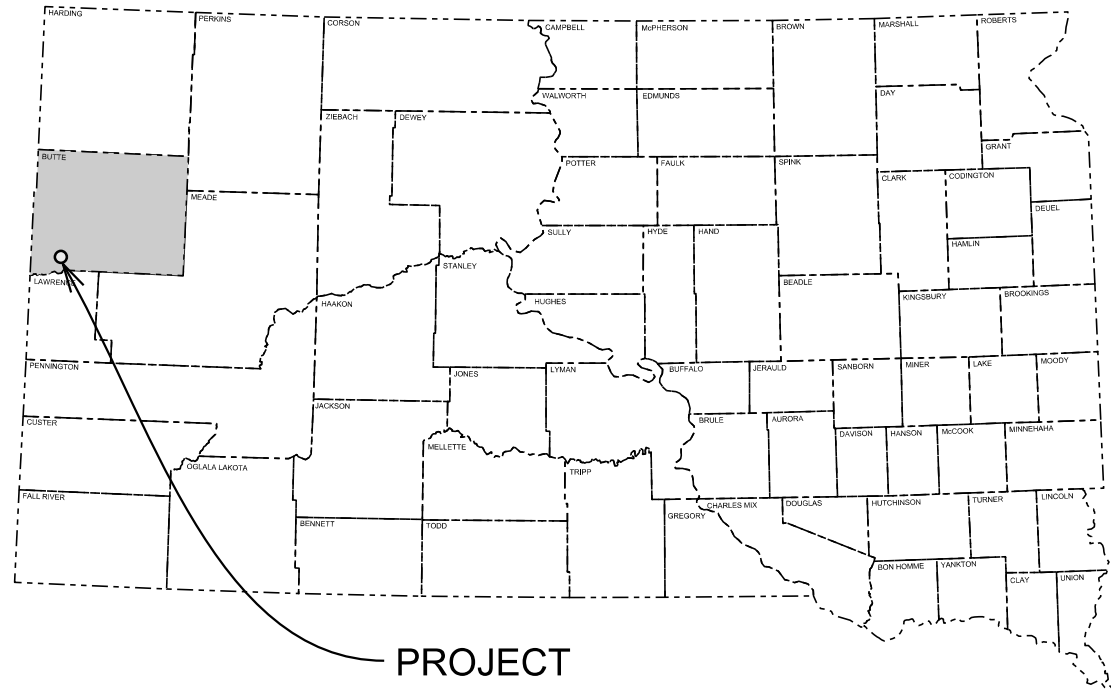


Plot Scale - 1:200

Plotted From - ttrc11610



STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT 085-468
US HIGHWAY 85
BUTTE COUNTY

BRIDGE JOINT REPAIR
PCN i4d7

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-468	1	14

Plotting Date: 05/19/2016

INDEX OF SHEETS

- 1 General Layout with Index
- 2-3 Estimate With General Notes & Tables
- 4-11 Structure Sheets
- 12 Traffic Control Detail
- 13-14 Standard Plates

