

# RECLAMATION

*Managing Water in the West*



## BRIDGE INSPECTION REPORT

INSPECTION TYPE: ROUTINE

SUN RIVER BRIDGE

COUNTY ROAD OVER N. F. OF THE SUN RIVER

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GREAT PLAINS

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STRUCTURE NO. MTA-SR-001

DATE OF INSPECTION: 03/18/2015

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MILEPOST 0



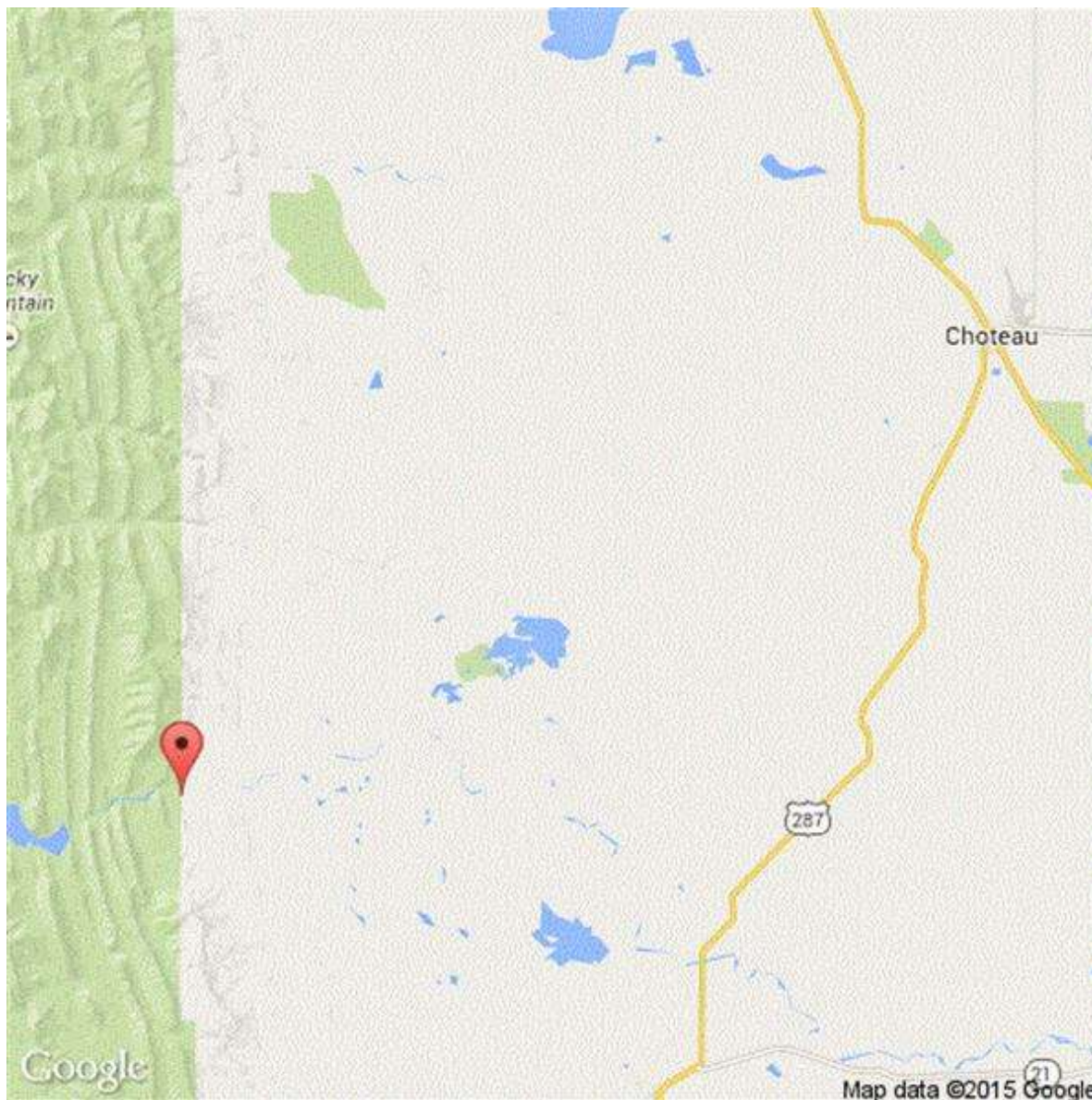
U.S. DEPARTMENT OF INTERIOR  
BUREAU OF RECLAMATION  
MONTANA AREA OFFICE  
BRIDGE INSPECTION AND MANAGEMENT PROGRAM

