Asset **#94I00650006**(Routine)

**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790

**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

Latitude:35.80540, Longitude:-86.85062

Region 03, 94 - Williamson County

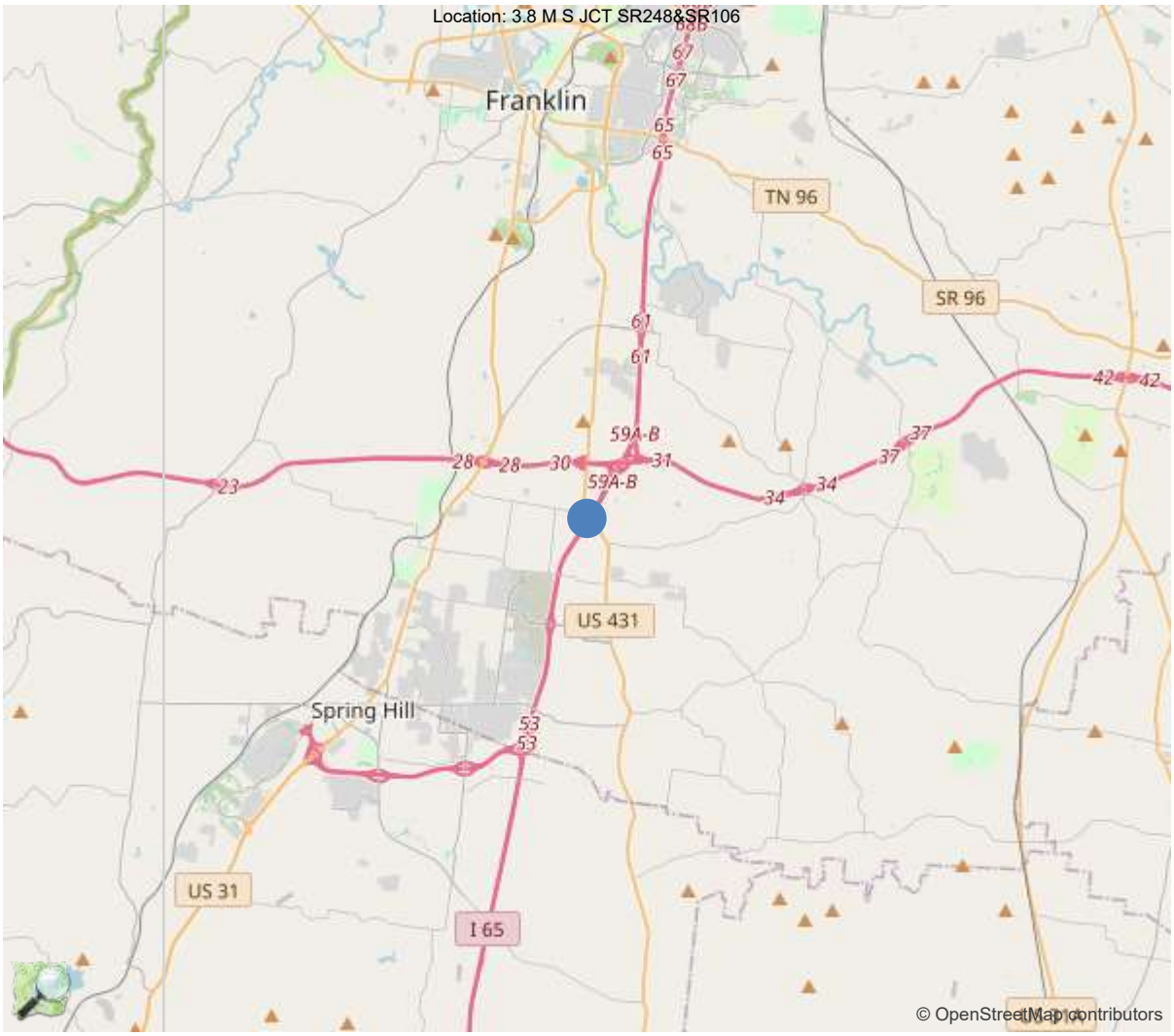
Team Leader: Korbin Hinson

Inspectors: Sean Bonner, Layton Breithaupt, Michael Cresap

Asset **#94I00650006**(Routine)

**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790

**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025




I-65 Crossing I65 / SR106 & HARPETH RV

35.80540, -86.85062

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)
**Region:** 03, **County:** 94 - Williamson
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

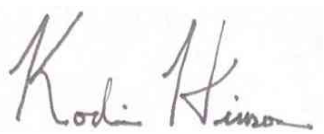
| | |
|---|---|
| **90 - LAST INSPECTION DATE** | 02/14/2025 |
| **10 - MIN. V.C. OVER DECK (ROADWAY + SHOULDERS)** | 99.99 FT. |
| **520 - MIN. V.C. OVER DECK (EXCLUDES SHOULDERS)** | 99.990 FT. |

**36 - TRAFFIC SAFETY FEATURES**

| Br. Rail | Trans. | Appr. Rail | Terminal | SPEED LIM. |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 70 |

| | |
|---|---|
| **41 - STRC OPEN/CLOSED/POSTED** | A |
| **58 - DECK** | 5 |
| **59 - SUPERSTRUCTURE** | 6 |
| **60 - SUBSTRUCTURE** | 4 |
| **61 - CHANL/CHANL PROTECTION** | 6 |
| **62 - CULVERT AND RETAIN WALL** | N |
| **71 - WATERWAY ADEQUACY** | 6 |
| **72 - APPROACH RDWY ALIGNMENT** | 8 |
| **521 - OVERALL CONDITION** | 3 - Poor |

| 16 - LATITUDE | 17 - LONGITUDE |
|---|---|
| 35.805400 | -86.850617 |



**TEAM LEADER SIGNATURE**

N NOT APPLICABLE

9 EXCELLENT CONDITION

8 VERY GOOD CONDITION - NO PROBLEMS NOTED.

7 GOOD CONDITION - SOME MINOR PROBLEMS.

6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.

5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND 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 BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.

1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT IT BACK IN LIGHT SERVICE.

0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORREC

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)

**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790

**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

| IDENTIFICATION | |
|---|---|
| (1) State Names | 47 - Tennessee |
| (8) Structure Number | 94I00650006 |
| (5) Inventory Route | 1 |
| (2) Highway Agency District | Region 3 |
| (3) County Code | 94 - Williamson |
| (4) Place Code | 00000 |
| (6) Features Intersected | I65 / SR106 & HARPETH RV |
| (7) Facility Carried | I65 |
| (9) Location | 3.8 M S JCT SR248&SR106 |
| (11) Mile Point | 4.790 mi |
| (12) Base Highway Network | Yes |
| (13) LRS Inventory Rte & Subrte | 94I0065001 |
| (16) Latitude | 35.805400 |
| (17) Longitude | -86.850617 |
| (98) Border Bridge State Code | |
| (99) Border Bridge Structure No. | |
| **STRUCTURE TYPE AND MATERIAL** | |
| (43) Main Structure Type | 52 |
| Material | 5 - Prestressed concrete * |
| Type | 2 - Stringer/Multi-beam or girder |
| (44) Approach Structure Type | 00 |
| Material | 0 - Other / None |
| Type | 0 - Other / None |
| (45) No. of Spans in Main Unit | 4 |
| (46) No. of Approach Spans | 0 |
| (107) Deck Structure Type | 1 - Concrete Cast-in-Place |
| (108) Wearing Surface/Protective System | |
| Type of Wearing Surface | 6 - Bituminous |
| Type of Membrane | 0 - None |
| Type of Deck Protection | 0 - None |
| **AGE AND SERVICE** | |
| (27) Year Built | 1963 |
| (106) Year Reconstructed | 1979 |
| (42) Type of Service | 16 |
| On | 1 - Highway |
| Under | 6 - Highway-waterway |
| (28) Lane | |
| On | 2 |
| Under | 2 |
| (29) Average Daily Traffic | 94031 |
| (30) Year of ADT | 2021 |
| (109) Truck ADT | 7 % |
| (19) Bypass, Detour Length | 1 mi |
| **GEOMETRIC DATA** | |
| (48) Length of Maximum Span | 52.8 ft |
| (49) Structure Length | 193.9 ft |
| (50) Curb or Sidewalk Width | |
| Left | 0.0 ft |
| Right | 0.0 ft |
| (51) Bridge Roadway Width Curb to Curb | 40.4 ft |
| (52) Deck Width Out to Out | 44.0 ft |
| (32) Approach Roadway Width (W/Shoulders) | 40.4 ft |
| (33) Bridge Median | 1 - Open median |
| (34) Skew | 70 Deg |
| (35) Structure Flared | 0 - No flare |
| (10) Inventory Route Min Vert Clear | 99.99 ft |
| (47) Inventory Route Total Horiz Clear | 40.4 ft |
| (53) Min Vert Clear Over Bridge Rdwy | 99.99 ft |
| (54) Min Vert Underclear | 19.58 ft |
| Ref: | |
| (55) Min Lat Underclear RT | 8.0 ft |
| Ref: | |
| (56) Min Lat Underclear LT | 0.0 ft |
| **NAVIGATION DATA** | |
| (38) Navigation Control | 0 - No navigation control on w |
| (111) Pier Protection | |
| (39) Navigation Vertical Clearance | 0.0 ft |
| (116) Vert-Lift Bridge Nav Min Vert Clear | ft |
| (40) Navigation Horizontal Clearance | 0.0 ft |

| CLASSIFICATION | |
|---|---|
| (112) NBIS Bridge Length | Y |
| (104) Highway System | 1 |
| (26) Functional Class | 11 - Urban Principal Arterial |
| (100) Defense Highway | 1 - The inventory route is on |
| (101) Parallel Structure | L - The left structure of para |
| (102) Direction of Traffic | 1 - way traffic |
| (103) Temporary Structure | |
| (105) Federal Lands Highways | 0 - N/A |
| (110) Designated National Network | 1 - The inventory route is par |
| (20) Toll | 3 - On free road. The structu |
| (21) Maintain | 1 - State Highway Agency |
| (22) Owner | 1 - State Highway Agency |
| (37) Historical Significance | 4 - Historical significance is |
| **CONDITION** | |
| (58) Deck | 5 |
| (59) Superstructure | 6 |
| (60) Substructure | 4 |
| (61) Channel & Channel Protection | 6 |
| (62) Culverts | N |
| **LOAD RATING AND POSTING** | |
| (31) Design Load | 6 - MS 18+Mod / HS 20+Mod |
| (63) Operating Rating Method | 8 |
| (64) Operating Rating | |
| Type | 8 - Load and Resistance Factor Rating (LRF |
| Rating | 31.75 |
| (65) Inventory Rating Method | 8 - Load and Resistance Factor |
| (66) Inventory Rating | |
| Type | |
| Rating | 18.14 |
| (70) Bridge Posting | 5 - Equal to or above legal loads |
| (41) Structure Open/Posted/Closed | A - Open, no restriction |
| **APPRAISAL** | |
| (67) Structural Evaluation | 4 |
| (68) Deck Geometry | 8 |
| (69) Clearances, Vertical/Horizontal | 5 |
| (71) Waterway Adequacy | 6 |
| (72) Approach Roadway Alignment | 8 |
| (36A) Bridge Railings | 0 - Inspected feature does not meet |
| (36B) Transitions | 0 - Inspected feature does not meet |
| (36C) Approach Guardrail | 0 - Inspected feature does not meet |
| (36D) Approach Guardrail Ends | 0 - Inspected feature does not meet |
| (113) Scour Critical Bridges | 8 - Bridge foundations determined t |
| **PROPOSED IMPROVEMENTS** | |
| (75) Type of Work | 35 - Bridge rehabilitation bec |
| (76) Length of Structure Improvement | 194.9 ft |
| (94) Bridge Improvement Cost | $ 1269 |
| (95) Roadway Improvement Cost | $ 127 |
| (96) Total Project Cost | $ 1904 |
| (97) Year of Improvement Cost Estimate | 2021 |
| (114) Future ADT | 134918 |
| (115) Year of Future ADT | 2041 |

