. 240+47.

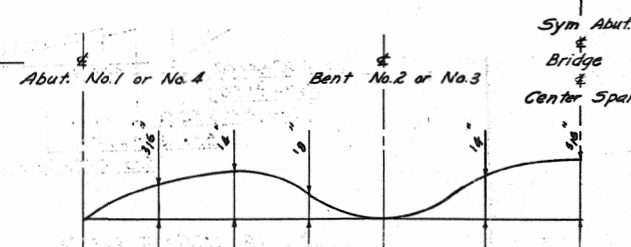
P.I. Sta. 240+42.00  
E1. 1450.00  
VC. 400'



### SUBGRADE CURVE DATA



B.M. #11 - E1. 1449.36  
X on S. end of E. wheel  
guard - 9' Lt. Sta. 254+47.



### CAMBER DIAGRAM

NOTE: Dimensions shown above for camber at quarter points of spans, shall supersede corresponding dimensions shown on sheet No.2. All other provisions for camber shown on sheet No.2 shall apply.

### GENERAL NOTES.—

- See notes on sheet No.2.
- In section 51.3(m) of South Dakota Standard Specifications for roads and bridges, change the bearing value formula for gravity hammers to  $P = \frac{3WH}{S+0.35} \times \frac{W+M}{W}$ ; where M equals the weight of the pile plus driving head and all other values are the same as in the replaced formula.
- Handrail posts shall be erected vertical.
- Longitudinal elements of slab shall conform to vertical curve.

## ORIGINAL CONSTRUCTION PLANS

GENERAL DRAWING AND QUANTITIES  
FOR

**67'-0" CONTINUOUS CONCRETE BRIDGE**  
30'-0" ROADWAY

OVER N.BR. PEASE CREEK SEC.25/30-T97N-R67/66W

STA.240+31.50 TO 240+98.50 FAP189 B

CHARLES MIX COUNTY (STATE WORK)

STR. NO. 12-300-211 SOUTH DAKOTA H20-44

STATE HIGHWAY COMMISSION

JAN. 1954 6 OF 7

—X020—

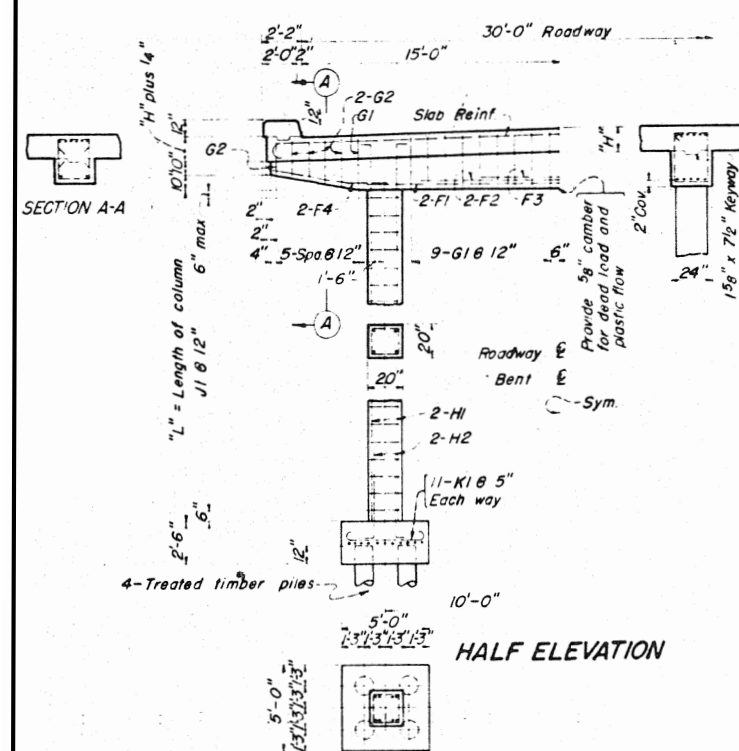
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|-------------|----------|------------|-----------------|
| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED        |
|             | SEA      | SEA        | J. H. CURR      |
|             |          |            | BRIDGE ENGINEER |

| ESTIMATED QUANTITIES |                    |         |              |            |                             |           |                 |
|----------------------|--------------------|---------|--------------|------------|-----------------------------|-----------|-----------------|
| ITEM                 | Concrete - Cu Yds. |         | Steel - Lbs. |            | Treated Timber Piles - Lbs. |           | Incidental Work |
|                      | Class A            | Class B | Reinforcing  | Structural | 12" x 12"                   | 12" x 12" |                 |
| Superstructure       | 779                | 358     | 19,125       | 170        | 16 @ 25' = 400              | 15        |                 |
| Abutts Nos. 1 & 4    | 236                |         | 3,630        | 780        | 16 @ 25' = 400              | 40        |                 |
| Bents Nos. 2 & 3     | 1,114              |         | 12,630       |            |                             |           |                 |
| Totals               | 1,549              | 358     | 35,385       | 930        | 4,000                       | 55        |                 |

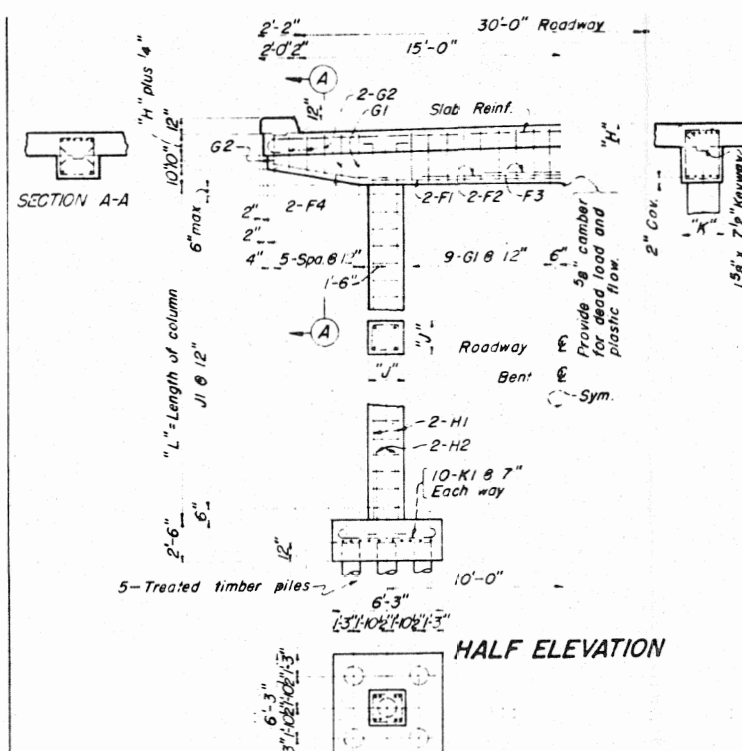
\*One treated timber test pile shall be driven at abutts No. 1 and 4 and at bent No. 2 before remaining piles are ordered.

\*See grading plans for unclassified excavation.

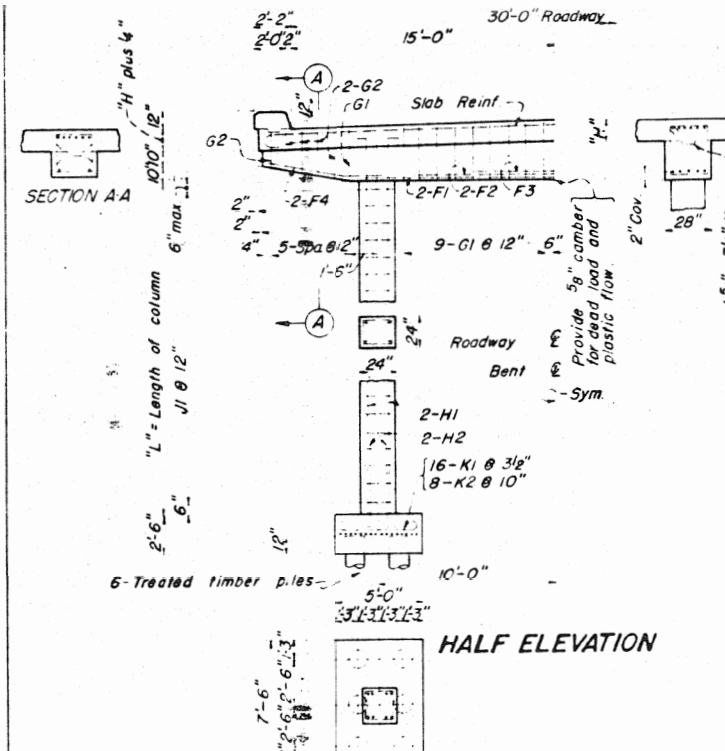
\*INCIDENTAL WORK: In place, 12' Rt. (to & B.C.) of Sta. 240+65.00, old 3'-10" x 4' x 24' Box Culvert. Break out and remove old concrete top slab, walls and wingwalls to the top of the bottom slab. Cut off old re-steel even with the top of bottom slab. Bottom slab of old Box Culvert shall remain intact except at the location for the Rt. footings of Bents #2 and #3 where old slab shall be broken out as necessary for construction of new footings. Replace and compact fill over new footings to elevation of old slab (Flow Line). Satisfactory broken concrete shall be used as slope protection on the upstream embankments at Abutts. #1 and #4. All other concrete and materials shall be disposed of as directed by the ENGINEER.



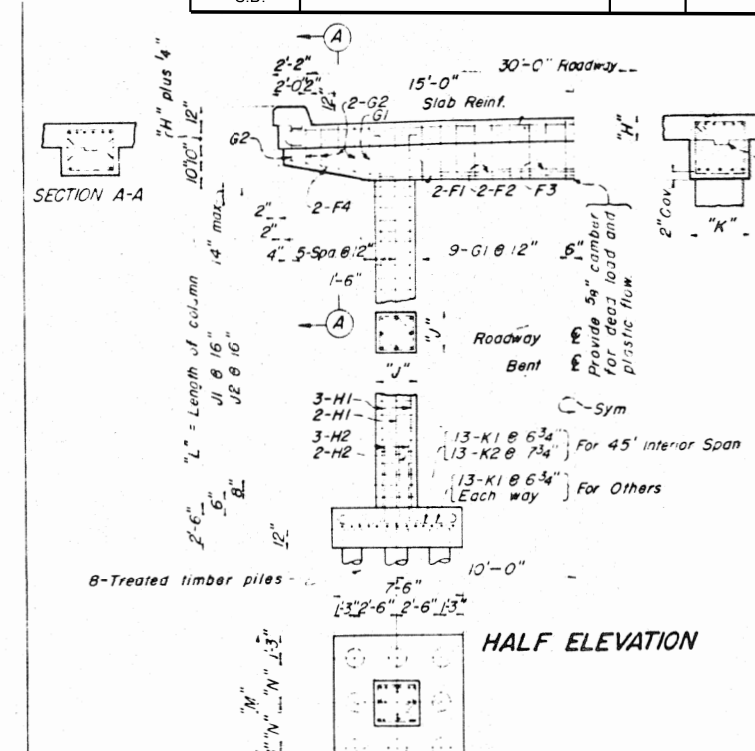
DETAILS OF INTERIOR BENTS FOR  
20'-0", 22'-6" & 25'-0" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR  
27'-6", 30'-0" & 32'-6" INTERIOR SPANS