SIGNATURE  
SUN RIVER BRIDGE

STRUCTURE NO. MTA-SR-001  
DATE OF INSPECTON: 03/18/2015

INSPECTOR: Gary Grassel 03/14/2015  
(Signature) Gary Grassel

INSPECTION TEAM LEAD: Gary Bone DATE: 3/14/2015  
(Signature) Gary Bone



**LOCATION MAP #1**

Region: 5

State: 308

County: 30049

Facility Carried: COUNTY ROAD

Facility Intersected: N. F. OF THE SUN RIVER

Location: Approximately 15 miles west of Augusta, Montana

**STRUCTURE SUMMARY**

SUN RIVER BRIDGE

STRUCTURE NO. MTA-SR-001

DATE OF INSPECTION: 03/18/2015

**STRUCTURE IDENTIFICATION**

MAIN SPAN MATERIAL: .....Steel	NO. OF MAIN SPANS: .....2
MAIN SPAN TYPE: .....Truss - Thru	NO. OF APPR. SPANS: .....1
APPR. SPAN MATERIAL: .....Steel	STRUCT. TOTAL LENGTH: .....249.66888 FT
APPR. SPAN TYPE: .....Truss - Deck	MAX. SPAN LENGTH: .....111 FT
DECK TYPE: .....Concrete Precast Panels	DECK WIDTH: .....13.3 FT
WEARING SURFACE: .....None	CURB TO CURB WIDTH: .....13.3 FT
ABUT. #1 FOUNDATION: .....Spr Ftg On Bearing Mat'l	SKEW ANGLE: .....0°
ABUT #2 FOUNDATION: .....Spr Ftg On Bearing Mat'l	YEAR CONSTRUCTED: .....1916
PIER FOUNDATION: .....Spr Ftg On Bearing Mat'l	YEAR RECONSTRUCTED: .....0000
PROJ / PLAN REF. NO.: .....28	FRACTURE CRITICAL? .....N

<b>NARRATIVE</b>
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The bridge was originally built in 1916. At that time the bridge carried a wood-stave siphon and a timber deck for highway traffic. The wood-stave siphon was removed from the bridge and was replaced with a concrete siphon under the North Fork of the Sun River. The bridge continued to carry the timber deck for highway traffic. The bridge is primarily used by Reclamation, Greenfields Irrigation District, and local landowners. The bridge also provides public access to National Forest property. The bridge spans the Lewis and Clark/Teton county line.

In 1982, the deck of the highway bridge was replaced with precast concrete panels on the two main spans. The concrete panels were not attached to the stringers. The southern approach span was removed and replaced with concrete retaining walls in this same time frame. The northern approach span was also modified with the addition of a concrete retaining wall and partially backfilled with riprap. The north approach span continues to have a timber deck.

Jersey barriers and w-beam guardrail were installed in 2002 to improve public safety. Load limits have been posted in the past, but have always “disappeared” shortly after words.

An underwater examination of the bridge pier was conducted in 2005. The examination showed that the pier was in satisfactory condition, with only minor degradation due to freeze-thaw action. The footing rests on bedrock and there is no indication of scour.

The following deficiencies have been noted in previous inspections:

- Load limits and single lane bridge signs need to be posted.
- The precast concrete panels used for decking are free to move on the stringers. Some of the panels have “walked” up or downstream and no longer rest on all of the stringers. The stringers are not restrained by the deck are free to roll under loads.
- The concrete footing located on the northeast corner of the approach span is severely deteriorated. Riprap placed within the approach span has added a lateral load to the structure and therefore could displace supporting structure off the footing, leading to failure of approach span.
- Erosion at the north approach span has resulted in driving hazards on both sides of the road.
- The decayed area in the timber deck on the north approach span continues to grow in size.
- The bottom chord, upstream side of the north main span has been damaged sometime in the past (possibly in the 1964 flood?).
- The top chords of the trusses are currently being used as the bridge guardrail.
- Some of the bolts and rivets in the top chords of the trusses are loose.
- Bearing devices on the south end of the bridge are covered with dirt and gravel.

<b>NARRATIVE</b>
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Recommendations: Prior to 2015 inspection.