**INSPECTIONS ***

| (90) Inspection Date | | | 02/14/2025 |
|---|---|---|---|
| (91) Frequency | | | 24 |
| (92) Critical Feature Inspection | Done | Freq. (Mon) | Date |
| A: Fracture Critical Detail | No | | |
| B: Underwater Inspection | No | | |
| C: Other Special Inspection | No | | |

* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

## PERFORMANCE EVALUATION

Time of Day Inspected: 1:30 PM
Weather Conditions: Sunny and 38 Degrees
Vehicles Observed: All Types

## LIVE LOAD BEHAVIOR

| | | |
|---|---|---|
| **Sub Horiz./ Vert. Defl** | (No) | |
| **Sub Vibration** | (No) | |
| **Super Horiz./ Vert. Defl** | (No) | |
| **Super Vibration** | (No) | |

## APPROACH

| | | |
|---|---|---|
| **Alignment** | (Good) | |
| **Pavement** | (Fair) | Approach 1 asphalt exhibits isolated wide cracks and an isolated patched pothole. Approach 2 asphalt exhibits isolated wide cracks and an isolated moderate pothole. |
| **Embankment** | (Good) | |
| **Approach Drains** | (Poor) | Approach 2 left concrete embankment drain is cracked and heavily undermined. |

## TRAFFIC SAFETY FEATURES

| | | |
|---|---|---|
| **Bridge Railing Rating** | (Fair) | The parapet height is substandard. Both parapets in all spans exhibit widespread vertical hairline cracks spaced at 1'-6" on average. There is a spall with exposed rebar in the left parapet over Abutment 1. The parapet over the left wingwall of Abutment 2 exhibits a wide vertical crack. The right parapet in Span 4 near Bent 3 exhibits wide vertical cracking. |
| **Transitions Rating** | (Good) | Both Approach 1 and 2 transitions are substandard with metal blockouts. |
| **Guardrail Rating** | (Good) | Both Approach 1 and 2 guardrail is substandard with metal blockouts. |
| **Guardrail Terminal Rating** | (Good) | |

## SIGNS POSTED ON ROUTE

| | | | |
|---|---|---|---|
| Paddleboards | Yes | Weight Limit Posted | Not Needed |
| Vertical Clearance (<14'-6") | No | Gross ..... | Tons |
| Posted Height | | Single-unit Vehicle | Tons |
| Narrow Bridge Signs | No | Multi-unit Vehicle | Tons |
| One Lane Bridge Signs | No | 564 Assigned Bridge Name | |
| Other Signs or Plaques | NONE | | |

## ATTACHED SIGNS

| Sign No | Location | Text on Sign | Noted Defects |
|---|---|---|---|

## DECK

| **Wearing Surface Type** | Asphalt | **Wearing Surface Depth** | 3 |
|---|---|---|---|

| | | |
|---|---|---|
| **Wearing Surface** | (Good) | An asphalt overlay is present over the bridge deck. The right shoulder in all spans has widespread vegetation growth. Span 2 has a moderate pothole and a gouge in the wearing surface near Bent 2. Span 4 has a full-length patch that is sound condition. |
| **Deck - Structural Condition** | (Fair) | Span 1 exhibits isolated moderate spalls with exposed rebar and isolated moderate cracking in Bay C. Span 2 exhibits isolated moderate spalls with exposed rebar, delaminations, and insignificant cracking in Bays C and E. Span 3 exhibits some delaminations, isolated moderate spalls with exposed rebar, and isolated sound patches in Bay E. There are also some insignificant cracks in the right overhang of Span 3. There is an area of water leakage in the left overhang of Span 3. There are no defects noted in Span 4. |
| **Parapet** | (Fair) | The parapet height is substandard. Both parapets in all spans exhibit widespread vertical hairline cracks spaced at 1'-6" on average. There is a spall with exposed rebar in the left parapet over Abutment 1. The parapet over the left wingwall of Abutment 2 exhibits a wide vertical crack. The right parapet in Span 4 near Bent 3 exhibits wide vertical cracking. |

## SUPERSTRUCTURE

| | | |
|---|---|---|
| **Bearing Devices** | (Good) | Elastomeric bearing pads. |
| **Girders** | (Good) | Span 1 Beam B exhibits isolated moderate spalling on the top flange. Span 3 Beam B exhibits isolated moderate spalling on the top flange. Span 3 Beam F has a small area of delamination on the top flange. |
| **Diaphragms** | (Fair) | Intermediate diaphragms are all in Good condition. The diaphragm over Bent 1 has isolated areas of delamination. the diaphragm over Bent 2 has spalls with exposed rebar, areas of delamination, and moderate cracks. The diaphragm over Bent 3 has spalls with exposed rebar and areas of delamination. |
| **Alignment of Members** | (Good) | |

## TEXTURE COAT

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

## ABUTMENTS

| | | |
|---|---|---|
| **Abutment Caps** | (Poor) | Abutment 1 cap exhibits widespread large delaminations and isolated large spalls with exposed rebar. Abutment 2 cap has a wide crack that runs the entire length of the cap and widespread moderate spalls with exposed rebar. There are also areas of delamination, honeycombing, and heavy water staining in the Abutment 2 cap. |
| **Abutment Wings** | (Fair) | The left wingwall at Abutment 2 has isolated spalling and is covered with vegetation. The right wingwall at Abutment 2 has isolated wide cracks. |
| **Abutment Plumb** | (Good) | |
| **Abutment Piles** | (Fair) | Abutment 1 exhibits 1 exposed pile with surface corrosion due to undermining. No section loss is present in the pile. |
| **Abutment Embankment** | (Poor) | Abutment 1 is exhibiting widespread undermining up to 2'-6"D underneath the cap with 1 exposed pile. There is no slope protection at Abutment 1. |
| **Abutment Slope Paving** | (Good) | There is concrete slope paving present at Abutment 1 only. |

## PIERS

## BENTS

| | | |
|---|---|---|
| **Bent Caps** | (Poor) | Bent 1 cap exhibits isolated wide cracking and widespread moderate spall with exposed rebar. Bent 2 cap exhibits some moderate spalls with exposed rebar and widespread delamination. Bent 3 cap exhibits isolated wide cracking, isolated areas of honeycombing, and widespread areas of delamination. |
| **Bent Columns** | (Fair) | Bent 1 Column A has delaminated areas. Bent 1 Column B exhibits widespread moderate spalls. Bent 1 Column C has vegetation growth covering it. Bent 2 Column A has a large patch with hairline cracks in it along with hairline map cracking. Bent 2 Column B exhibits widespread delamination, isolated moderate spalls, and insignificant cracks. Bent 3 Column A exhibits widespread moderate cracking. Bent 3 Column B has isolated wide cracking. Bent 3 Column C has isolated moderate spalls. |
| **Bent Plumb** | (Good) | |
| **Bent Footing** | (Not Visible) | |

## Inspection Team's Summary

Bridge 94I00650006 is a 4-span bridge on a 70 degree skew composed of a cast-in-place concrete deck supported by prestressed AASHTO Type II beams. The bridge has a total length of 193'-10.25", an out-to-out width of 44'-0", a roadway width of 40'-5", and carries 2 lanes of traffic. The maximum span length is 52'-10.125". On February 14, 2025, a Michael Baker inspection team performed a 1-day Routine Inspection on the bridge. Korbin Hinson and Sean Bonner inspected the top of deck, superstructure, and substructure from the ground. The weather conditions were sunny and 38 degrees.

The approach roadway was in overall Fair condition. The alignment at both Approach 1 and 2 was Good. The approach asphalt was fair. Approach 1 asphalt exhibits an isolated wide crack and a patched pothole. Approach 2 asphalt exhibits an isolated wide crack and an isolated moderate pothole. The approach embankment is in Good condition. The approach drains are in Poor condition. The drain on the left at Approach 2 is cracked and heavily undermined. The transitions, guardrails, and terminals are in Good condition, but the metal blockouts do not meet the current standards.

The deck is in overall Fair condition. An asphalt overlay is present over the bridge deck. The right shoulder in all spans has widespread vegetation growth. Span 2 has a moderate pothole and a gouge in the wearing surface near Bent 2. Span 4 has a full-length patch that is sound condition. The bottom of the deck was rated Fair. Span 1 exhibits isolated moderate spalls with exposed rebar and isolated moderate cracking in Bay C. Span 2 exhibits isolated moderate spalls with exposed rebar, delaminations, and insignificant cracking in Bays C and E. Span 3 exhibits some delaminations, isolated moderate spalls with exposed rebar, and isolated sound patches in Bay E. There are also some insignificant cracks in the right overhang of Span 3. There is an area of water leakage in the left overhang of Span 3. There are no defects noted in Span 4. The parapet was rated Fair. The parapet height is substandard. Both parapets in all spans exhibit widespread vertical hairline cracks spaced at 1'-6" on average. There is a spall with exposed rebar in the left parapet over Abutment 1. The parapet over the left wingwall of Abutment 2 exhibits a wide vertical crack. The right parapet in Span 4 near Bent 3 exhibits wide vertical cracking.

The superstructure is in overall Fair condition. The superstructure consists of pre-stressed concrete beams, which are in Good condition. Span 1 Beam B exhibits isolated moderate spalling on the top flange. Span 3 Beam B exhibits isolated moderate spalling on the top flange. Span 3 Beam F has a small area of delamination on the top flange. The concrete diaphragms are in Fair condition. Intermediate diaphragms are all in Good condition. The diaphragm over Bent 1 has isolated areas of delamination. the diaphragm over Bent 2 has spalls with exposed rebar, areas of delamination, and moderate cracks. The diaphragm over Bent 3 has spalls with exposed rebar and areas of delamination. The elastomeric bearing pads are in Good condition.

