

Bridge Inspection Report

A5977
I 49, SB Benton 1
over
US 71-SEC 19B



Inspection Date:

Inspected By:

Inspection Type(s):

TABLE OF CONTENTS

| | PAGE NUMBER |
|---------------------------|-------------|
| LOCATION MAP | 3 |
| NATIONAL BRIDGE INVENTORY | 8 |
| ELEMENTS | 10 |
| PICTURES | 12 |
| SKETCHES | 13 |

Inspector:

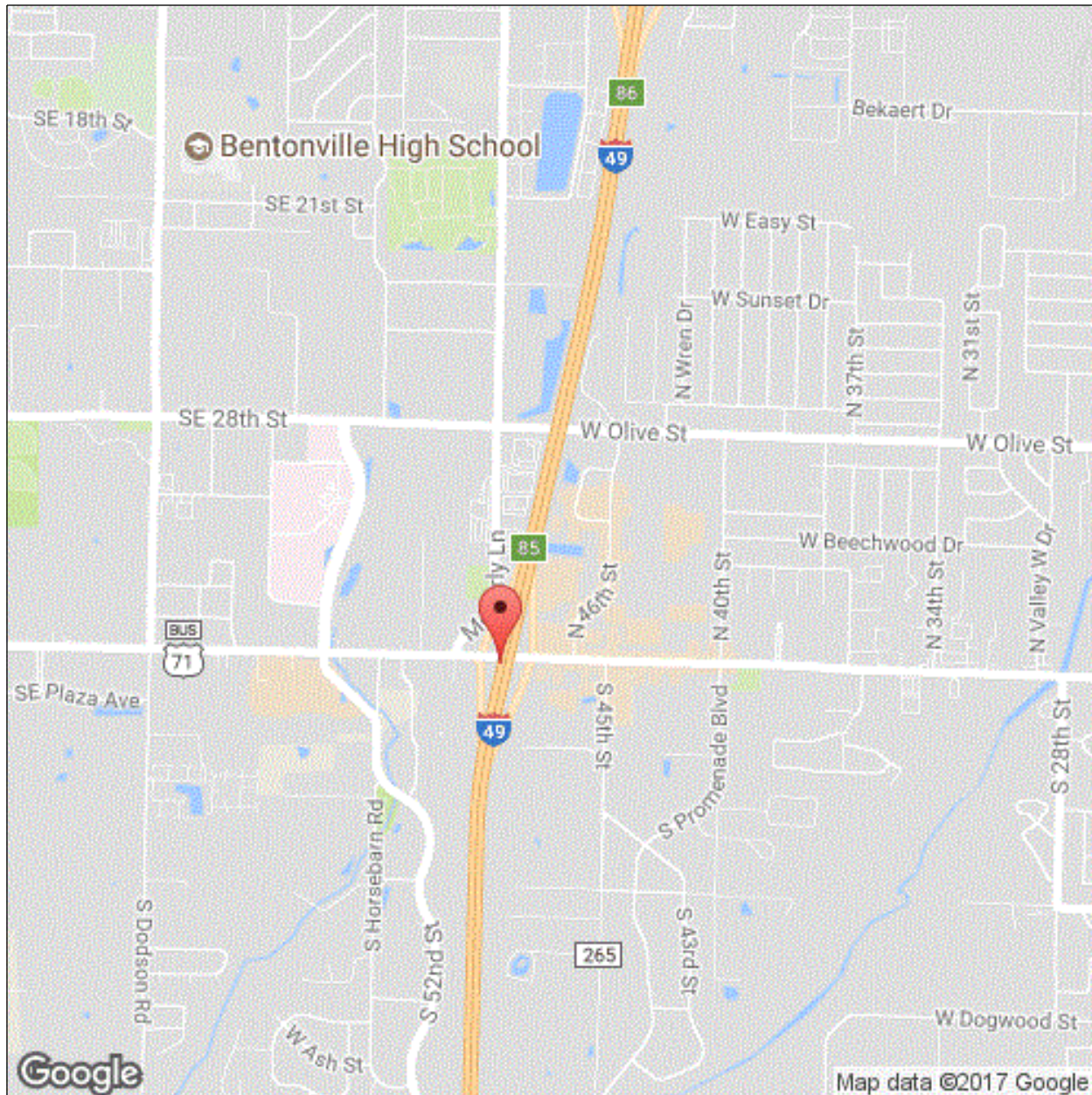
Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Location Map



