# 2016 ROUTINE BRIDGE INSPECTION REPORT



# BRIDGE # 62526 CSAH 31(WB MRYLD) over BNSF RR; ST

COUNTY: Ramsey

CITY/TOWNSHIP: St Paul

STATE: Minnesota

**DISTRICT: Metro** 

Date of Inspection: 10/29/2016 Equipment Used:

**Owner: County Highway Agency** 

Inspected By: Engel, Michael; Grau, Joe; Reimer, Dan



Report Written By: Joe Grau Report Reviewed By: Glenn Pagel Final Report Date: 12/14/2016

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# Minnesota Structure Inventory Report

#### Bridge ID: 62526 CSAH 31(WB MRYLD) over BNSF RR; ST

Date: 12/09/2016

|                      | + G E N E R A L +                                     | + R O A D W A Y +                                     | +INSPECTION+                              |
|----------------------|---|---|---|
| Agency Br. No.       | Crew  | Bridge Match ID (TIS) 1                               | Userkey 199                               |
| District             | 05 Maint. Area  | Roadway O/U Key Route On Structure                    | Structurally Deficient N                  |
| County               | 062 - Ramsey  | Route Sys 04 - CSAH Number 31                         | Functionally Obsolete N                   |
| City                 | St Paul   | Roadway Name or Description                           | Sufficiency Rating 49.5                   |
| Township             |   | CSAH 31   | Routine Inspection Date 10/29/2016        |
| Desc. Loc.           | 0.2 MI W OF JCT TH 35E                                | Level of Service 1 - MAINLINE                         | Routine Inspection Frequency 12           |
| Sect., Twp., Range   | 30 - 029N - 22W                                       | Roadway Type 1 - 1-way traffic                        | Inspector Name Grau, Joe                  |
| Latitude             | 44 • 58 ' 36.83 ''                                    | Control Section (TH Only)                             | Status P - Posted for Load                |
| Longitude            | 93 ° 5 ' 32.50 ''                                     | Reference Point 003+00.780                            |   |
| Custodian            | 02 - County Highway Agency                            | Detour Length 1.0 mi.                                 | +NBI CONDITION RATINGS+                   |
| Owner                | 02 - County Highway Agency                            | Lanes ON <sup>3</sup> UNDER 2                         | Deck 7 Unsound                            |
| BMU Agreement        |   | ADT 11250 YEAR 2005                                   | Superstructure 5 Deck %                   |
| Year Built           | 1973  | HCADT ADTT %  | Substructure 6                            |
| NN Year Reconstru    |   | Functional Class 16 - Urban - Minor Arterial          | Channel N                                 |
| FHWA Year Recons     |   |   | Culvert N                                 |
| MN Temporary Stat    |   |   | +NBI APPRAISAL RATINGS+                   |
| Bridge Plan Locatio  |   | +RDWY DIMENSIONS+                                     | +NBI APPRAISAL RATINGS+                   |
| Date Opened to Tra   |   | If Divided NB-EB SB-WB                                | Structure Evaluation 4                    |
| On - Off Syster      |   | Roadway Width 40.00 ft. ft.                           | Deck Geometry 4                           |
| Legislative District | 66A   | Vertical Clearance ft. ft.                            | Underclearances 9                         |
| -                    |   | Max. Vert. Clear. ft. ft.                             | Waterway Adequacy N                       |
| Potential ABC        | 2 - N/A   | Horizontal Clear. 39.9 ft. ft.                        | Approach Alignment 8                      |
| + \$                 | STRUCTURE+  | Lateral Clearance ft. ft.                             |   |
| Service On           | 5 - Highway-pedestrian                                | Appr. Surface Width 40.0 ft.                          | +SAFETY FEATURES+                         |