1. Install single lane bridge, curve, speed limit, and load rating signs. (2001)
2. Repair concrete footing on the NE corner of the north approach span. (2002)
3. Clean bearings of truss. (2011)
4. Local emergency agencies/services need to be contacted and informed of the load ratings on the bridge ASAP (2012-1)
5. Eroded areas on or near the north approach span need to be backfilled. (2012-2)
6. Replace decayed portions of the timber deck on the north approach span. (2012-3)
7. Conduct a climb team inspection of the steel trusses to determine their condition and the extent of damage. Upon completion, the overall condition of the bridge should be reviewed to determine its ability to carry anticipated loads, to identify repairs needs, especially with respect to the north approach span, or if the bridge should be replaced. (2012-4)

2015 Inspection:

1. The bearings of the truss have been cleaned since the last inspection. (Item #3 above resolved)
2. The decayed portions of the timber deck on the north approach span have been replaced since the last inspection. (Item #6 above resolved)
3. Reclamation Climb Team has inspected the damaged area of the bottom upstream cord. No areas of concern were encountered therefore current load rating is still acceptable. (Item #7 above resolved)
4. New recommendation to fasten precast decking members to flanges of supporting beams for securing wearing surface in position and to properly brace compression flange of beams.
5. Unresolved recommendations: 1. Install single lane bridge, curve, speed limit, and load rating signs. (2001); 2. Repair concrete footing on the NE corner of the north approach span. (2002); 4. Local emergency agencies/services need to be contacted and informed of the load ratings on the bridge ASAP (2012-1); 5. Eroded areas on or near the north approach span need to be backfilled. (2012-2)

**RECOMMENDATIONS AND ESTIMATED COSTS**

STRUCTURE NO. MTA-SR-001

**SUN RIVER BRIDGE**

DATE OF INSPECTION: 03/18/2015

<b>YEAR</b>	<b>P1</b>	<b>P2</b>	<b>DESCRIPTION</b>	<b>EST COST</b>	<b>SCH COMP DATE</b>	<b>STATUS</b>
2015			Attach precast decking to superstructure	\$25,000.00		Open
2012			Contact climb team for inspection of steel trusses.	\$0.00		Completed
2012			Replace decayed portions of north approach	\$20,000.00		Completed
2012			Backfill eroded areas on north approach	\$500.00		Open
2012			Contact local emergency services and inform of bridge load limits.	\$0.00		Open
2010			Clean bearings of truss	\$1,000.00		Completed
2010			Repair concrete footing under northeast corner of approach span.	\$3,000.00		Open
2010			Install signs warning of single lane bridge, curves, speed limit and load ratings.	\$2,000.00		Open

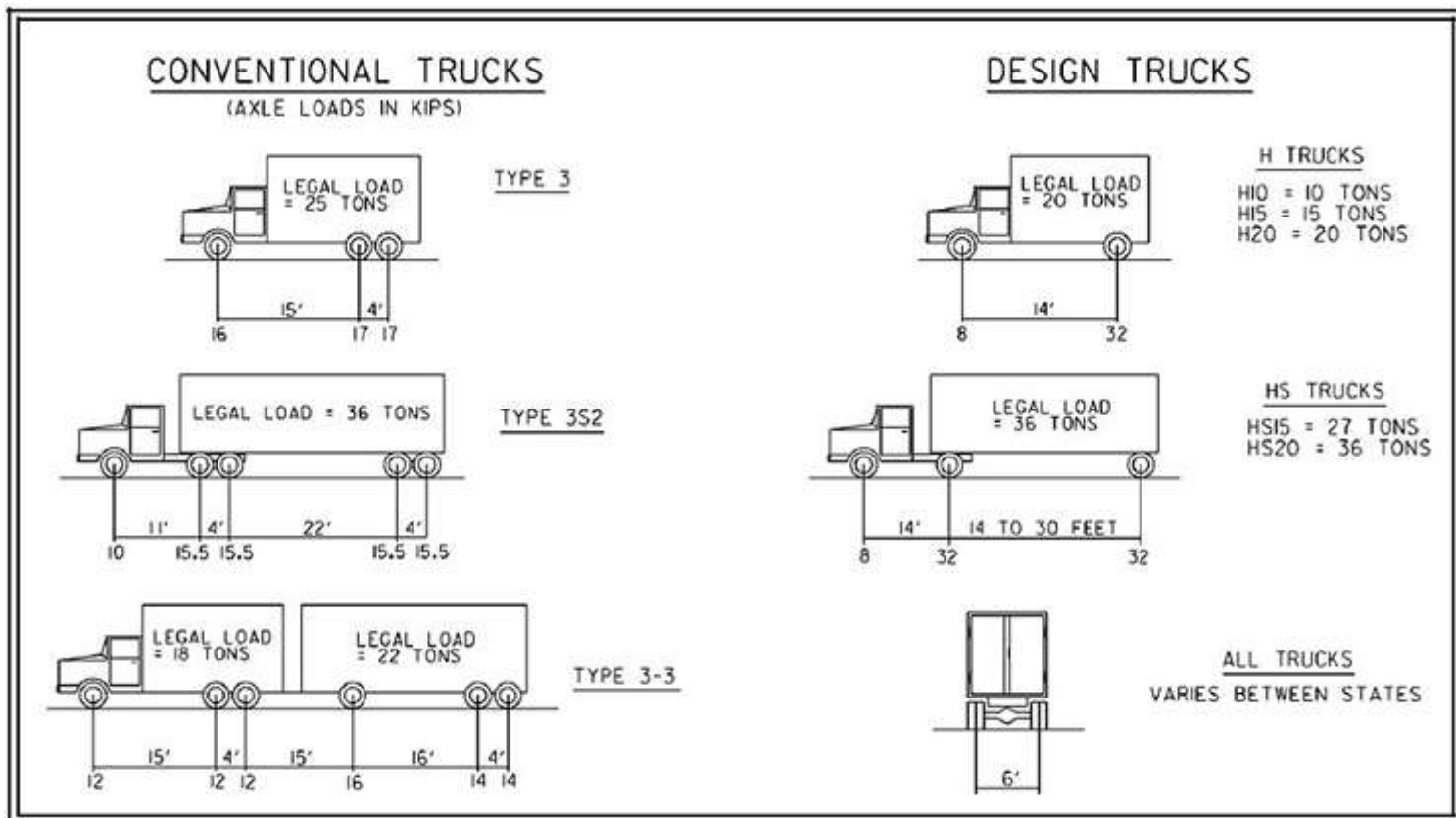
Estimated costs are for labor and materials only, and do not reflect additional costs associated with a construction contract.	<b>TOTAL ESTIMATED COSTS:</b>	<b>\$51,500.00</b>
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**STRUCTURE LOAD RATING**  
**SUN RIVER BRIDGE**