Latitude: 36.33480

Longitude: -94.18369

Inspector:

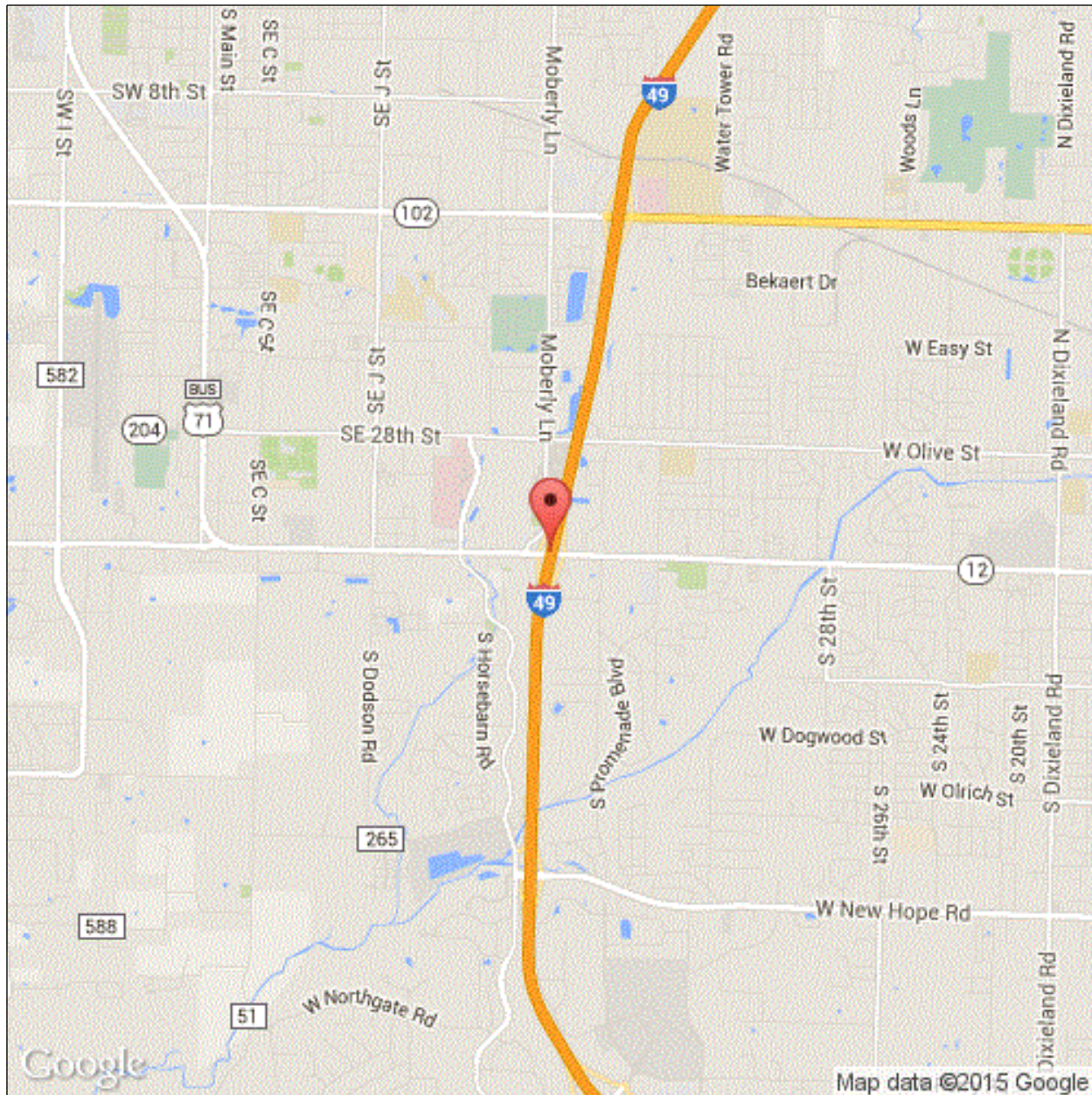
Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Location Map