DESIGN DESIGNATION

ADT (2015)	9722
ADT (2035)	10947
DHV	1259
D	51%
T DHV	11.3%
T ADT	24.8%
V	25 mph

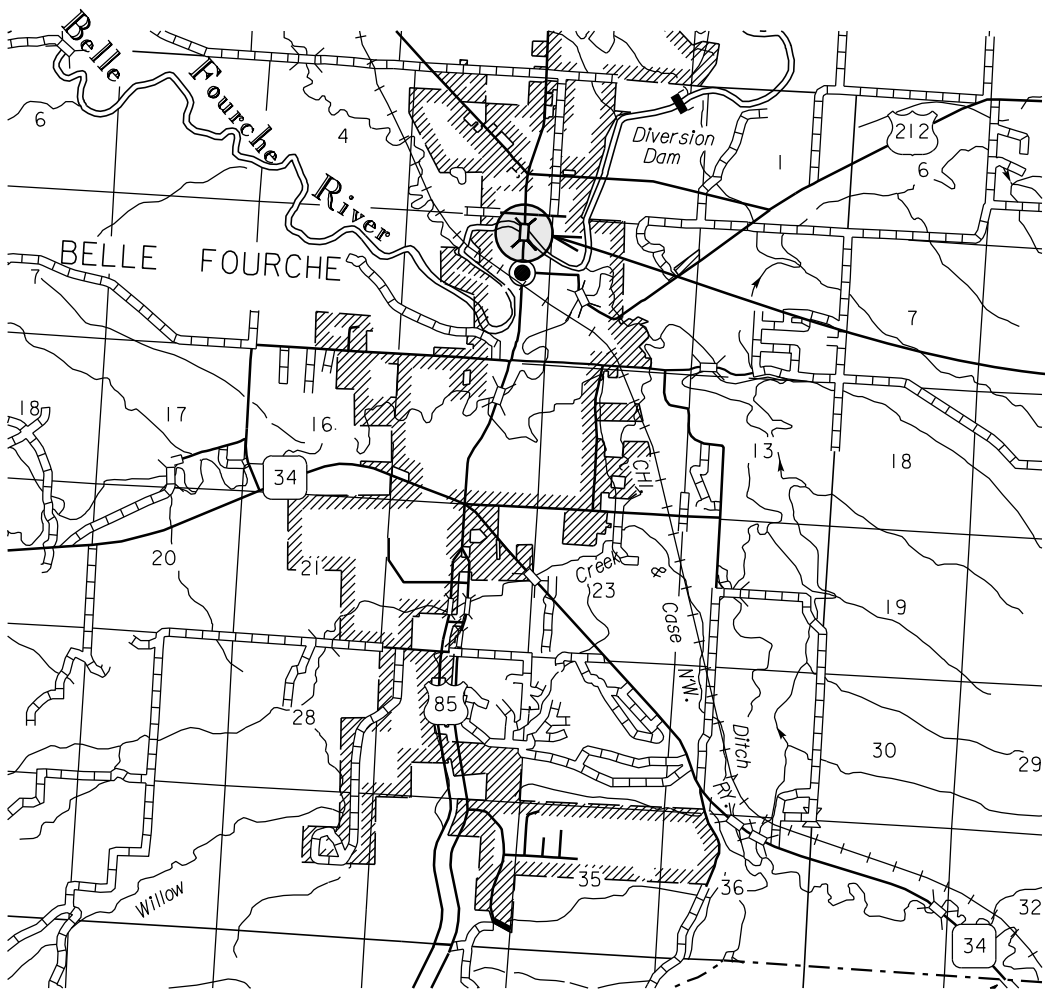
STORM WATER PERMIT

None Required

T 9 N

T 8 N

T 7 N



R 2 E

R 3 E

PROJECT 085-468
STR. NO. 10-098-371
MRM 56.24

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E7510	Asphalt Bridge Joint	208	Ft
634E0110	Traffic Control Signs	183.3	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	4	Each
634E0420	Type C Advance Warning Arrow Board	2	Each

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall 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) shall 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 Environment and Natural Resources.

The waste disposal site(s) shall 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 Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of 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 of time not to exceed the duration of the project. Prior to project completion, the waste shall 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.

All costs 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) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) 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 review of cultural resources impacts. 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 shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO 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 shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

SEQUENCE OF OPERATIONS

The Contractor shall maintain a minimum lane width of 16’ to accommodate overwidth vehicles. Roadway width on the structure is 52’. Construction joints shall be centered in the passing lane.

- Phase 1, install 20’ of asphalt bridge joint with traffic head to head in the remaining 32’ of bridge width.
- Phase 2, install middle 12’ of joint with traffic in outside lanes.
- Phase 3, install remaining 20’ of joint with head to head traffic.

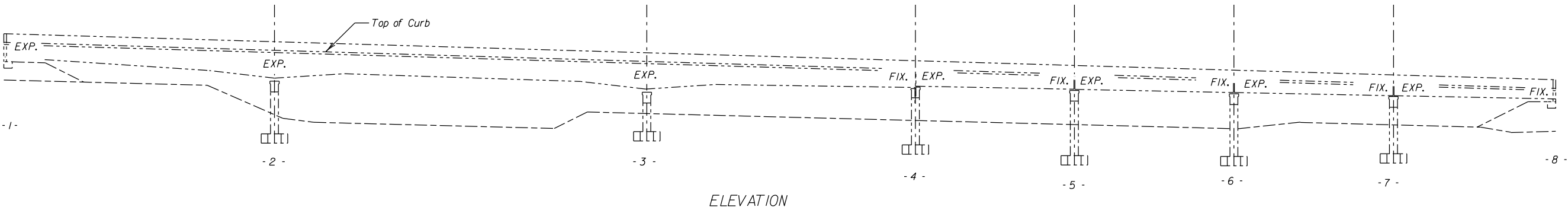
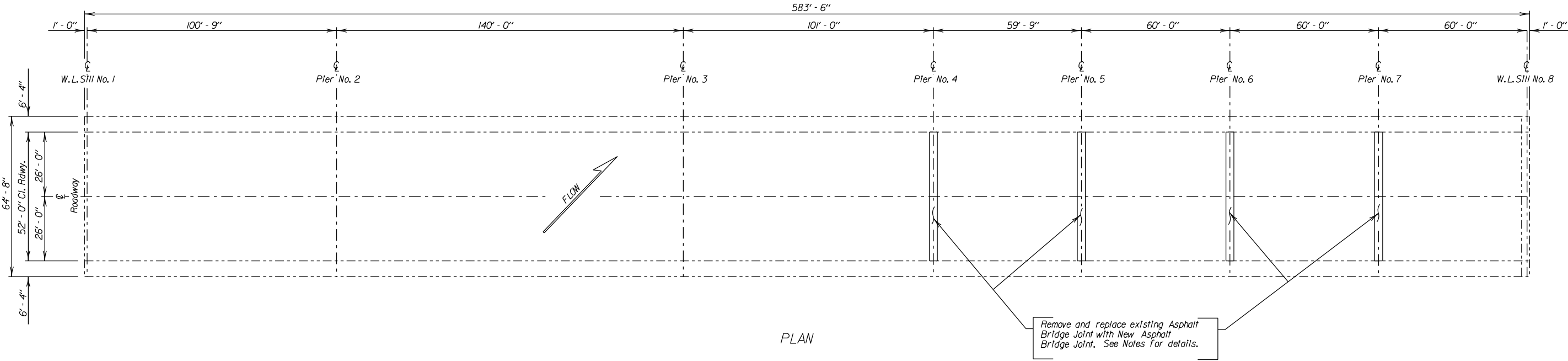
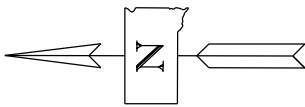
TRAFFIC CONTROL – GENERAL NOTES

- Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate 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. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.
- Unless otherwise stated in these plans, no work will be allowed during hours of darkness.
- Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.
- Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 2 calendar days.
- Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.
- The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.
- Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.
- All construction operations shall be conducted in the general direction of traffic movement.
- If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used, as determined by the Engineer.
- Temporary Flexible Vertical Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5’ spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

TABLE OF TRAFFIC CONTROL DEVICES

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R3-2	NO LEFT TURN (symbol)	2	24" x 24"	4.0	8.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	6	48" x 48"	16.0	96.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		183.3			



Note: Pier and Abutment/Sill designations are Original Plans Designations.

