

# Bridge Inspection Report

**02767**

**State Highway 27**

**over**

**Deer Creak-Montgomery**



**Inspection Date:**

**Inspected By:**

**Inspection Type(s):**

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Inspector:

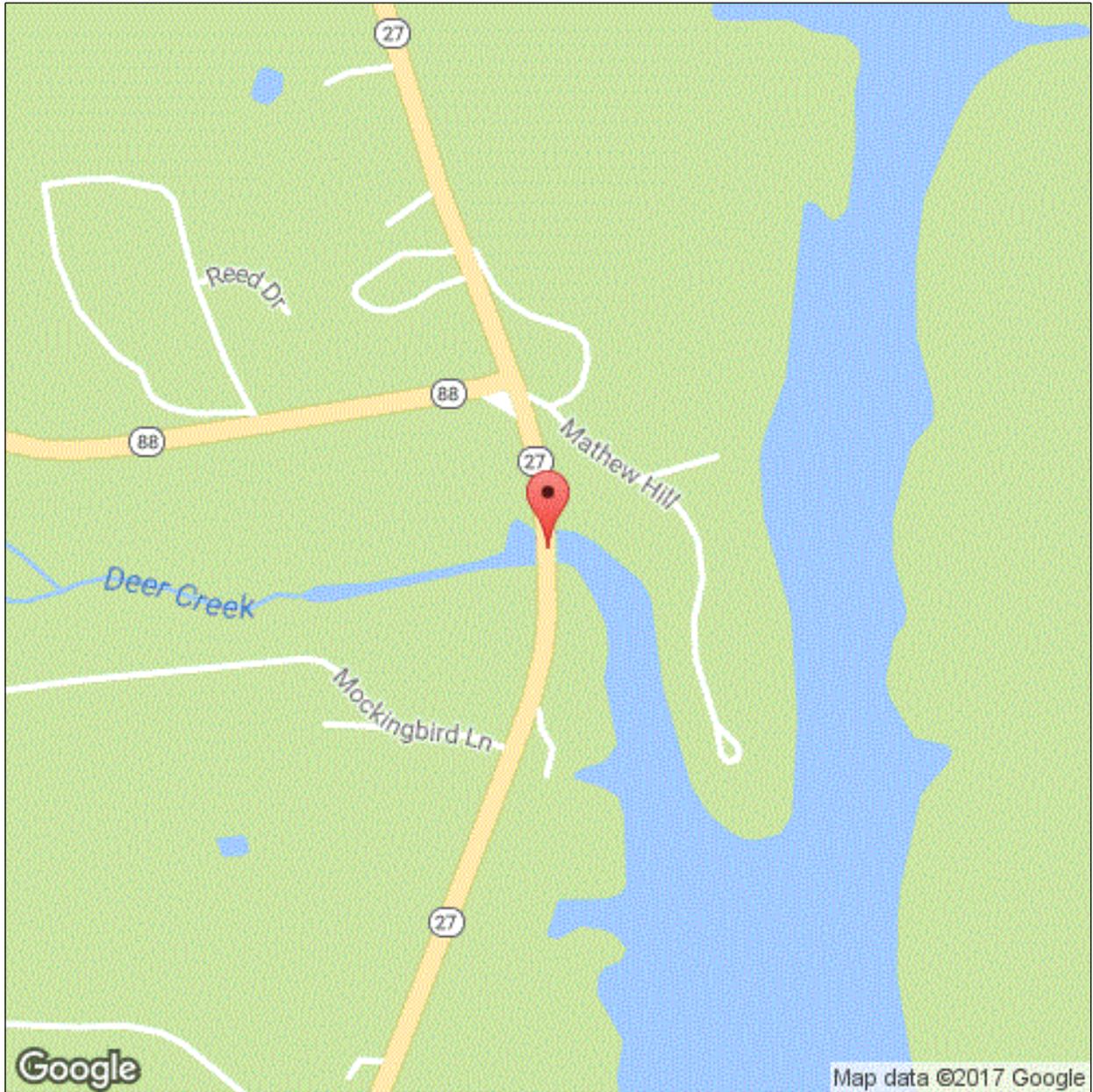
Structure Number: 02767

Inspection Date:

Facility Carried: State Highway 27

### Bridge Inspection Report

### Location Map



Latitude: 34.65122

Longitude: -93.53297

Inspector:

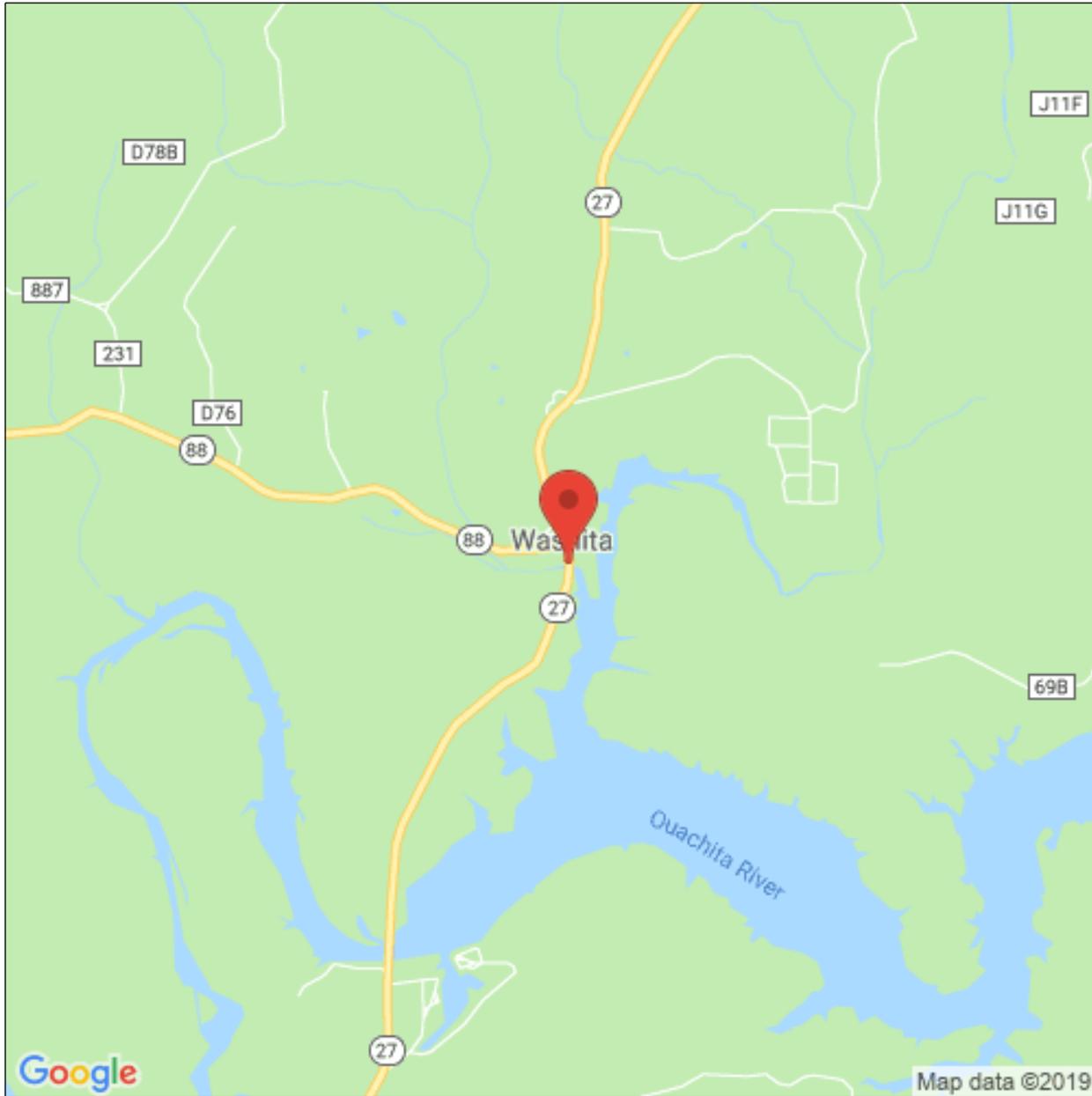
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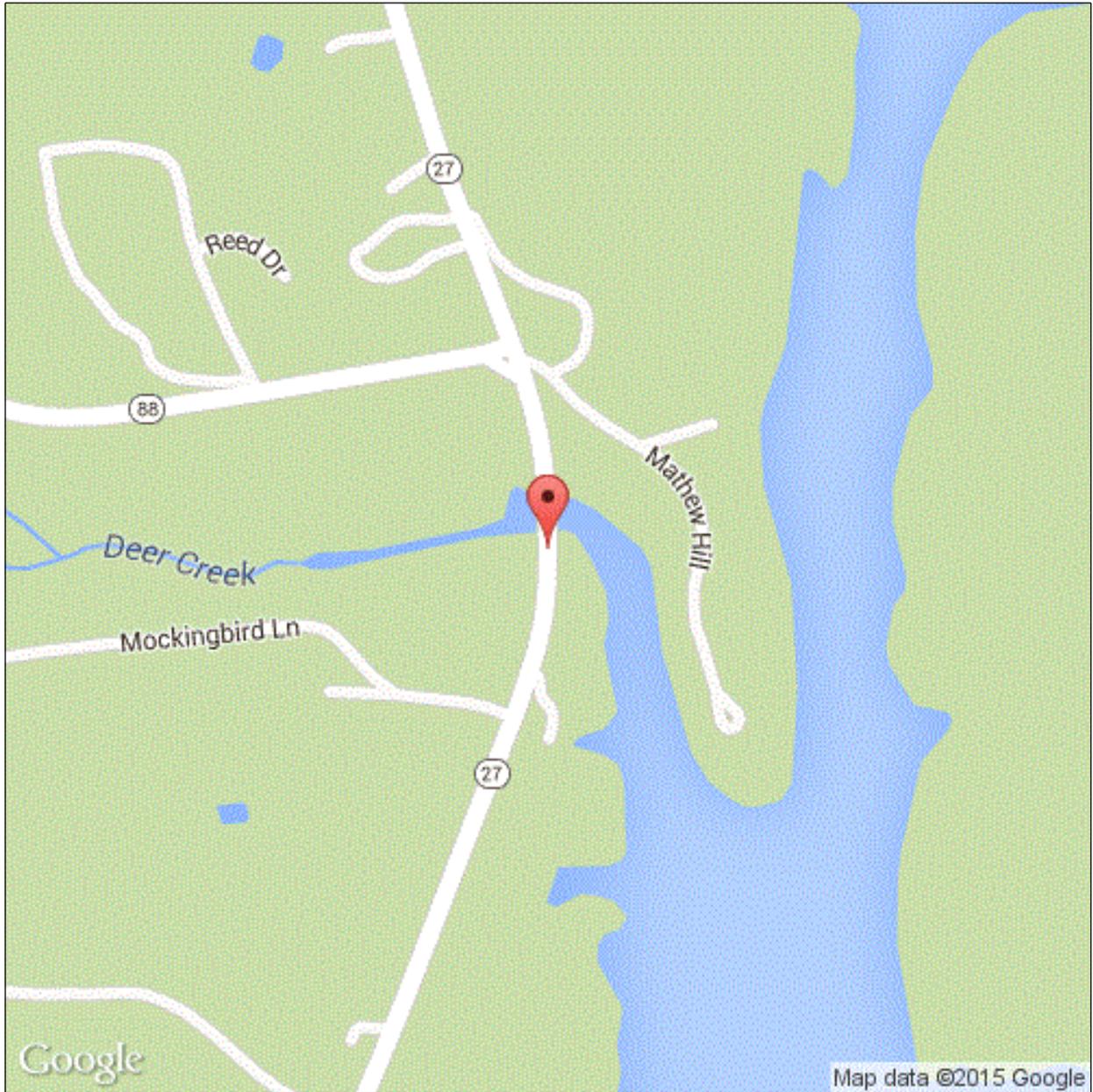
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Inspector:

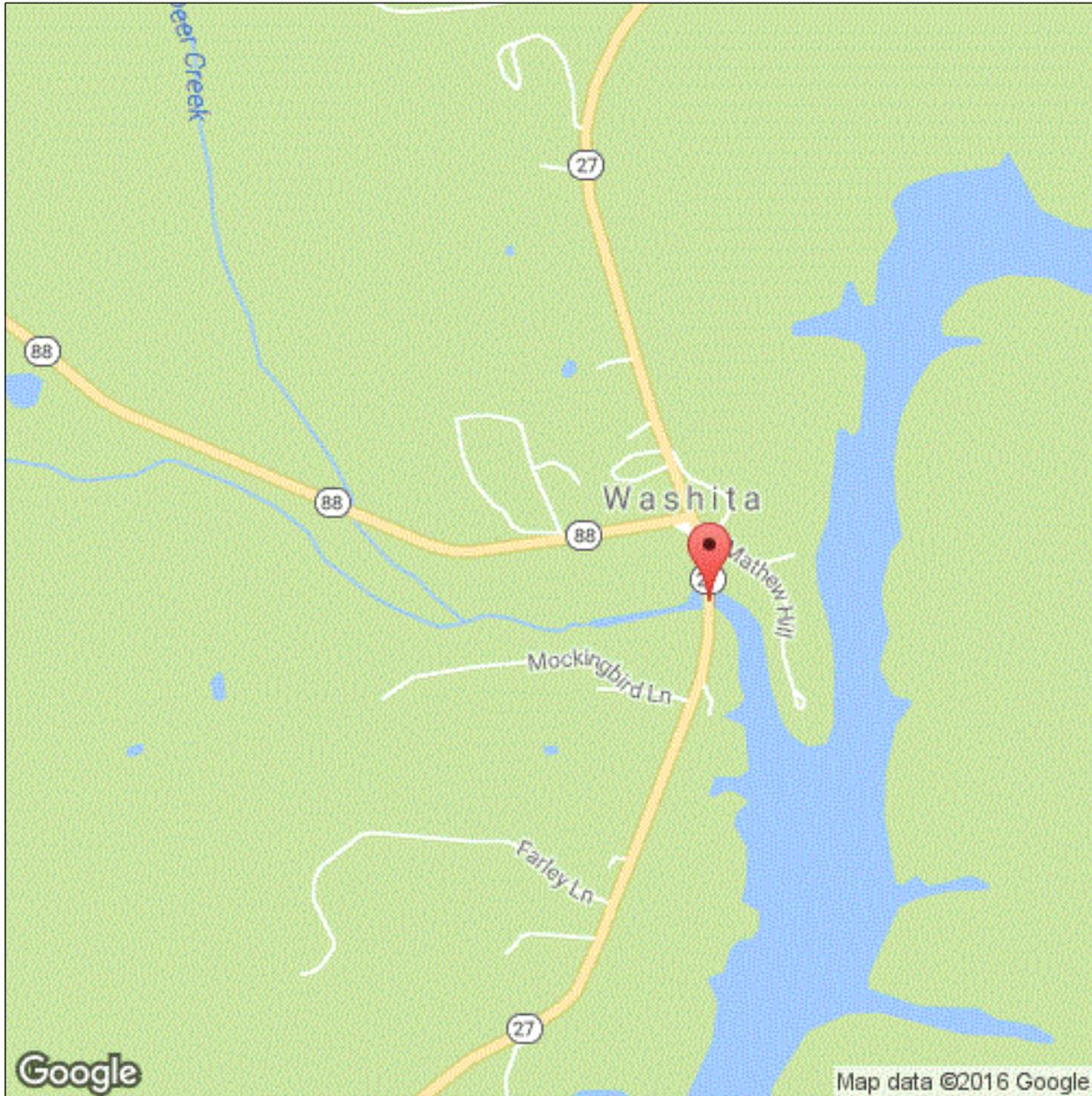
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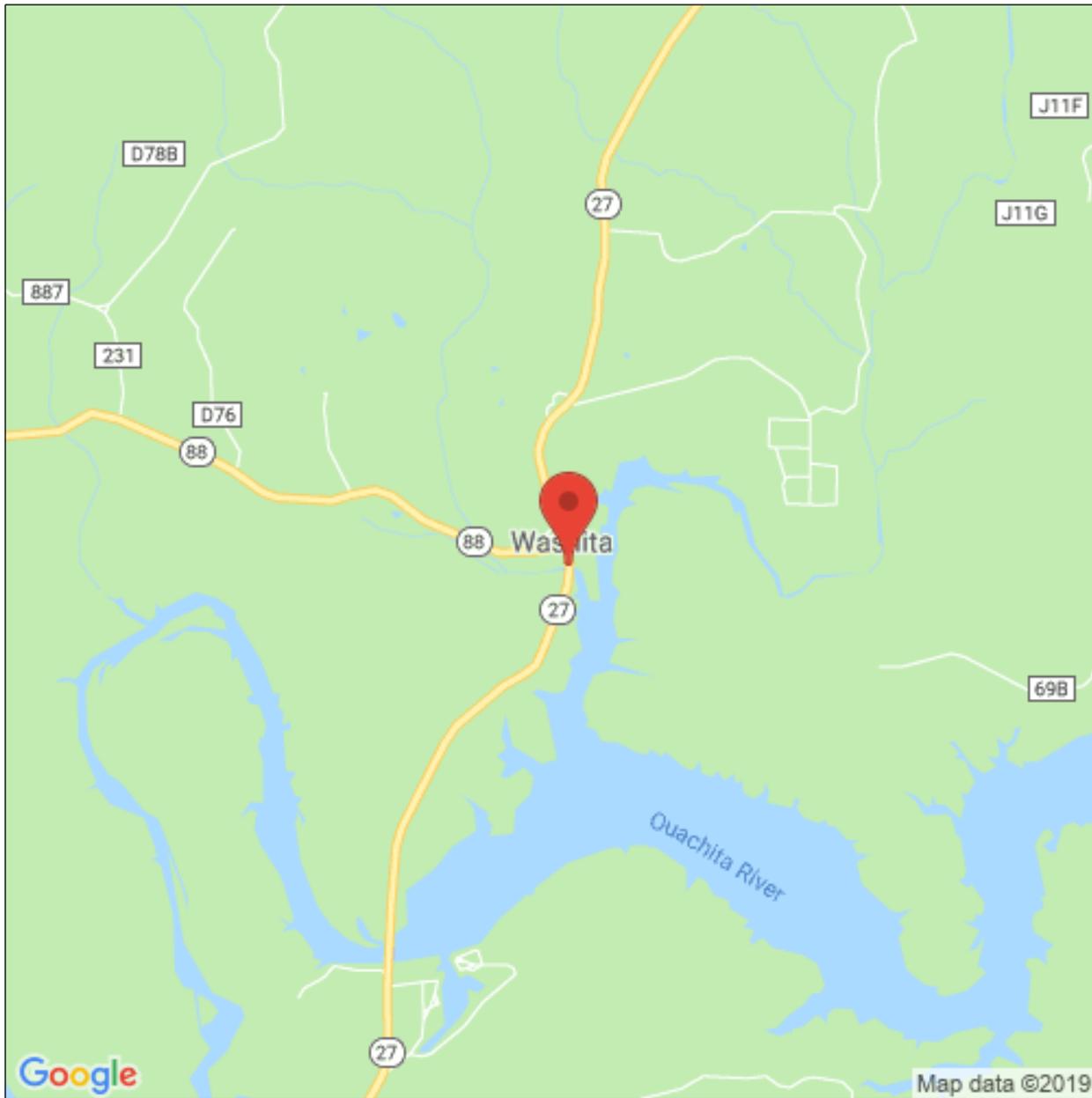
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### Location Map