Latitude: 36.33480

Longitude: -94.18369

Inspector:

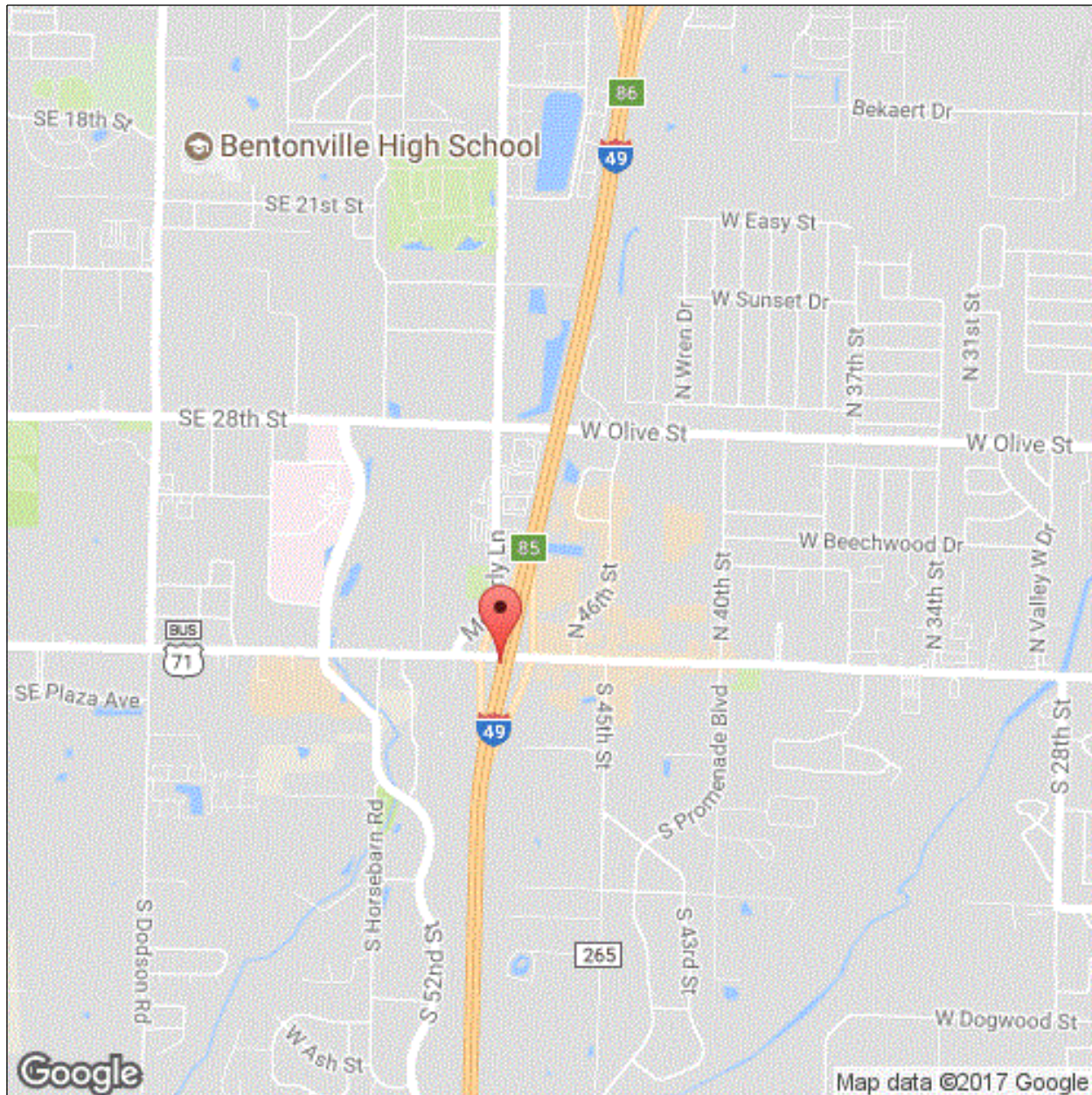
Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Location Map