LAYOUT FOR UPGRADING
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
52'-0" ROADWAY & 2-5'-0" SIDEWALKS
OVER BELLE FOURCHE RIVER SEC. 10/11-T8N-R2E
STR. NO. 10-098-371 0° SKEW
PCN NO. i4d7 085-468

BUTTE COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2016

ESTIMATE OF STRUCTURE QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
320E7510	Asphalt Bridge Joint	208	LF.

SPECIFICATIONS

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

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 shall be accomplished with the traffic control shown elsewhere in the plans. An alternate sequence of operations may be submitted by the Contractor for approval by the Engineer at the pre-construction meeting.

1. Remove and replace four asphalt bridge joints with the following phases:

Phase 1—Install 20' of each asphalt bridge joint adjacent to one curb.
Phase 2—Install the middle 12' of each asphalt bridge joint.
Phase 3—Install 20' of each asphalt bridge joint adjacent to the other curb.

PRE-CONSTRUCTION MEETING

A pre-construction meeting is required prior to beginning the repair work. The purpose of the meeting is to review the plans and procedures. A representative from the Contractor and all Subcontractors shall attend this meeting along with Department personnel from the Area Office and Region Office. The Contractor must notify the Area Office at least five business days prior to the meeting.

ASPHALT BRIDGE JOINT

Asphalt bridge joints shall be removed and replaced at Piers 4, 5, 6 and 7 (Original Plans Designations). The new asphalt bridge joint system shall be one of the Asphalt Bridge Joints from the Department's Approved Products List. The approved product list for Asphalt Bridge Joints may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

- The existing asphalt bridge joints shall be removed completely including the polymer modified asphalt material, thermoplastic polymeric modified asphalt binder, bridge plate and locating spikes, backer rod. The polysulfide joint sealant in the curbs shall also be removed to the extent needed to facilitate replacement of the asphalt bridge joints. The removed materials shall be disposed of by the Contractor per the Environmental Commitments note.
- To facilitate removal, the existing asphalt bridge joints shall be saw cut on their vertical edges. The joint materials shall be removed in the entirety and the surfaces to receive the new joints shall be prepared to the requirements of the new asphalt bridge joint manufacturer.
- The asphalt bridge joints shall be installed in accordance with the manufacturer's recommendations. The Contractor shall submit the installation instructions in writing to the Engineer a minimum of 7 days prior to joint installation.
- The asphalt bridge joints shall not be installed when the bridge deck surface temperature is below 40° F or at the manufacturer's minimum temperature requirement if more stringent. The joints shall not be installed when rain is expected for the duration of the period of time required for joint installation.
- The curb openings above the new asphalt bridge joints where the polysulfide joint sealant was removed shall be resealed with a two component polysulfide joint sealant per the manufacturer's recommendations.
- The cost of furnishing and placing all material for the joint system including sawing and removing the existing joints and all labor, equipment, tools, materials and any incidentals necessary to complete the work satisfactorily shall be paid for at the contract price per foot for "Asphalt Bridge Joint".

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS

52'-0" ROADWAY & 2~5'-0" SIDEWALKS

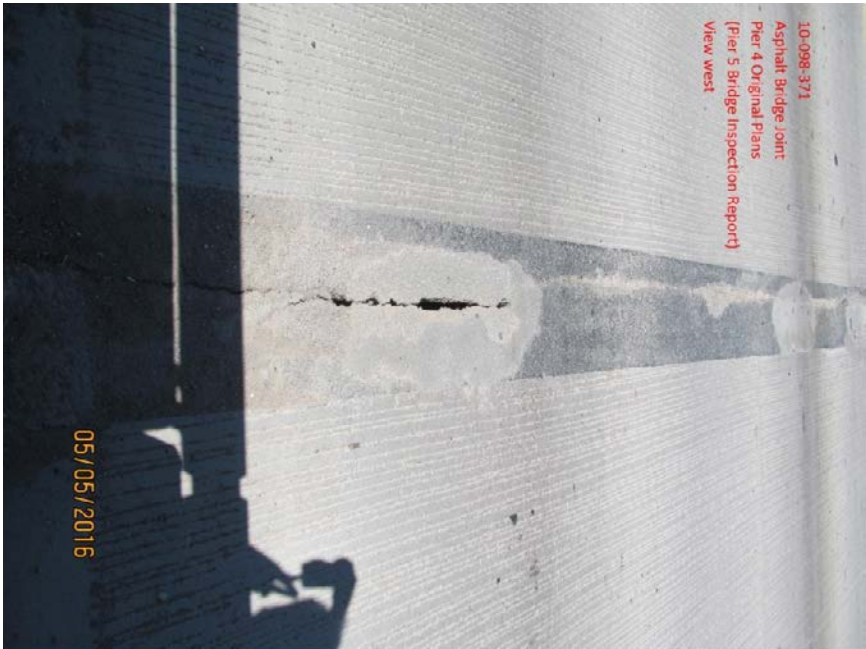
OVER BELLE FOURCHE RIVER SEC. 10/11-T8N-R2E

STR. NO. 10-098-371 0° SKEW

PCN NO. i4d7 085-468

BUTTE COUNTY
S. D. DEPT. OF TRANSPORTATION
MAY 2016

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	085-468	6	14



IMAGES
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
Str. No. 10-098-371

MAY 2016

3 8

DESIGNED BY: RS BUTEI4d7	CK. DES. BY RS I4d7xxxx	DRAFTED BY RS	BRIDGE ENGINEER
--------------------------------	-------------------------------	------------------	-----------------