STRUCTURE NO. MTA-SR-001  
 DATE OF INSPECTION: 03/18/2015

TRUCK TYPE	INVENTORY RATING (NORMAL TRAFFIC)		OPERATING RATING (MAXIMUM LOAD)	
	METRIC TONS	TONS	METRIC TONS	TONS
H				
HS	1.8	2	4.5	5
TYPE 3	1.8	2	4.5	5
TYPE 3S2	3.6	4	7.3	8
TYPE 3-3	3.6	4	9.1	10
<b>DESIGN LOADING: MS 18, HS 20</b>				
ORIGINAL LOAD CAPACITY REMAINS				
ORIGINAL LOAD CAPACITY REDUCED				
ORIGINAL LOAD RATING CALCULATION APPLICABLE				
ORIGINAL LOAD RATING CALCULATION REVISED				
<b>DATE OF LOAD RATING CALCULATION: 03/18/2013</b>				
<b>LOAD RATING CONTROLLED BY: Moment in Longitudinal floor beams.</b>				

**REMARKS:** Load posting required for this bridge.  
 Type 3.....5 tons  
 Type 3S3....8 tons  
 Type 3-3.....10 tons





**CONDITION RATING CODES FOR ITEMS 58 - 62, 222, 223**

Note - Items left blank are not applicable for this bridge.

N - NOT APPLICABLE

9 - EXCELLENT CONDITION

8 - VERY GOOD CONDITION - no problems noted.

7 - GOOD CONDITION - some minor problems.

6 - SATISFACTORY CONDITION - structural elements show some minor deterioration

5 - FAIR CONDITION - all primary structural elements but may have minor section loss, cracking, spalling, or scour.

4 - POOR CONDITION - advanced section loss, deterioration, spalling, or scour.

3 - SERIOUS CONDITION - loss of section, deterioration, spalling, or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.

2 - CRITICAL CONDITION - advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the structure until corrective action can be taken.

1 - "IMMINENT" FAILURE CONDITION - major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Structure is closed to traffic but corrective action may return structure to light service.

0 - FAILED CONDITION - out of service; beyond corrective action.

**CONDITION RATING CODE EQUIVALENTS FOR SUB-COMPONENTS**

**G = GOOD (CODES 7 - 9) F = FAIR (CODES 5 - 6) P = POOR (CODES 0 - 4)**

**58. DECK**

ITEM	RATING	REMARKS
<b>Overall Rating (58)</b>	5	
58.1 Deck Slab	5	Deck slab consists of pre-cast concrete panels bearing on unbraced steel beams. Some of deck slab panels have moved laterally and need to be attached to the steel stringers. North approach span is timber.
58.2 Expansion Joints	N	
58.3 Wearing Surface	8	
58.4 Rideability	8	
58.5 Curbs, Sidewalks, and Median	N	
58.6 Parapets and/or Railings	N	
58.7 Drains and Drainage	N	
58.8 Utilities	N	
58.9 Deflection and/or Vibration	N	
58.10 Other:	N	