Latitude: 36.33480

Longitude: -94.18369

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Executive Summary

09/11/2017 - RSM & WNR: Routine inspection conducted this date. See element notes for documentation. Under clearance measurements were field measured and verified this date. See NBIS Form VIII linked in "Other File" for clearance measurements. NBIS Condition Rating for item 59 lowered from 7 to 6 due to corrosion with section loss to beams over abutments.

Logged South to North.

MFF & WNR - 09-08-2015 - Vertical under clearance conducted this date see drawing for measurement information.

MFF & WNR - 09-08-2015 - No apparent noteworthy change since last inspection.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

National Bridge Inventory

| IDENTIFICATION | | INSPECTIONS | |
|---|--|---|---------------------|
| (1) STATE CODE | 056 - Arkansas | (90) INSPECTION DATE | 09/11/2017 |
| (8) STRUCTURE NUMBER | A5977 | (91) DESIGNATED INSPECTION FREQUENCY | 24 |
| (5) INV. ROUTE (ON/UNDER) | 1 1 1 49 3 | (92) CRITICAL FEATURE INSPECTION | (93) CFI DATE |
| (2) HIGHWAY AGENCY | 09 (3) COUNTY CODE 007 | A. FRACTURE CRITICAL DETAIL | N |
| (4) PLACE CODE | 05000 | B. UNDERWATER INSPECTION | N |
| (6) FEATURES INTERSECTED | US 71-SEC 19B | C. OTHER SPECIAL | N |
| (7) FACILITY CARRIED | I 49, SB Benton 1 | | |
| (9) LOCATION | 10.13 MI N WASH CO LINE | CONDITION | |
| (11) MILEPOINT 84.330 | (12) BASE HIGHWAY NETWORK 1 | (58) DECK | 7 |
| (13A) LRS INVENTORY ROUTE 0000049000 | (13B) SUBROUTE NUMBER 00 | (59) SUPERSTRUCTURE 6 | (60) SUBSTRUCTURE 8 |
| (16) LATITUDE 36.33480 | (17) LONGITUDE -94.18369 | (61) CHANNEL & CHANNEL PROTECTION | N (62) CULVERT N |
| (98A) BORDER BRIDGE CODE | | LOAD RATING AND POSTING | |
| PERCENT RESPONSIBILITY | (99) BORDER BRIDGE STRUCT | (31) DESIGN LOAD | 5 |
| STRUCTURE TYPE AND MATERIAL | | (63) METHOD USED TO DETERMINE OPERATING RATING | 1 |
| (43) STRUCTURE TYPE, MAIN | | (64) OPERATING RATING | 60.0 |
| A) KIND OF MATERIAL/DESIGN: | 4 - Steel continuous | (65) METHOD USED TO DETERMINE INVENTORY RATING | 1 |
| B) TYPE OF DESIGN/CONSTR: | 02 - Stringer/Multi-beam or Girder | (66) INVENTORY RATING | 36.0 |
| (44) STRUCTURE TYPE, APPROACH SPANS | | (70) BRIDGE POSTING | 5 |
| A) KIND OF MATERIAL/DESIGN: | 0 - Other | (41) STRUCTURE OPEN/POSTED/CLOSED | A |
| B) TYPE OF DESIGN/CONSTR: | 00 - Other | APPRAISAL | |
| (45) NUMBER OF SPANS IN MAIN 3 | (46) NUMBER OF APPROACH 0 | (67) STRUCTURAL EVALUATION | 6 |