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	085-468	7	14



IMAGES
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
Str. No. 10-098-371

MAY 2016

4 8

DESIGNED BY: RS BUTEI4d7	CK. DES. BY RS I4d7xxx	DRAFTED BY: RS	BRIDGE ENGINEER
--------------------------------	------------------------------	-------------------	-----------------

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	085-468	8	14



IMAGES
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
Str. No. 10-098-371

MAY 2016

5 8

DESIGNED BY: RS BUTEI4d7	CK. DES. BY: RS I4d7xxx	DRAFTED BY: RS	BRIDGE ENGINEER
--------------------------------	-------------------------------	-------------------	-----------------

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	085-468	9	14



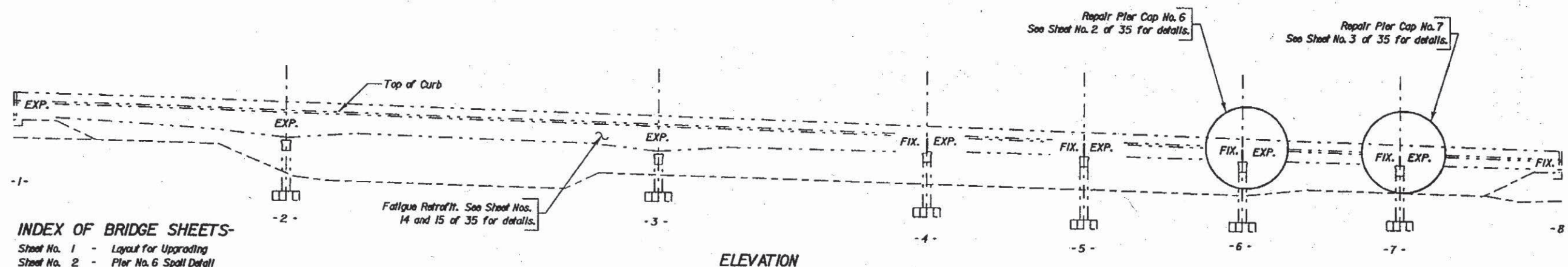
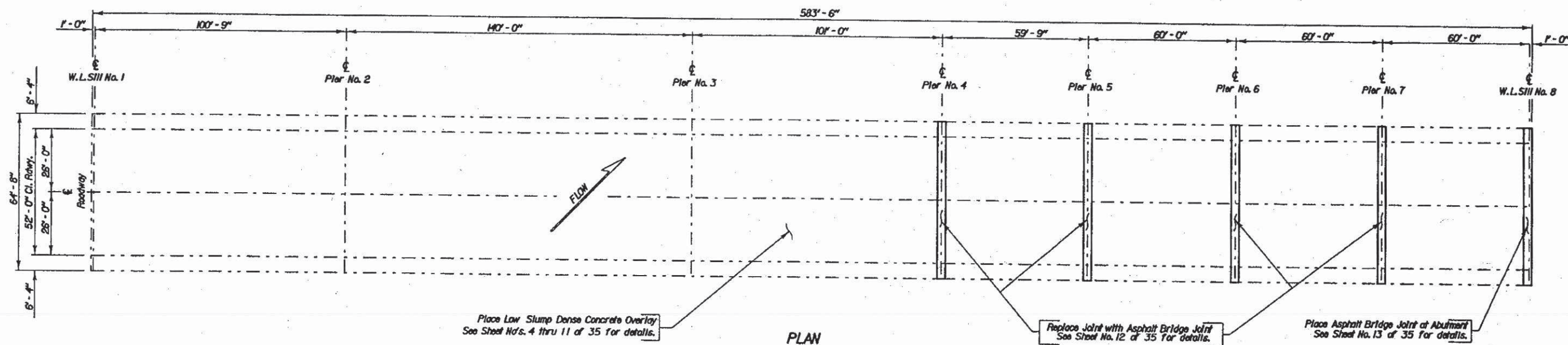
IMAGES
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
Str. No. 10-098-371

MAY 2016

6 8

DESIGNED BY: RS BUTEI4d7	CK. DES. BY: RS I4d7xxx	DRAFTED BY: RS	BRIDGE ENGINEER
--------------------------------	-------------------------------	-------------------	-----------------

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	085-468	10	14



INDEX OF BRIDGE SHEETS-

- Sheet No. 1 - Layout for Upgrading
- Sheet No. 2 - Pier No. 6 Spill Detail
- Sheet No. 3 - Pier No. 7 Spill Detail
- Sheet No. 4 - Bridge Deck Overlay
- Sheet No. 5 - Bridge Deck Overlay Continued
- Sheet No. 6 - Bridge Deck Overlay Continued
- Sheet No. 7 - Bridge Deck Overlay Continued
- Sheet No. 8 - Bridge Deck Overlay Continued
- Sheet No. 9 - Bridge Deck Overlay Continued
- Sheet No. 10 - Bridge Deck Overlay Continued
- Sheet No. 11 - Bridge Deck Overlay Continued
- Sheet No. 12 - Asphalt Bridge Joint Replacement
- Sheet No. 13 - Asphalt Bridge Joint Replacement at Abutment
- Sheet No. 14 - Details of Fatigue Retrofit Type "C"
- Sheet No. 15 - Details of Fatigue Retrofit Type "C" Continued
- Sheet No. 16 - As Built Survey
- Sheet No. 17 - As Built Survey Continued
- Sheet No. 18 - As Built Survey Continued
- Sheet No. 19 - As Built Survey Continued
- Sheet No. 20 - As Built Survey Continued
- Sheet No. 21 - As Built Survey Continued
- Sheet No. 22 - As Built Survey Continued
- Sheet No. 23 - As Built Survey Continued
- Sheet Nos. 24 through 35 - Original Construction Plans