| Service Under        | 4 - Highway - railroad                                | Bridge Roadway Width 40.0 ft.                         | Bridge Railing 0 - SUBSTANDARD            |
| Main Span Type       | 4 - Steel Continuous                                  | Median Width On Bridge ft.                            | GR Transition 0 - SUBSTANDARD             |
| Main Span Design     | 01 - Beam Span  |   | Appr. Guardrail 0 - SUBSTANDARD           |
| Main Span Detail     | or beam opan  | +MISC. BRIDGE DATA+                                   | GR Termini N - NOT REQUIRED               |
| Appr. Span Type      |   | Structure Flared 0 - No flare                         |   |
| Appr. Span Design    |   | Parallel Structure L - Left structure (South or West) | +IN DEPTH INSP.+                          |
| Appr. Span Design    |   | Field Conn. ID 3 - Welded                             | Y/N Freq Date                             |
| Skew                 | 12 LEFT   | Abutment 1 - CONC                                     | Frac. Critical N                          |
| Culvert Type         |   | Foundation 2 FTC PILE                                 | Underwater N                              |
| Barrel Length        |   | (Material/Type)                                       | Pinned Asbly. N                           |
| Cantilever ID        | E Frietion Hings                                      | Pier Foundation 1 - CONC                              |   |
|                      | F - Friction Hinge                                    | (Material/Type)<br>3 - FTG PILE                       | Spec. Feat.                               |
| NI                   | mbor of Spana   |   | + W A T E R W A Y +                       |
|                      | mber of Spans   | Historic Status 5 - Not eligible                      |   |
|                      | PR: 0 TOTAL:<br>104.2 ft.                             |   | Drainage Area (sq. mi.)                   |
| Main Span Length     | 218.2 <b>ft.</b>                                      | + P A I N T +   | Waterway Opening (sf.)                    |
| Structure Length     |   |   | Navigation Control N - Not applicable, no |
| Deck Width (Out-to   | •   | Year Painted  | Pier Protection                           |
| Deck Material        | 1 - Concrete Cast-in-Place                            | Unsound Paint %                                       | Nav. Clr. (ft.) Vert. 0.0 Horiz. 0.0      |
| Wear Surf Type       | 4 - Low Slump Concrete                                | Painted Area sq. ft.                                  | Nav. Vert. Lift Bridge Clear. (ft.)       |
| Wear Surf Install Ye |   | Primer Type F - Unpainted - 3309                      | MN Scour Code A - NON Year                |
| Wear Course/Fill De  | •   | Finish Type K - Unpainted 3309 Steel                  | +CAPACITY RATINGS+                        |
| Deck Membrane        | 0 - None  |   | Design Load 5 - HS 20                     |
| Deck Rebars          | 0 - None  | +BRIDGE SIGNS+  |   |
| Deck Rebars Install  |   |   | Operating Rating 2 - HS TRUCK 17.8        |
| Structure Area (Out  | -to-Out) 12677 sq. ft.                                | Posted Load2 - Vehicle & Semi (Type R12-5)            | Inventory Rating 2 - HS TRUCK 10.6        |
| Roadway Area (Cur    | <b>b-to-Curb)</b> 8730 <b>sq. ft.</b>                 | Traffic 0 - Not Required                              | Posting VEH: 30 SEMI: 40 DBL: 40          |
| Sidewalk Width 5     | <b>0A. Lt</b> 0.00 <b>ft. 50B. Rt</b> 6.00 <b>ft.</b> | Horizontal 0 - Not Required                           | Rating Date 10/16/2013                    |
|                      |   |   |   |
| Curb Height          | Lt 0.75 ft. Rt 0.75 ft.                               | Vertical N - Not Applicable                           | Overweight Permit Codes                   |