| (107) DECK STRUCTURE TYPE 1 | (108A) WEARING SURFACE 1 | (68) DECK GEOMETRY | 7 |
| (108B) DECK MEMBRANE 0 | (108C) DECK PROTECTION 1 | (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL | 5 |
| AGE OF SERVICE | | (71) WATERWAY ADEQUACY | N |
| (27) YEAR BUILT 1987 | (106) YEAR RECONSTRUCTED 0000 | (72) APPROACH ROADWAY ALIGNMENT | 8 |
| (42) TYPE OF SERVICE ON 1 | UNDER 1 | (36) TRAFFIC SAFETY FEATURE | |
| (28) LANES ON 02 | UNDER 05 | 36A) BRIDGE RAILINGS: | 1 |
| (29) AVERAGE DAILY TRAFFIC 88130 | (19) BYPASS DETOUR LENGTH 0 | 36B) TRANSITIONS: | 1 |
| (30) YEAR OF AVERAGE DAILY TRAFFIC 2014 | | 36C) APPROACH GUARDRAIL: | 1 |
| (109) AVERAGE DAILY TRUCK TRAFFIC 1 | | 36D) APPROACH GUARDRAIL ENDS: | 1 |
| GEOMETRIC DATA | | (113) SCOUR CRITICAL BRIDGES | N |
| (48) LENGTH OF MAX SPAN (ft.) 95 | (49) STRUCTURE LENGTH (ft.) 185 | SUFFICIENCY RATING | 0 STATUS 97.0 |
| (50) CURB/SIDEWALK WIDTHS (ft.) LEFT 0 | RIGHT 0 | CLASSIFICATION | |
| (51) BRDG RDWY WIDTH CURB-TO-CURB (ft.) | 40.0 | (112) NBIS BRIDGE LENGTH | Y |
| (52) DECK WIDTH, OUT-TO-OUT (ft.) | 42.8 | (104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE | 1 |
| (32) APPROACH ROADWAY WIDTH (ft.) | 40.0 | (26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE | 11 |
| (33) BRIDGE MEDIAN 0 | (34) SKEW (DEG.) 11 | (100) STRAHNET HIGHWAY DESIGNATION | 1 |
| (35) STRUCTURE FLARED 0 | (10) INV RTE, MIN VERT CLEAR (ft.) 99.99 | (101) PARALLEL STRUCTURE DESIGNATION | L |
| (47) TOTAL HORIZONTAL CLEARANCE (ft.) | 41.3 | (102) DIRECTION OF TRAFFIC | 1 |
| (53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) | 99.99 | (103) TEMP STRUCTURE | |
| (54) VERTICAL UNDER CLEARANCE (ft.) | H 18.1 | (105) FEDERAL LANDS HIGHWAYS | 0 |
| (55) LATERAL UNDER CLEARANCE RIGHT (ft.) | H 11.1 | (110) DESIGNATED NATIONAL NETWORK | 1 |
| (56) MIN LATERAL UNDER CLEARANCE (ft.) | 0 | (20) TOLL | 3 |
| PROPOSED IMPROVEMENTS | | (21) MAINTENANCE RESPONSIBILITY | 01 |
| (75A) TYPE OF WORK PROPOSED | (75B) WORK DONE BY | (22) OWNER | 01 |
| (76) LENGTH OF STRUCTURE IMPROVEMENT (ft.) | 0 | (37) HISTORICAL | 5 |
| (94) BRIDGE IMPROVEMENT COST (\$) | 0 | NAVIGATION DATA | |
| (95) ROADWAY IMPROVEMENT COST (\$) | 0 | (38) NAVIGATION CONTROL | N |
| (96) TOTAL PROJECT COST | 0 | (111) PIER OR ABUTMENT PROTECTION | 1 |
| (97) YEAR OF IMPROVEMENT COST ESTIMATE | | (39) NAV VERT CLEARANCE (ft.) | 0 |
| (114) FUTURE ADT 38078 | (115) YEAR OF FUTURE ADT 2028 | (116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.) | 0 |
| | | (40) NAV HORIZONTAL CLEARANCE (ft.) | 0 |