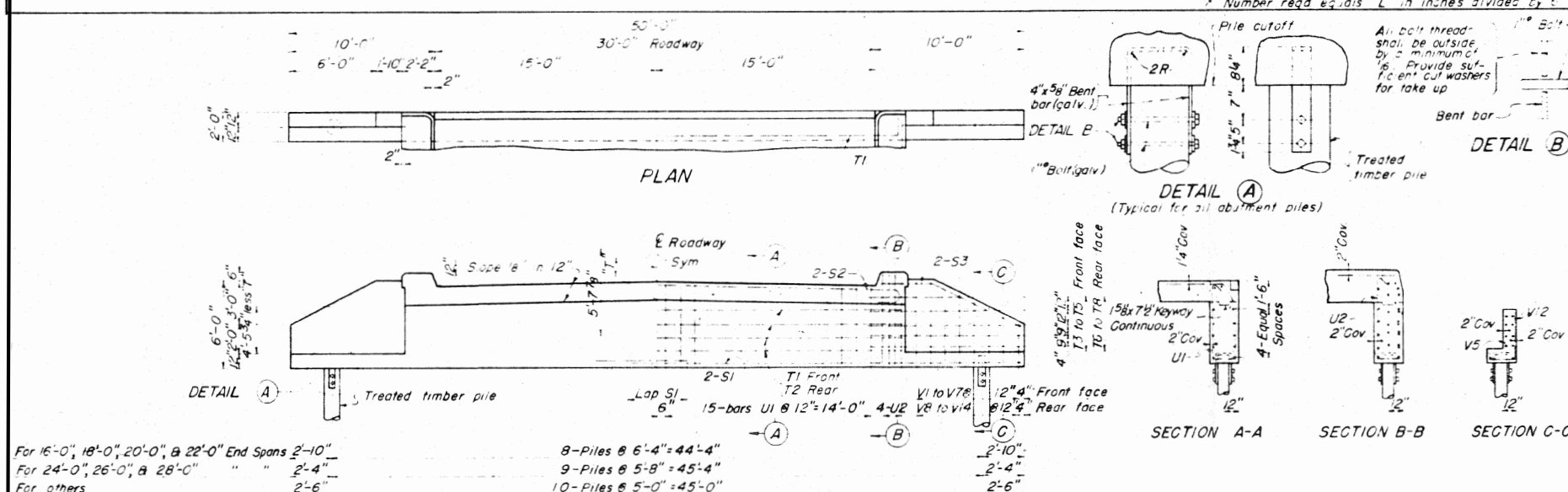


DETAILS OF INTERIOR BENTS FOR  
35'-0" & 37'-6" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR  
40'-0", 42'-6", & 45'-0" INTERIOR SPANS

DATA FOR ONE INTERIOR BENT

[illegible]

FRONT ELEVATION  
DETAILS OF ABUTMENT

| STEEL JOIST SPECIFICATIONS |       |            |      |        |               |
|----------------------------|-------|------------|------|--------|---------------|
| (For two obstructions)     |       |            |      |        |               |
| No.                        | Size  | Length     | Mark | Type   | A             |
| BAR BENDS                  |       |            |      |        |               |
| 8                          | 1"    | 26'-6"     | S1   | Str    | 3'-8 1/4" 22" |
| 4                          | 1"    | 35'-9"     | S2   | 1      |               |
| 4                          | 1"    | 10'-0"     | S3   | 16     |               |
| 8                          | 5/8   | 36'-9"     | T1   | 2      |               |
| 8                          | 5/8   | 74'-0"     | T2   | Str    |               |
| 12                         | 2     | 9'-3"      | T3   | 1      |               |
| 4                          | 1/2   | 7'-9"      | T4   |        |               |
| 4                          | 1/2   | 5'-9"      | T5   |        |               |
| 12                         | 5/8   | 10'-0"     | T6   |        |               |
| 4                          | 5/8   | 8'-0"      | T7   |        |               |
| 4                          | 5/8   | 7'-0"      | T8   | Str    |               |
| 60                         | 3/8   | 18'-0"     | U1   | 17     |               |
| 16                         | 3/8   | 18'-6"     | U2   | 18     |               |
| 8                          | 1/2   | 4'-10 1/2" | V1   | Str    |               |
| 4                          | 1     | 4'-6"      | V2   |        |               |
| 4                          | 1     | 4'-0"      | V3   |        |               |
| 4                          | 1     | 3'-6"      | V4   |        |               |
| 4                          | 1     | 3'-0"      | V5   |        |               |
| 4                          | 1     | 2'-6"      | V6   |        |               |
| 4                          | 1     | 2'-0"      | V7   | Str    |               |
| 8                          | 8'-0" | V8         | 19   | 5'-8"  |               |
| 4                          | 7'-9" | V9         |      | 5'-5"  |               |
| 4                          | 7'-3" | V10        |      | 4'-11" |               |
| 4                          | 6'-9" | V11        |      | 4'-5"  |               |
| 4                          | 6'-3" | V12        |      | 3'-11" |               |
| 4                          | 5'-9" | V13        |      | 3'-5"  |               |
| 4                          | 5'-3" | V14        |      | 3'-1"  |               |

## ORIGINAL CONSTRUCTION PLANS

STR. NO. 12-300-211

DETAILS OF STANDARD SUBSTRUCTURE FOR

**3, 4, OR 5-SPAN CONTINUOUS**

**CONCRETE SLAB BRIDGES**

WITH

INTERIOR FRAMED BENTS ON PILES

30'-0" ROADWAY 54'-0" TO 209'-0" OVERALL LENGTH

SOUTH DAKOTA

STATE HIGHWAY COMMISSION

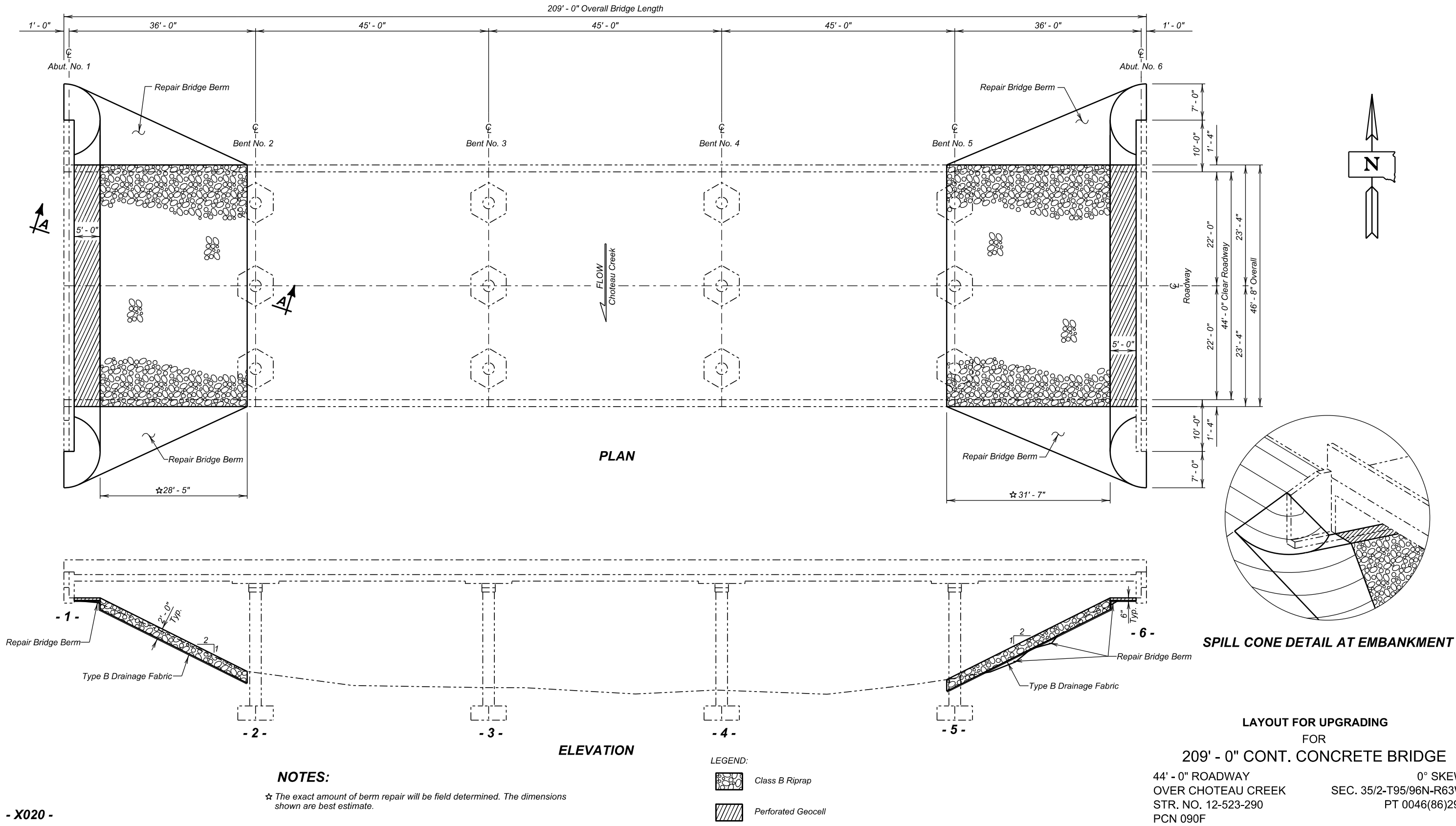
1948

(7) OF (7)

|                       |                  |                         |                    |
|-----------------------|------------------|-------------------------|--------------------|
| DESIGNED BY<br>H.O.T. | DRAWN BY<br>H.T. | CHECKED BY<br>J.L. A. 2 | APPROVED<br>J.P. 2 |
|-----------------------|------------------|-------------------------|--------------------|



| STATE<br>OF<br>S.D. | PROJECT                                                                               | SHEET<br>NO. | TOTAL<br>SHEETS |
|---------------------|---------------------------------------------------------------------------------------|--------------|-----------------|
|                     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 41           | 51              |



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

Revised 08/27/2026 T.J.M.

ESTIMATE OF STRUCTURE QUANTITIES

| ITEM NO. | DESCRIPTION              | QUANTITY | UNIT |
|----------|--------------------------|----------|------|
| 120E3120 | Bridge Berm Repair       | 2        | Each |
| 120E7000 | Select Granular Backfill | 16.3     | Ton  |
| 700E0210 | Class B Riprap           | 324.6    | Ton  |
| 734E0090 | Perforated Geocell       | 467      | SqFt |
| 831E0110 | Type B Drainage Fabric   | 410      | SqYd |

SPECIFICATIONS

Construction Specifications: Standard Specifications for Roads and Bridges, 10-7-26 Version; Required Provisions; and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at <https://dot.sd.gov/doing-business/contractors/standard-specifications>.

SCOPE OF BRIDGE WORK & SEQUENCE OF OPERATIONS

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

- Repair Bridge Berm and inslopes at the abutments.
- Place Type B drainage fabric and Class B Riprap.
- Place Perforated Geocell filled with Select Granular Backfill on the berm top.

BRIDGE BERM REPAIR

- The bridge berms have material loss and will need rebuilt and shaped to their original template with Class B Riprap incorporated into the berm slope.
- Reconstruct the berms to at least 1-foot above the bottom of the abutment backwall. The berm slope will be benched into stable embankment during reshaping and reconstruction. The soil will be placed in horizontal lifts perpendicular to the centerline of the abutment.
- Shape the fill in front of the wing walls to divert runoff from the inslopes away from the face of the berm slope. Reshape the inslopes near the wing walls to approximately 20 feet out from the bridge.
- At the upper part of the berm slope, clearance between the structure and berm will prohibit the use of large compaction equipment. The soil in this area will be compacted using hand operated compaction equipment. Berm material will be placed in reduced lift thicknesses with adequate moisture to obtain density requirements.