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**Bridge Inspection Report**

**Executive Summary**

Inspector:

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Bridge Inspection Report

National Bridge Inventory

| IDENTIFICATION                                    |                                      | INSPECTIONS   |                       |
|---|--------------------------------------|---|-----------------------|
| (1) STATE CODE                                    | 056 - Arkansas                       | (90) INSPECTION DATE  | 07/16/2018            |
| (8) STRUCTURE NUMBER                              | 02767                                | (91) DESIGNATED INSPECTION FREQUENCY                        | 24                    |
| (5) INV. ROUTE (ON/UNDER)                         | 1 3 1 27 0                           | (92) CRITICAL FEATURE INSPECTION                            | (93) CFI DATE         |
| (2) HIGHWAY AGENCY                                | 08 (3) COUNTY CODE 097               | A. FRACTURE CRITICAL DETAIL                                 | N                     |
| (4) PLACE CODE                                    | 00000                                | B. UNDERWATER INSPECTION                                    | N                     |
| (6) FEATURES INTERSECTED                          | Deer Creak-Montgomery                | C. OTHER SPECIAL  | Y 24 09/18/2019       |
| (7) FACILITY CARRIED                              | State Highway 27                     | CONDITION   |                       |
| (9) LOCATION                                      | .1 MI S JCT SH 88                    | (58) DECK   | 4                     |
| (11) MILEPOINT 9.958                              | (12) BASE HIGHWAY NETWORK 1          | (59) SUPERSTRUCTURE   | 5 (60) SUBSTRUCTURE 5 |
| (13A) LRS INVENTORY ROUTE                         | 0000027070 (13B) SUBROUTE NUMBER 01  | (61) CHANNEL & CHANNEL PROTECTION                           | 7 (62) CULVERT N      |
| (16) LATITUDE 34.65122                            | (17) LONGITUDE -93.53297             | LOAD RATING AND POSTING                                     |                       |
| (98A) BORDER BRIDGE CODE                          |                                      | (31) DESIGN LOAD  | 2                     |
| PERCENT RESPONSIBILITY                            | (99) BORDER BRIDGE STRUCT            | (63) METHOD USED TO DETERMINE OPERATING RATING              | 1                     |
| STRUCTURE TYPE AND MATERIAL                       |                                      | (64) OPERATING RATING                                       | 42.0                  |
| (43) STRUCTURE TYPE, MAIN                         |                                      | (65) METHOD USED TO DETERMINE INVENTORY RATING              | 1                     |
| A) KIND OF MATERIAL/DESIGN:                       | 3 - Steel                            | (66) INVENTORY RATING                                       | 25.0                  |
| B) TYPE OF DESIGN/CONSTR:                         | 02 - Stringer/Multi-beam or Girder   | (70) BRIDGE POSTING   | 5                     |
| (44) STRUCTURE TYPE, APPROACH SPANS               |                                      | (41) STRUCTURE OPEN/POSTED/CLOSED                           | A                     |
| A) KIND OF MATERIAL/DESIGN:                       | 0 - Other                            | APPRAISAL   |                       |
| B) TYPE OF DESIGN/CONSTR:                         | 00 - Other                           | (67) STRUCTURAL EVALUATION                                  | 5                     |
| (45) NUMBER OF SPANS IN MAIN                      | 5 (46) NUMBER OF APPROACH            | (68) DECK GEOMETRY  | 3                     |
| (107) DECK STRUCTURE TYPE                         | 1 (108A) WEARING SURFACE             | (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL                 | N                     |
| (108B) DECK MEMBRANE                              | 0 (108C) DECK PROTECTION             | (71) WATERWAY ADEQUACY                                      | 8                     |
| AGE OF SERVICE                                    |                                      | (72) APPROACH ROADWAY ALIGNMENT                             | 5                     |
| (27) YEAR BUILT                                   | 1953 (106) YEAR RECONSTRUCTED        | (36) TRAFFIC SAFETY FEATURE                                 |                       |
| (42) TYPE OF SERVICE                              | ON 1 UNDER 5                         | 36A) BRIDGE RAILINGS:                                       | 0                     |
| (28) LANES  | ON 02 UNDER 00                       | 36B) TRANSITIONS:   | 0                     |
| (29) AVERAGE DAILY TRAFFIC                        | 1100 (19) BYPASS DETOUR LENGTH       | 36C) APPROACH GUARDRAIL:                                    | 0                     |
| (30) YEAR OF AVERAGE DAILY TRAFFIC                | 2018                                 | 36D) APPROACH GUARDRAIL ENDS:                               | 0                     |
| (109) AVERAGE DAILY TRUCK TRAFFIC                 | 22                                   | (113) SCOUR CRITICAL BRIDGES                                | 8                     |
| GEOMETRIC DATA                                    |                                      | SUFFICIENCY RATING  | 52.0 STATUS 1         |
| (48) LENGTH OF MAX SPAN (ft.)                     | 40 (49) STRUCTURE LENGTH (ft.)       | 202   |                       |
| (50) CURB/SIDEWALK WIDTHS (ft.)                   | LEFT 0.5 RIGHT 0.5                   | CLASSIFICATION  |                       |
| (51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)           | 22.0                                 | (112) NBIS BRIDGE LENGTH                                    | Y                     |
| (52) DECK WIDTH, OUT-TO-OUT (ft.)                 | 26.6                                 | (104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE                 | 0                     |
| (32) APPROACH ROADWAY WIDTH (ft.)                 | 27.9                                 | (26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE           | 06                    |
| (33) BRIDGE MEDIAN                                | 0 (34) SKEW (DEG.)                   | (100) STRAHNET HIGHWAY DESIGNATION                          | 0                     |
| (35) STRUCTURE FLARED                             | 0 (10) INV RTE, MIN VERT CLEAR (ft.) | (101) PARALLEL STRUCTURE DESIGNATION                        | N                     |
| (47) TOTAL HORIZONTAL CLEARANCE (ft.)             | 24.0                                 | (102) DIRECTION OF TRAFFIC                                  | 2                     |
| (53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.) | 99.99                                | (103) TEMP STRUCTURE  |                       |
| (54) VERTICAL UNDER CLEARANCE (ft.)               | N 0                                  | (105) FEDERAL LANDS HIGHWAYS                                | 0                     |
| (55) LATERAL UNDER CLEARANCE RIGHT (ft.)          | N 99.9                               | (110) DESIGNATED NATIONAL NETWORK                           | 0                     |
| (56) MIN LATERAL UNDER CLEARANCE (ft.)            | 0                                    | (20) TOLL   | 3                     |
| PROPOSED IMPROVEMENTS                             |                                      | (21) MAINTENANCE RESPONSIBILITY                             | 01                    |
| (75A) TYPE OF WORK PROPOSED                       | 31 (75B) WORK DONE BY                | (37) HISTORICAL   | 2                     |
| (76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)        | 235                                  | NAVIGATION DATA   |                       |
| (94) BRIDGE IMPROVEMENT COST (\$)                 | 0                                    | (38) NAVIGATION CONTROL                                     | 0                     |
| (95) ROADWAY IMPROVEMENT COST (\$)                | 156                                  | (111) PIER OR ABUTMENT PROTECTION                           | 1                     |
| (96) TOTAL PROJECT COST                           | 670                                  | (39) NAV VERT CLEARANCE (ft.)                               | 0                     |
| (97) YEAR OF IMPROVEMENT COST ESTIMATE            | 2003                                 | (116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.) | 0                     |
| (114) FUTURE ADT                                  | 1200 (115) YEAR OF FUTURE ADT        | (40) NAV HORIZONTAL CLEARANCE (ft.)                         | 0                     |
|   | 2038                                 |   |                       |