**59. SUPERSTRUCTURE**

ITEM	RATING	REMARKS
<b>Overall Rating (59)</b>	5	
59.1 Bearing Devices	5	West end bearing devices have been cleaned. Anchor bolts are bent that attach bearing plate to bottom cord of truss.
59.2 Girders or Beams	N	
59.3 Arch(es) or Slab(s)	N	
59.4 Floor Beams and Stringers	8	
59.5 Trusses	6	Some truss members have local damage that is insignificant to the performance of the truss.
59.6 Diaphragms and Bracing	N	
59.7 Paint	N	
59.8 Fascia(e)	N	
59.9 Deflection and/or Vibration	N	
59.10 Alignment	5	Sharp curves at both ends of the bridge.
59.11 Other	N	

**60. SUBSTRUCTURE**

ITEM	RATING	REMARKS
<b>Overall Rating (60)</b>	3	
<b>ABUTMENTS</b>		
60.1 Breastwalls or Columns	8	
60.2 Pile Bents	N	
60.3 Caps and/or Bearing Seats	3	Concrete pier under the north east corner of approach span has deteriorated.
60.4 Backwalls and/or Bulkheads	8	
60.5 Foundations	8	
60.6 Wingwalls	N	
60.7 Weep Holes	N	
60.8 Expansion Joints	N	
60.9 Erosion and/or Scour	8	
60.10 Settlement or Deflection	8	
60.11 Slope	N	
60.12 Other	N	
<b>PIER(S)</b>		
60.13 Wall(s) and/or Column(s)	N	
60.14 Pile Bent(s)	8	
60.15 Caps and/or Bearing Seats	8	
60.16 Foundations	8	
60.17 Erosion and/or Scour	8	
60.18 Settlement or Deflection	8	
60.19 Other	N	

<b>61. CHANNEL</b>		
<b>ITEM</b>	<b>RATING</b>	<b>REMARKS</b>
<b>Overall Rating (61)</b>	8	
61.1 Alignment	8	
61.2 Erosion and/or Scour	8	
61.3 Channel Protection	N	
61.4 Waterway Obstructions	8	
61.5 Other	N	
61.6 Adequacy of Opening	SUFF.	
61.7 Normal Velocity	MED.	
61.8 Avg. Clear Opening	21 FT	
61.9 Stream Bed Composition		

**222. APPROACHES**

ITEM	RATING	REMARKS
<b>Overall Rating (222)</b>	2	
222.1 Approach Slabs	N	
222.2 Relief Joints	N	
222.3 Approach Guardrail	5	There is a substantial loss of support material below the concrete jersey barriers at north end approach.
222.4 Surfacing	6	
222.5 Erosion	3	See 222.3 above,
222.6 Settlement	8	
222.7 Signs	2	Signs need to be added are single lane bridge, curve signs, speed limit signs, and load rating signs.
222.8 Other	N	

**223. RETAINING WALL**

ITEM	RATING	REMARKS
<b>Overall Rating (223)</b>	7	
223.1 Wall	8	The right retaining wall that was installed in 1982 appears to be in good shape.
223.2 Weep Holes	N	
223.3 Footings	N	
223.4 Erosion	7	
223.5 Settlement or Deflection	N	
223.6 Other	N	

**TRAFFIC SAFETY RATING CODES**

0 - Does not meet standards or a safety feature is required and none is provided.      1 - Meets currently acceptable standards.      N - Not applicable or a safety feature is not required.

**36. TRAFFIC SAFETY FEATURES**

ITEM	RATING	REMARKS
36.A Bridge Railing	0	
36.B Transitions	0	
36.C Approach Guardrail	1	
36.D Approach Guardrail Ends	0	