- Soil used to reconstruct the berm slope will be furnished by the Contractor and approved by the Engineer. The soil will have 100% passing the 1 ½ inch sieve, a maximum of 70% passing the #4 sieve, have a maximum Liquid Limit (LL) of 45 and a Plastic Index (PI) greater than 10 but less than 25. The Contractor will be responsible for one gradation, LL and PI test for each borrow source for berm reconstruction. The test results will be supplied to the Engineer in writing.
- Compaction of the reconstructed berm, spill cone, and inslopes will be governed by the Ordinary Compaction Method.
- Quantities provided are an estimate for this work. It is the responsibility of the Contractor to visit the site prior to starting construction to determine quantities needed.
- The cost of the berm reconstruction will be incidental to the contract unit price per each for Bridge Berm Repair. This payment will be full compensation for furnishing all materials, labor, tools, and equipment necessary or incidental to the reconstruction of the bridge berm.

RIPRAP

- The cross section shown in this plan set is provided as a guide for riprap placement and are based on the existing ground locations at the time of inspection. The location of the toe of the riprap may vary to suit local site conditions provided the following items are adhered to:
  - The opening provided under the structure for water flow is not reduced from what is shown on the cross section.
  - Any changes in the riprap configuration are approved by the Engineer.
- Prior to placement of the drainage fabric, the surface to be covered will be smooth, free of obstructions, and conform to the plan configuration.
- All material excavated to allow for riprap placement will be disposed of by the Contractor.
- A factor of 1.4 tons/CuYd was used to convert the riprap quantity from CuYd to Tons.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES  
FOR  
209' - 0" CONT. CONCRETE BRIDGE

STR. NO. 12-523-290  
APRIL 2026

2 OF 6



| STATE<br>OF | PROJECT                                                                               | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------------|---------------------------------------------------------------------------------------|--------------|-----------------|
|             | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 43           | 51              |



SECTION A - A

LEGEND:



Class B Riprap



Perforated Geocell

ESTIMATED QUANTITIES

(For Both Abutments)

| ITEM                     | UNIT | QUANTITY |
|--------------------------|------|----------|
| Bridge Berm Repair       | Each | 2        |
| Select Granular Backfill | Ton  | 16.3     |
| Class B Riprap           | Ton  | 324.6    |
| Type B Drainage Fabric   | SqYd | 410      |
| Perforated Geocell       | SqFt | 467      |

For estimating purposes only, a factor of 1.89 Tons/Cu. Yd. was used to convert Cu. Yds. to Tons.

BERM REPAIR

FOR

209' - 0" CONT. CONCRETE BRIDGE

44' - 0" ROADWAY

0° SKEW

OVER CHOTEAU CREEK

SEC. 35/2-T96N-R63W

STR. NO. 12-523-290

PT 0046(86)290

CHARLES MIX COUNTY

S. D. DEPT. OF TRANSPORTATION

APRIL 2026

3 OF 6

|                                |                                |                   |                                     |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|
| DESIGNED BY<br>TJM<br>CMIX090F | CK. DES. BY<br>CMM<br>090FMD01 | DRAFTED BY<br>TJM | Steve A. Johnson<br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|

Edge of riprap and protected berm top will need to tie into existing ground. Reshape the edges and spill cone; provide, move, or remove material as needed to create smooth transitions.

Minimal additional material anticipated based on current condition of channel.

Material will be required to shape slope based on current channel condition.

Place Type B Drainage Fabric and  
Class B Riprap

Depending on river elevations at  
time of construction, water may need  
to be diverted to accomplish the work

Repair Bridge Berm

Repair Bridge Berm

Place Perforated Geocell with  
Select Granular Backfill on Berm Top

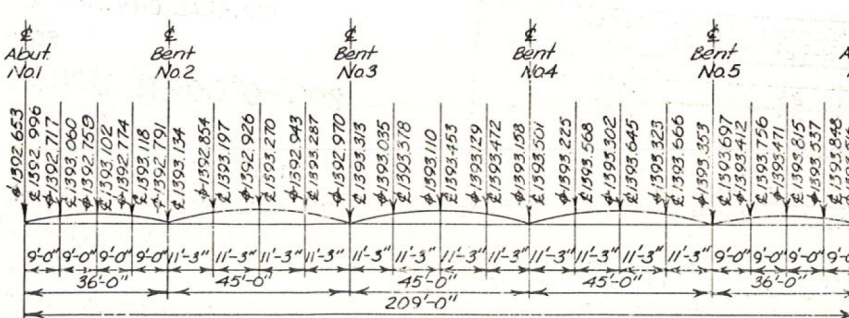
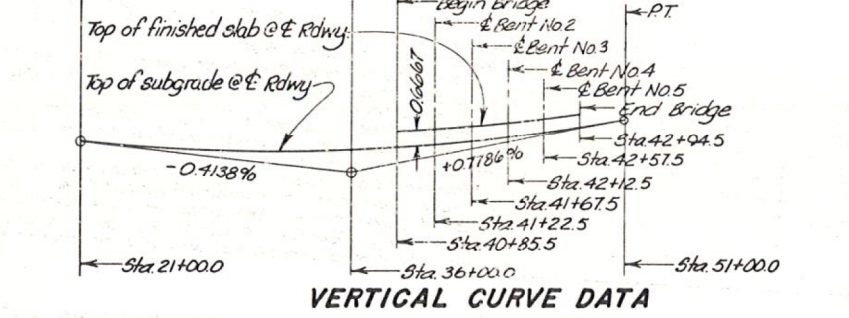
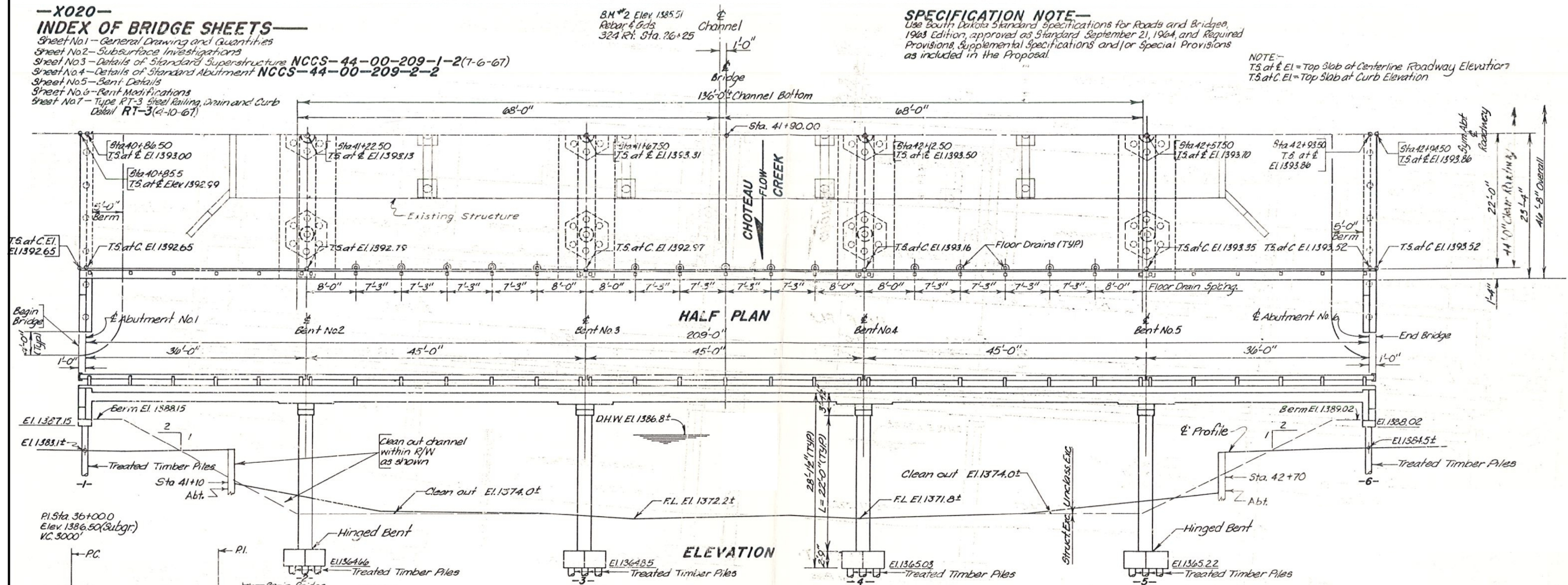


**-X020-**  
**INDEX OF BRIDGE SHEETS**  
Sheet No.1—General Drawing and Quantities  
Sheet No.2—Subsurface Investigations  
Sheet No.3—Details of Standard Superstructure  
Sheet No.4—Details of Standard Abutment  
Sheet No.5—Bent Details  
Sheet No.6—Ramp Modifications  
Sheet No.7—Type RT-3 Steel Railing, Drain and Curb  
Detail RT-3(2-10-67)

**NCCS-44-00-209-1-2(7-6-67)**  
**NCCS-44-00-209-2-2**

**SPECIFICATION NOTE—**  
Use South Dakota Standard Specifications for Roads and Bridges, 1963 Edition, approved as Standard September 21, 1964, and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

**NOTE—**  
T.S. at E.I. = Top Slab at Centerline Roadway Elevation  
T.S. at C.E.I. = Top Slab at Curb Elevation



Elevations indicated with \* are top of finished slab at curb and with E are top of finished slab at centerline of roadway. Camber for Dead Load Deflection PLUS Plastic Flow, shown on Sheet No.3 of Bridge Plans, have been included in the elevations shown above.

| ESTIMATED QUANTITIES    |        |      |       |       |      |       |       |       |     |
|-------------------------|--------|------|-------|-------|------|-------|-------|-------|-----|
| ITEM                    | QTY    | UNIT | PRICE | TOTAL | QTY  | UNIT  | PRICE | TOTAL | QTY |
| 1. Concrete Slab        | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 2. Steel Reinforcing    | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 3. Treated Timber Piles | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 4. Excavation           | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 5. Bridge Structure     | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 6. Abutment             | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 7. Bent                 | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 8. Floor Drains         | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 9. Floor Drain Spacing  | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |
| 10. Floor Drain Spacing | 10,800 | cfs  |       |       | 2120 | sq ft |       |       | 51  |

One Treated Timber Test pile shall be driven at Abutments No.1 and No.6 and at Bents No.2, No.3, No.4 and No.5 before remaining piles are ordered.  
See Grading Plans for Unclassified Excavation.  
\*INCIDENTAL WORK:— In place on E. Sta. 41+0 to Sta. 42+70 is a 6-Span 140'x18' Roadway E-Beam Bridge with a Flex-Beam railing on steel rail posts. The floor is concrete slab with bituminous overlay and the outside I-Beams are encased in concrete. The substructure is concrete abutment and bents on steel piling. Dismantle and remove the flex-beam rail and steel rail posts and salvage. Break down and remove the concrete and bituminous floor, break down and remove the concrete off concrete encased I-Beams, dismantle the I-Beam stringers and salvage. The I-Beam stringers, flex-beam railing and steel posts and other salvaged materials shall be placed neatly within the right-of-way as directed by the ENGINEER to be picked up by State forces for future maintenance work. Care shall be taken not to injure the structural properties of the I-Beam stringers, railing posts, flex-beam rail, and other salvaged materials during the dismantling or storage operations. The concrete bents and abutments shall be broken down and removed to 1' below finished ground line or as directed by the ENGINEER. Satisfactory broken concrete shall be used for slope protection on the up stream side of the new embankments at abutments No.1 and No.6 and all other broken concrete and materials shall be disposed of as directed by the ENGINEER.