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Element Inspection

|   | Environment | Total Quantity | Units   | Condition State 1 | Condition State 2 | Condition State 3 | Condition State 4 |
|---|-------------|----------------|---------|-------------------|-------------------|-------------------|-------------------|
| <b>12 - Reinforced Concrete Deck</b>  | 1- Ben.     | 4700           | sq. ft. | 0                 | 3445              | 1255              | 0                 |
| <p>08/21/2017 - RWF &amp; KRM - The driving surface has failing temporary asphalt patches with potholes forming in the wheel paths. Large sealable cracking in the concrete repairs typical. Light/medium cracking with efflorescence in the undersurface with isolated areas of exposed reinforcing steel in the undersurface.</p> <p>07/17/2018<br/>           Span #1 - Right lane is sound concrete patched. Left lane is concrete and asphalt patches with moderate to large cracks and minor spalls.<br/>           Span #2 - Right lane is sound concrete patched. Left lane is asphalt wearing surface with concrete patches with moderate to large cracks and minor spalls.<br/>           Span #3 - thin asphalt wearing surface with concrete patches and minor spalls.<br/>           Span #4 - thin asphalt wearing surface with concrete patches and minor spalls.<br/>           Span #5 - All of right lane has sound concrete patches. Left lane has 50% sound concrete patches. Almost all of the thin asphalt wearing surface is gone. Moderate scale and cracks in old existing concrete. There is not enough of the wearing surface left to add a Wearing Surface element to this deck.</p> <p>9/18/2019 - GLD &amp; MLM - Special Recurring inspecting on deck. There had been a full depth failure (hole) in the deck since last inspection at the north end of bridge. This has been repaired.<br/>           Span #'s 2 &amp; 3 - several spalls at the center line some are greater than 1" deep.</p> |             |                |         |                   |                   |                   |                   |
| 1080 - Delamination/Spall/Patched Area  |             | 4521           |         | 0                 | 3445              | 1076              | 0                 |
| 1090 - Exposed Rebar  |             | 18             |         | 0                 | 0                 | 18                | 0                 |
| 1130 - Cracking (RC and Other)  |             | 161            |         | 0                 | 0                 | 161               | 0                 |

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Element Inspection

|   |         |      |         |      |      |      |     |
|---|---------|------|---------|------|------|------|-----|
| <b>107 - Steel Open Girder/Beam</b>   | 1- Ben. | 800  | ft.     | 18   | 758  | 24   | 0   |
| <p>Abut #1 - Beams have been cleaned and painted, some rust on bottom flange at bearings.<br/>                 Pier #2, backside - B1 old section loss in bottom flange, B2 tee splice, B3 rust and old section loss in bottom flange, B4 rust on bottom flange. Ahead side - typical of backside.<br/>                 Pier #3 - both sides B2 &amp; B3 have tee splices. B2, B3 &amp; B4 - minor rust on bottom flange.<br/>                 Pier #4 - beam #2, both side have tee splices. Beam #3, both sides have old section loss on bottom flange.<br/>                 Pier #5 - beam #1, both sides old section loss, B2 ahead tee splice. All others have rust and minor section loss.<br/>                 Abut #6 - Beams have been cleaned and painted, some rust on bottom flange at bearings.</p> <p>Beam #2 back &amp; ahead sides at pier #2, beam #'s 2 &amp; 3 back &amp; ahead sides at pier #3, beam #2 back &amp; ahead sides at pier #4 &amp; beam #2 backside at pier #5 have been tee spliced.</p> |         |      |         |      |      |      |     |
| 1000 - Corrosion  |         | 782  |         | 0    | 758  | 24   | 0   |
| 515 - Steel Protective Coating  |         | 5600 | sq. ft. | 2600 | 1500 | 1000 | 500 |
| 3440 - Effectiveness (Steel Protective Coatings)  |         | 3000 |         | 0    | 1500 | 1000 | 500 |
| <b>205 - Reinforced Concrete Column</b>   | 1- Ben. | 8    | each    | 5    | 2    | 1    | 0   |
| <p>Pier #2, column #2, backside - minor spall with rebar exposed 1 ea. C3<br/>                 Pier #4, column #1, backside - minor spall with rebar exposed 1 ea. C2<br/>                 Pier #5, column #2, ahead side - minor spalls with rebar exposed 1 ea. C2.</p>   |         |      |         |      |      |      |     |
| 1090 - Exposed Rebar  |         | 3    |         | 0    | 2    | 1    | 0   |
| <b>215 - Reinforced Concrete Abutment</b>   | 1- Ben. | 60   | ft.     | 58   | 2    | 0    | 0   |
| <p>Included wings in element quantity.<br/>                 Abut #1, left side - minor spall with rebar exposed in back wall.</p>   |         |      |         |      |      |      |     |
| 1090 - Exposed Rebar  |         | 2    |         | 0    | 2    | 0    | 0   |
| <b>234 - Reinforced Concrete Pier Cap</b>   | 1- Ben. | 108  | ft.     | 90   | 5    | 13   | 0   |
| <p>Pier #2, right back side - minor spall with rebar exposed<br/>                 Pier #3, backside - large horizontal crack minor spalls with rebar exposed. Rebar has complete section loss. 5 LF C3 rebar, 4 LF C3 crack.<br/>                 Pier #3, ahead side - spall with rebar exposed 2 LF C3.<br/>                 Pier #4, backside - spalls and delamination 4 LF C2<br/>                 Pier #5, right ahead side - minor spalls with rebar exposed. 2 LF C3</p>  |         |      |         |      |      |      |     |
| 1080 - Delamination/Spall/Patched Area  |         | 5    |         | 0    | 5    | 0    | 0   |
| 1090 - Exposed Rebar  |         | 9    |         | 0    | 0    | 9    | 0   |
| 1130 - Cracking (RC and Other)  |         | 4    |         | 0    | 0    | 4    | 0   |
| <b>304 - Open Expansion Joint</b>   | 1- Ben. | 88   | ft.     | 0    | 88   | 0    | 0   |
| <p>MINOR RUST ON JOINT ARMOR. NUMEROUS PATCHED AREAS AROUND JOINTS.</p>   |         |      |         |      |      |      |     |
| 2360 - Adjacent Deck or Header  |         | 88   |         | 0    | 88   | 0    | 0   |