#### MINNESOTA BRIDGE INSPECTION REPORT

12/14/2016

Inspector: CO Bridge

### BRIDGE 62526 CSAH 31(WB MRYLD) OVER BNSF RR; ST

| -0-             |   | Migrated Values   |               |        | 121 LF           | 121                  | 0             | 0                      | 0           |      |
|-----------------|---|---|---------------|--------|------------------|----------------------|---------------|------------------------|-------------|------|
| 234             | Reinforced Concrete Pier Cap  | Routine   | 10/29/20      | )16    | 121 LF           | 121                  | 0             | 0                      | 0           |      |
|                 | Notes: Vertical cracking of bridge se<br>10 LF of various size spalls with expo<br>Joint between east abutment and slo<br>Joint around base of W. pier and slop<br>Recommend sealing the open joints. | at at east and west al<br>osed rebar located at<br>pe paving is open. | outment.      |        | -2016<br>2013-16 |                      |               |                        |             |      |
|                 |   | Migrated Values   |               |        | 161 LF           | 129                  | 22            | 10                     | 0           |      |
| 15              | Reinforced Concrete Abutment  | Routine   | 10/29/20      | 016    | 161 LF           | 129                  | 22            | 10                     | 0           |      |
|                 | Notes: 1 column at the west end has<br>Minor map cracking on all columns.   | a minor spall. 20'<br>2016  | 16            |        |                  |                      |               |                        |             |      |
|                 |   | Migrated Values   |               |        | 6 EA             | 5                    | 1             | 0                      | 0           |      |
| 05              | Reinforced Concrete Column  | Routine   | 10/29/20      | 016    | 6 EA             | 5                    | 1             | 0                      | 0           |      |
|                 | Notes: Paint system at the beams en<br>Freckled rust at the beam ends and h   |   | ig. 2015      |        |                  |                      |               |                        |             |      |
|                 |   | Migrated Values   | 6             |        | 14814 SF         | 13680                | 1134          | 0                      | 0           |      |
|                 | 515 - Steel Protective Coating  | Routine   | 10/29/20      | 016    | 14814 SF         | 13680                | 1134          | 0                      | 0           |      |
|                 | Notes: WS has minor to moderate d<br>Protective oxide coating is starting to  |   | and hinges.   | 2015   | 5-16             |                      |               |                        |             |      |
|                 |   | Migrated Values   |               |        | 1526 LF          | 763                  | 763           | 0                      | 0           |      |
| )7              | Steel Open Girder/Beam  | Routine   | 10/29/20      | 016    | 1526 LF          | 763                  | 763           | 0                      | 0           |      |
|                 | Notes: Low Slump Overlay with Unco<br>Minor transverse and longitudinal cra<br>No unsound patches or delamination<br>Isolated spalls at strip seals. 2015<br>Unsealed moderate width cracks are       | cking in the overlay.<br>'s found. 2015-16                            | 2000-16       |        |                  |                      |               |                        |             |      |
|                 |   | Migrated Values   | 6             |        | 8730 SF          | 8675                 | 55            | 0                      | 0           |      |
|                 | 510 - Wearing Surfaces  | Routine   | 10/29/20      | 016    | 8730 SF          | 8675                 | 55            | 0                      | 0           |      |
|                 | Moderate width cracks with map crac   | king. 2016  |               |        |                  |                      |               | _                      |             |      |
|                 | Notes: Water / salt saturation with ru  | Migrated Values   |               |        | 12677 SF         | 11369                | 872           | 436                    | 0           |      |
| 2               | Reinforced Concrete Deck  | Routine   | 10/29/20      | 016    | 12677 SF         | 11369                | 872           | 436                    | 0           |      |
| ELEM<br>NBR     | ELEMENT NAME  | REPORT TYPE   | INSP. D/      | ATE    | QUANTITY         | QTY<br>CS 1          | QTY<br>CS 2   | QTY<br>CS 3            | QTY<br>CS 4 |      |
|                 |   | loquinou  | Vortioun      |        | tor, applicable  |                      |               | ficiency Ra            | -           | 49.5 |
|                 | R12-5)<br>Horizntal: 0 - Not F  | Poquirod  | Vertical:     | N - 1  | Not Applicable   |                      |               |                        |             |      |
|                 | ed Bridge Signs - Load Posting: 2 - Vehi  |   | Traffic:      | 0 - 1  | Not Required     |                      |               | ctionally O            |             |      |
| nnrais          | al Ratings - Approach: 8 Waterwa  |   | ur Code: A -  | NON    | WATERWAY         | Ling                 | official Stru | cturally De            | ficiant     | N    |
|                 |   | Open, P   | osted, Closed | l: P·  | Posted for Loa   | ad                   |               |                        |             |      |
| BI De           | ck: 7 Super: 5 Sub: 6 Cl  | nan: N Culv: N  | I             |        |                  | -                    |               |                        |             |      |
| ist:            | Stringer/Multi-beam or Girder   |   | linge tiett   |        |                  | Postings:            | 30            | 40                     |             | 40   |
|                 | ype: 4 - Steel Continuous 2 -   | Local Agency B  | ridae Nbr.:   |        |                  | Culvert:             | N/A           | ina. 39. n             | . / /0      |      |
| ownsł<br>ection |   | Control Section:  |               |        |                  | -                    |               | snd: 8730<br>nd: sq.ft | -           | 0    |
| ty:             |   |   | 131 Ref. F    | -1.: 0 | 03+00.780        |                      |               |                        | og ft /0    | /    |
| itv.            | : Ramsey<br>St Paul   | Location: 0.2 MI<br>Route: 04 - CSAI                                  | WOFJCTT       |        | 03+00.780        | Length:<br>Deck Widt |               | 18.2 ft.<br>58.1 ft.   |             |      |