ORIGINAL CONSTRUCTION PLANS

LAYOUT FOR UPGRADING
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
52'-0" ROADWAY & 2'-5'-0" SIDEWALKS
OVER BELLE FOURCHE RIVER SEC. 10/11-T8N-R2E
STR. NO. 10-098-371 0° SKEW
PCEMS NO. 4495 NH 0085(00)56

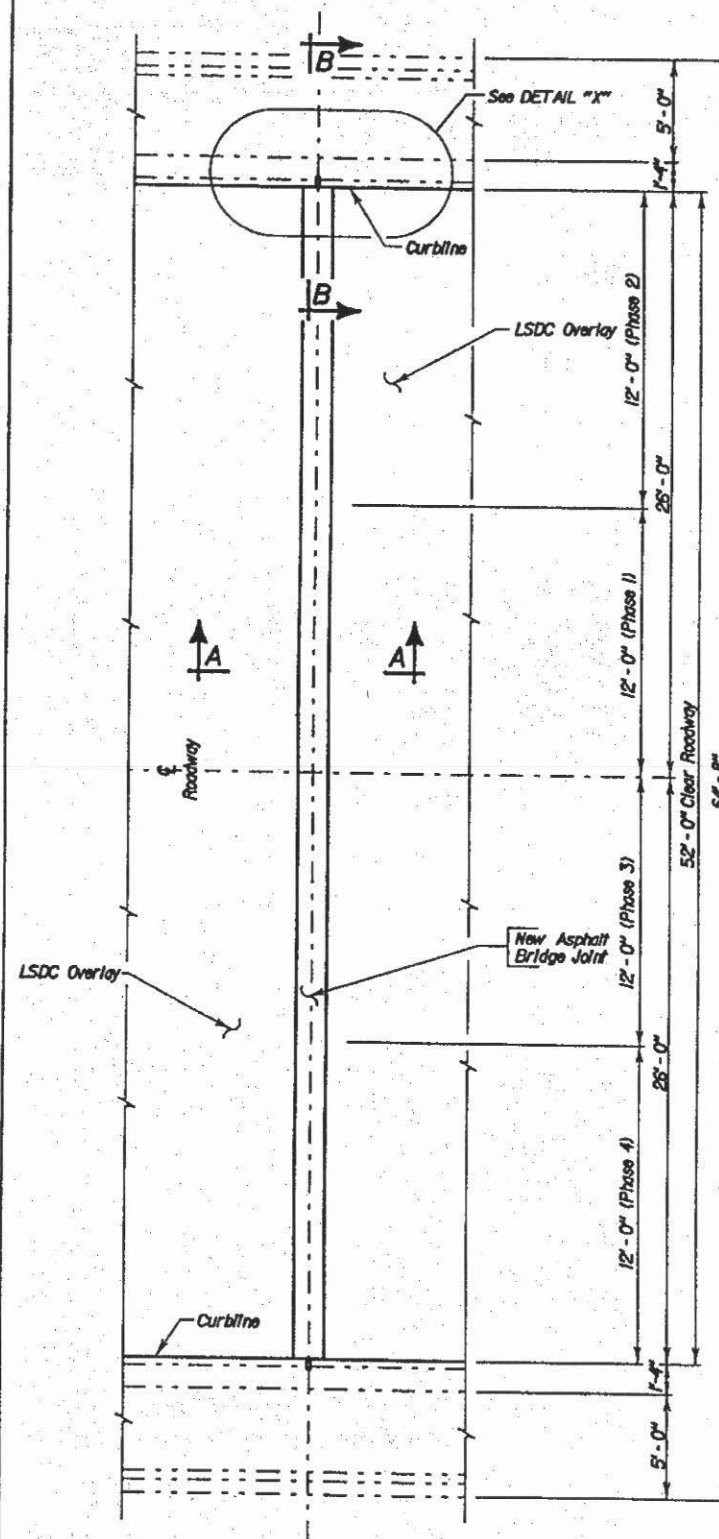
BUTTE COUNTY
S. D. DEPT. OF TRANSPORTATION
JANUARY 2002

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

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
TB	SMS	EJA	John C. Cole
BUTTE 4495	4495SAD1		BRIDGE ENGINEER