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

National Bridge Inventory

UNDER RECORD 2

IDENTIFICATION

| | | | |
|---------------------------|----------------|---------------------------|--|
| (1) STATE CODE | 056 - Arkansas | (7) FACILITY CARRIED | I 49, SB LNS |
| (3) COUNTY CODE | 007 | (8) STRUCTURE NUMBER | A5977 |
| (4) PLACE CODE | 05000 | (9) LOCATION | 10.13 MI N WASH CO LINE |
| (5) INV. ROUTE (ON/UNDER) | 2 2 6 71 0 | (11) MILEPOINT | 0.010 (12) BASE HIGHWAY NETWORK 1 |
| (6) FEATURES INTERSECTED | US 71-SEC 19B | (13A) LRS INVENTORY ROUTE | 000007119B (13B) SUBROUTE NUMBER 00 |
| | | (16) LATITUDE | 36. 3348055555556 (17) LONGITUDE -94.1836111111111 |

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN A) KIND OF MATERIAL/DESIGN: 4 - Steel continuous
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder

AGE OF SERVICE

| | | | |
|----------------------------|----------------|------------------------------------|--------------|
| (19) BYPASS DETOUR LENGTH | 2 | (30) YEAR OF AVERAGE DAILY TRAFFIC | 2014 |
| (27) YEAR BUILT | 1987 | (42) TYPE OF SERVICE | ON 1 UNDER 1 |
| (28) LANES | ON 05 UNDER 02 | (109) AVERAGE DAILY TRUCK TRAFFIC | 1 |
| (29) AVERAGE DAILY TRAFFIC | 38000 | | |

GEOMETRIC DATA

| | | | |
|----------------------------------|------|-----------------------------|------------------------------|
| (10) INV RTE, MIN VERT CLEARANCE | 18.2 | (48) LENGTH OF MAXIMUM SPAN | 95 (49) STRUCTURE LENGTH 185 |
| (47) TOTAL HORIZONTAL CLEARANCE | 84.6 | | |

CLASSIFICATION

| | | | |
|---|----|---|---|
| (20) TOLL | 3 | (102) DIRECTION OF TRAFFIC | 2 |
| (26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE | 16 | (103) TEMP STRUCTURE | |
| (100) STRAHNET HIGHWAY DESIGNATION | 0 | (104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE | 1 |
| (101) PARALLEL STRUCTURE DESIGNATION | L | (110) DESIGNATED NATIONAL NETWORK | 1 |