### BRIDGE 62526 CSAH 31(WB MRYLD) OVER BNSF RR; ST

| ELEM<br>NBR | ELEMENT NAME   | REPORT TYPE                        | INSP. DATE          | QUANTITY         | QTY<br>CS 1 | QTY<br>CS 2 | QTY<br>CS 3 | QTY<br>CS 4 |  |
|-------------|--|------------------------------------|---------------------|------------------|-------------|-------------|-------------|-------------|--|
| 300         | Strip Seal Expansion Joint   | Routine                            | 10/29/2016          | 239 LF           | 0           | 231         | 0           | 8           |  |
|             |  | Migrated Values                    |                     | 239 LF           | 0           | 231         | 0           | 8           |  |
|             | Notes: East and west abutment expanse  | sion joints are transm             | itting water to the | e bearing seats. | 2009-1      | 6           |             |             |  |
|             | Minor leaking of joints. 2013-16<br>5 LF of the top of steel extrusion is rust   | ed away to where the               | gland is loose.     | 2013-15          |             |             |             |             |  |
|             | Isolated spalls at strip seals. 2015<br>Glands are completely filled with debris<br>8 LF - vertical offset greater than ½".  | . 2016<br>2016                     |                     |                  |             |             |             |             |  |
| 01          | Pourable Joint Seal  | Routine                            | 10/29/2016          | 180 LF           | 180         | 0           | 0           | 0           |  |
|             |  | Migrated Values                    |                     | 180 LF           | 180         | 0           | 0           | 0           |  |
|             | Notes: Located at the East approach.   | 2016                               |                     |                  |             |             |             |             |  |
| 511         | Movable Bearing  | Routine                            | 10/29/2016          | 22 EA            | 0           | 8           | 14          | 0           |  |
|             |  | Migrated Values                    |                     | 22 EA            | 0           | 8           | 14          | 0           |  |
|             | Notes: Cleaning and painting is recomm<br>Bearing alignment is tight to the south s<br>Anchor bolts and bearings are corroded<br>Some bearings are restricted. 2013-                               |                                    |                     |                  |             |             |             |             |  |
| 313         | Fixed Bearing  | Routine                            | 10/29/2016          | 6 EA             | 0           | 6           | 0           | 0           |  |
|             |  | Migrated Values                    |                     | 6 EA             | 0           | 6           | 0           | 0           |  |
|             | Notes: All fixed Bearings are located a<br>N.side fascia bearing at pier 2 is a expa<br>Anchor bolts and bearings are corroded   | insion bearing type 3              | . 2015              | )15              |             |             |             |             |  |
| 321         | Reinforced Concrete Approach Slab  | Routine                            | 10/29/2016          | 2663 SF          | 2637        | 18          | 8           | 0           |  |
|             | Notes: Moderate cracking is present.<br>Wide cracks at the west approach. 2  | Migrated Values<br>2015-16<br>2016 |                     | 2663 SF          | 2637        | 18          | 8           | 0           |  |
| 330         | Metal Bridge Railing   | Routine                            | 10/29/2016          | 218 LF           | 150         | 68          | 0           | 0           |  |
|             |  | Migrated Values                    | 10,20,2010          | 218 LF           | 150         | 68          | 0           | 0           |  |
|             | Notes: Impact damage NE. side see<br>Railing is bent, concrete parapet is crac<br>Railing code is a type 19. 2014  | ition. 2013-16                     | 3                   |                  |             |             |             |             |  |
|             | 515 - Steel Protective Coating   | Routine                            | 10/29/2016          | 461 SF           | 0           | 461         | 0           | 0           |  |
|             |  | Migrated Values                    |                     | 461 SF           | 0           | 461         | 0           | 0           |  |
|             | Notes: Chalking and fading of the finish   | 5                                  | 2016                |                  | -           |             | -           | -           |  |
| 331         | Reinforced Concrete Bridge Railing   | Routine                            | 10/29/2016          | 218 LF           | 150         | 56          | 12          | 0           |  |
|             |  | Migrated Values                    |                     | 218 LF           | 150         | 56          | 12          | 0           |  |
|             | Notes: Impact damage NE. side see<br>Railing is bent, concrete parapet is crac<br>Railing code is a type 19. 2014<br>Spalls and delams present. 68LF CS-<br>Spalls with exposed rebar are present. |                                    |                     |                  |             |             |             |             |  |
| 300         | Critical Deficiencies or Safety Hazards  | Routine                            | 10/29/2016          | 1 EA             | 1           | 0           | 0           | 0           |  |
|             |  | Migrated Values                    |                     | 1 EA             | 1           | 0           | 0           | 0           |  |
|             | Notes: NO CRITICAL FINDINGS OBS  | -                                  | E LAST INSPEC       | TION. 2016       |             |             |             |             |  |
| 310         | Concrete Decks - Cracking & Sealing  | Routine                            | 10/29/2016          | 549 LF           | 0           | 412         | 137         | 0           |  |
|             |  | Migrated Values                    |                     | 549 LF           | 0           | 412         | 137         | 0           |  |
|             | Notes: Unsealed cracks of moderate si<br>Recommend sealing the cracks and the  | ze and density. 201                | 5-16                |                  |             |             |             | -           |  |