The substructure is in overall Poor condition. The abutment caps are in Poor condition. Abutment 1 cap exhibits widespread large delaminations and isolated large spalls with exposed rebar. Abutment 2 cap has a wide crack that runs the entire length of the cap and widespread moderate spalls with exposed rebar. There are also areas of delamination, honeycombing, and

heavy water staining in the Abutment 2 cap. The wingwalls are in Fair condition. The left wingwall at Abutment 2 has isolated spalling and is covered with vegetation. The right wingwall at Abutment 2 has isolated wide cracks. The abutment piles are in Fair condition. Abutment 1 exhibits 1 exposed pile with surface corrosion due to undermining. No section loss is present in the pile. The abutment embankment is in Poor condition. Abutment 1 is exhibiting widespread undermining up to 2'-6"D underneath the cap with 1 exposed pile. There is no slope protection at Abutment 1. The abutment slope paving is in Good condition. There is concrete slope paving present at Abutment 1 only. The bent caps are Poor and the bent columns are Fair. Bent 1 cap exhibits isolated wide cracking and widespread moderate spall with exposed rebar. Bent 2 cap exhibits some moderate spalls with exposed rebar and widespread delamination. Bent 3 cap exhibits isolated wide cracking, isolated areas of honeycombing, and widespread areas of delamination. Bent 1 Column A has delaminated areas. Bent 1 Column B exhibits widespread moderate spalls. Bent 1 Column C has vegetation growth covering it. Bent 2 Column A has a large patch with hairline cracks in it along with hairline map cracking. Bent 2 Column B exhibits widespread delamination, isolated moderate spalls, and insignificant cracks. Bent 3 Column A exhibits widespread moderate cracking. Bent 3 Column B has isolated wide cracking. Bent 3 Column C has isolated moderate spalls.

The overall condition of the Channel is Fair. At the time of inspection, the channel opening was mostly clear of debris; however, large amounts of timber have been cut on the Abutment 1 slope, and timber debris now aligns the bank on the upstream side of the bridge.

The bridge was not posted during the 02/14/2025 inspection. An evaluation is requested for potential posting due to the Substructure’s updated condition at the Bent 1 cap and Abutment 2 cap.

## General Inspection Comment

The bridge was not posted during the 02/14/2025 inspection. An evaluation is requested for potential posting due to the Substructure’s updated condition at the Bent 1 cap and Abutment 2 cap.

## HQ notes to TL

TDOT Department of Transportation

Asset **#94I00650006**(Routine)

**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790

**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

| ELEMENTS | DESCRIPTION | UNITS | TOTAL | CS1 | CS2 | CS3 | CS4 |
|---|---|---|---|---|---|---|---|
| 12 | Re Concrete Deck | SF | 8575 | 8435 | 115 | 25 | 0 |
| 1080 | Delamination/Spall/Patched Area | SF | 59 | 0 | 34 | 25 | 0 |
| 1120 | Efflorescence/Rust Staining | SF | 65 | 0 | 65 | 0 | 0 |
| 1130 | Cracking (RC and Other) | SF | 16 | 0 | 16 | 0 | 0 |
| 510 | Wearing Surfaces | SF | 8185 | 8145 | 39 | 1 | 0 |
| 3220 | Crack (Wearing Surface) | SF | 40 | 0 | 39 | 1 | 0 |
| (12) Element record added 2/6/2017 | | | | | | | |
| 109 | Pre Opn Conc Girder/Beam | LF | 1170 | 1163 | 2 | 5 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 7 | 0 | 2 | 5 | 0 |
| (109) Element record added 2/6/2017 | | | | | | | |
| 205 | Re Conc Column | EA | 9 | 2 | 5 | 2 | 0 |
| 1080 | Delamination/Spall/Patched Area | EA | 7 | 0 | 5 | 2 | 0 |
| (205) Element record added 2/7/2019 | | | | | | | |
| 215 | Re Conc Abutment | LF | 95 | 5 | 32 | 58 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 58 | 0 | 32 | 26 | 0 |
| 1130 | Cracking (RC and Other) | LF | 32 | 0 | 0 | 32 | 0 |
| (215) Element record added 2/6/2017 | | | | | | | |
| 234 | Re Conc Pier Cap | LF | 111 | 31 | 34 | 46 | 0 |
| 1080 | Delamination/Spall/Patched Area | LF | 72 | 0 | 34 | 38 | 0 |
| 1130 | Cracking (RC and Other) | LF | 8 | 0 | 0 | 8 | 0 |
| (234) Element record added 2/6/2017 | | | | | | | |
| 310 | Elastomeric Bearing | EA | 46 | 46 | 0 | 0 | 0 |
| (310) Element record added 2/6/2017 | | | | | | | |
| 331 | Re Conc Bridge Railing | LF | 390 | 351 | 0 | 39 | 0 |
| 1130 | Cracking (RC and Other) | LF | 39 | 0 | 0 | 39 | 0 |
| (331) Element record added 2/6/2017 | | | | | | | |

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

## STREAM CHANNEL DATA AND CONDITIONS

| | |
|---|---|
| Stream Crossing | SR 106 & West Harpeth River |
| Type of bed material | Bedrock |
| Has channel shifted? | No |
| Condition of rip-rap | N/A Est. % failed % |
| Overall condition of channel | Fair |
| Underwater Inspection Req? | No |
| Why UW required? | |

## Channel and bank stability conditions

| | |
|---|---|
| Steep bank cond - Failure US | No |
| Steep bank cond - Failure DS | No |
| Bank Vegetation: | |
| Low Growth | Yes |
| Large Timber | Yes |
| Clear Banks | No |
| Dead Trees - US | Yes |
| Dead Trees - DS | Yes |
| Moderate Bank Erosion | Yes |
| Sediment or Gravel Accumulation | No |
| Channel Altered or Straightened | No |
| Stable Conditions: | |
| Live Growth | Yes |
| Bedrock | Yes |
| Boulders | No |
| FlatSlopes (<=2:1) | No |

## Waterway adequacy and debris characteristics

| | |
|---|---|
| Bridge deck elevations: | |
| Level with Approach Roadway | Yes |
| Higher than Approach Roadway | No |
| Road Appr >2' Above Natural Ground | No |
| Abutment Encroaches into Channel | No |
| Large Scour Under Bridge | No |
| Indications Flood Overtop Bridge | No |
| Debris / Drift - Present | Yes |
| Debris / Drift - Likely to Accumulate | Yes |

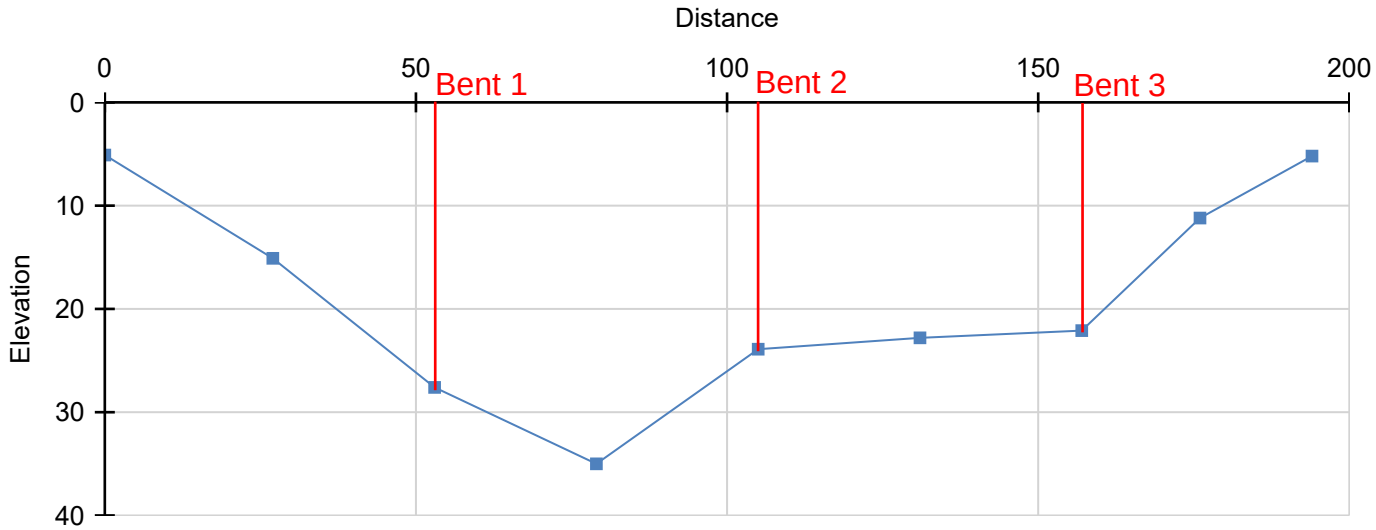
Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

## Channel Profile Upstream

Benchmark height _____ Benchmark location _____ Measure to bottom of deck _____

Comment

| Station | Distance | HI | Upstream |
|---|---|---|---|
| 248+29 | 0 | | 5.1 |
| 248+56 | 27 | | 15.1 |
| 248+82 | 53 | | 27.6 |
| 249+08 | 79 | | 35 |
| 249+34 | 105 | | 23.9 |
| 249+60 | 131 | | 22.8 |
| 249+86 | 157 | | 22.1 |
| 250+05 | 176 | | 11.2 |
| 250+23 | 194 | | 5.2 |



Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

## Channel Profile Downstream

Benchmark height _____ Benchmark location Measured to bottom of deck

Comment

| Station | Distance | HI | Downstream |
|---|---|---|---|
| 248+29 | 0 | | 5.3 |
| 248+56 | 27 | | 17.3 |
| 248+82 | 53 | | 30.1 |
| 249+08 | 79 | | 35 |
| 249+34 | 105 | | 24.1 |
| 249+60 | 131 | | 22.5 |
| 249+86 | 157 | | 21.4 |
| 250+05 | 176 | | 11.2 |
| 250+23 | 194 | | 5 |

Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

## Substructure Exposure

| Last Exposure | Abut/Bent/Pier Number | Total height | Footing Thickness | Exposure |
|---|---|---|---|---|
| | Abutment 1 | | | 2.1 |
| | Bent 1 | | | 26.9 |
| | Bent 2 | | | 20.9 |
| | Bent 3 | | | 18.9 |
| | Abutment 2 | | | 2 |

| | | | |
|---|---|---|---|
| Last Exposure Upstream | | Rip-Rap | N |
| Last Exposure Downstream | | @ Abutment | No |
| Top of cap to top of water | | @ Bents | No |
| Upstream Distance | | @ Piers | |
| Upstream Depth | | Upstream | N |
| Thru structure | | Downstream | N |
| Downstream Distance | | Thru Structure | N |
| Downstream Depth | | | |

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

# Equipment List

## General Inspection

Yes Pocket knife
Yes Sounding/chipping hammer
_____ Chain drag
Yes Range pole
Yes 25' rod - depth and clearance

## Visual Aid

Yes Binoculars
Yes Flashlight
_____ Magnifying glass
_____ Hand mirror

## Cleaning

_____ Wisk broom
_____ Wire brush
_____ Flat bladed screwdriver
_____ Hand shovel
_____ Penetrating oil (WD-40, etc.)

## Tools For Access

Yes Ladders
_____ Rope
Yes Waders
_____ Machete or bush axe

## Comment

## Reach-All Approval and Comments

## Tools For Measuring

Yes Masonry/Wood Ruler
Yes 6’ Pocket Tape
Yes 25’ and 100’ Tape
_____ Calipers
Yes Thermometer
Yes Carpenter’s Level
Yes String and Weighted line (plumb bob)

## Special Purpose Equipment

_____ Reach All
_____ Bucket Truck
_____ Traffic control
_____ Boat
_____ Sonar depth finder
_____ Increment borer
_____ Survey equipment
_____ Safety Harness
_____ Climbing equipment
_____ Dye penetrant
_____ Drone
_____ Air Meter