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Element Inspection

|   |         |      |         |    |     |     |     |
|---|---------|------|---------|----|-----|-----|-----|
| <b>305 - Assembly Joint without Seal</b>  | 1- Ben. | 44   | ft.     | 0  | 44  | 0   | 0   |
| SLIDE PLATES - MINOR RUST ON PLATES & JOINT ARMOR. NUMEROUS PATCHED AREAS AROUND JOINTS.  |         |      |         |    |     |     |     |
| 2360 - Adjacent Deck or Header  |         | 44   |         | 0  | 44  | 0   | 0   |
| <b>311 - Movable Bearing</b>  | 1- Ben. | 20   | each    | 0  | 13  | 7   | 0   |
| Abut #1, bearing #1 - minor pack rust and minor section loss. B2 & B3 minor pack rust.<br>Pier #2, ahead side - all have minor to moderate rust<br>Pier #3, ahead side -<br>Pier #4, ahead side -<br>Abut #6 - all have minor pack rust and section loss. |         |      |         |    |     |     |     |
| 1000 - Corrosion  |         | 20   |         | 0  | 13  | 7   | 0   |
| 515 - Steel Protective Coating  |         | 60   | sq. ft. | 15 | 20  | 15  | 10  |
| 3440 - Effectiveness (Steel Protective Coatings)  |         | 45   |         | 0  | 20  | 15  | 10  |
| <b>313 - Fixed Bearing</b>  | 1- Ben. | 20   | each    | 0  | 20  | 0   | 0   |
| Pier #2, backside - B1 & B2 minor rust, B3 & B4 moderate rust.<br>Pier #3, backside - all have minor or moderate rust.<br>Pier #4, backside -<br>Pier #5, both sides  |         |      |         |    |     |     |     |
| 1000 - Corrosion  |         | 20   |         | 0  | 20  | 0   | 0   |
| 515 - Steel Protective Coating  |         | 60   | sq. ft. | 15 | 20  | 15  | 10  |
| 3440 - Effectiveness (Steel Protective Coatings)  |         | 45   |         | 0  | 20  | 15  | 10  |
| <b>330 - Metal Bridge Railing</b>   | 1- Ben. | 404  | ft.     | 0  | 404 | 0   | 0   |
| Metal rail on concrete post.<br>Moderate rust throughout.   |         |      |         |    |     |     |     |
| 1000 - Corrosion  |         | 404  |         | 0  | 404 | 0   | 0   |
| 515 - Steel Protective Coating  |         | 1212 | sq. ft. | 0  | 412 | 400 | 400 |
| 3440 - Effectiveness (Steel Protective Coatings)  |         | 1212 |         | 0  | 412 | 400 | 400 |