**STRUCTURE INVENTORY & APPRAISAL**

STRUCTURE NO. MTA-SR-001

**SUN RIVER BRIDGE**

DATE OF INSPECTION: 03/18/2015

**STRUCTURE IDENTIFICATION**

(201) AREA OFFICE: ..... MONTANA AREA OFFICE	(1) STATE: ..... 308 - Montana
(202) STRUCT. NAME: ..... SUN RIVER BRIDGE	(2) STATE HWY. AGENCY DIST.: ..... 0
(203) BRIDGE TYPE: ..... 1 - Public Use	(3) COUNTY CODE: ..... 30049 - LEWIS AND CLARK
(204) BRIDGE KIND: ..... 1 - Bridge	(4) CITY/PLACE CODE: ..... 0
(205) USBR REGION: ..... 5 - Great Plains	(5) INVENTORY ROUTE: ..... 188000000
(206) USBR FACILITY: ..... SUN RIVER PROJECT	(6) FEATURES INTERSECTED: ..... N. F. OF THE SUN RIVER
(207) ROAD TYPE.: ..... 2 - Public Gravel	(7) FACILITY CARRIED: ..... COUNTY ROAD
(208) SEISMIC CATEGORY: .. 2B	(8) STATE STRUCTURE NO.: ..... MTA-SR-001
(209) ACCEL. COEFF. : ..... 125	(9) LOCATION: ..... Approximately 15 miles west of Augusta, Montana
(210) SOIL SITE COEFF.: .....	(10) INV. RTE. - MIN. VERT. CLR.: .... 9999
(211) USBR SPEC.PROJ. #: ...28	(11) MILEPOST: ..... 0 FT
(212) DRAWING NO(S): .....	(27) YEAR BUILT: 1916 (106) YEAR REBUILT: 0000
(21) MAINTAINED BY: ..... 25 - Other Local Agencies	(20) TOLL: ..... 3 - On Free Road
(22) OWNER: ..... 69 - Bureau of Reclamation	(37) HISTORICAL DESIGNATION: .... 2 - Eligible for National Register
(102) DIR OF TRAFFIC: ..... 3 - One lane brige for 2-way traffic	(100) STRAHNET HIGHWAY: ..... 0 - Not a STRAHNET route
(26) FUNC CLASSIFICATION:	(112) NBIS BRIDGE LENGTH: ..... Yes
(104) HIGHWAY SYSTEM: ..... 0 - Structure/Route is NOT on NHS	(105) FEDERAL LANDS HIGHWAY:.... 0 - Not Applicable
	(110) DESIGNATED NATIONAL NET: 0 - Inventory route not on network

**STRUCTURE DESCRIPTION, FOUNDATION, AND DECK TYPE**

(43) MAIN STRUCT. TYPE: ..... 310-Steel-Truss - Thru	(44) APPROACH STRUCT. TYPE: .... 309-Steel-Truss - Deck
(45) NO. OF MAIN SPANS: ..... 2	(46) NO. OF APPROACH SPANS: ..... 1
(48) MAX. SPAN LENGTH: ..... 111 FT	(108) WEAR SURF/PROTECT SYSTEM:
(49) STRUCTURE LENGTH: ...249.66888 FT	A) TYPE WEARING SURFACE: .. 0 - None
(216) ABUTMENT FDNS: ..... #1: 2 - Spr Ftg On Bearing Mat'l, #2: 2 - Spr Ftg On Bearing Mat'l	B) TYPE MEMBRANE: ..... 0 - None
(217) PIER FDNS: ..... #1: 2 - Spr Ftg On Bearing Mat'l, #2:	C) TYPE PROTECTION: ..... 0 - None
(107) DECK TYPE: ..... 2 - Concrete Precast Panels	(218) IS SALT USED? ..... N

**LOAD RATING AND POSTING**

(31) DESIGN LOAD: ..... 5 - MS 18	(41) LOAD RESTRICTION: ..... P - Posted for Load
(66) INVENTORY RATING: ..... 2 TONS	(70) BRIDGE POSTING: ..... 0 - More than 39.9% below legal loads (0 tons)
(65) INVENTORY METHOD: ...2	
(64) OPERATING RATING: ..... 5 TONS	
(63) OPERATING METHOD: ...2	

**GEOMETRY, TRAFFIC, AND NAVIGATIONAL DATA**

(16) LATITUDE: 47° 37' 06.87"	(17) LONGITUDE: 112° 41' 27.95"	(52) DECK WIDTH: ..... 13.3 FT
(19) DETOUR LENGTH: ..... 40 MI	(32) APPR. ROADWAY WIDTH: ..... 13.5 FT	(213) APPR. PAVEMENT WIDTH: ..... 0 FT
(28) LANES ON STRUCTURE: 1 LANES UNDER STRUCTURE: 0	LEFT SHOULDER: 0 FT	RIGHT SHOULDER: 0 FT
(42) SERVICE ON: ..... 1 - Highway	(33) BRIDGE MEDIAN: ..... 0 - No median	
SERVICE UNDER: ..... 5 - Waterway	(34) SKEW ANGLE: ..... 0°	
(29) AVG. DAILY TRAFFIC: 30 (30) YEAR OF ADT: 2015	(35) DECK FLARE? ..... 0	
(114) FUTURE ADT: 33 (115) YEAR OF ADT: 2035	(47) TOTAL HORIZ. CLEARANCE: ..... 13.45128 FT	
(101) PARALLEL STRUCTURE: ..... N - No parallel structure	(50) SIDEWALKS: LEFT: 0 FT RIGHT: 0 FT	
(38) NAVIGATION CONTROL? ..... 0	(214) BRIDGE RAIL TYPE: ..... 00,0	
(39) VERTICAL CLEARANCE: ..... 0 FT	(215) BRIDGE RAIL HEIGHT: ..... 3 FT	
(40) HORIZONTAL CLEARANCE: ..... 0 FT	(53) MIN. VERT. CLEAR. OVER DECK: 9999 FT	
(111) ABUT. OR PIER PROTECTION: 1 - Navigation protection not required	(54) MIN. VERT. UNDERCLEARANCE: .0 FT	
HORIZONTAL UNDERCLEARANCE: (55) RIGHT: 0 (56) LEFT: 0		