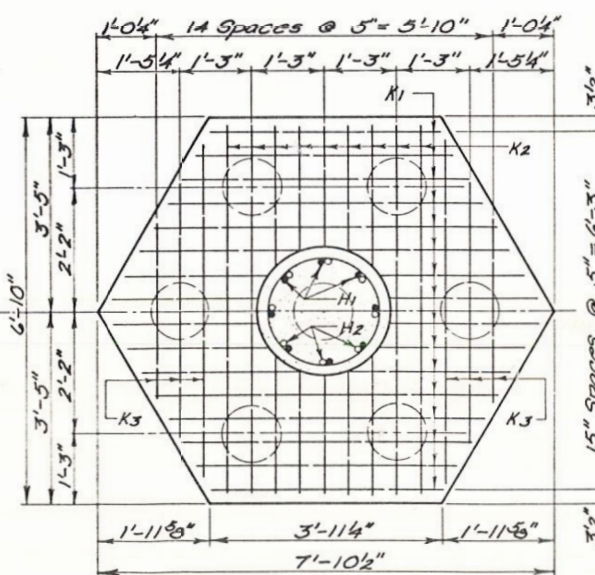
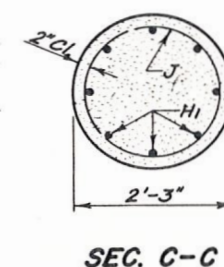
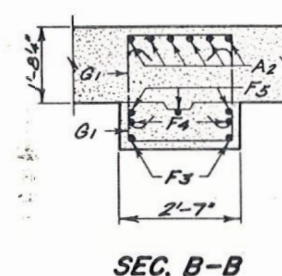
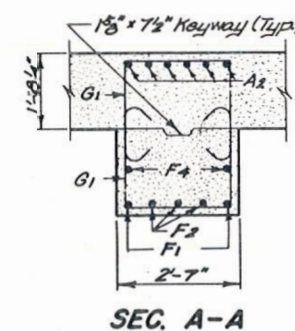
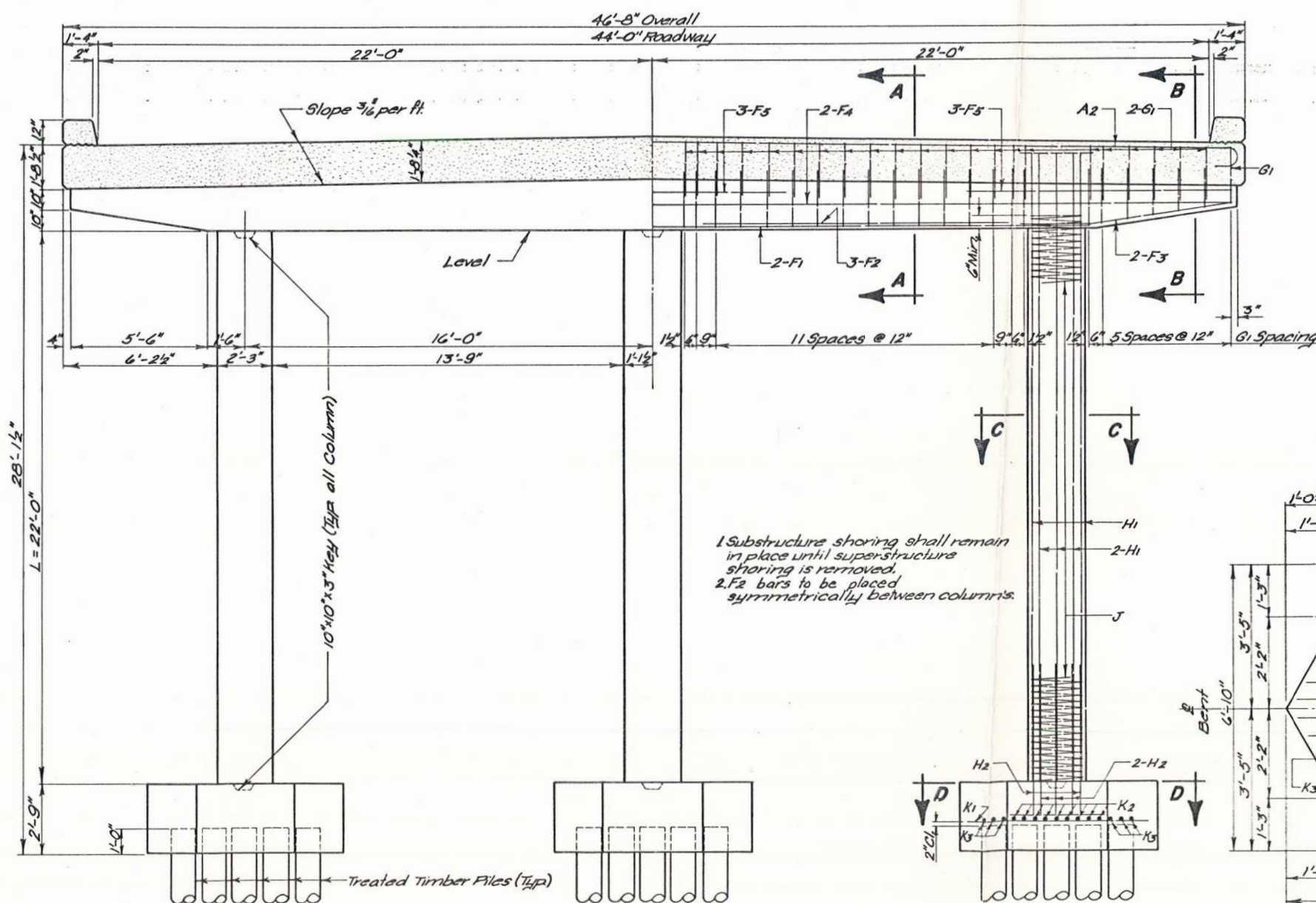
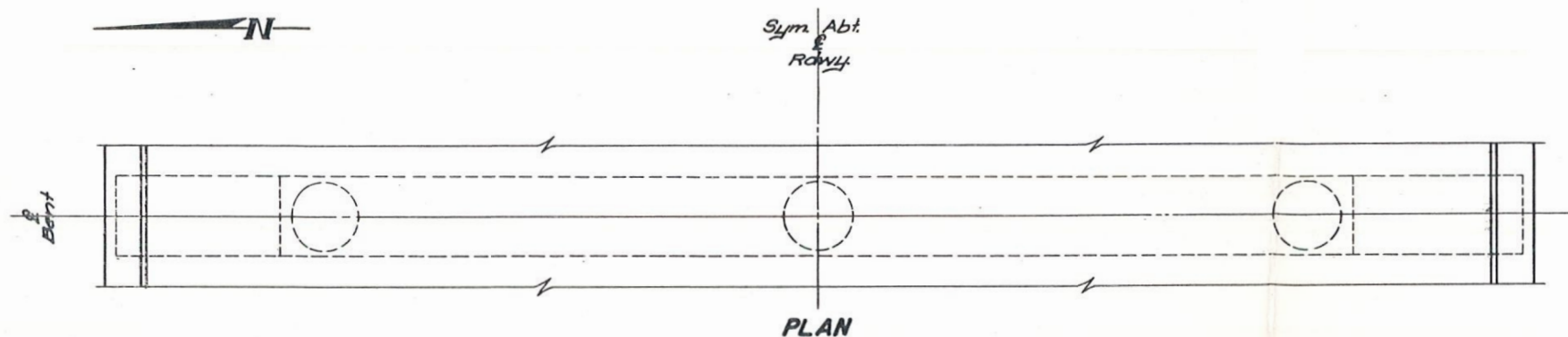
**GENERAL NOTES—**  
1. Design Specifications: AASHTO Specifications for Highway Bridges, 1965.  
2. See NOTES on Sheets No.1 thru No.6.  
3. Place floor drains as shown in Plan (30 Required).  
4. Longitudinal elements of the slab shall conform to the vertical curve.  
5. Rail posts shall be built vertical.  
6. The contractor shall have sufficient pile splice material on hand before pile driving is started. See Standard Plate No.303.1 as included in Special Provisions for Piling dated Nov.19,1966.  
7. See Standard Plate No.301 for details of pile shoes.  
8. Furnish and install Inserts and Eyebolts as shown on Standard Plate No.305 except that bolts shall be 3/4".  
9. The Structure Contractor will be required to construct a special detour and keep project open to traffic in accordance to Special Provision for General Requirements. Detour to be constructed and maintained in accordance with Standard Plate No.910, amended to require 26 ft. wide roadway, 24 ft. wide structure and 3:1 or flatter slopes.

**ORIGINAL CONSTRUCTION PLANS**  
**GENERAL DRAWING AND QUANTITIES**  
**FOR**  
**209'-0" CONTINUOUS CONCRETE BRIDGE**  
**44'-0" ROADWAY**  
**OVER CHOTEAU CREEK SEC.35/2 T96/95N R63W**  
**STA.40+85.50 TO 42+94.50 FO12-1(5)**  
**CHARLES MIX COUNTY**  
**SOUTH DAKOTA HS 20-44**  
**DEPARTMENT OF HIGHWAYS**  
**STR. NO. 12-523-290 DEC.1967**  
**-X020-**  
DESIGNED BY: RLB DRAWN BY: GA CHECKED BY: GA APPROVED: [Signature]  
BRIDGE ENGINEER









| Mk. | No. | Size | Length | Type   | Bending Details |
|-----|-----|------|--------|--------|-----------------|
| A2  | 6   | 10   | 48'-3" | 1      |                 |
| F1  | 2   | 9    | 34'-6" | Str.   |                 |
| F2  | 6   | 9    | 12'-0" | Str.   |                 |
| F3  | 4   | 4    | 8'-3"  | 19A    |                 |
| F4  | 2   | 4    | 45'-6" | Str.   |                 |
| F5  | 9   | 6    | 10'-6" | Str.   |                 |
| G1  | 90  | 4    | 7'-6"  | S3     |                 |
| H1  | 24  | 8    | 26'-3" | 2A     |                 |
| H2  | 24  | 8    | 7'-0"  | 2A     |                 |
| J   | 3   | 5    | 56'-9" | Spiral |                 |
| K1  | 24  | 8    | 10'-9" | Str.   |                 |
| K2  | 27  | 8    | 6'-6"  | Str.   |                 |
| K3  | 9   | 8    | 7'-6"  | Str.   |                 |
|     |     |      |        |        |                 |

NOTE: All dimensions are out to out of bars.

| ITEM                                | Unit   | Quantity |
|-------------------------------------|--------|----------|
| Class A Concrete                    | Cu Yds | 29.7     |
| Reinforcing Steel                   | Lbs    | 29.7     |
| Structural Excavation 1/4' of Depth | Cu Yds | 4.3      |
| Isolated Trenches                   | No.    | 21       |

A Includes 154 Lbs. for Vertical Spacer Bars. Each spacer bar is computed at 34 Lbs. per Lin. Ft. regardless of type furnished. 3 Spacer bar per column required.