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Element Inspection

| | Environment | Total Quantity | Units | Condition State 1 | Condition State 2 | Condition State 3 | Condition State 4 |
|--|---|----------------|---------|-------------------|-------------------|-------------------|-------------------|
| 12 - Reinforced Concrete Deck | 1- Ben. | 7320 | sq. ft. | 6759 | 559 | 2 | 0 |
| | 09/11/2017 - RSM & WNR: -The deck has sealable full length longitudinal cracking. -Span #1 driving surface has a basketball sized spall in the left lane adjacent to abutment #1. -The undersurface of span #1 has a basketball sized delaminated area in the left overhang portion of the deck adjacent to abutment #1. Approach railing: The Northeast approach railing has minor collision damage. | | | | | | |
| 1080 - Delamination/Spall/Patched Area | | 2 | | | | 2 | |
| 1130 - Cracking (RC and Other) | | 559 | | | 559 | | |
| 107 - Steel Open Girder/Beam | 1- Ben. | 1098 | ft. | 1076 | 6 | 16 | 0 |
| | 09/11/2017 - RSM & WNR: -Beams have a failing paint system with corrosion to the beam ends over the bearings and adjacent to the deck haunch. -Span #1, Beam #3 at abutment #1 has corrosion to the base of web in an area approximately 5' long with section loss up to approximately 1/8". | | | | | | |
| 1000 - Corrosion | | 22 | | | 6 | 16 | |
| 515 - Steel Protective Coating | | 9435 | sq. ft. | 1389 | 8000 | 0 | 46 |
| 3410 - Chalking (Steel Protective Coatings) | | 8000 | | | 8000 | | |
| 3440 - Effectiveness (Steel Protective Coatings) | | 46 | | | | | 46 |
| 205 - Reinforced Concrete Column | 1- Ben. | 4 | each | 4 | | | |
| | 09/11/2017 - RSM & WNR: No noteworthy deficiencies at this inspection. | | | | | | |
| 215 - Reinforced Concrete Abutment | 1- Ben. | 101 | ft. | 81 | 20 | 0 | 0 |
| | 09/11/2017 - RSM & WNR: -The top of backwall have areas of shallow spalling visible from the driving surface. | | | | | | |
| 1080 - Delamination/Spall/Patched Area | | 20 | | | 20 | | |
| 234 - Reinforced Concrete Pier Cap | 1- Ben. | 81 | ft. | 81 | | | |
| | 09/11/2017 - RSM & WNR: No noteworthy deficiencies at this inspection. | | | | | | |
| 302 - Compression Joint Seal | 1- Ben. | 86 | ft. | 0 | 0 | 4 | 82 |
| | 09/11/2017 - RSM & WNR: -The compression joint seal at abutment #1 is missing. -The compression joint seal at abutment #2 has debris impaction, adhesion failure and is sticking up above the assembly in locations. | | | | | | |
| 2310 - Leakage | | 40 | | | | | 40 |
| 2320 - Seal Adhesion | | 42 | | | | | 42 |
| 2330 - Seal Damage | | 4 | | | | 4 | |

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Element Inspection

| | | | | | | | |
|--|---|------|---------|------|-----|----|----|
| 310 - Elastomeric Bearing | 1- Ben. | 12 | each | 12 | | | |
| | 09/11/2017 - RSM & WNR: No noteworthy deficiencies at this inspection. | | | | | | |
| 311 - Movable Bearing | 1- Ben. | 12 | each | 0 | 0 | 12 | 0 |
| | 09/11/2017 - RSM & WNR: -Bearings have a failed paint system with active corrosion and flaking rust. The bolts that attach the beams to the bearings are backing out in several locations. -Span #1, bearing #1 at abutment #1 is missing one bolt that attaches the beam to the bearing. -Several bolts that attach beams to bearing devices are backing out of bearing devices at abutment #1. -Abutment #2, bearing #3 only makes contact with the masonry plate when impacted by traffic. Bearing rocker can be moved by hand. | | | | | | |
| 1000 - Corrosion | | 10 | | | | 10 | |
| 1020 - Connection | | 1 | | | | 1 | |
| 2210 - Movement | | 1 | | | | 1 | |
| 515 - Steel Protective Coating | | 36 | sq. ft. | 19 | 0 | 0 | 17 |
| 3440 - Effectiveness (Steel Protective Coatings) | | 17 | | | | | 17 |
| 321 - Reinforced Concrete Approach Slab | 1- Ben. | 1680 | sq. ft. | 1038 | 560 | 82 | 0 |
| | 09/11/2017 - RSM & WNR: -The South approach slab has a moderate width full length longitudinal crack in the right lane. -The North approach slab has a moderate width full length longitudinal crack with transverse cracking. | | | | | | |
| 1130 - Cracking (RC and Other) | | 82 | | | | 82 | |
| 1190 - Abrasion/Wear (PSC/RC) | | 560 | | | 560 | | |
| 331 - Reinforced Concrete Bridge Railing | 1- Ben. | 370 | ft. | 319 | 42 | 9 | 0 |
| | 09/11/2017 - RSM & WNR: -The concrete parapets have vertical cracking that corresponds with the sawn joints and in other random locations. -The right bridge railing in span #1 has a basketball sized spall with exposed reinforcing steel. -The right bridge railing in span #2 has numerous areas of spalling with exposed reinforcing steel with section loss. The left bridge railing in span #2 has several areas of spalling with exposed reinforcing steel. | | | | | | |
| 1090 - Exposed Rebar | | 33 | | | 24 | 9 | |
| 1130 - Cracking (RC and Other) | | 18 | | | 18 | | |