## Special Purpose Equipment


Bridge number

Upstream right side elevation

Downstream left side elevation

Looking upstream from beneath bridge

Looking downstream from beneath bridge

US-431 looking forward on route

US-431 looking back on route

Approach 1 looking forward


Approach 1 looking back

Approach 2 looking forward

Approach 2 looking back

Approach 1 distortion in left side guardrail

Wide crack and patch at beginning of bridge

Wide crack in wearing surface at end of bridge

Top of deck looking forward

Top of deck looking back

Typical HL crack in both parapets all spans

Span 1 crack w/ eff in right overhang

Span 1 HL cracks w/ eff in Bay C

Span 1 delam in forward diaphragm

Span 1 spall w/ exposed rebar on left parapet over Abutment 1

Span 1 spall on left side top flg of Beam B

Span 1 spall w/ exposed rebar in Bay C over Abutment 1

Span 1 spall w/ exposed rebar in Bay C

Span 1 delam in Bay E over Abutment 1

Span 2 pothole in wearing surface

Span 2 gouge in wearing surface

Span 2 spalling w/ exposed rebar in forward diaphragms

Span 2 delams in Bay E

Span 2 delam and spall w/ exposed rebar in Bay E

Span 2 delam in Bay C

Span 2 spalling w/ exposed rebar and delams in back diaphragms

Spans 2 and 3 HL cracks w/ eff in right overhang over Bent 2

Span 3 mod cracks and delam in forward diaphragms

Span 3 delam in top flg left side of Beam F

Span 3 spall in top flg left side of Beam B

Span 3 delam and spall w/ exposed rebar in Bay E

Span 4 moderate cracks in right parapet

Span 4 spall w/ exposed rebar in back diaphragms

Span 4 delam and spalls in back diaphragms

Vegetation growth along right parapet entire bridge length

Span 2

Span 3

Span 4

Abutment 1

Bent 1 front

Bent 1 back

Bent 2 front

Bent 2 back

Bent 3 front

Bent 3 back

Abutment 2

Abutment 1 crack and spalls along construct. joint under Bay A

Abutment 1 delam on cap under Bay B

Abutment 1 whole face delam on cap under Beam B and delam and spall on cap under Bay A

Abutment 1 undermining of cap under Beam C

Abutment 1 HL cracks w/ eff on backwall under Bay C

Abutment 1 delam on cap under Bay C

Abutment 1 spall on backwall under Bay D

Abutment 1 delam on cap under Bay D

Abutment 1 undermining of cap w/ exposed pile w/ laminar corrosion under Bay E

Abutment 1 spall on backwall under Bay E

Abutment 1 delam on cap under Bay E

Abutment 1 delam on cap under right overhang

Abutment 1 spalls on backwall under right overhang


Abutment 1 cracks w/ hvy eff on backwall under right overhang

Bent 1 spall w/ exposed rebar on front of cap under Beam B

Bent 1 delam on front of cap under Beam C

Bent 1 spall w/ exposed rebar on underside of cap to the right of Column C

Bent 1 delam on front face of cap under Beam E

Bent 1 delam on front face of Column C

Bent 1 delam in cap front to the right of Column C

Bent 1 1/16" crack in back of cap

Bent 1 vegetation growth on Column A

Bent 1 delam in Column C

Bent 1 HL crack in Column C

Bent 1 moderate cracks at right end and bottom of cap

Bent 1 spalls w/ exposed rebar on right face of Column B

Bent 1 spalls w/ exp. rebar on back and bottom faces of cap

Bent 1 spall w/ exp. rebar on Column B

Bent 2 HL map cracking in right face of Column C

Bent 2 1/32" cracks in right face of Column C

Bent 2 spalls w/ exposed rebar in front face of cap

Bent 2 delam in front and left faces of Column B

Bent 2 delam in back face of Column B

Bent 2 1/32" crack and failed patch on right face of Column B

Bent 2 patch with HL cracks on back face of Column C

Bent 2 delam in front face of cap

Bent 2 delam in right face of Column B

Bent 2 delam in bottom of cap

Bent 2 delam in cap above column C

Bent 3 delams along top of cap between Beams C and E of Span 4

Bent 3 delam and HL crack in back of cap under Beam B

Bent 3 delam and honeycombing on back of cap between Columns B and C

Bent 3 HL map cracking in back of cap to the right of Column C

Bent 3 HL map cracking w/ iso 1/32" cracks in right face of Column C

Bent 3 delam in patch on underside of cap between Columns B and C

Bent 3 delam on underside of cap to the right of Column C

Bent 3 delam and moderate cracks on underside of cap between Columns A and B

Bent 3 delam on front of cap over Column A

Bent 3 mod crack through patch on front of cap

Abutment 2 1/16" crack w/ water leakage and staining in right wingwall

Abutment 2 heavy eff on backwall under right overhang

Abutment 2 spall on backwall under right overhang

Abutment 2 water leakage and staining of backwall and cap under right overhang

Abutment 2 spalling on top of cap under right overhang

Abutment 2 spalling w/ exposed rebar on cap under Beam E

Abutment 2 spalling w/ exposed rebar and delam of top of cap under Bay D

Abutment 2 delam on cap under Bay C

Abutment 2 spalling w/ exposed rebar and wide crack on cap under Bay C

Abutment 2 spalling and wide crack on cap under Bay B

Abutment 2 deep honeycombing and 1/16" crack on cap under Bay A

Abutment 2 spalls w/ exposed rebar in backwall of Bay A

Abutment 2 vegetation growth on left wingwall and backwall

Abutment 2 1/16" crack in parapet over left wingwall

Abutment 2 spall on corner of left wingwall and backwall

Abutment 2 undermining of left embankment drain

Abutment #2 failed left embankment drain

Abutment 1 bearing typical

Abutment 2 bearing typ

TN TDOT Department of Transportation

Asset **#94I00650006**(Routine)
**County:** 94 - Williamson, **Route:** I0065, **Log mile:** 4.790
**Team Lead:** Korbin Hinson, **Inspection Date:** 02/14/2025

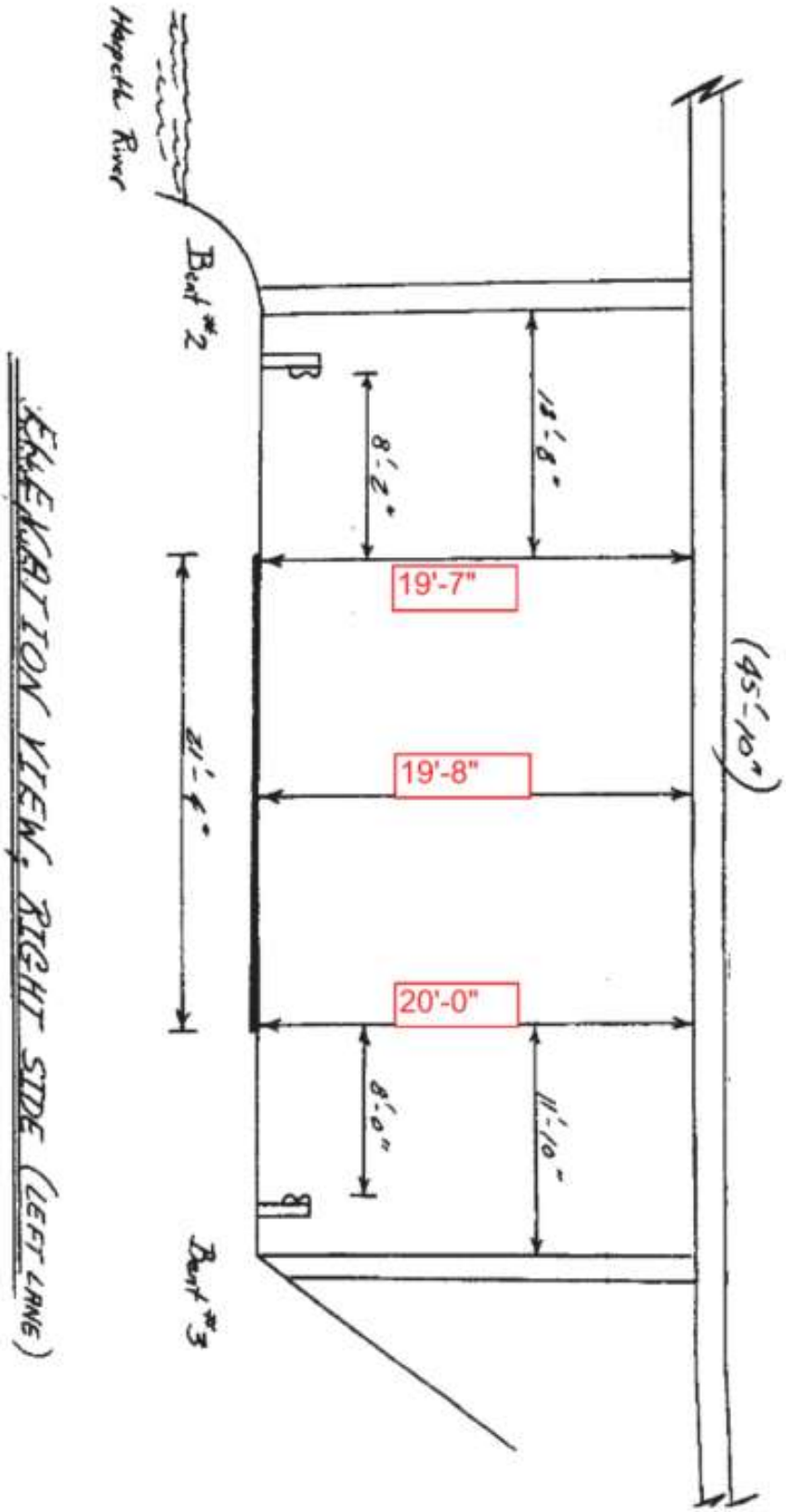
## Maintenance Recommendations

525 - Repair List # 2 523 - Repair List Add Date 10/3/2019 524 - Repair List Revise Date 2/3/2021 1

| Date Added | Recommendation | Priority |
|---|---|---|
| 04/02/2002 | REPAIR DIAPHRAGMS IN SPANS 1, 2 & 3 | 3 |
| 02/04/2021 | REPAIR CAPBEAM AT ABUTMENT NO. 1 AND 2 | 2 |
| 02/04/2021 | REPAIR COLUMNS "B" & "C" AT BENT NO. 1 | 3 |
| 02/04/2021 | REPAIR CAPBEAM AT BENTS NO. 1 AND 2 | 2 |
| 02/21/2023 | REPAIR APPROACH DRAIN AT APPROACH NO. 2, LEFT SIDE | 3 |
| 02/21/2023 | REPAIR EMBANKMENT SETTLEMENT AT ABUTMENT NO. 1 | 3 |
| 02/14/2025 | Repair Cap and Columns A & B in Bent 3 | 3 |
| 02/14/2025 | Repair Columns A & B in Bent 2 | 3 |
| 02/14/2025 | Repair the backwalls at Abutments 1 and 2. | 3 |