**CONDITION AND APPRAISAL DATA, PROPOSED IMPROVEMENTS, AND COSTS**

(58) DECK: ..... 5	(67) STRUCTURAL EVALUATION: ..... 3
(59) SUPERSTRUCTURE: ..... 5	(68) DECK GEOMETRY: ..... 5
(60) SUBSTRUCTURE: ..... 3	(69) UNDERCLEARANCES: ..... N
(61) CHANNEL: ..... 8	(71) WATERWAY ADEQUACY: ..... 9
(62) CULVERT: ..... N	(72) APPROACH ALIGNMENT: ..... 2
(222) APPROACHES: ..... 2	(113) SCOUR CRITICAL: ..... 8
(223) RETAINING WALL: ..... 7	(225) PURPOSE OF IMPROVEMENT: ... 2 - Rehabilitation and/or Reconstruction
(224) EST. REMAINING LIFE: ..... 20	(226) IMPROVEMENT PRIORITY: ..... B - Major
(36) TRAFFIC SAFETY FEATURES: ..0010	(227) MAINTENANCE COST: .....
(75) WORK TYPE: ..... 351	(94) BRIDGE IMPROVEMENT COST: ... \$ 30500
(76) IMPROVEMENT LENGTH: ..... 228 FT	(95) ROADWAY IMPROVEMENT COST: \$ 0
	(96) TOTAL PROJECT COST: ..... \$ 30500

**INSPECTION DATES**

(90) INSPECTION DATE: 03/18/2015	(91) FREQ OF INSP: 48 MOS	(92) CRITICAL FEATURE INSPECTION (CFI):
(219) ADD. STUDIES NEEDED? .....		(A) FRACT. CRIT.: N INSP. EVERY: MOS. (A) LAST INSP.
(220) SPECIAL STUDY TYPE: .....		(B) UNDERWATER: N INSP. EVERY: MOS. (A) LAST INSP.
(221) SPECIAL STUDY DATE: .....		(C) SPECIAL INSP.: N INSP. EVERY: MOS. (A) LAST INSP.
(232) INSPECTOR #1 / OFFICE: .....G. Bone		(234) TECH REVIEWER/ OFFICE: .....Great Plains Regional Office
(233) INSPECTOR #2 / OFFICE: .....G. Grassel		(235) INSPECTION COST: .....

(230) REMARKS:

(231) ADDITIONAL CONSIDERATIONS:

Concrete footing under north approach span needs to be repaired.  
 Precast deck planks must be fastened to steel stringers.



PHOTO #1 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. VIEW LOOKING AT THE UPSTREAM SIDE OF THE BRIDGE. (03/18/2015)



PHOTO #2 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. VIEW OF A MISSING FASTENER AT THE UPSTREAM SIDE, RIGHT TRUSS, FIRST TOP JOINT FROM THE RIGHT BEARING. (03/18/2015)



**PHOTO #3 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS PHOTO SHOWS THAT THE PRECAST FLOOR PLANKS ARE NOT FASTENED TO THE SUPERSTRUCTURE BEAM MEMBERS. PLANKS CAN MOVE UPSTREAM OR DOWNSTREAM AND MAY SHIFT A DISTANCE WHERE THEIR USE AS A TRAFFIC SURFACE WILL BE A CRITICAL FAILURE MODE. (03/18/2015)**



**PHOTO #4 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS PHOTO IS A VIEW PARALLEL TO BRIDGE CENTER LINE LOOKING AT THE DOWNSTREAM SIDE OF THE BRIDGE SURFACE. THE PRECAST PLANKS HAVE SHIFTED UPSTREAM AND DOWNSTREAM. RECOMMEND ALL PANELS ARE ATTACHED TO BEAMS AND ADJACENT PANELS TO CREATE NECESSARY DIAPHRAGM. (03/18/2015)**



**PHOTO #5 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS PHOTO SHOWS THE LEFT (EAST) APPROACH SPAN OF THE BRIDGE. REPAIRS HAVE BEEN MADE SINCE THE LAST INSPECTION. (03/18/2015)**