#### ELEM QTY QTY QTY QTY NBR ELEMENT NAME REPORT TYPE INSP. DATE QUANTITY CS 1 CS 2 CS 3 CS 4 **Plow Fingers** 1 0 0 0 815 Routine 10/29/2016 1 EA 0 0 0 1 EA 1 Migrated Values Approach Relief Joint 39 LF 28 10 1 0 816 Routine 10/29/2016 **Migrated Values** 39 LF 28 10 1 0 Notes: Foam filler is sticking up above the joint. 2016 Areas of adhesion loss - deterioration of seal. 2016 850 Steel Hinge Assembly Routine 10/29/2016 14 EA 0 14 0 0 14 EA 0 14 0 0 Migrated Values Notes: Minor deterioration present. 2015 Paint system has deterioration, rust and corrosion is present. 2015-16 Cleaning and lubrication is recommended. 2016 0 1 0 855 Secondary Members (Superstructure) Routine 10/29/2016 1 EA 0 0 1 EA 0 1 Migrated Values 0 Notes: 3" spall on S.E. diaphragm and a 2" spall on the 1st and 2nd diaphragm from the N.W. side. 1997-2003 (At abutments) 4 End diaphrams from the North are severly cracked and spalled on the West side. 2013-16 1 EA 0 0 856 Secondary Members (Substructure) 10/29/2016 1 0 Routine 1 EA 0 0 0 **Migrated Values** 1 Notes: Crash strut. 2016 Steel Section Loss 1 EA 1 0 0 0 881 Routine 10/29/2016 1 EA 1 0 0 0 Migrated Values Notes: Minor section loss is present. 2015 Rust and corrosion is present at the beam ends and hinges. 2015-16 Concrete Shear Cracking 1 EA 0 0 0 883 1 Routine 10/29/2016 0 0 0 1 EA 1 Migrated Values Notes: Use this element to monitor the presence of shear cracking on concrete elements. Pay particular attention to the concrete pier caps. 0 0 0 Load Posting or Vertical Clearance 1 EA 1 890 Routine 10/29/2016 Signing 0 0 1 EA 1 0 Migrated Values Notes: Load Posting signage is in place. 2014-16 892 Slopes & Slope Protection Routine 10/29/2016 1 EA 0 1 0 0 1 EA 0 1 0 0 **Migrated Values** Notes: Joint between east abutment and slope paving is open. 2015-16 Joint around base of W. pier and slope paving is open. 2015-16 0 0 0 Guardrail 1 EA 1 893 Routine 10/29/2016 1 EA 1 0 0 0 **Migrated Values** Notes: New guardrail was added at both ends of the bridge. 2000 The guardrail is in back of the curb and walk section. 2015 1 EA 0 0 0 894 Deck & Approach Drainage Routine 10/29/2016 1 0 1 EA 1 0 0 Migrated Values

#### BRIDGE 62526 CSAH 31(WB MRYLD) OVER BNSF RR; ST

Notes: Use this element to rate the condition, function, and adequacy of the drainage system.