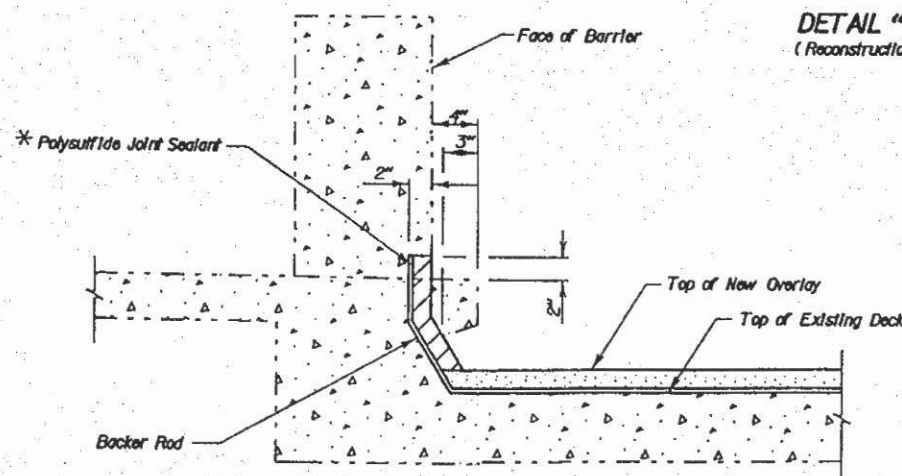
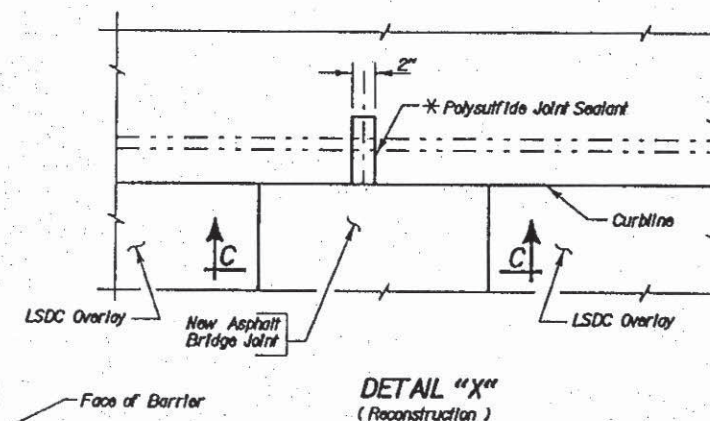
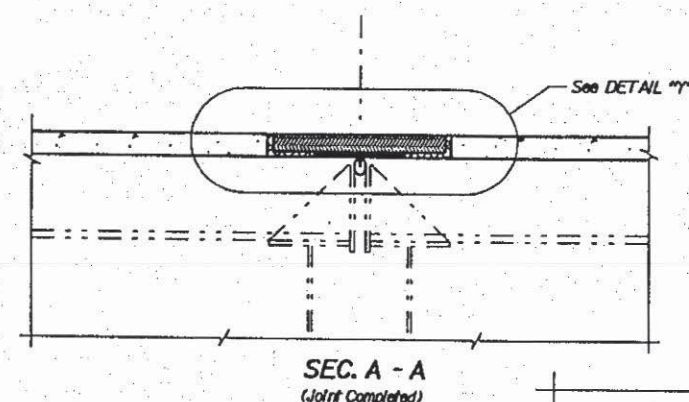
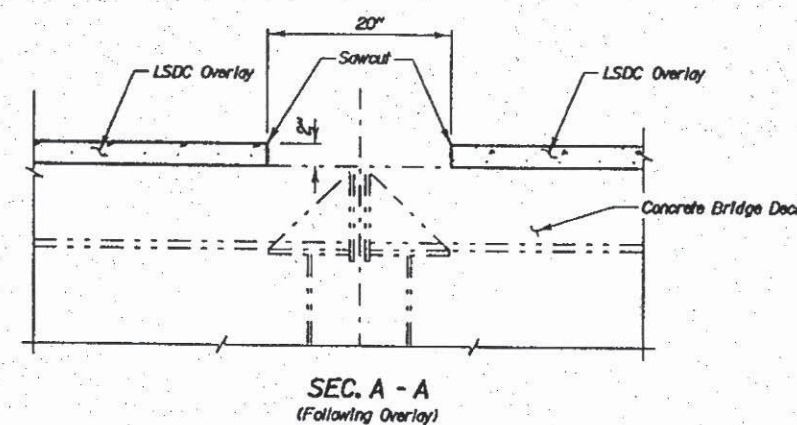
7 of 8

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	085-468	11	14

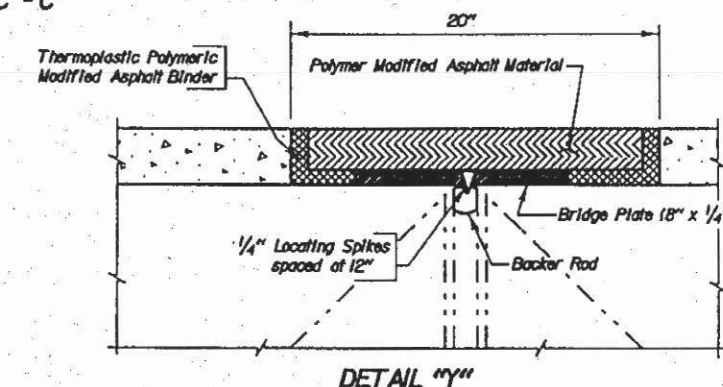
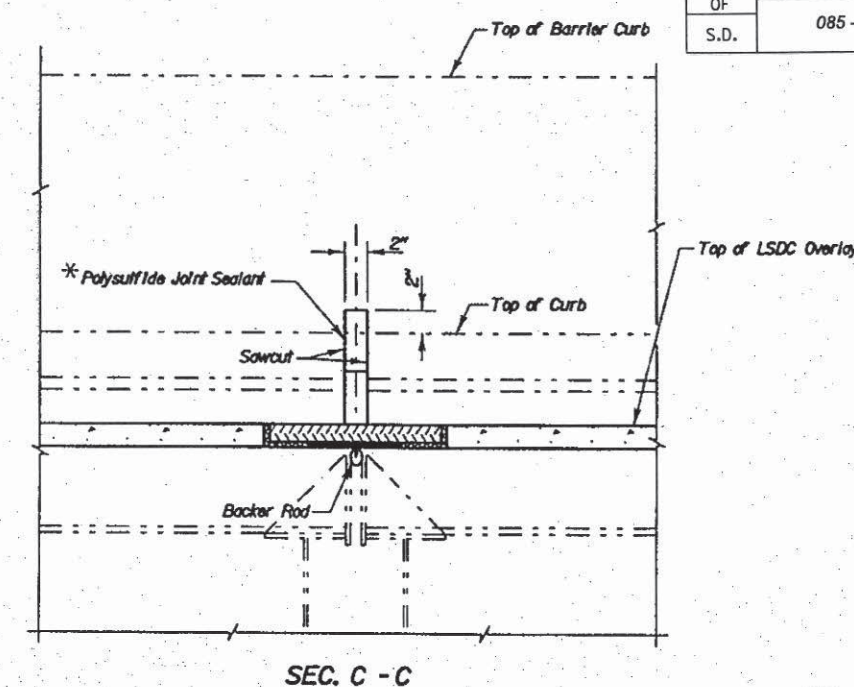