**PHOTO #6 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW OF THE RIGHT APPROACH TO THE BRIDGE. (03/18/2015)**



**PHOTO #7 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS PHOTO IS A VIEW LOOKING FROM THE LEFT ABUTMENT TO THE CENTER PIER ON THE UPSTREAM SIDE OF THE BRIDGE. NOTE THE SAG IN THE TRUSS APPROXIMATELY AT MID-SPAN OF THE UPSTREAM SIDE ONLY. CONNECTIONS HAVE BEEN INSPECTED BY RECLAMATION CLIMB TEAM AND NOTHING OUT OF THE NORMAL WAS OBSERVED AT THE CONNECTIONS OR MEMBERS. (03/18/2015)**



**PHOTO #8 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW OF THE SUPPORT PIER ON THE LEFT DOWNSTREAM APPROACH SPAN OF THE BRIDGE. RECOMMEND REPLACING THIS EXISTING PIER WITH NEW REINFORCED CONCRETE PIER. (03/18/2015)**



PHOTO #9 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS PHOTO IS A CLOSER VIEW OF THE PIER IN PHOTO # 8. (03/18/2015)

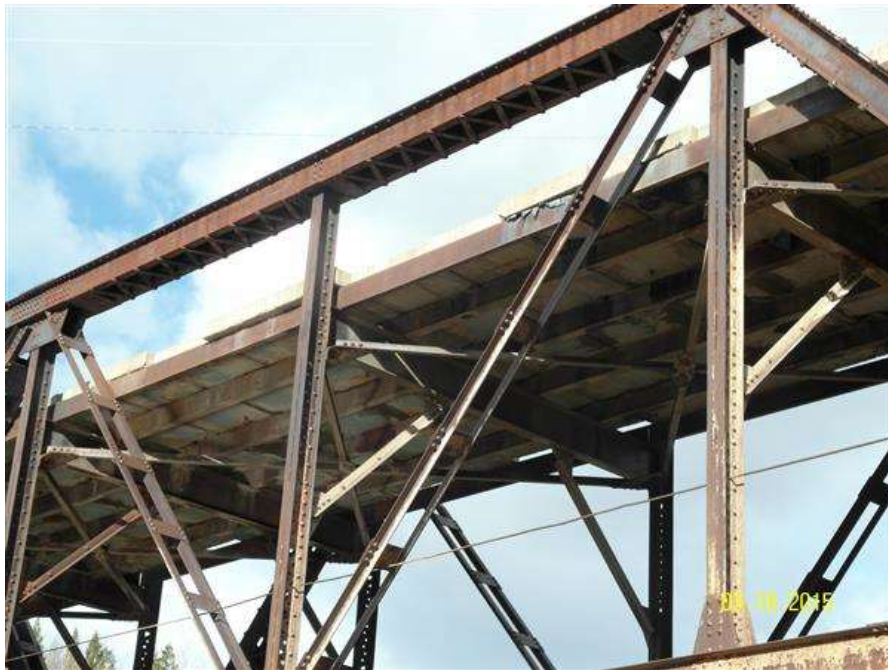


PHOTO #10 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW FROM UNDERSIDE OF THE BRIDGE, NOTE THE PRECAST DECK PLANKS HAVE SHIFTED UPSTREAM AND DOWNSTREAM AND DO NOT PROVIDE LATERAL STABILITY TO STEEL STRINGERS AND THEREFORE SUPPORT BEAMS ARE ALSO FULLY UNBRACED. (03/18/2015)



**PHOTO #11 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS PHOTO SHOWS THE BOTTOM CORD OF THE LEFT UPSTREAM TRUSS. THE BENT LOWER CORD HAS BEEN INSPECTED BY THE RECLAMATION CLIMB TEAM AND NOTHING WAS OBSERVED TO BE IN NEED OF REPAIR. (03/18/2015)**



**PHOTO #12 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW OF THE BEARING ASSEMBLY ON THE DOWNSTREAM SIDE OF THE RIGHT TRUSS AND RIGHT APPROACH. NOTE TRUSS ANCHOR BOLT IS BENT AND TRUSS BEARING PLATE COMING OFF THE ROLLERS. (03/18/2015)**



**PHOTO #13 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW OF THE UPSTREAM SIDE AT THE SAME APPROACH AS IN PHOTO #12. THE ANCHOR BOLT IS BENT AND THE BEARING PLATE HAS EXTENDED PAST THE FIRST ROLLER. (03/18/2015)**



**PHOTO #14 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW LOOKING AT THE DOWNSTREAM SIDE OF THE BRIDGE. (03/18/2015)**





PHOTO #15 MTA-SR-001, SUN RIVER BRIDGE, PHOTO BY GARY GRASSEL. THIS IS A VIEW FROM THE BRIDGE DECK  
LOOKING UPSTREAM. (03/18/2015)