Br. No. 94-I65-4.79 LT. LANE DATE: 02/14/2025

Underpass Clearance

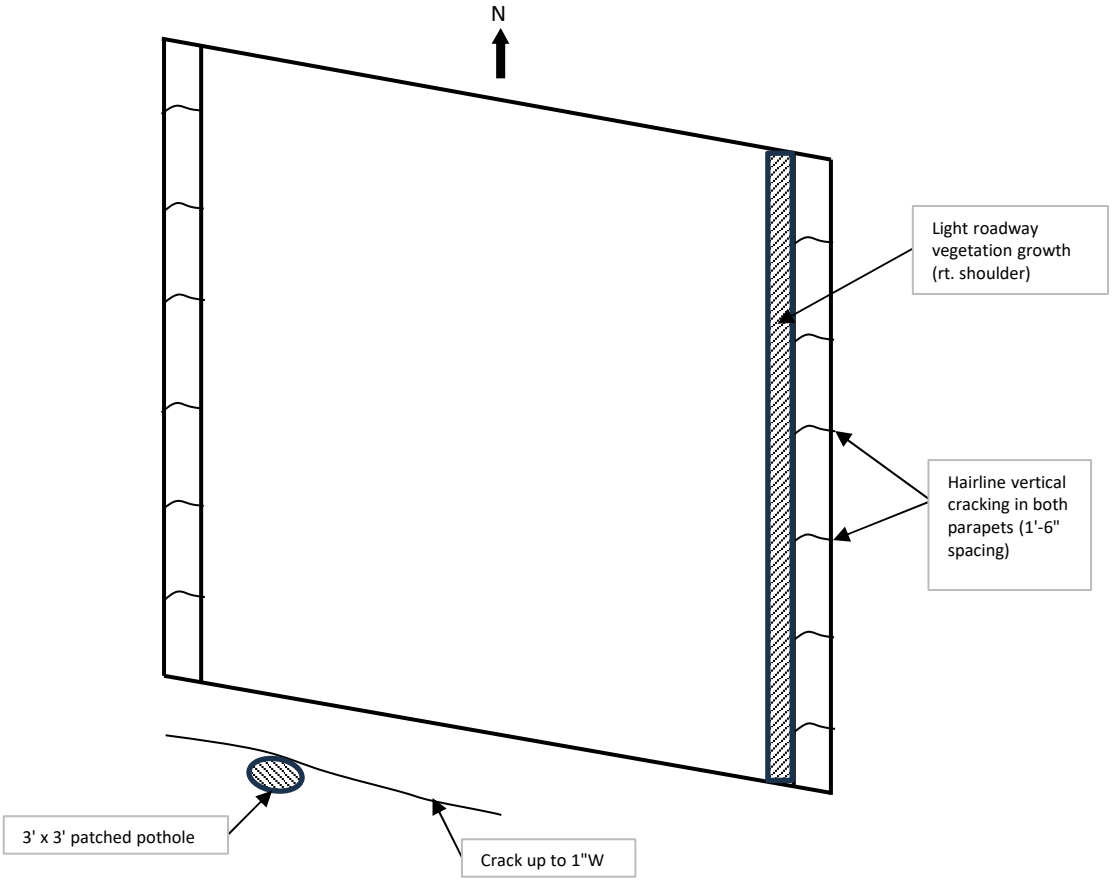



ELEVATION VIEW, RIGHT SIDE (LEFT LANE)

# Top Span No. 1

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

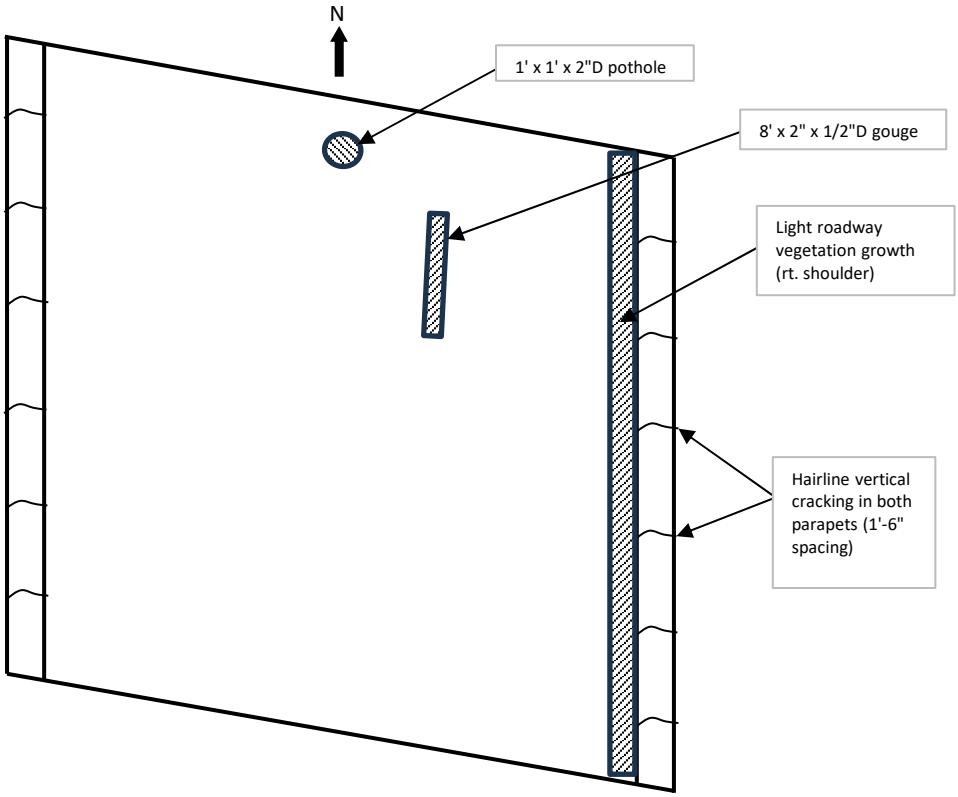



| | | |
|---|---|---|
| W. SURFACE | GOOD | LIGHT VEGETATION GROWTH AT CURB |
| | | |
| | | |
| PARAPETS | FAIR | WIDESPREAD HAIRLINE CRACKS |
| | | |
| | | |
| DRAINS | POOR | PAVED OVER |
| | | |

# Top Span No. 2

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

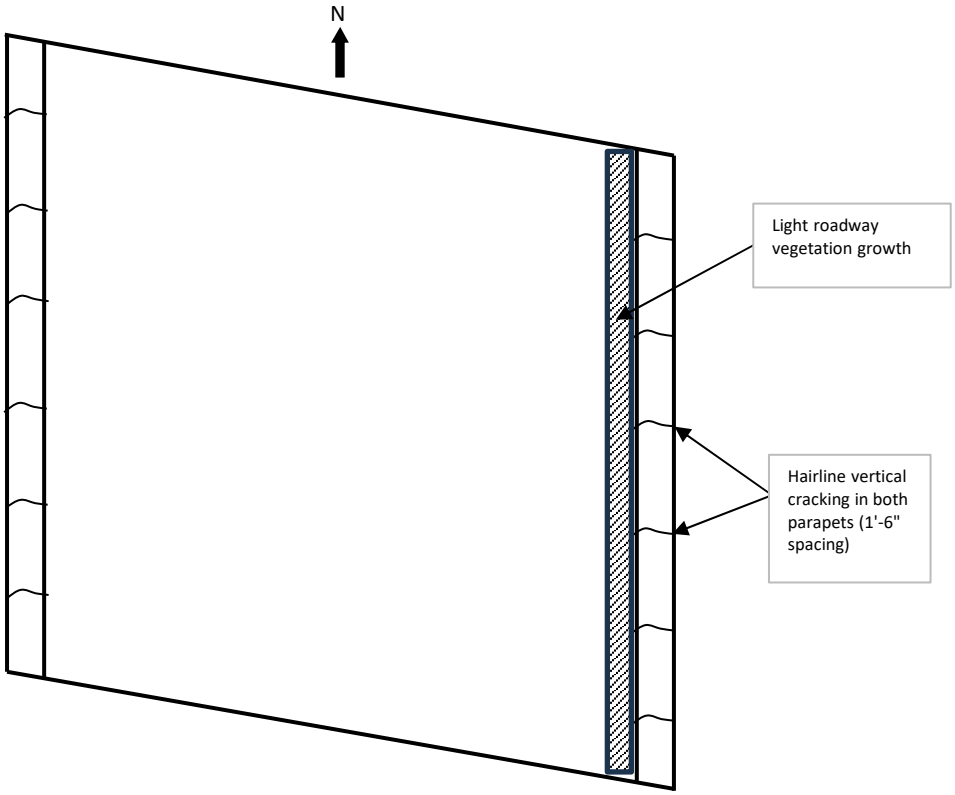



| | | |
|---|---|---|
| W. SURFACE | FAIR | ISOLATED POTHOLE AND GOUGE |
| | | |
| | | |
| PARAPETS | FAIR | WIDESPREAD HAIRLINE CRACKS |
| | | |
| | | |
| DRAINS | POOR | PAVED OVER |
| | | |

# Top Span No. 3

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

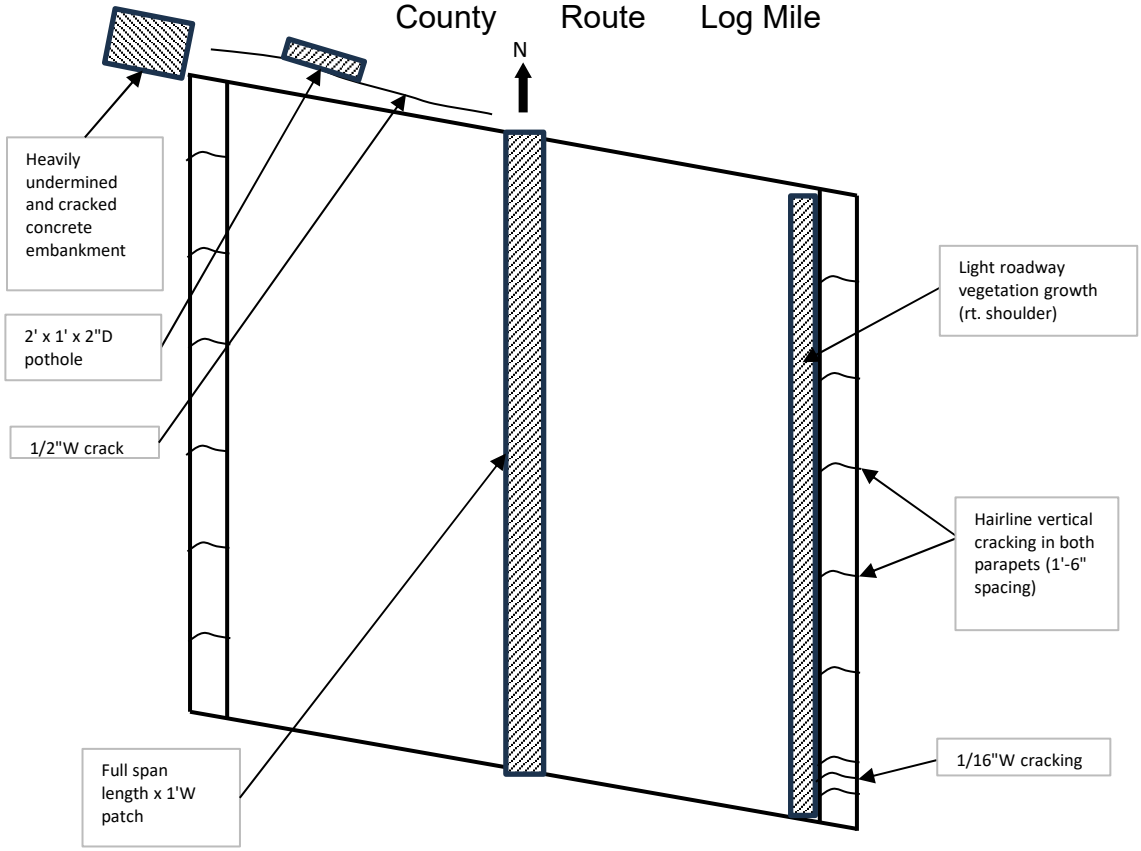



| | | |
|---|---|---|
| W. SURFACE | GOOD | LIGHT VEGETATION GROWTH AT CURB |
| | | |
| | | |
| PARAPETS | FAIR | WIDESPREAD HAIRLINE CRACKS |
| | | |
| | | |
| DRAINS | POOR | PAVED OVER |
| | | |