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Pictures

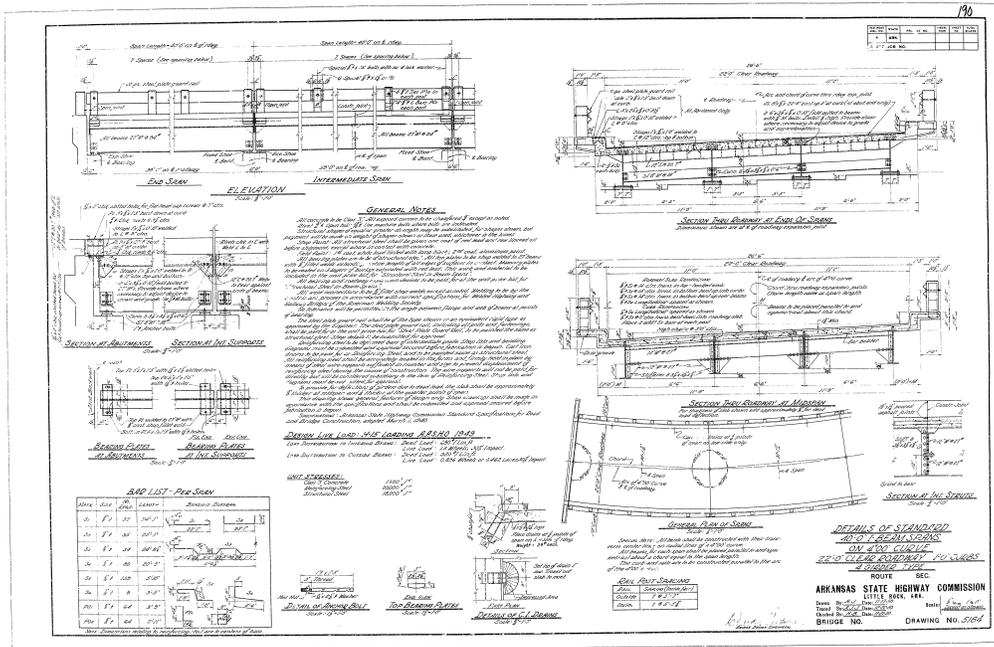


PHOTO 1  
 Description Details of Standard 40'-0" I-Beam Spans

PHOTO 1  
 Description

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Pictures

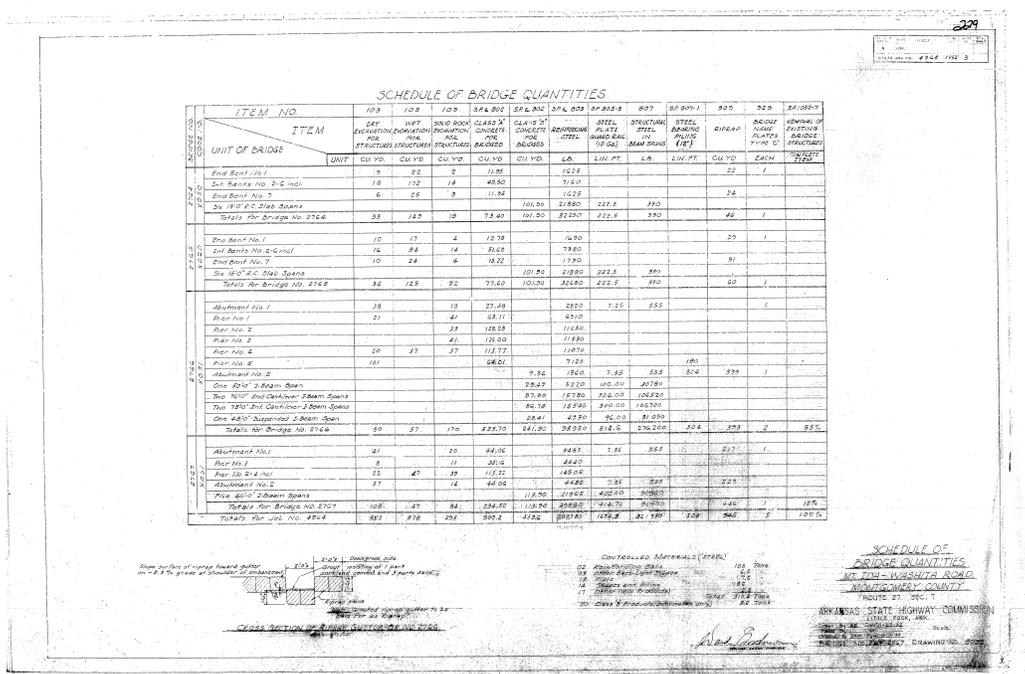
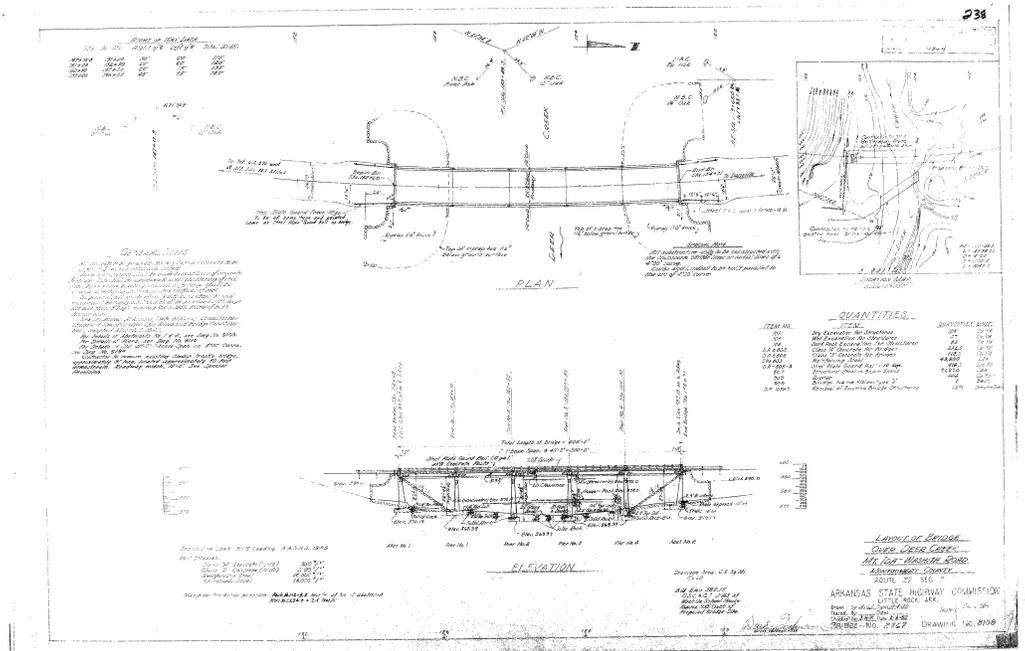


PHOTO 2

Description Quantities



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### Bridge Inspection Report