PLAN VIEW
Typical Detail for all Joints
(Not For Abutment No. 8)

* See notes regarding ASPHALT BRIDGE JOINTS.



SEC. B - B



ESTIMATED QUANTITIES (For Four Piers)		
ITEM	UNIT	QUANTITY
Asphalt Bridge Joint	Ft.	208.0

For informational purposes, the estimated quantity for Phase 1 is 12 Ft. per pier, Phase 2 is 14 Ft. per pier, Phase 3 is 12 Ft. per pier and Phase 4 is 14 Ft. per pier.

ASPHALT BRIDGE JOINT DETAILS
PIER NO'S. 4 THRU 7
FOR
1~341'-9" CONTINUOUS GIRDER, 3~60'-0"
AND 1~59'-9" SIMPLE COMP. SPANS
52'-0" ROADWAY & 2'-5'-0" SIDEWALKS
OVER BELLE FOURCHE RIVER SEC. 10/11-T8N-R2E
STA. 48+54.00 TO STA. 54+37.50 0° SKEW
STR. NO. 10-098-371 NH 0085(00)56

BUTTE COUNTY
S. D. DEPT. OF TRANSPORTATION
JANUARY 2002

8 of 8

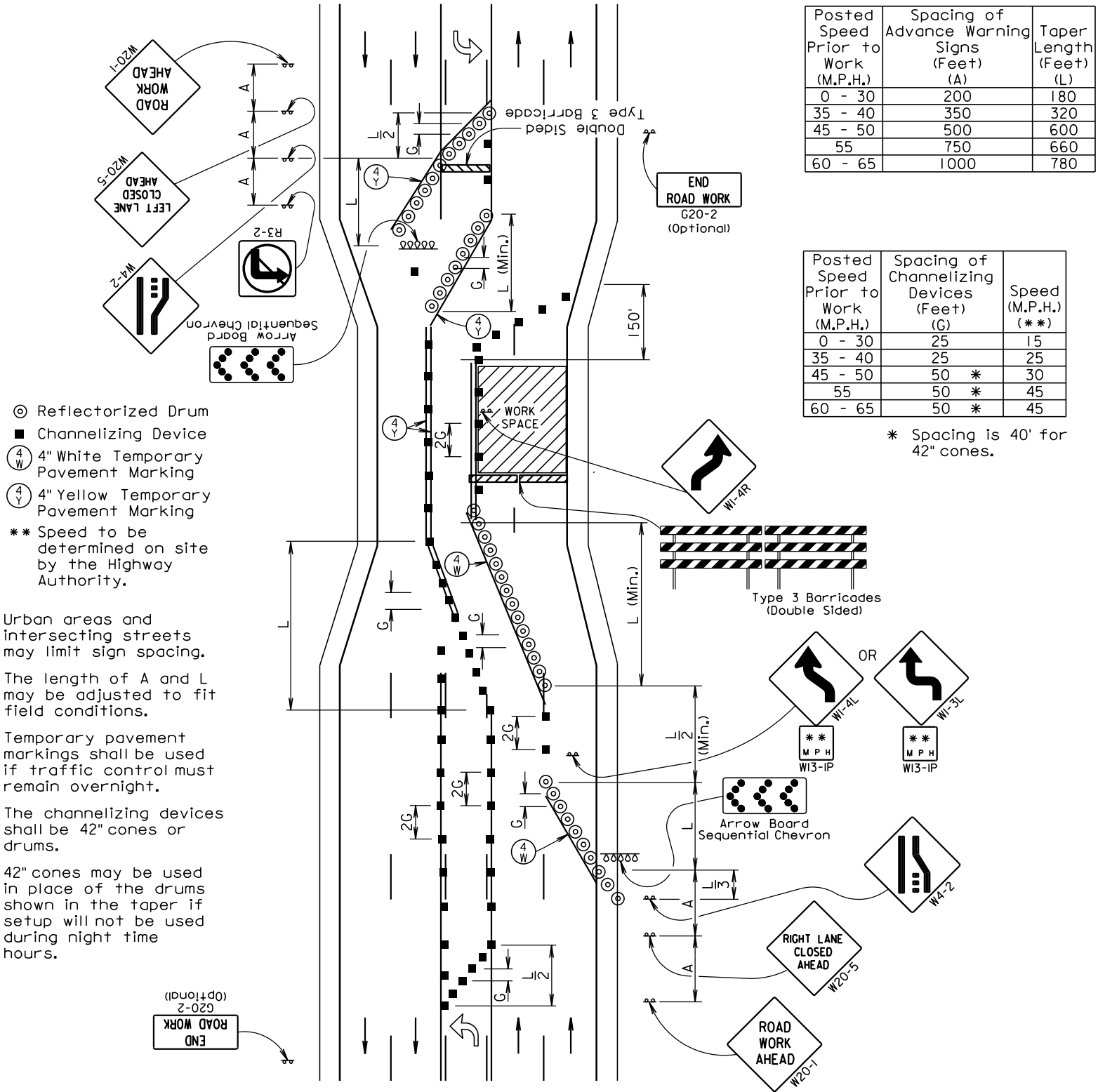
DESIGNED BY TB BUTTE 4495	DRAWN BY TB/SMS 4495SA2	CHECKED BY EJA	APPROVED John C. Cole BRIDGE ENGINEER
---------------------------------	-------------------------------	-------------------	---