- GENERAL NOTES—**
- All exposed edges shall be chamfered 1" except as shown.
  - Use 2" clear cover on all reinforcing except as shown.
  - See NOTES on sheets No. 1, 3 and 6.
  - Refer to sheet No. 6 of 7 for modifications for Bents No. 2 and No. 5.
  - The contractor may increase the column diameter from 2'-3" to 2'-4" with the provision that the diameter of the spiral reinforcing remain as shown and that the concrete quantity be based on the 2'-3" diameter.

**ORIGINAL CONSTRUCTION PLANS**

**BENT DETAILS**

**FOR**

**209'-0" CONTINUOUS CONCRETE BRIDGE**

**44'-0" ROADWAY**

**OVER CHOTEAU CREEK SEC. 35/2-T96/95N-R63W**

**STA. 40+85.5 TO 42+94.5 F012-1 (5)**

**CHARLES MIX COUNTY**

**SOUTH DAKOTA HS20-44**

**DEPARTMENT OF HIGHWAYS**

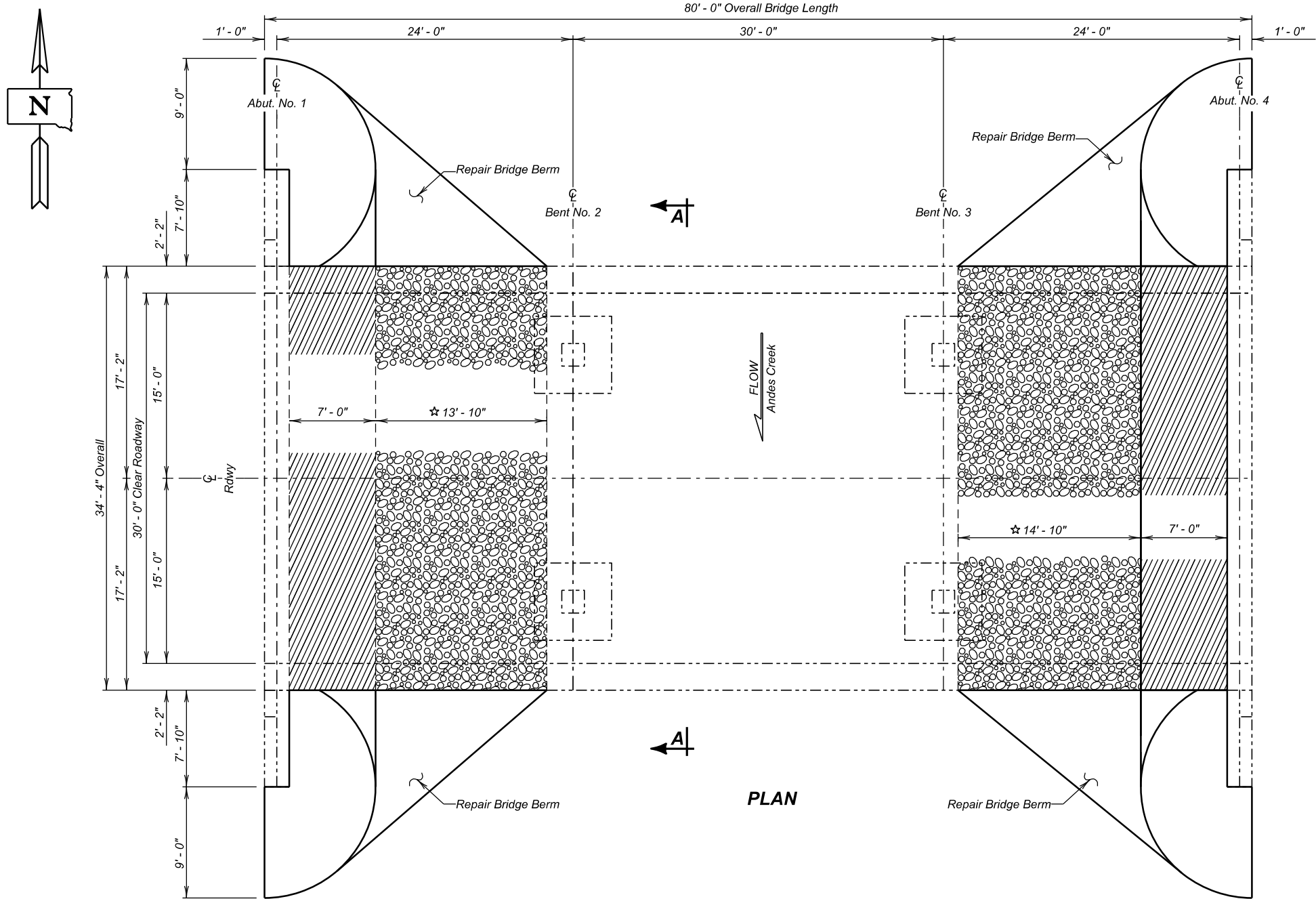
**STR. NO. 12-523-290 JAN. 1968**

**DESIGNED BY** **DRAWN BY** **CHECKED BY** **APPROVED**

**BRIDGE ENGINEER**

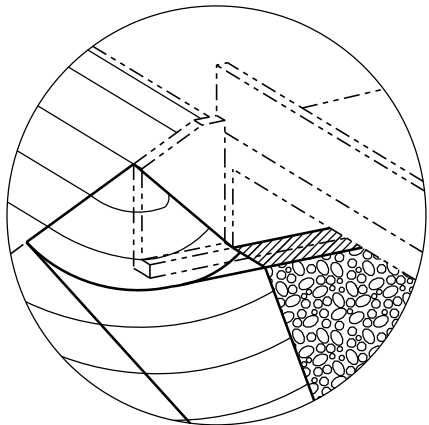


| STATE<br>OF | PROJECT                                                                               | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------------|---------------------------------------------------------------------------------------|--------------|-----------------|
|             |                                                                                       |              |                 |
| S.D.        | NH 0018(251)360, P 0044(242)355, PT 0050(142)303,<br>PT 0046(86)290 & PT 0044(241)327 | 47           | 51              |



**NOTES:**

☆ The exact amount of berm repair will be field determined. The dimensions shown are best estimate.



**SPILL CONE DETAIL AT EMBANKMENT**

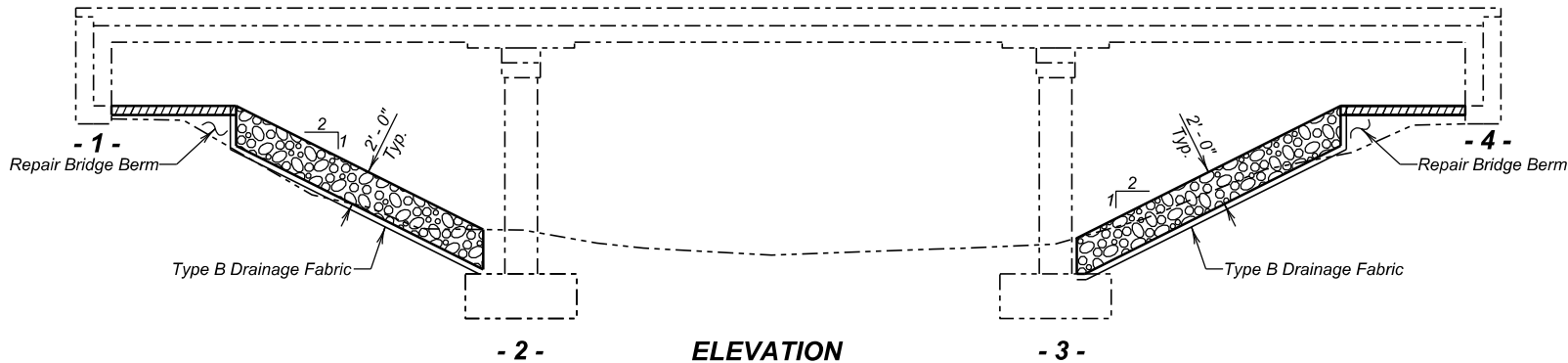
**LEGEND:**

- Class B Riprap
- Perforated Geocell

- X020 -

**INDEX OF BRIDGE SHEETS -**

Sheet No. 1 - Layout for Upgrading  
Sheet No. 2 - Estimate of Structure Quantities and Notes  
Sheet No. 3 - Berm Repair  
Sheet No. 4 thru 5 - Original Construction Plans



**LAYOUT FOR UPGRADING  
FOR**

**80' - 0" CONT. CONCRETE BRIDGE**

30' - 0" ROADWAY 0° SKEW  
OVER ANDES CREEK SEC. 16/21-T99N-R64W  
STR. NO. 22-145-080 PT 0044(241)327  
PCN 090G

DOUGLAS COUNTY  
S. D. DEPT. OF TRANSPORTATION

- X020 -

APRIL 2026

1 OF 5

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

|                                |                                |                   |                                     |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|
| DESIGNED BY<br>CMM<br>DOUG090G | CK. DES. BY<br>TJM<br>090GME01 | DRAFTED BY<br>CMM | Steve A. Johnson<br>BRIDGE ENGINEER |
|--------------------------------|--------------------------------|-------------------|-------------------------------------|

ESTIMATE OF STRUCTURE QUANTITIES

| ITEM NO. | DESCRIPTION              | QUANTITY | UNIT |
|----------|--------------------------|----------|------|
| 120E3120 | Bridge Berm Repair       | 2        | Each |
| 120E7000 | Select Granular Backfill | 16.8     | Ton  |
| 700E0210 | Class B Riprap           | 113.3    | Ton  |
| 734E0090 | Perforated Geocell       | 481      | SqFt |
| 831E0110 | Type B Drainage Fabric   | 175      | SqYd |

SPECIFICATIONS

Construction Specifications: Standard Specifications for Roads and Bridges, 10-7-26 Version; Required Provisions; and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at <https://dot.sd.gov/doing-business/contractors/standard-specifications>.

SCOPE OF BRIDGE WORK & SEQUENCE OF OPERATIONS

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

- Repair Bridge Berm and inslopes at the abutments.
- Place Type B drainage fabric and Class B Riprap.
- Place Perforated Geocell filled with Select Granular Backfill on the berm top.

BRIDGE BERM REPAIR

- The bridge berms have material loss due to a flood and will need rebuilt and shaped to their original template with Class B Riprap incorporated into the berm slope.
- Reconstruct the berms to at least 1-foot above the bottom of the abutment backwall. The berm slope will be benched into stable embankment during reshaping and reconstruction. The soil will be placed in horizontal lifts perpendicular to the centerline of the abutment.
- Shape the fill in front of the wing walls to divert runoff from the inslopes away from the face of the berm slope. Reshape the inslopes near the wing walls to approximately 20 feet out from the bridge.
- At the upper part of the berm slope, clearance between the structure and berm will prohibit the use of large compaction equipment. The soil in this area will be compacted using hand operated compaction equipment. Berm material will be placed in reduced lift thicknesses with adequate moisture to obtain density requirements.

- Soil used to reconstruct the berm slope will be furnished by the Contractor and approved by the Engineer. The soil will have 100% passing the 1 ½ inch sieve, a maximum of 70% passing the #4 sieve, have a maximum Liquid Limit (LL) of 45 and a Plastic Index (PI) greater than 10 but less than 25. The Contractor will be responsible for one gradation, LL and PI test for each borrow source for berm reconstruction. The test results will be supplied to the Engineer in writing.
- Compaction of the reconstructed berm, spill cones, and inslopes will be governed by the Ordinary Compaction Method.
- Quantities provided are an estimate for this work. It is the responsibility of the Contractor to visit the site prior to starting construction to determine quantities needed.
- The cost of the berm reconstruction will be incidental to the contract unit price per each for Bridge Berm Repair. This payment will be full compensation for furnishing all materials, labor, tools, and equipment necessary or incidental to the reconstruction of the bridge berm.