### Pictures

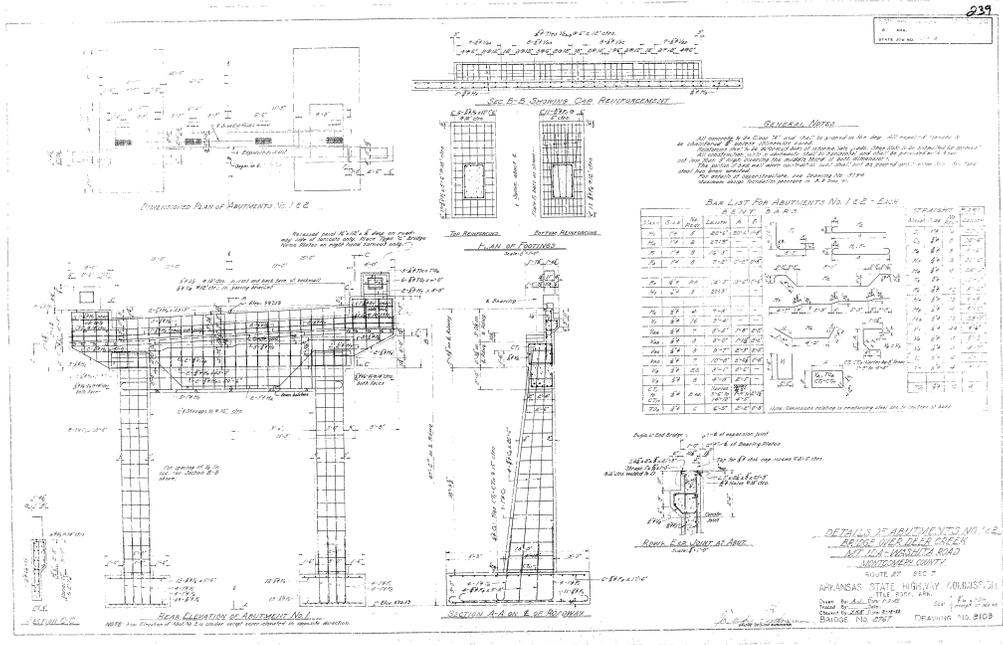


PHOTO 4

Description: Details of Abutments No 1 & 2

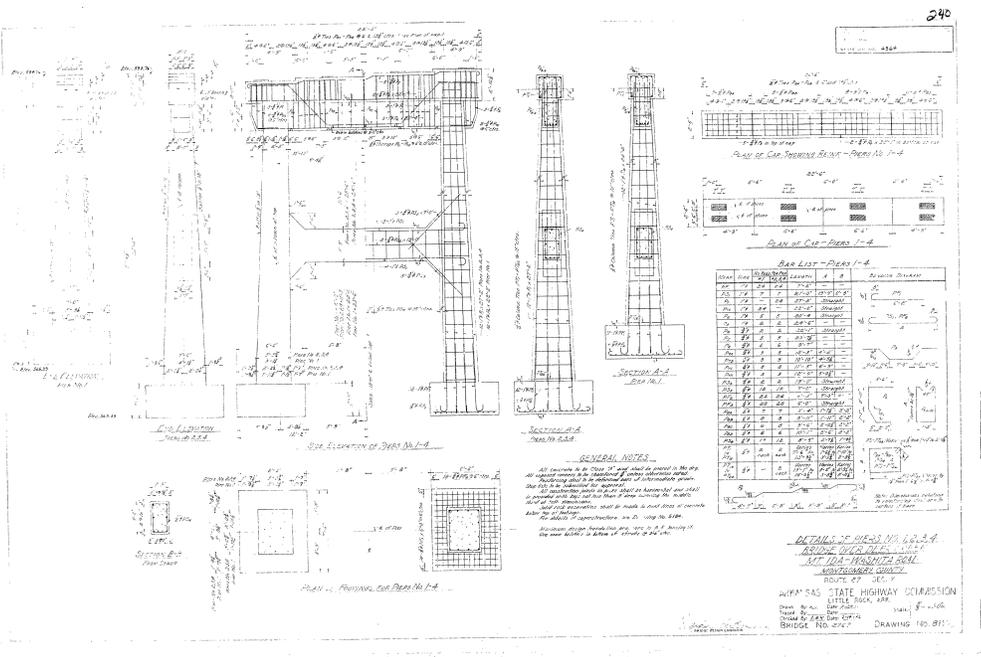


PHOTO 5

Description: Details of Piers

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**Bridge Inspection Report**

**Sketches**

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 08/21/2017

Priority: C - Important

Work Code:

Deficiency Description:

Deck

The driving surface has failing temporary asphalt patches with potholes forming in the wheel paths.

9/18/2019 - GLD & MLM - several minor to moderate spalls at centerline in spans 2 & 3.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description

Stage: Monitor

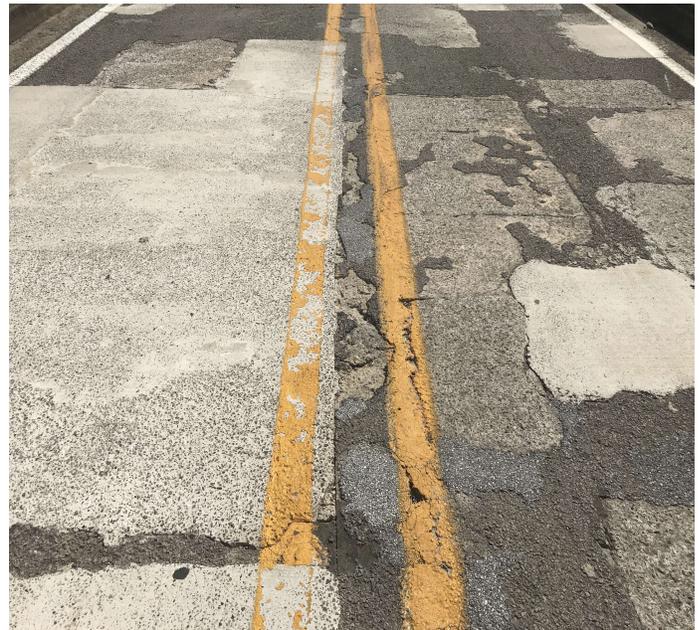


PHOTO 2 Description Span #3 - a few spalls

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Maintenance Needs

Stage: Open



PHOTO 3 Description

Stage: Monitor

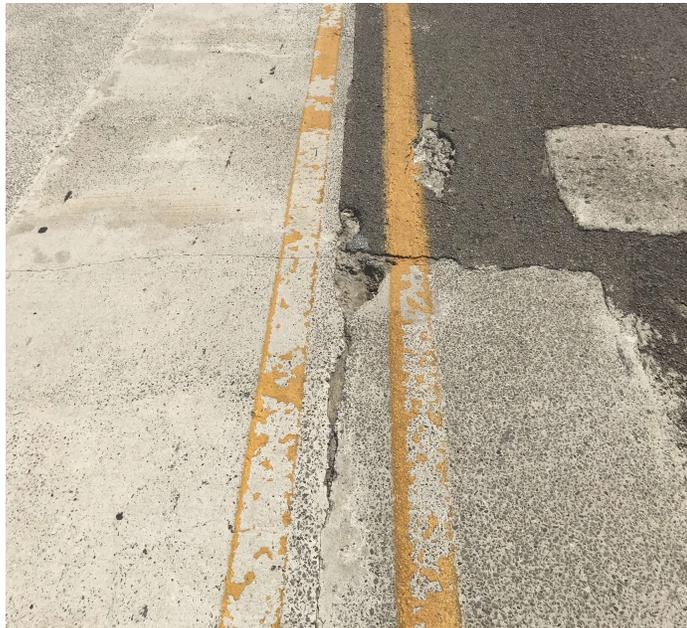


PHOTO 4 Description Span #2 - deep spalls.

Stage: Open



PHOTO 5 Description Failing temporary asphalt patches in the driving surface.