Inspector:

Inspection Date:

Structure Number: A5977

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Pictures

Inspector:

Inspection Date:

Structure Number: A5977

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Sketches

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/11/2017

Priority: C - Important

Work Code:

Deficiency Description:

Abutment #2, bearing #3 - The rocker device for bearing #3 at abutment #2 does not make contact with the masonry plate except when under live load. The rocker device can be moved by hand and has significant movement under liver load.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Abutment #2, bearing #3-Does not make contact with masonry plate.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/11/2017

Priority: D - Routine

Work Code:

Deficiency Description:

Concrete bridge railing - The concrete bridge railing has numerous areas of shallow spalling with exposed reinforcing steel. The most notable area is the right side of span #2 which has closely spaced areas of spalling with exposed reinforcing steel.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Span #2, right side-Spalling in parapet with exposed reinforcing steel.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/08/2015

Priority: C - Important

Work Code:

Deficiency Description:

Compression joint seals - The compression joint seal at abutment #1 is missing allowing free flow of water, dirt and debris to leak onto the substructure. The compression joint seal at abutment #2 is deteriorated and has adhesion failure with dirt and debris impaction.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Abutment #1-Joint seal missing.

Stage: Monitor



PHOTO 2 Description Abutment #2 compression joint seal deteriorated with debris impaction.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/08/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Bearings -

The bolts that attach the beams to the bearing devices are backing out in several locations at both abutments. The most notable case is bearing #1 at abutment #1 which has one bolt missing. The bearings at both abutments have corrosion with flaking rust.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Abutment #1, bearing #1-Missing bolt.

Stage: Monitor



PHOTO 2 Description Corrosion to bearing device.

Inspector:

Inspection Date:

Structure Number: A5977

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Stage: Monitor



PHOTO 3 Description Bolts that attach beams to bearing devices backing out.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/08/2015

Priority: C - Important

Work Code:

Deficiency Description:

Girders - Bent #1 steel girder #1 where girder attached to bearing Bolt sheared off.

Work Description:

Date Repairs Completed: 09/11/2017

Maintenance Comments:

09/11/2017 - RSM - This deficiency included in another sequence.

Stage: Monitor



PHOTO 1 Description Bent #1 steel girder #1 where girder attached to bearing Bolt sheared off.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/08/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Bent #1 and #4 bearings - Rust, corrosion and pitting.

Work Description:

Date Repairs Completed: 09/11/2017

Maintenance Comments:

09/11/2017 - RSM - This deficiency included in another sequence.

Stage: Monitor



PHOTO 1 Description Bent #1 and #4 bearings
Rust, corrosion and pitting.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/08/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Deck / approach slabs - The deck has sealable cracking in all spans. The North and South approach slabs have sealable full length longitudinal cracks.

.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description South approach slab-Longitudinal cracking.

Stage: Monitor



PHOTO 2 Description Longitudinal cracking in driving surface of deck.

Inspector:

Structure Number: A5977

Inspection Date:

Facility Carried: I 49, SB Benton 1

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/08/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Abutment #1 - Abutment #1 has dirt and debris accumulation in the bearing areas.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Abutment #1-Dirt and debris accumulation.