RIPRAP

- The cross section shown in this plan set is provided as a guide for riprap placement and are based on the existing ground locations at the time of inspection. The location of the toe of the riprap may vary to suit local site conditions provided the following items are adhered to:
  - The opening provided under the structure for water flow is not reduced from what is shown on the cross section.
  - Any changes in the riprap configuration are approved by the Engineer.
- Prior to placement of the drainage fabric, the surface to be covered will be smooth, free of obstructions, and conform to the plan configuration.
- All material excavated to allow for riprap placement will be disposed of by the Contractor.
- A factor of 1.4 tons/CuYd was used to convert the riprap quantity from CuYd to Tons.

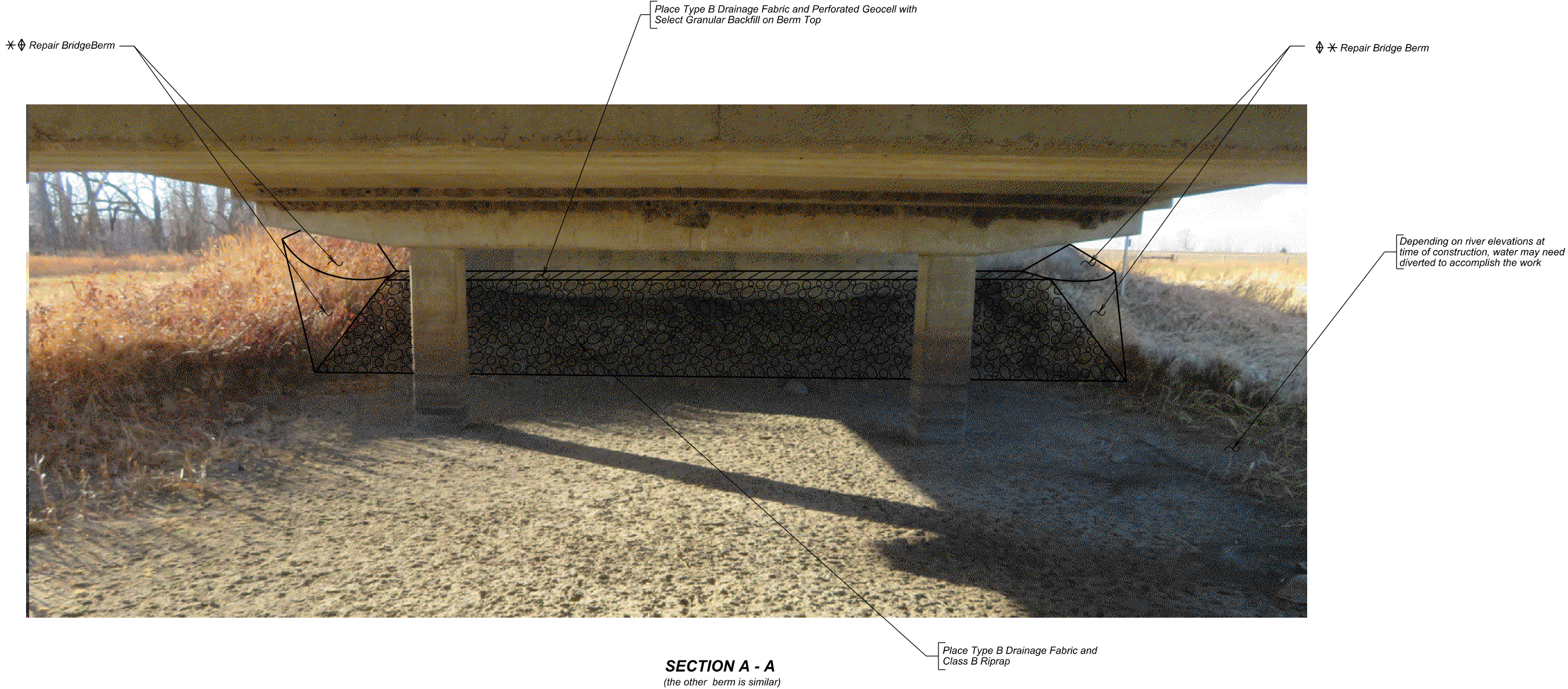
ESTIMATE OF STRUCTURE QUANTITIES AND NOTES  
FOR  
80' - 0" CONT. CONCRETE BRIDGE

STR. NO. 22-145-080

APRIL 2026

2 OF 5





LEGEND:



Class B Riprap



Perforated Geocell

✱ Edge of riprap and protected berm top will need to tie into existing ground. Reshape the edges and spill cone; provide, move, or remove material as needed to create smooth transitions.

⬠ Minimal additional material anticipated based on current condition of channel.

| ESTIMATED QUANTITIES       |      |          |
|----------------------------|------|----------|
| (For Both Abutments)       |      |          |
| ITEM                       | UNIT | QUANTITY |
| Bridge Berm Repair         | Each | 2        |
| ✱ Select Granular Backfill | Ton  | 16.8     |
| ⊗ Class B Riprap           | Ton  | 113.3    |
| Type B Drainage Fabric     | SqYd | 175      |
| Perforated Geocell         | SqFt | 481      |

⊗ For estimating purposes only, a factor of 1.89 Tons/Cu. Yd. was used to convert Cu. Yds. to Tons.

**BERM REPAIR**  
FOR  
**80' - 0" CONT. CONCRETE BRIDGE**  
30' - 0" ROADWAY 0° SKEW  
OVER ANDES CREEK SEC. 16/21-T99N-R64W  
STR. NO. 22-145-080 PT 0044(241)327

DOUGLAS COUNTY  
S. D. DEPT. OF TRANSPORTATION

APRIL 2026

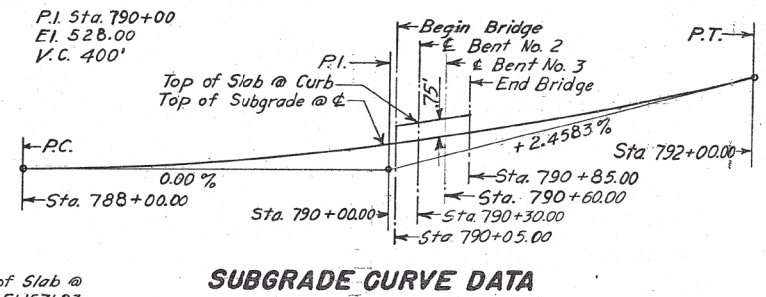
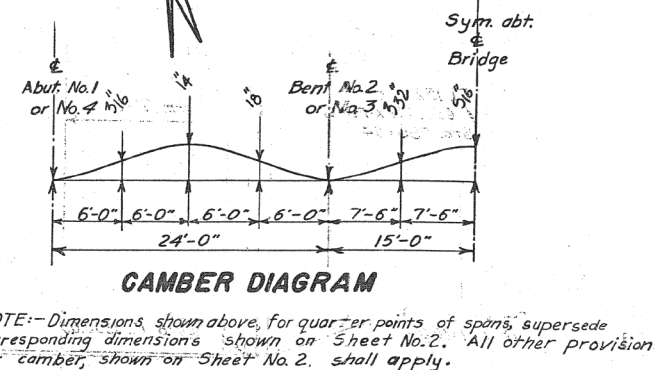
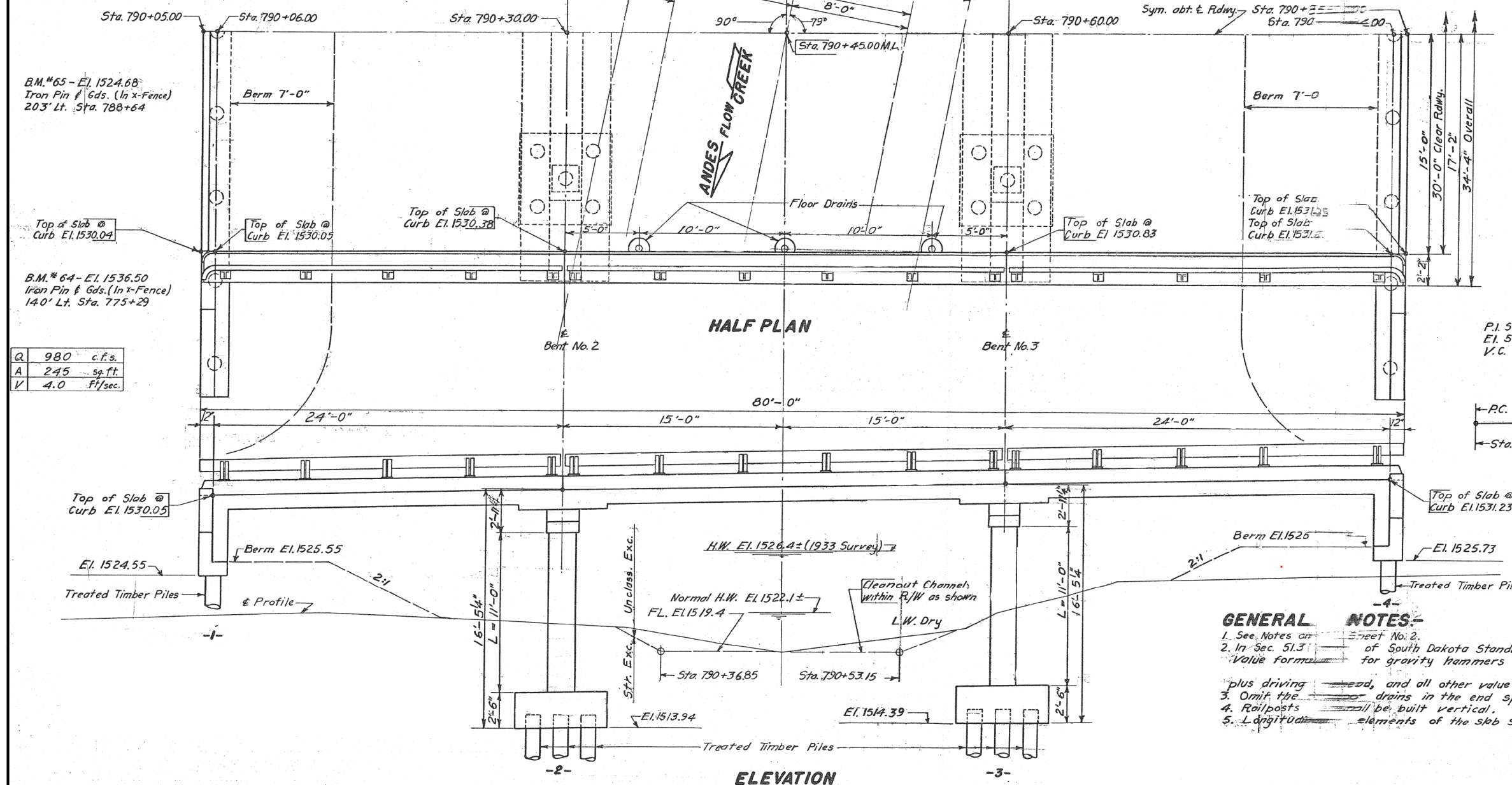
3 OF 5



# INDEX OF BRIDGE SHEETS:-

Sheet No. 1 - General Drawing and Quantities  
 Sheet No. 2 - Details of Std. Superstructure FBOP-CS-30-00-119-1-3  
 Sheet No. 3 - Details of Std. Substructure FBOP-CS-30-00-209-2-3  
 Sheet No. 4 - Details of Std. Type-B Railing CS-RB-00-119-3-3 (12-31-54)

| STATE OF | PROJECT                                                                            | SHEET NO. | TOTAL SHEETS |
|----------|------------------------------------------------------------------------------------|-----------|--------------|
| S.D.     | NH 0018(251)360, P 0044(242)355, PT 0050(142)303, PT 0046(86)290 & PT 0044(241)327 | 50        | 51           |



## GENERAL NOTES:-

- See Notes on Sheet No. 2.
- In Sec. 51.3 of South Dakota Standard Specifications for Roads and Bridges, change the bearing value formula for gravity hammers to  $P = \frac{3WH}{5+0.35W+M}$ ; where M equals the weight of pile plus driving head, and all other values are the same as in the replaced formula.
- Omit the drains in the end spans.
- Railposts shall be built vertical.
- Longitudinal elements of the slab shall conform to the vertical curve.