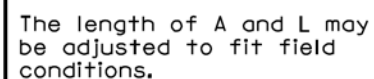
ORIGINAL CONSTRUCTION PLANS

TRAFFIC CONTROL DETAIL 5 LANE TO 4 LANE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-468	12	14

Plotting Date: 05/19/2016





- * Spacing is 40' for 42" cones.
- ⊙ Reflectorized Drum
- Channelizing Device
- ④ Y 4" Yellow Temporary Pavement Marking

END
ROAD WORK
G20-2
(Optional)



Arrow Board
Sequential Chevron



April 15, 2015

GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, LEFT LANE CLOSED

PLATE NUMBER
634.48

Sheet 1 of 1

Published Date: 2nd Qtr. 2016



(Not applicable to regulatory signs)

* 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.

September 22, 2014

CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

PLATE NUMBER
634.85

Sheet 1 of 1

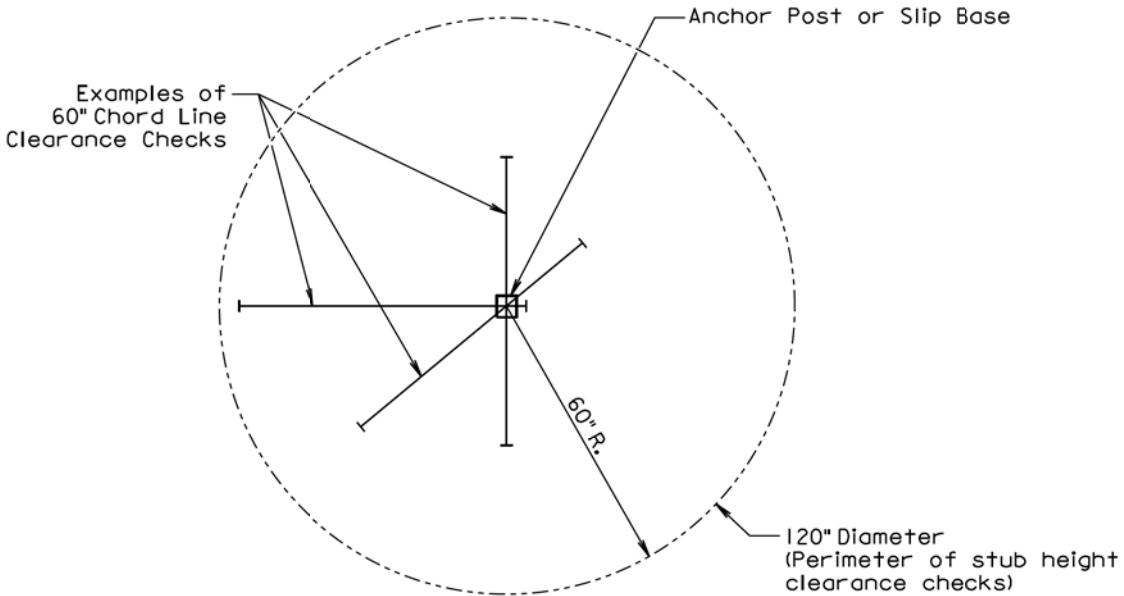
Published Date: 2nd Qtr. 2016

1:200
Plot Scale -

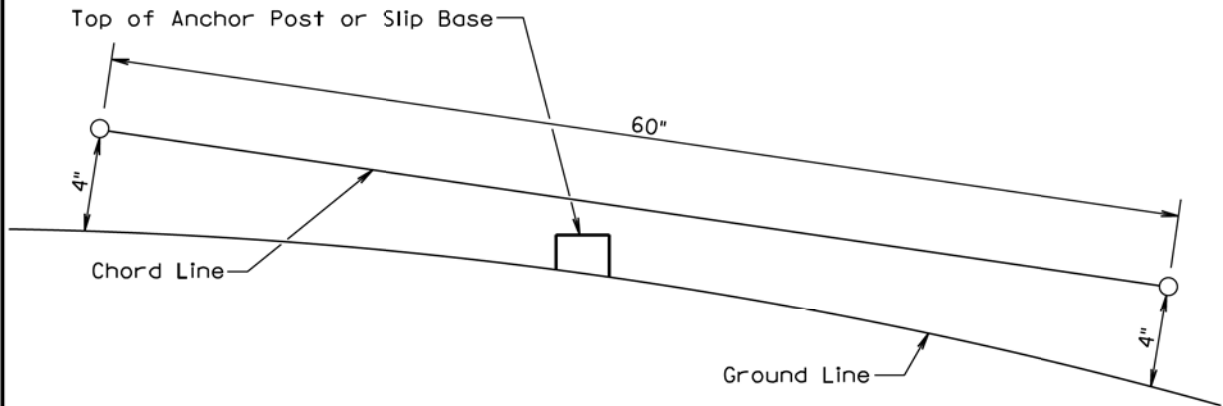
trc11610
- Plotted From -

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-468	14	14

Plotting Date: 05/19/2016



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL 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 shall 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.

July 1, 2005

Published Date: 2nd Qtr. 2016	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1