# Top Span No. 4

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

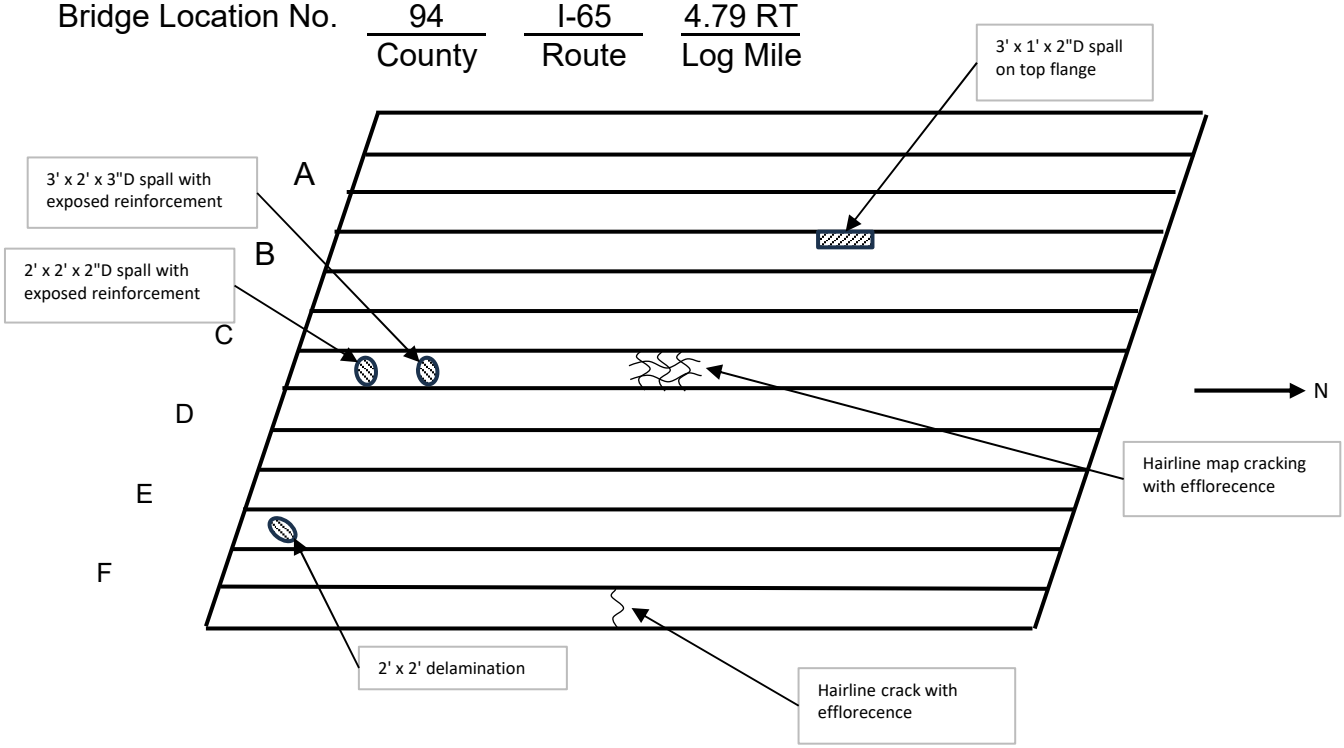



| | | |
|---|---|---|
| W. SURFACE | FAIR | LARGE PATCH IN SOUND CONDITION |
| | | |
| | | |
| PARAPETS | FAIR | SOME WIDE CRACKS |
| | | |
| | | |
| DRAINS | POOR | PAVED OVER |
| | | |

# Bottom Span No. 1

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

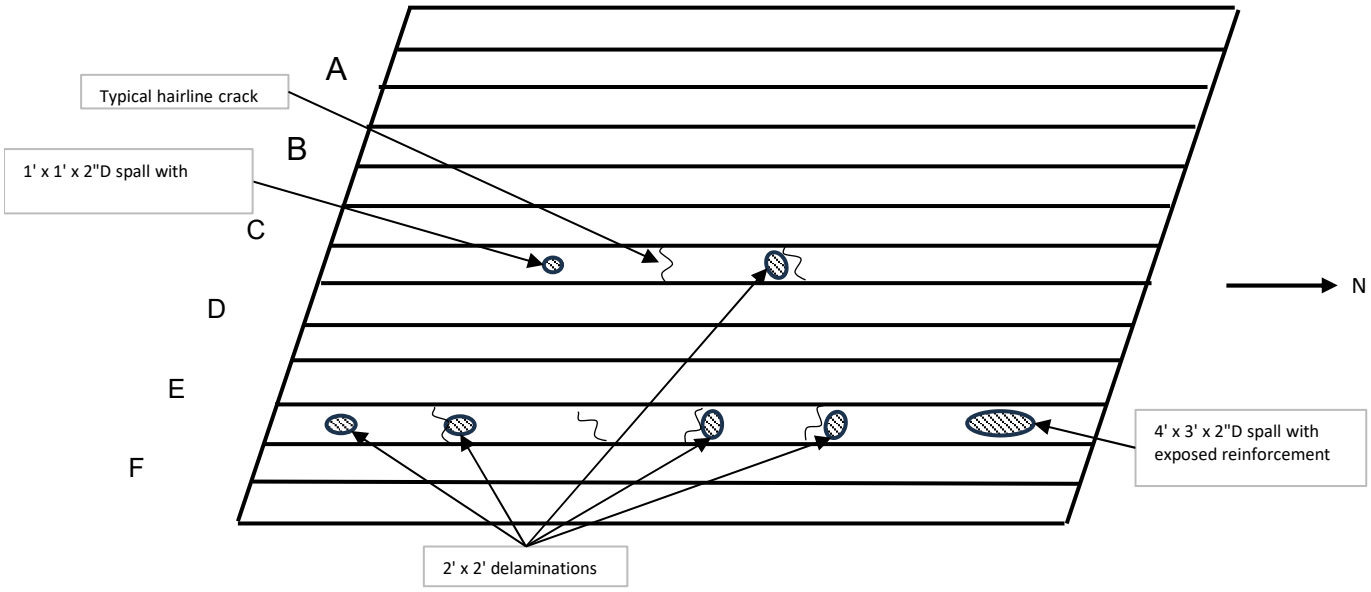



| | | |
|---|---|---|
| DECK | FAIR | ISOLATED SPALLS WITH EXPOSED REBAR |
| | | ISOLATED MODERATE CRACKING |
| | | |
| BEAM A | GOOD | |
| B | FAIR | ISOLATED MODERATE SPALLING |
| C | GOOD | |
| D | GOOD | |
| E | GOOD | |
| F | GOOD | |
| | | |
| DIAPHRAGMS | | |
| BACK | N/A | ABUTMENT BACKWALL |
| INT. | GOOD | |
| AHEAD | GOOD | ISOLATED DELAMINATIONS |
| | | |
| | | |

# Bottom Span No. 2

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

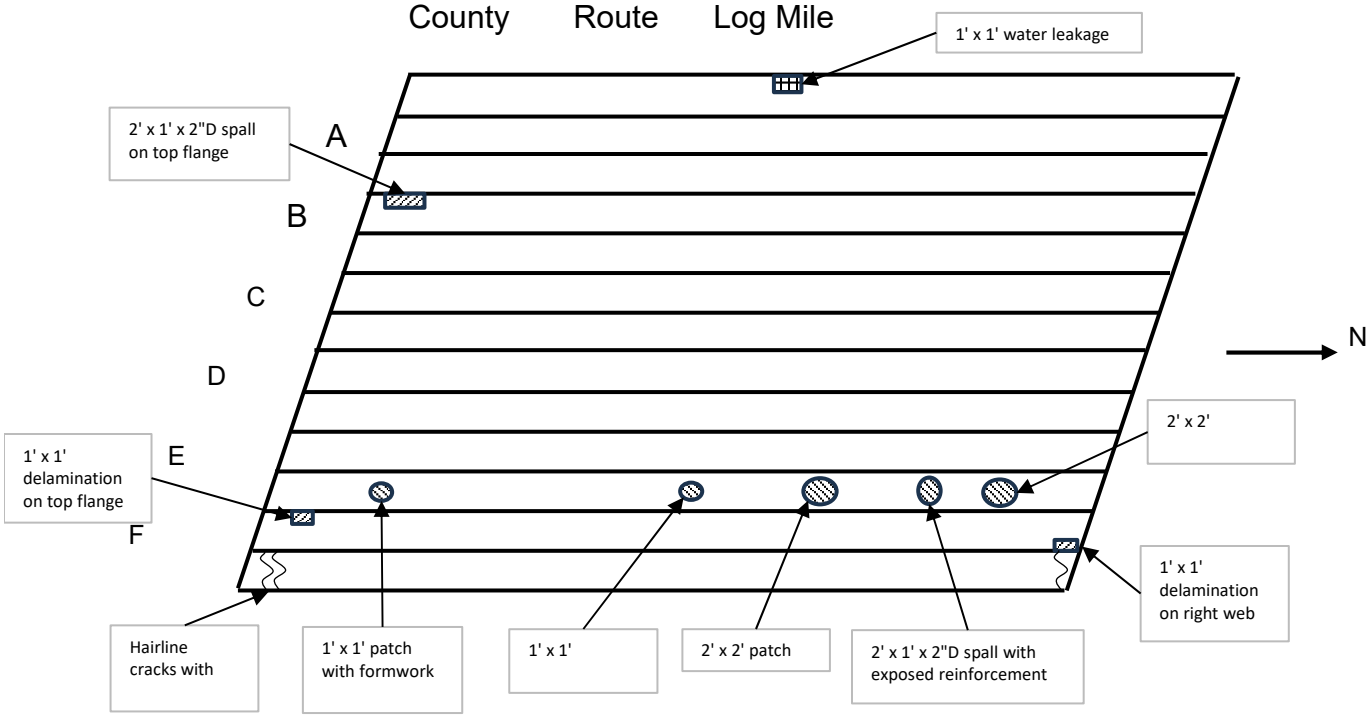



| | | | |
|---|---|---|---|
| DECK | | FAIR | ISOLATED MODERATE SPALLS |
| | | | SOME DELAMINATIONS |
| | | | SOME INSIGNIFICANT CRACKING |
| BEAM | A | GOOD | |
| | B | GOOD | |
| | C | GOOD | |
| | D | GOOD | |
| | E | GOOD | |
| | F | GOOD | |
| | | | |
| DIAPHRAGMS | | | |
| BACK | | FAIR | SPALLING WITH EXPOSED REBAR |
| INT. | | GOOD | |
| AHEAD | | FAIR | SPALLNG WITH EXPOSED REBAR AND DELAMS |
| | | | |
| | | | |