## ORIGINAL CONSTRUCTION PLANS

### GENERAL DRAWING AND QUANTITIES

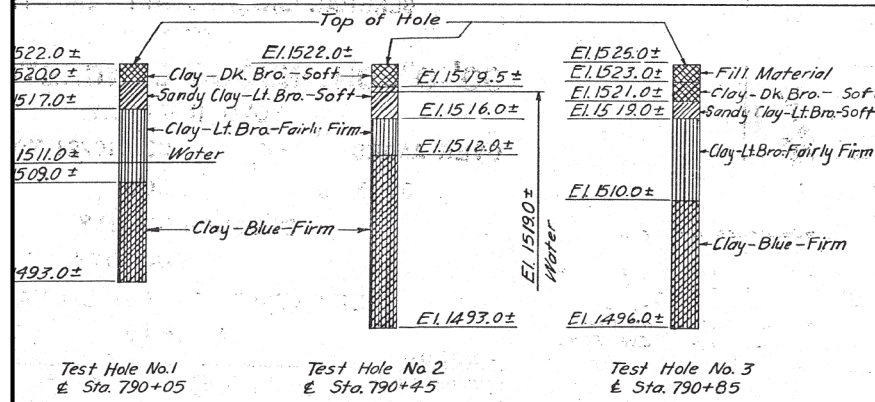
FOR  
**80'-0" CONTINUOUS CONCRETE BRIDGE**  
 30'-0" ROADWAY  
 OVER ANDES CREEK SEC. 16/21-T99N-R64W  
 STA. 790+05.00 TO 790+85.00 S1971(1)  
 STR. NO. 22-145-080 DOUGLAS COUNTY  
 SOUTH DAKOTA H20-44

### DEPARTMENT OF HIGHWAYS

MAY 1957 4 OF 5

|             |          |            |          |
|-------------|----------|------------|----------|
| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED |
|             |          |            |          |

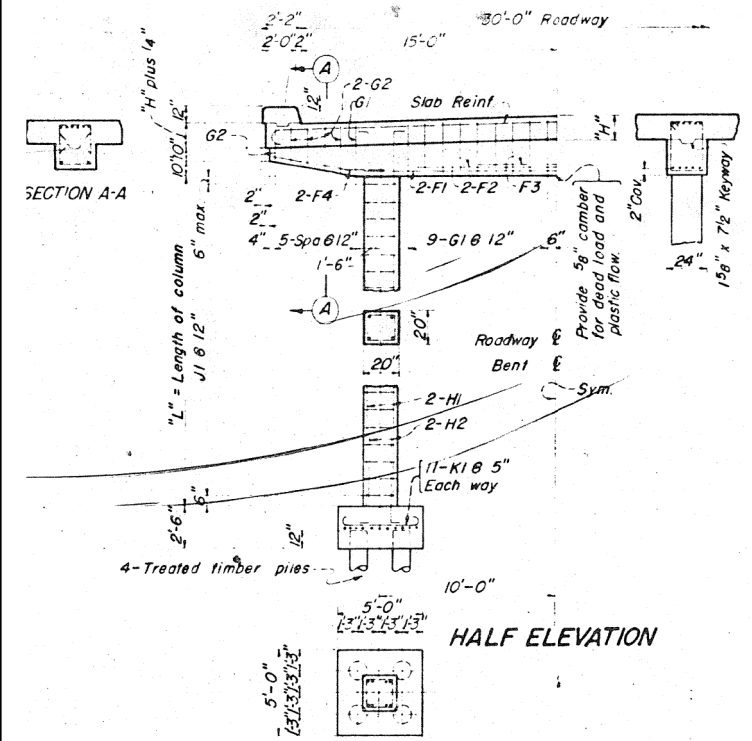
## TEST HOLE DATA



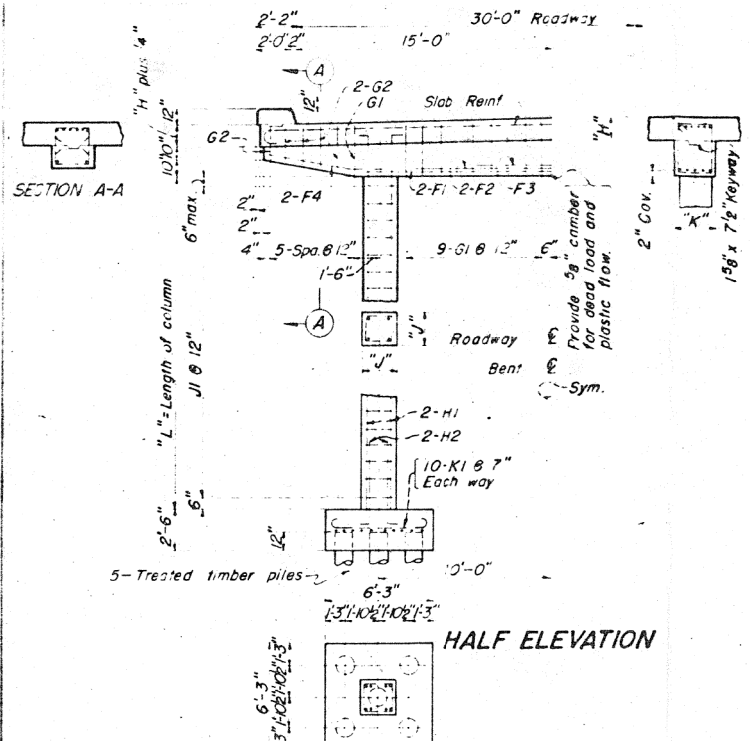
## ESTIMATED QUANTITIES

| ITEM                    | C.Y. Conc. | Sq. Yds. Rein. | Lbs. Struct. | Rolling Lin. Ft. | Treated Timber Piles - Lin. Ft. | Excavation - Cu Yds. Struct. Unclase. |
|-------------------------|------------|----------------|--------------|------------------|---------------------------------|---------------------------------------|
| Superstructure          | 104.0      | 24,915         | 106          | 162.3            | 18 @ 50' = 900                  | 15                                    |
| Abutments No. 1 & No. 4 | 3.6        | 9,650          | 855          |                  | 18 @ 20' = 360                  | 15                                    |
| Bents No. 2 & No. 3     | 2.7        | 3,435          |              |                  |                                 |                                       |
| Totals                  | 109.3      | 34,990         | 960          | 162.3            | 1,260                           | 45                                    |

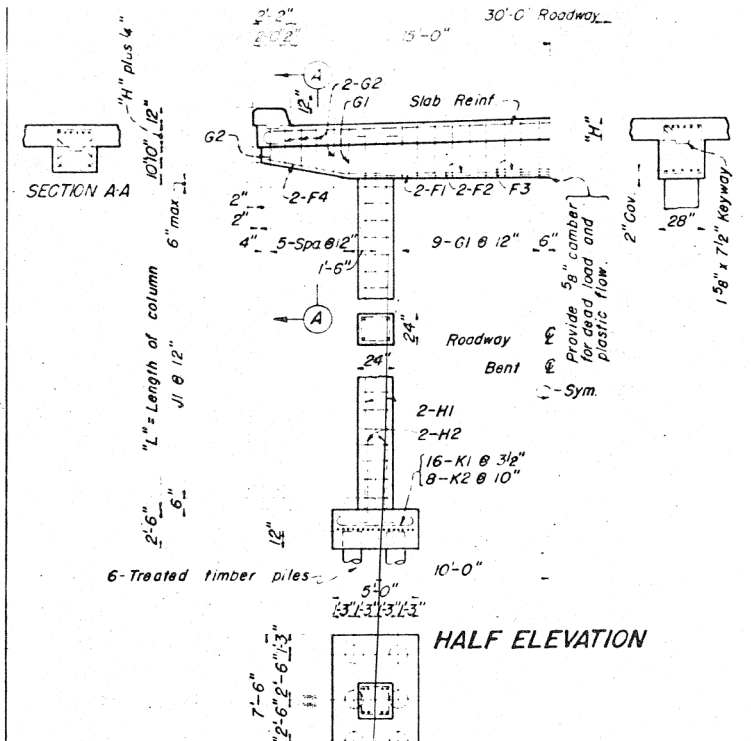
One Treated Timber Test Pile shall be driven at Abutments No. 1 & No. 4 and Bents No. 2 & No. 3, before the remaining piles are ordered.  
 See Grading Plans for Unclassified Excavation.  
 INCIDENTAL WORK:- In place 40'± R.R. Sta. 790+29± 48'x20' Rdwy. I-Beam Bridge. Break-down and remove old concrete superstructure and railing. Core shall be taken not to injure the structural properties of the I-Beam stringers. Break down old concrete substructure to 1'± below finished ground line except at Abut. No. 1 remove as necessary for new construction. Salvaged I-Beams shall be piled neatly within the right-of-way as directed by the ENGINEER. Satisfactory broken concrete shall be used as slope protection on the upstream embankments at Abut. No. 1 & 4. All other broken concrete and materials shall be disposed as directed by the ENGINEER.