## BRIDGE 62526 CSAH 31(WB MRYLD) OVER BNSF RR; ST

| ELEM<br>NBR | ELEM                               | IENT NAME  | REPORT TYPE                                  | INSP. DATE               | QUANTITY               | QTY<br>CS 1 | QTY<br>CS 2 | QTY<br>CS 3 | QTY<br>CS 4 |  |
|-------------|------------------------------------|--|--|--------------------------|------------------------|-------------|-------------|-------------|-------------|--|
| 895         | Sidewalk, Curb, &                  | & Median   | Routine                                      | 10/29/2016               | 1 EA                   | 0           | 1           | 0           | 0           |  |
|             |                                    |  | Migrated Values                              |                          | 1 EA                   | 0           | 1           | 0           | 0           |  |
|             | Recommend s                        | ed cracks present at the v<br>ealing cracks and the curb<br>g on the face of curb - me | o and walk areas. 20                         |                          |                        |             |             |             |             |  |
| 899         | Miscellaneous Ite                  | ems  | Routine                                      | 10/29/2016               | 1 EA                   | 1           | 0           | 0           | 0           |  |
|             |                                    |  | Migrated Values                              |                          | 1 EA                   | 1           | 0           | 0           | 0           |  |
|             | Notes: Lighting                    | g is on the N. side of the b   | ridge. 2 bent straws                         | total. 2015-16           |                        |             |             |             |             |  |
| 900         | Protected Specie                   | S  | Routine                                      | 10/29/2016               | 1 EA                   | 1           | 0           | 0           | 0           |  |
|             |                                    |  | Migrated Values                              |                          | 1 EA                   | 1           | 0           | 0           | 0           |  |
|             | Notes: Use thi<br>None found in    | is element to track the pre 2016.  | sence of protected s                         | pecies living on         | this structure.        |             |             |             |             |  |
|             | General Notes:                     | BNSF-RR contacts:<br>Michael Anderson<br>Lane Gilliland                                | (763) 782-3310                               | cell (612)<br>cell (612) | 749-3401<br>) 219-4219 | michael.ar  | nderson5@   | €bnsf.com   |             |  |
|             |                                    | The bridge owner is Rar<br>contacts:<br>Nick Fischer<br>Kathy Jaschke                  | nsey County.<br>651-266-7119<br>651-266-7192 |                          |                        |             |             |             |             |  |
|             | 58. Deck NBI:                      | Minor deterioration - 201  | 1  |                          |                        |             |             |             |             |  |
| 36A. I      | Brdg Railings NBI:                 |  |  |                          |                        |             |             |             |             |  |
| 36E         | 3. Transitions NBI:                |  |  |                          |                        |             |             |             |             |  |
| 36C. A      | ppr Guardrail NBI:                 |  |  |                          |                        |             |             |             |             |  |
| 36          | D. Appr Guardrail<br>Terminal NBI: |  |  |                          |                        |             |             |             |             |  |
| 59. SI      | uperstructure NBI:                 | Hinges are corroded 20<br>Expnasion bearing are fi                                     |  | 2015                     |                        |             |             |             |             |  |
| 60.         | Substructure NBI:                  |  |  |                          |                        |             |             |             |             |  |
|             | 61. Channel NBI:                   |  |  |                          |                        |             |             |             |             |  |
|             | 62. Culvert NBI:                   |  |  |                          |                        |             |             |             |             |  |
| 71. Wa      | terway Adeq NBI:                   |  |  |                          |                        |             |             |             |             |  |
| 7           | 72. Appr Roadway<br>Alignment NBI: |  |  |                          |                        |             |             |             |             |  |
|             | Inventory Notes:                   |  |  |                          |                        |             |             |             |             |  |
|             |                                    |  |  |                          |                        |             |             |             |             |  |
|             |                                    |  |  |                          |                        |             |             |             |             |  |

Joe Grau

Inspector's Signature

Glenn Pagel Reviewer's Signature



1. 009 Load Posting Sign 62526 WB\_Maryland relocated.jpg



2. abut seat spall 028.JPG



3. 018 Vertical cracking W abut at back wall..JPG



4. abut seat spall 029.JPG



5. bearing corrosion 034.JPG



6. 019 W end concrete diaphram delams and spalls..JPG



11. 023 W pier hinge bearings, corrosion and paint failure..JPG



16. 028 E approach unsound patches in paving block..JPG



21. Concrete rail, E end.JPG



26. Joint at W end (2).JPG



7. 020 W end underside of deck, center span..JPG



12. 024 W strip seal armor extrusion failure..JPG



17. 029 E end, S side of parapet, spalls and delams..JPG



22. Concrete rail, midspan.JPG



27. Median, midspan.JPG





13. 025 W approach sealant failure..JPG



18. 030 W end, S side of parapet, spalls and delams..JPG



23. Concrete rail, W end.JPG



28. Median, W end.JPG



9. 021 W end underside of deck..JPG



14. 026 E approach liquid poured joint failure..JPG



19. 031 NW corner approach sidewalk undercutting..JPG



24. E end, S side.JPG



29. Underdeck, W end (1).JPG



10. 022 W end underside of deck center span..JPG



15. 027 E approach liquid poured joint failure..JPG



20. 033 SE abut, severe spalling..JPG



25. Joint at W end (1).JPG



30. Underdeck, W end (2).JPG





31. W abutment (1).JPG

32. W abutment (2).JPG