# Bottom Span No. 3

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)




| | | | |
|---|---|---|---|
| DECK | | FAIR | ISOLATED MODERATE SPALLS |
| | | | ISOLATED DELAMS & ISIGNIFICANT CRACKS |
| | | | ISOLATED SOUND PATCHES |
| BEAM | A | GOOD | |
| | B | FAIR | ISOLATED MODERATE SPALLS |
| | C | GOOD | |
| | D | GOOD | |
| | E | GOOD | |
| | F | GOOD | ISOLATED DELAMINATIONS |
| | | | |
| DIAPHRAGMS | | | |
| BACK | | FAIR | MODERATE CRACKS AND DELAMS |
| INT. | | GOOD | |
| AHEAD | | GOOD | |
| | | | |
| | | | |

# Bottom Span No. 4

Date: 02/14/2025

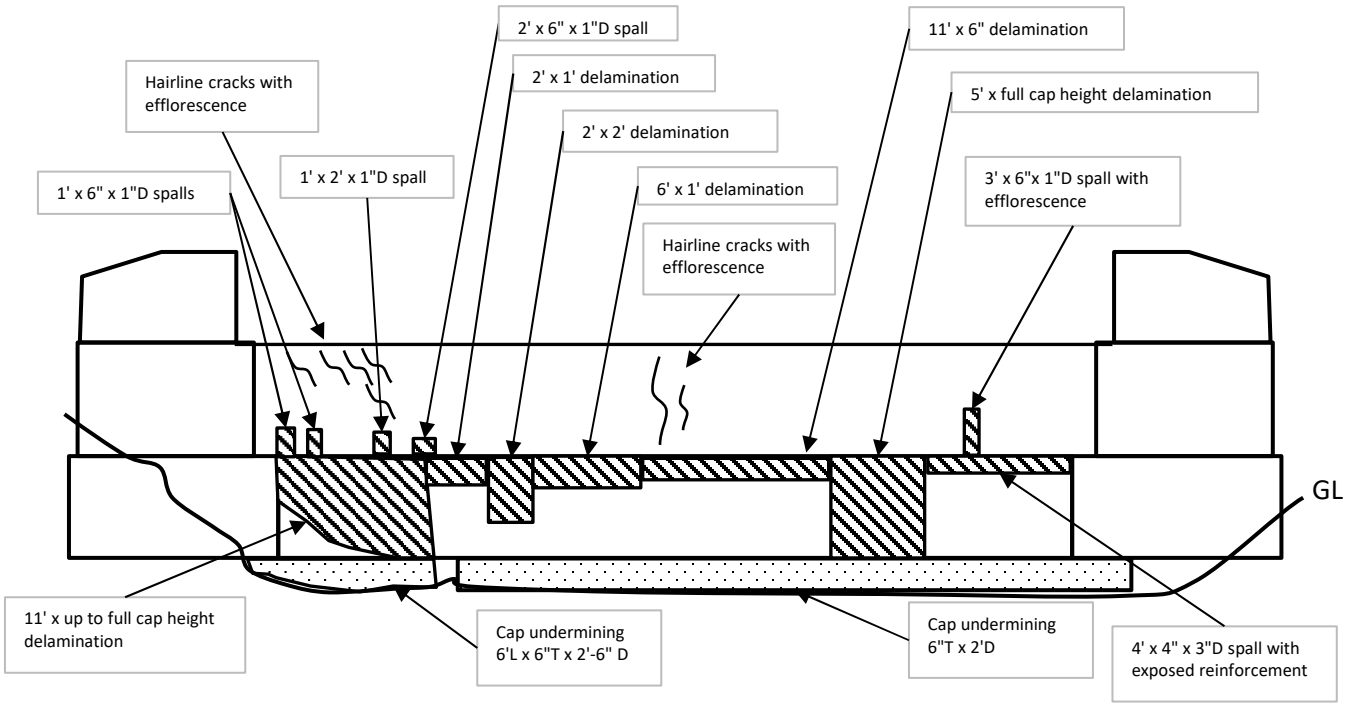
Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)


| | | | |
|---|---|---|---|
| DECK | | GOOD | |
| | | | |
| | | | |
| BEAM | A | GOOD | |
| | B | GOOD | |
| | C | GOOD | |
| | D | GOOD | |
| | E | GOOD | |
| | | | |
| | | | |
| DIAPHRAGMS | | | |
| BACK | | FAIR | SPALLS WITH EXPOSED REBAR AND DELAMS |
| INT. | | GOOD | |
| AHEAD | | N/A | ABUTMENT BACKWALL |
| | | | |
| | | | |

# Abutment No. 1

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

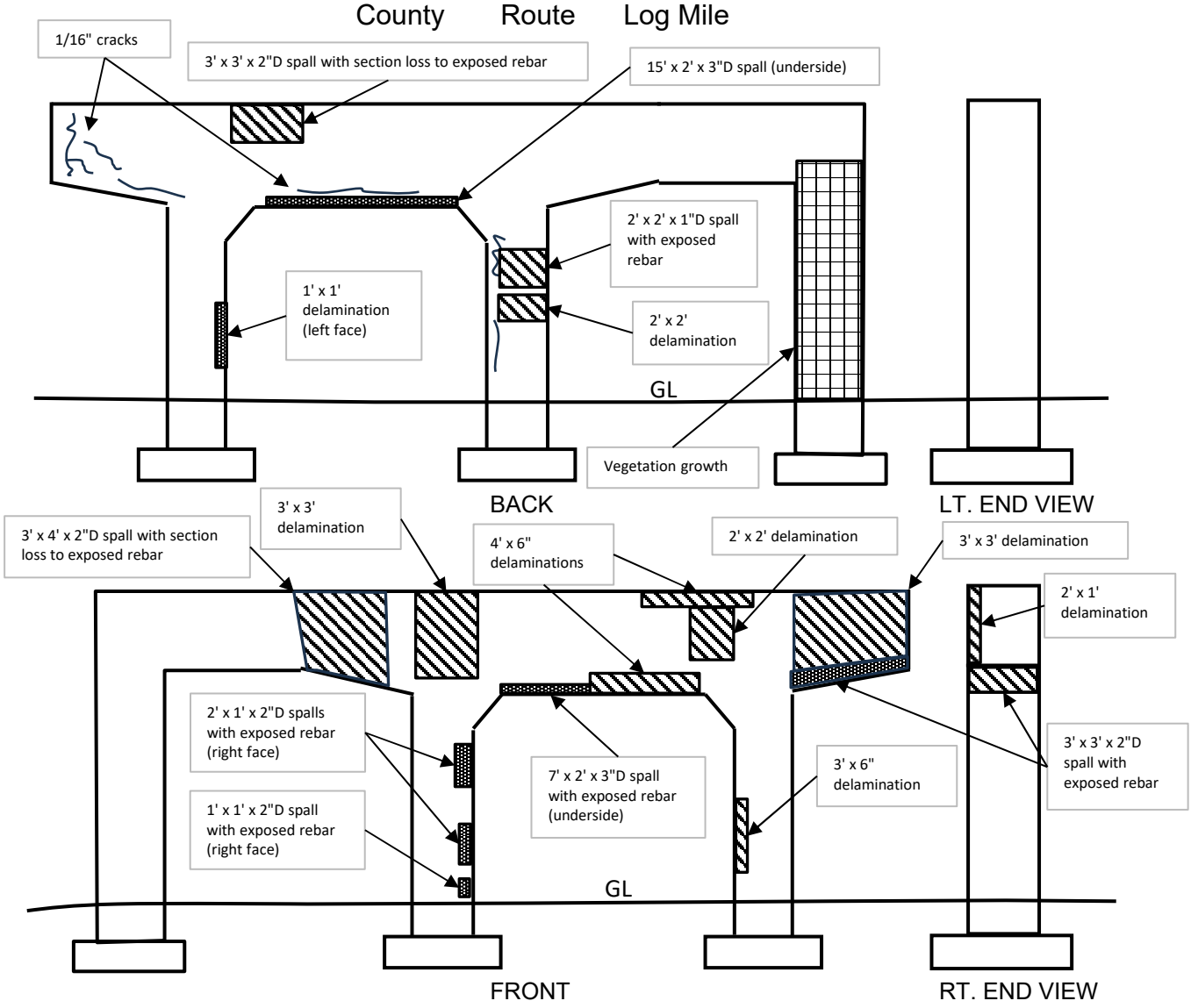



| | | |
|---|---|---|
| BEARINGS | GOOD | ELASTOMERIC |
| | | |
| CAP | FAIR | WIDESPREAD LARGE DELAMINATIONS |
| | | ISOLATED LARGE SPALL |
| LT WING | GOOD | |
| | | |
| RT WING | GOOD | |
| | | |
| SLOPE | POOR | UNPROTECTED SOIL GRADE W/ WIDESPREAD UNDERMINING |
| | | |
| PILE | FAIR | 1 EXPOSED PILE W/ SURFACE CORROSION |
| | | |
| BACKWALL | FAIR | SOME DELAMS AND ISOLATED MODERATE SPALLS |
| | | SOME INSIGNIFICANT CRACKING |