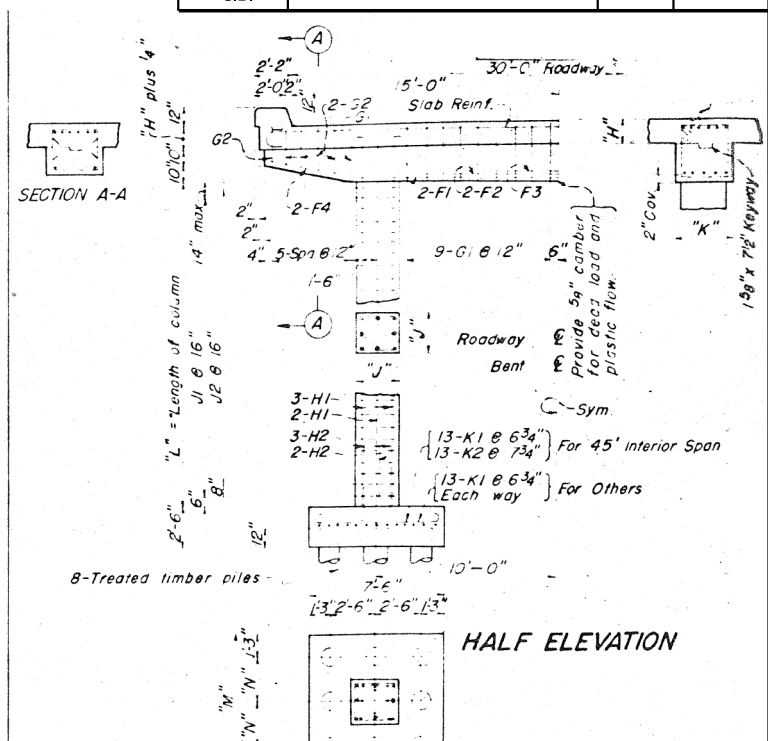
DETAILS OF INTERIOR BENTS FOR 20'-0", 22'-6", & 25'-0" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR 27'-6", 30'-0", & 32'-6" INTERIOR SPANS



DETAILS OF INTERIOR BENTS FOR 35'-0" & 37'-6" INTERIOR SPANS



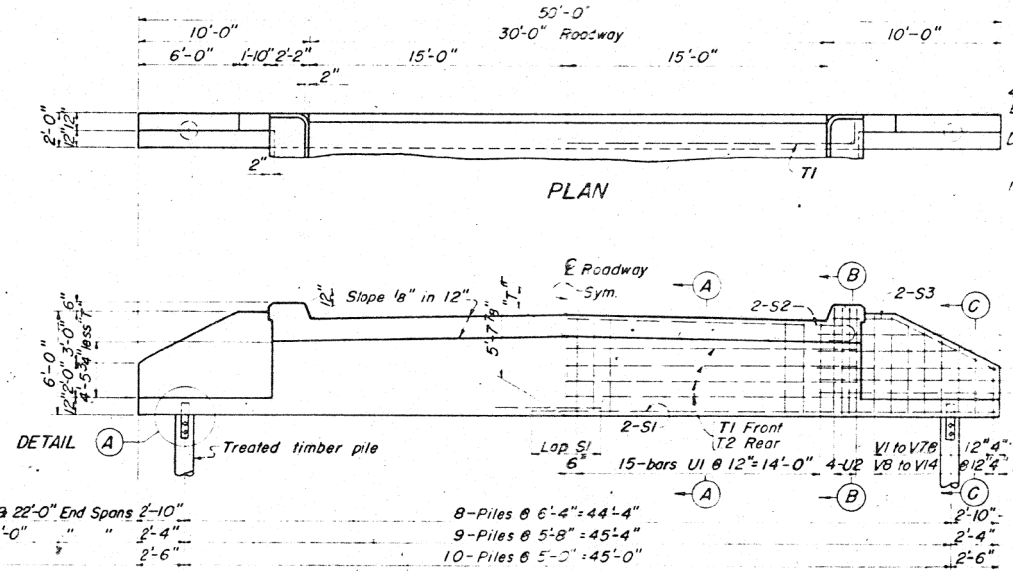
DETAILS OF INTERIOR BENTS FOR 40'-0", 42'-6", & 45'-0" INTERIOR SPANS

DATA FOR ONE INTERIOR BENT

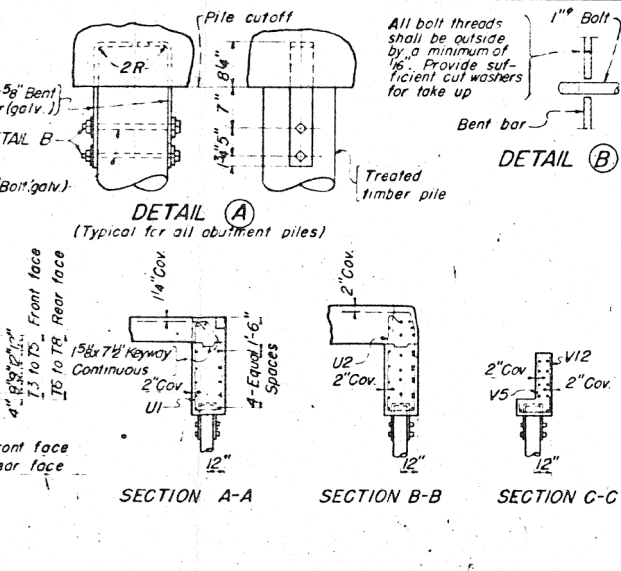
| LENGTH OF INTERIOR SPAN | REINFORCING SCHEDULE |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | DIMENSIONS |      |   |   |     |  | LENGTH OF INTERIOR SPAN | BAR BENDS |
|-------------------------|----------------------|------|--------|-----|------|--------|-----|------|--------|------|-----|-------|--------|------|-----|-------|-----|------|--------|-------|----|-----|-------|------|-----------|-------|-----|-----|-----|-------|--------|------|-------|---|-------|-------|--------|-------|----|----|-----------|-----------|--------|------|-------|---|-------|------|------------|------|---|---|-----|--|-------------------------|-----------|
|                         | F1                   |      | F2     |     | F3   |        | F4  |      | G1     |      | G2  |       | H1     |      | H2  |       | J1  |      | J2     |       | K1 |     | K2    |      | "H"       | "J"   | "K" | "L" | "M" | "N"   |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      |            |      |   |   |     |  |                         |           |
|                         | No.                  | Size | Length | No. | Size | Length | No. | Size | Length | Type | No. | Size  | Length | Type | A   | B     | No. | Size | Length | Type  | A  | B   | No.   | Size |           |       |     |     |     |       | Length | Type | A     | B | No.   | Size  | Length | Type  | A  | B  | No.       | Size      | Length | Type | B     | C | No.   | Size | Length     | Type | B | C |     |  |                         |           |
| 20'                     | 2                    | 1/4  | 22'-0" | 2   | 1/4  | 16'-0" | 1   | 1/4  | 9'-0"  | 4    | 1/2 | 7'-0" | 16     | 20   | 1/2 | 9'-9" | T1  | 7"   | 5"     | 2'-6" | 18 | 1/2 | 6'-3" | S3   | 1'-7 1/2" | 1'-9" | 8   | 1"  | 2   | 2'-2" | 2'-5"  | 8    | 6'-6" | 2 | 1'-2" | 5'-4" | 3/8    | 6'-6" | T1 | 5" | 1'-4 3/4" | 1'-4 3/4" | 44     | 5/8  | 5'-6" | 1 | 4'-4" | 112" |            |      |   |   | 20' |  |                         |           |
| 22'-6"                  |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 22'-6"     |      |   |   |     |  |                         |           |
| 25'                     |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 25'        |      |   |   |     |  |                         |           |
| 27'-6"                  |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 27'-6"     |      |   |   |     |  |                         |           |
| 30'                     | 1/8                  |      |        | 1/8 |      |        | 1/8 |      |        | 1/8  |     |       | 1/8    |      |     | 1/8   |     |      | 1/8    |       |    | 1/8 |       |      | 1/8       |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 30'        |      |   |   |     |  |                         |           |
| 32'-6"                  | 1/4                  |      |        | 1/4 |      |        | 1/4 |      |        | 1/4  |     |       | 1/4    |      |     | 1/4   |     |      | 1/4    |       |    | 1/4 |       |      | 1/4       |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 32'-6"     |      |   |   |     |  |                         |           |
| 35'                     |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 35'        |      |   |   |     |  |                         |           |
| 37'-6"                  |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 37'-6"     |      |   |   |     |  |                         |           |
| 40'                     |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 40'        |      |   |   |     |  |                         |           |
| 42'-6"                  |                      |      |        |     |      |        |     |      |        |      |     |       |        |      |     |       |     |      |        |       |    |     |       |      |           |       |     |     |     |       |        |      |       |   |       |       |        |       |    |    |           |           |        |      |       |   |       |      | 42'-6"     |      |   |   |     |  |                         |           |
| 45'                     | 2                    | 1/4  | 22'-0" | 2   | 1/4  | 16'-0" | 1   | 1/4  | 9'-0"  | 4    | 1/2 | 7'-0" | 16     | 20   | 1/2 | 9'-9" | T1  | 7"   | 5"     | 2'-6" | 18 | 1/2 | 6'-3" | S3   | 1'-7 1/2" | 1'-9" | 8   | 1"  | 2   | 2'-2" | 2'-5"  | 8    | 6'-6" | 2 | 1'-2" | 5'-4" | 3/8    | 6'-6" | T1 | 5" | 1'-4 3/4" | 1'-4 3/4" | 44     | 5/8  | 5'-6" | 1 | 4'-4" | 144" | 20"        | 24"  |   |   | 45' |  |                         |           |

</

\* Number req'd equals "L" in inches divided by 6. \* Number req'd equals "L" in inches divided by 8. \* "I" shall not exceed 20' or be less than one half (1/2) the length of the end span minus 4 ft.



FRONT ELEVATION DETAILS OF ABUTMENT



| REINFORCING SCHEDULE |      |        |      |      |        |  |  |  |  | BAR BENDS |                  |
|----------------------|------|--------|------|------|--------|--|--|--|--|-----------|------------------|
| No.                  | Size | Length | Mark | Type | A      |  |  |  |  |           |                  |
| 8                    | 1"   | 26'-6" | S1   | Str. |        |  |  |  |  |           | 3'-8 3/4" 2 1/2" |
| 4                    | 1"   | 35'-9" | S2   | 1    |        |  |  |  |  |           | 1'-8"            |
| 8                    | 1"   | 10'-0" | S3   | 16   |        |  |  |  |  |           | 1'-8"            |
| 8                    | 5/8  | 36'-9" | T1   | 2    |        |  |  |  |  |           | 1'-8"            |
| 8                    | 5/8  | 34'-0" | T2   | Str. |        |  |  |  |  |           | 1'-8"            |
| 12                   | 1/2  | 9'-9"  | T3   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 7'-9"  | T4   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 5'-9"  | T5   |      |        |  |  |  |  |           | 1'-8"            |
| 12                   | 5/8  | 10'-0" | T6   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 5/8  | 8'-0"  | T7   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 5/8  | 6'-0"  | T8   | Str. |        |  |  |  |  |           | 1'-8"            |
| 60                   | 1/2  | 18'-0" | U1   | 17   |        |  |  |  |  |           | 1'-8"            |
| 16                   | 5/8  | 18'-6" | U2   | 18   |        |  |  |  |  |           | 1'-8"            |
| 8                    | 1/2  | 4'-10" | V1   | Str. |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 4'-6"  | V2   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 3'-6"  | V3   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 3'-0"  | V4   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 2'-6"  | V5   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 2'-0"  | V6   |      |        |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 1'-6"  | V7   | Str. |        |  |  |  |  |           | 1'-8"            |
| 8                    | 1/2  | 8'-0"  | V8   | 19   | 5'-8"  |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 7'-9"  | V9   | 19   | 5'-5"  |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 7'-3"  | V10  |      | 4'-11" |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 6'-9"  | V11  |      | 4'-5"  |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 6'-3"  | V12  |      | 3'-11" |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 5'-9"  | V13  | 1    | 3'-5"  |  |  |  |  |           | 1'-8"            |
| 4                    | 1/2  | 5'-3"  | V14  | 19   | 2'-11" |  |  |  |  |           | 1'-8"            |

Note: All detail dimensions are out to out.

ORIGINAL CONSTRUCTION PLANS

DETAILS OF STANDARD SUBSTRUCTURE FOR 3, 4, OR 5-SPAN CONTINUOUS CONCRETE SLAB BRIDGES

WITH INTERIOR FRAMED BENTS ON PILES  
30'-0" ROADWAY 54'-0" TO 209'-0" OVERALL LENGTH  
SOUTH DAKOTA

STATE HIGHWAY COMMISSION  
STR. NO. 22-145-080 1948 5 OF 5 H20-44

| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED |
|-------------|----------|------------|----------|
| H.O.T.      | H.O.T.   | H.O.T.     | H.O.T.   |