# BENT NO. 1

Date: 02/14/2025

Bridge Location No. 94 County I-65 Route 4.79 RT Log Mile

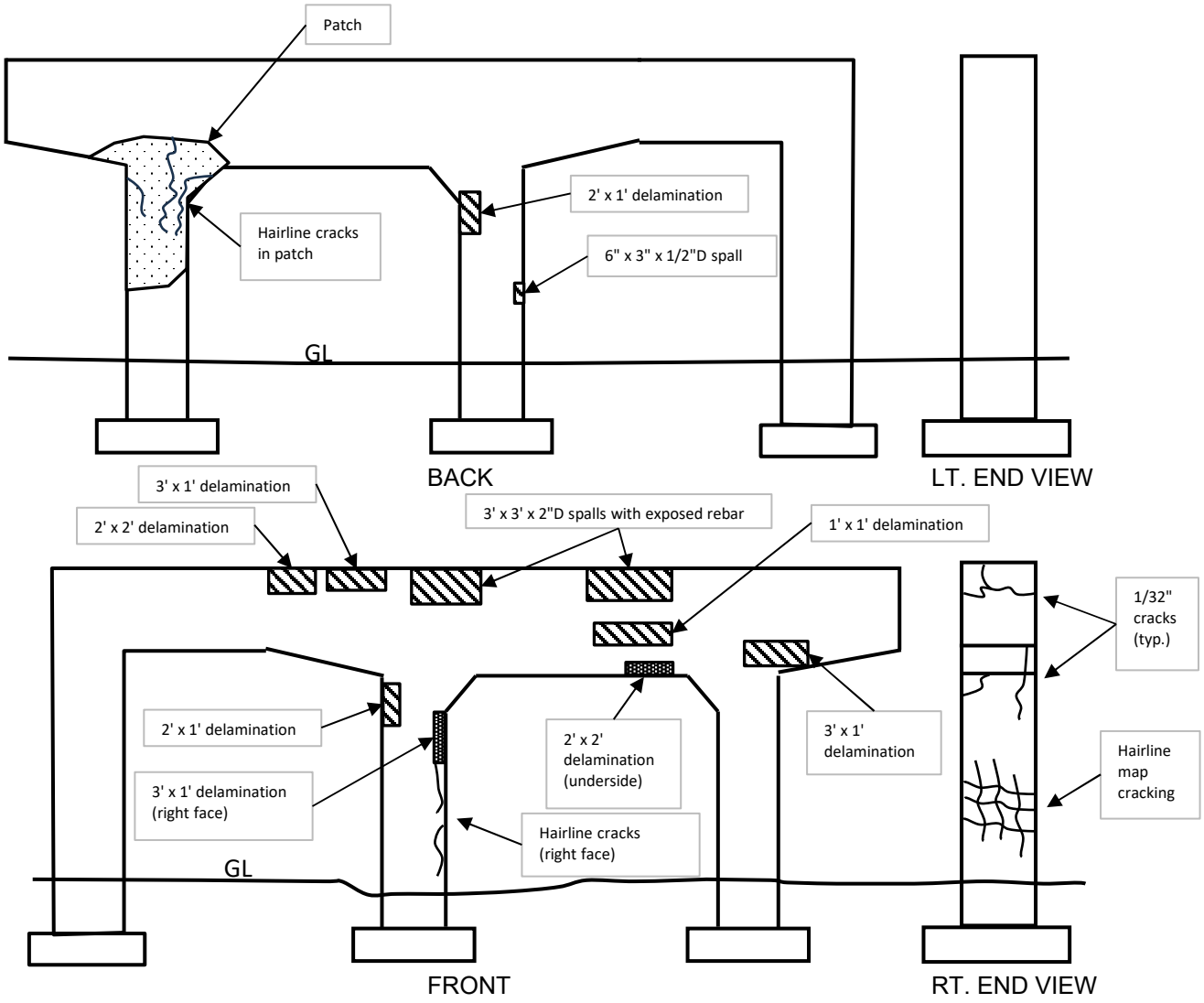



| | | |
|---|---|---|
| CAP | POOR | ISOLATED WIDE CRACKING |
| | | WIDESPREAD MODERATE SPALLS |
| COLUMN A | FAIR | DELAMINATIONS |
| | | |
| B | POOR | WIDESPREAD MODERATE SPALLS |
| | | |
| C | GOOD | VEGETATION GROWTH |
| | | |
| BEARINGS | GOOD | ELASTOMERIC |
| | | |
| FOOTINGS | N/V | |

# BENT NO. 2

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)

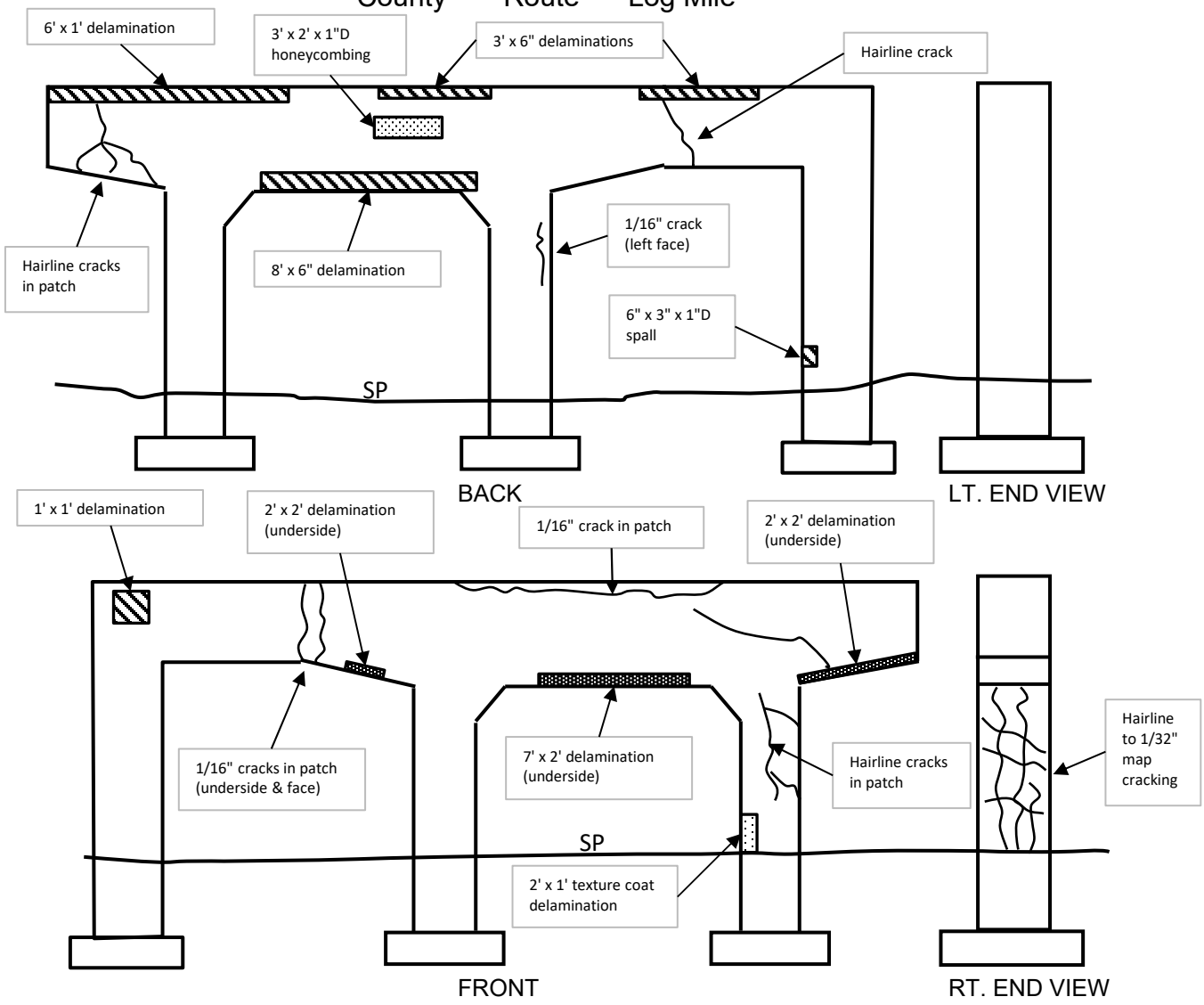



| | | |
|---|---|---|
| CAP | FAIR | SOME MODERATE SPALLS |
| | | WIDESPREAD DELAMINATIONS |
| COLUMN A | FAIR | LARGE PATCH WITH HAIRLINE CRACKS |
| | | HAIRLINE MAP CRACKING |
| B | FAIR | WIDESPREAD DELAMINATIONS |
| | | ISOLATED MODERATE SPALLS AND INSIG CRACKS |
| C | GOOD | |
| | | |
| BEARINGS | GOOD | ELASTOMERIC |
| | | |
| FOOTINGS | N/V | |

# BENT NO. 3

Date: 02/14/2025

Bridge Location No. 94 County I-65 Route 4.79 RT Log Mile

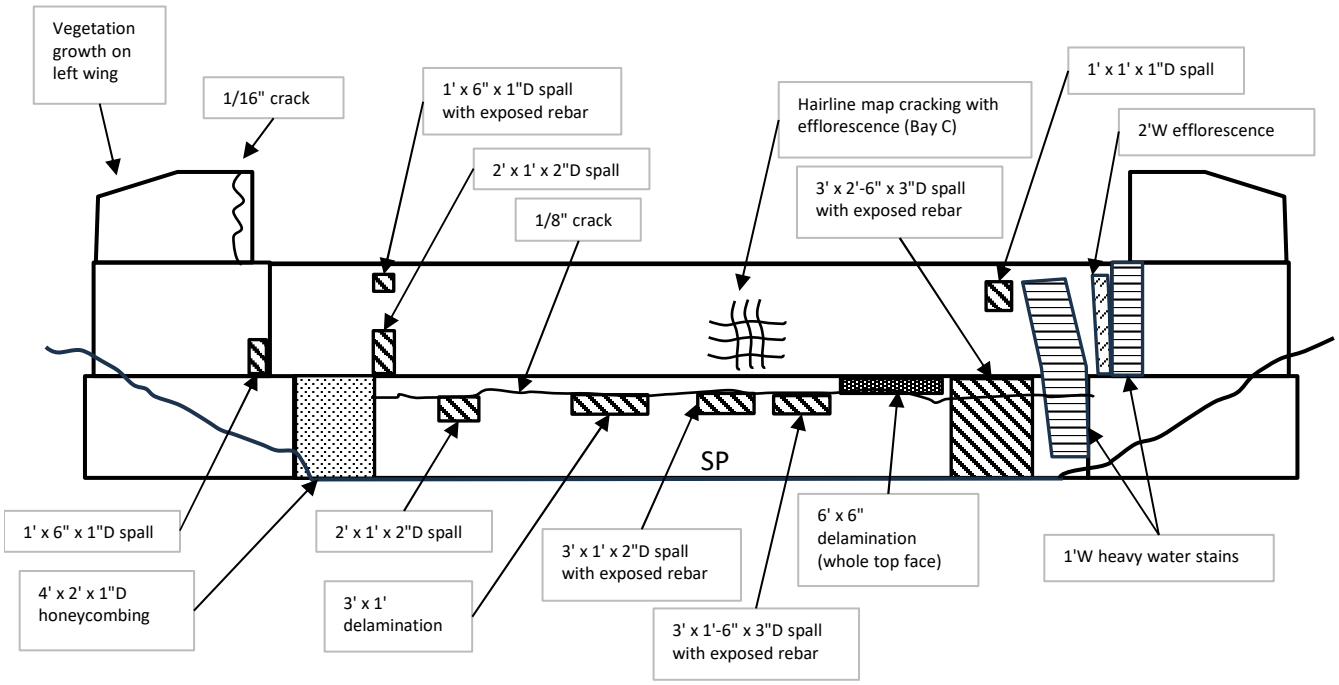



| | | |
|---|---|---|
| CAP | FAIR | ISOLATED WIDE CRACKING |
| | | WIDESPREAD DELAMINATIONS |
| COLUMN A | FAIR | SOME MODERATE CRACKING |
| | | |
| B | FAIR | ISOLATED WIDE CRACKING |
| | | |
| C | FAIR | ISOLATED MODERATE SPALL |
| | | |
| BEARINGS | GOOD | ELASTOMERIC |
| | | |
| FOOTINGS | N/V | |

# Abutment No. 2

Date: 02/14/2025

Bridge Location No. 94 (County) I-65 (Route) 4.79 RT (Log Mile)




| | | |
|---|---|---|
| BEARINGS | GOOD | ELASTOMERIC |
| | | |
| CAP | POOR | WIDE CRACK |
| | | WIDESPREAD MODERATE SPALLS |
| LT WING | FAIR | ISOLATED SPALLING |
| | | COVERED WITH VEGETATION |
| RT WING | FAIR | ISOLATED WIDE CRACK |
| | | |
| SLOPE | GOOD | CONCRETE SLOPE PAVING |
| | | |
| PILE | N/V | |
| | | |
| BACKWALL | FAIR | SOME MODERATE SPALLS |
| | | SOME MODERATE CRACKING |